February 29, 2012

Hon. Mark Leno, Chair
Senate Committee on Budget and Fiscal Review
State Capitol, Room 5100
Sacramento, California 95814

Hon. Bob Blumenfield, Chair
Assembly Committee on Budget
State Capitol, Room 6026
Sacramento, California 95814

Hon. Bill Emmerson, Vice-Chair
Senate Committee on Budget and Fiscal Review
State Capitol, Room 4082
Sacramento, California 95814

Hon. Jim Nielsen, Vice-Chair
Assembly Committee on Budget
State Capitol, Room 6031
Sacramento, California 95814

Re: Status of the California Court Case Management System and Phoenix Program, 2011

Dear Senator Leno, Senator Emmerson, Assembly Member Blumenfield, and Assembly Member Nielsen:

The Judicial Council respectfully submits this report on the status of the California Court Case Management System (CCMS) and the Phoenix program, as required by Government Code section 68511.8(a). That section specifies that until project completion, the Judicial Council shall provide an annual status report to the chairperson of the budget committee in each house of the Legislature and to the chairperson of the Joint Legislative Budget Committee with regard to the CCMS and the Court Accounting and Reporting System, which is now referred to as the Phoenix Financial System.

Also attached are the independent project oversight reports and independent validation and verification reports for CCMS issued in 2011 and subsequent to the reports provided in last

year's report. These reports are submitted under the requirements of Government Code section 68511.8(b). Consistent with the statutory requirement, the reports include "descriptions on actions taken to address identified deficiencies."

Having completed the independent assessment and determined that CCMS would operate as designed, a major milestone was reached when the AOC accepted the CCMS product in November 2011. To work most effectively within the existing program funding constraints, the AOC recently retained Grant Thornton to assist in developing an alternative deployment plan to provide baseline deployment cost estimates for the early adopter courts, a phase-two deployment plan with cost estimates for up to 10 additional courts, and an analysis of the potential benefits and opportunities of the deployments. It is anticipated that the recommended deployment plan and approach will include a cost-beneficial deployment scope, sequence, and timeline for the early adopter courts and a subsequent portion of additional courts that can be used as an effective model for the deployment of subsequent courts along with expected quantitative and qualitative benefits to be delivered by CCMS to impacted courts once fully deployed.

Because this work has not yet been concluded, we did not include future project estimates in this report, only actual costs through the reporting period. When the Judicial Council adopts a plan after reviewing the Grant Thornton recommendations, we will update the Legislature with future cost estimates.

The Phoenix Financial System has been deployed to all 58 superior courts and has implemented additional functionality that allows further integration with other state systems, including the myCalPERS system, CCMS, and the Uniform Civil Filing Fee System, as well as local court legacy systems. The system has also been reconfigured to collect additional data including court interpreter information and vendor data to assist courts in resource management and comply with new statutory requirements. The Phoenix Human Resources System (formerly referred to as the Courts Human Resources Information System (CHRIS)) has been deployed to 7 courts. Because of budgetary constraints, additional deployments to the remaining 51 courts will not resume until additional resources are identified.

If you have any questions, please contact Donna Hershkowitz, Assistant Director, AOC Office of Governmental Affairs, at donna.hershkowitz@jud.ca.gov or 916-323-3121.

Sincerely,

Jody Patel
Interim Administrative Director of the Courts

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Enclosures

cc: Members of the Judicial Council
        Hon. Terence L. Bruiniers, Associate Justice, Court of Appeal, First Appellate District,
            Division Five
        Hon. Gregory P. Schmidt, Secretary of the Senate
        Ms. Diane F. Boyer-Vine, Legislative Counsel
        Mr. E. Dotson Wilson, Chief Clerk of the Assembly
        Ms. Margie Estrada, Policy Consultant, Office of Senate President pro Tempore Darrell
            S. Steinberg
        Ms. Fredericka McGee, General Counsel, Office of Assembly Speaker John A. Pérez
        Ms. Jody Martin, Principal Consultant, Joint Legislative Budget Committee
        Mr. Joe Stephenshaw, Consultant, Senate Committee on Budget and Fiscal Review
        Mr. Matt Osterli, Consultant, Senate Republican Fiscal Office
        Mr. Marvin Deon II, Consultant, Assembly Budget Committee
        Mr. Allan Cooper, Consultant, Assembly Republican Fiscal Office
        Ms. Anita Lee, Fiscal and Policy Analyst, Legislative Analyst's Office
        Mr. Michael Miyao, Budget Analyst, Department of Finance
        Mr. Curt Soderlund, Interim Chief Deputy Director, Administrative Office of the Courts
            (AOC)
        Ms. Christine Patton, Regional Administrative Director, AOC Regional Office
        Mr. Curtis L. Child, Director, AOC Office of Governmental Affairs
        Mr. Mark Dusman, Director, AOC Information Services Division
        Judicial Administration Library (2 copies)

Report Title: Status of the California Court Case Management System and the Phoenix
                     Program, 2011

Statutory Citation: Government Code section 68511.8

Date of Report: February 2012

The Judicial Council has submitted its annual status report to the Legislature, in accordance with
Government Code section 68511.8, on the California Court Case Management System (CCMS)
and the Phoenix Program. As required by statute, the report includes independent project
oversight reports and independent validation and verification reports for CCMS issued in 2011.

This summary of the report is provided consistent with the requirements of Government Code
section 9795.

This status report includes a description and discussion of major activities undertaken in 2011 for
both CCMS and the Phoenix program, project accomplishments to date, activities underway,
proposed activities for the future, and annual revenues and expenditures for these projects.

With regard to CCMS, the report describes major milestones, including an independent
assessment that determined that CCMS would operate as designed, leading to the acceptance of
the CCMS product in November 2011. The report highlights the increased oversight of the
CCMS project with the strengthening of the governance structure. In light of the ongoing budget
reductions faced by the judiciary and the resultant funding constraints on CCMS, the AOC
retained Grant Thornton to assist in developing an alternative deployment plan, which will
provide baseline deployment cost estimates for the early adopter courts, a phase-two deployment
plan with cost estimates for up to 10 additional courts, and an analysis of the potential benefits
and opportunities of the deployments. It is anticipated that the recommended deployment plan
and approach will include a cost-beneficial deployment scope, sequence, and timeline for the
early adopter courts and a subsequent portion of additional courts that can be used as an effective

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model for the deployment of subsequent courts along with expected quantitative and qualitative benefits to be delivered by CCMS to impacted courts once fully deployed.

Because this work has not yet been concluded, although the report includes expenditures on CCMS through the reporting period, as required by statute, it does not expand on that to include future project estimates. The report details CCMS project costs through fiscal year 2010–2011, a total of $333.3 million, which includes the development and deployment of the V3 civil application, development and deployment of CCMS, and Document Management System development and deployment. Total project, operational, and interim case management system costs through this same period equal $521.5 million. When the Judicial Council adopts a deployment plan in response to the Grant Thornton recommendations, we will update the Legislature with future cost estimates.

The report also provides a status update on the Phoenix Financial System, which been deployed to all 58 courts and implemented additional functionality which allows further integration with other state systems including the myCalPERS system, CCMS, and the Uniform Civil Filing Fee System. The system has also been reconfigured to collect additional data to assist courts in resource management and comply with new statutory requirements. The Phoenix Human Resources System (formerly referred to as the Courts Human Resources Information System (CHRIS)) has been deployed to 7 courts. Because of budgetary constraints, additional deployments to the remaining 51 courts will not resume until additional resources are identified.

The full report is available at *www.courts.ca.gov/7466.htm*. A printed copy of the report may be obtained by calling 415-865-7542.

Status of the California Court Case Management System and the Phoenix Program 2011

REPORT TO THE LEGISLATURE
FEBRUARY 2012

ADMINISTRATIVE OFFICE
OF THE COURTS

Summary

Government Code section 68511.8 requires the Judicial Council to report annually on the status of the California Court Case Management System (CCMS) and the Court Accounting and Reporting System (now referred to as the Phoenix Financial System). The statute specifically requires the report to include, but not be limited to, all of the following:

1. Project accomplishments to date;
2. Project activities underway;
3. Proposed activities; and
4. Annual revenues and expenditures to date in support of these projects, which shall include all costs for the Administrative Office of the Courts (AOC) and incremental court personnel, contracts, and hardware and software.

This report is submitted consistent with that reporting requirement. As the Phoenix system incorporates human resources services as well, the information provided on Phoenix covers both financial and human resources services.

Section 68511.8 also requires the AOC to annually submit copies to the Legislature of any independent project oversight reports for CCMS. These reports for 2011 are attached to this report.

Reports on the status of CCMS and Phoenix issued in prior years included background on each of the programs as well as descriptions of the vision, capabilities, and benefits of these systems. , Those sections are omitted from this year's report to avoid duplication and focus the current report on changes, updates, progress, and general status in 2011. For additional background information, prior years' reports are available at *www.courts.ca.gov/7466.htm*.

California Court Case Management System (CCMS)

CCMS has been under careful examination for the past several years. The California Technology Agency and the Bureau of State Audits have reviewed CCMS and made recommendations. Two independent outside firms determined that CCMS will perform as the design intended. These reviews found that the CCMS architecture has a solid foundation and can adapt to meet the needs of multiple courts and that testing of CCMS has been well-planned and comprehensive.

The AOC's acceptance of the CCMS product in 2011 was a major accomplishment. CCMS is now a judicial branch asset. After its deployment in an early adopter court as a proof of concept, CCMS can be deployed to courts with urgent case management needs.

The need to have a deployment strategy remains. The Bureau of State Audits states in its *Recommendations for Legislative Consideration From Audits Issued During 2010 and 2011* (*www.bsa.ca.gov/pdfs/reports/2011-701.pdf*) that "to address the funding uncertainty facing the

California Court Case Management System (CCMS), the Administrative Office of the Courts (AOC) should work with the Judicial Council of California (Judicial Council), the Legislature, and the governor to develop an overall strategy that is realistic given the current fiscal crisis facing the State."

CCMS Activities in 2011

This section highlights key activities and progress related to the CCMS program in 2011.

CCMS governance structure
The judicial branch reported in the 2010 Report to the Legislature that the CCMS governance structure was augmented in 2010 to provide overarching direction and guidance and to ensure greater transparency and that project decisions are made at the appropriate level. The governance model consists of the CCMS Executive Committee and three advisory committees to help manage issues and make decisions related to administration, operations, and justice partner relationships. Chaired by an appellate court justice, the CCMS Executive Committee comprises 11 members, including 6 judicial officers and 3 court executive officers. Altogether, the executive committee and the advisory committees include representatives from 27 trial courts and 3 appellate courts and are composed of 3 appellate justices, 19 trial court judges, 20 trial court executive officers, 2 appellate court clerk/administrators, and representatives of several state and local justice partners..

The CCMS Executive Committee provides overall executive oversight and leadership of this project, including but not limited to project scope and supervision, budget, priorities, policy, and independent verification and validation. The CCMS General Administrative Advisory Committee is charged with focusing on program scope, budget, scheduling, and program portfolio management. This committee will review CCMS program management reports, budget information, change management requests, and monthly independent validation and verification (IV&V) reports, providing analysis and recommendations to the Executive Committee for its consideration and subsequent action. The CCMS Operational Advisory Committee is charged with the following responsibilities: evaluating and making recommendations regarding best practices in trial court operations for courts that have or will implement CCMS; business process reengineering; CCMS common application configurations; venue transparency; application support and hosting service levels; standard reports, forms, and notices; CCMS user acceptance criteria; annual CCMS release plan (enhancement releases); and the development and approval of CCMS functional designs (enhancements after deployment). The focus of the CCMS Justice Partner Advisory Committee is to ensure that the implementation of CCMS and its data exchanges proceeds in a manner that maximizes state and local justice partner participation, minimizes disruptions to existing automated processes between the trial courts and their justice partners, provides a mechanism for justice partners to influence the future evolution of CCMS and related e-business initiatives, and, wherever possible, provides specific information regarding the anticipated benefits and cost savings to justice partners as CCMS and related e-

business initiatives are deployed. Each of the committees has taken steps to establish plans for its work and created subcommittees to align responsibilities.

In April 2011, the Chief Justice appointed a new internal Judicial Council committee charged with overseeing the council's policies on CCMS. The CCMS Internal Committee has 11 members comprising 8 judicial officers, 1 court executive officer, and 2 attorneys. The committee advises the council on CCMS-related policy decisions and reports on the system's progress, ensuring that the council is fully informed and up to date on the case management system and that deployment of CCMS will be undertaken in a way that is consistent with policies and priorities established by the council.

The CCMS Internal Committee receives reports and recommendations from the CCMS Executive Committee and the Administrative Director of the Courts. It ensures that reports about CCMS to the Judicial Council are clear and comprehensive and provide relevant options so that the council can make effective final policy decisions about CCMS. The committee reports at each council meeting. Specifically, the CCMS Internal Committee will:

1. Review all reports generated by the CCMS Executive Committee and its subcommittees for presentation to the Judicial Council to ensure completeness and clarity and to identify for the council any program challenges or fiscal or operational issues.

2. Report to the Judicial Council any questions raised by the CCMS Executive Committee on council policy positions.

3. Ensure that the Judicial Council is fully apprised of CCMS project schedules and program budget.

4. Ensure that the Judicial Council is briefed on any significant risks identified by the CCMS Executive Committee, the CCMS Program Management Office (PMO), the Project Review Board, or from Independent Validation and Verification (IV&V) and Independent Program Oversight (IPO) reports.

5. Ensure that the deployment of CCMS is completed in a way that is consistent with the policies and priorities established by the council.

The CCMS Internal Committee is differentiated from the CCMS Executive Committee by the terms of the CCMS Executive Committee's charter. The charter states that the CCMS Executive Committee is responsible for oversight of all aspects of the CCMS program including, but not limited to, the program budget, application functionality, implementation priorities, court deployment schedules, and the e-business initiatives that leverage the capabilities of CCMS.

The CCMS Internal Committee has met frequently, often weekly, during the past year to manage its responsibilities, as outlined in the above.

California Technology Agency (CTA) review of CCMS

The AOC met monthly with the California Technology Agency (CTA) to discuss and report progress on the recommendations following the Chief Information Officer's 2010 *Review of the California Court Case Management System* (*www.cio.ca.gov/pdf/CCMS_Final_Report.pdf*). The AOC made significant progress, and it was determined in June 2011 that future meetings would only need to occur quarterly. Thirteen of the CTA's recommendations have been fully addressed and the remaining seven will be addressed at the appropriate stage in the project. A scorecard of the fully addressed and remaining recommendations is attached to this report.

California State Auditor/Bureau of State Audits review of CCMS

The Bureau of State Audits performed a formal review of CCMS and issued a report on February 9, 2011, as described in the 2010 report to the Legislature (*www.bsa.ca.gov/pdfs/reports/2010-102.pdf*). The AOC has made changes to governance, processes, and reporting in order to address gaps identified in the findings of the audit report. Detailed information on the steps taken to implement recommendations and other program developments are included in separate sections of this report, including updates on the new project governance, the results of the cost-benefit analysis, and the findings of the independent code quality reviews.

The CCMS program has also increased project transparency, adopted new processes, and captured FY 2010–2011 costs for the trial courts, which are included in attachments to this report. The AOC will submit the one-year status report in February 2012. The 60-day and six-month status reports are available through the following hyperlinks:

- *Sixty-Day Status Report on Recommendation Implementation Efforts Regarding the Audit Report of the California Court Case Management System (April 8, 2011), www.courts.ca.gov/partners/documents/BSA60dayresponseFINAL.pdf*

- *Six-Month Status Report on Recommended Implementation Efforts Regarding the Audit Report on the California Court Case Management System (August 5, 2011), www.courts.ca.gov/partners/documents/BSA-6-Month-Letter.pdf*

Cost-benefit analysis

The cost-benefit analysis (CBA) performed by Grant Thornton, LLP, was previously discussed in the 2010 report to the Legislature although it was a 2011 activity. The Judicial Council received the final *California Court Case Management System: CCMS Cost-Benefit Analysis Report* (*courts.ca.gov/xbcr/partners/CCMS_costbenefitanalysis_20110222.pdf*) in February 2011.

The CBA was conducted to understand:
- The anticipated full life-cycle cost of ownership of CCMS;
- The anticipated quantitative and qualitative benefits to be realized once CCMS is fully deployed; and

- The anticipated return on investment from CCMS.

Grant Thornton received extensive input from the AOC and courts, including electronic survey information from 48 courts, telephone interviews with 28 courts to understand current information technology (IT) costs, in-person visits to 7 courts, telephone interviews with representatives of the Sustain Justice Edition User Group and the Small Court Consortium, and numerous meetings with AOC management and staff.

The CBA's objective assessment of four alternative scenarios will allow judicial branch leaders to make informed decisions about the project's future.

Grant Thornton estimated based on the court surveys that 47 of the state's 58 trial courts will need to replace or upgrade their existing case management systems within the next 10 years. The CBA concludes that the judicial branch would save approximately $300 million annually with CCMS deployed and fully operational in all 58 superior courts in comparison to a scenario with no CCMS deployment.

Independent reviews
In the February 9, 2011, report, the Bureau of State Audits recommended an independent review of CCMS. AOC staff met with the BSA to ensure that the expectations for the process and the scope of the review were addressed.

In March 2011, the Legislature amended Government Code section 68511.8 to require the Judicial Council to contract with an independent entity to conduct an assessment of CCMS prior to acceptance of the product. The statute required that the independent assessment include activities to test the system to determine if it will perform as expected, to detect potential flaws, to evaluate whether the system was well designed, and to evaluate the software development processes used to develop the system.

The final assessments were provided to the AOC by the vendors in August and presented to the Judicial Council in September 2011. Copies were delivered to the BSA and members of the Legislature. AOC staff, the chair of the CCMS Executive Committee, and vendor representatives met with the BSA and legislative staff to present the review findings and answer questions. Two briefings were conducted for legislative staff to explain the processes undertaken during the independent assessment and the conclusions reached.

Independent Code Quality Assessment—K3 Solutions LLC
The Independent Code Quality Assessment (ICQA) was completed by K3 Solutions, LLC. K3 Solutions performed an unbiased comprehensive assessment of key CCMS areas to gain an understanding of potential areas of risk. K3 Solutions reviewed 154 requirements, 65 document artifacts, 32 code components comprised of hundreds of code modules, and 33 test scripts. The vendor also tested 82 scripts, witnessed the execution of 22 scripts, and analyzed the regression test results of 2112 scripts. The vendor worked closely with yet independent of the CCMS

Project Management Office (PMO), the Deloitte development team, the testers from the Product Acceptance Test (PAT) group, and the Integrated System Diagnostics (ISD) Standard CMMI Appraisal Method for Process Improvement (SCAMPI) team to gain an understanding of the CCMS system and validate the assessment findings at the conclusion of each task. The report found that the CCMS architecture has a solid foundation, is scalable, and can adapt to meet the needs of multiple courts; that testing was well planned and comprehensive; and that CCMS will perform as designed once deployed into production. The full report can be viewed at *www.courts.ca.gov/partners/documents/ccms-finalassreport0811.pdf*.

A process improvement action plan to address the findings of the independent CCMS reviews is included in the K3 Solutions report. The plan contains proposed improvement activities for the current CCMS project and for the project's future maintenance and operations. Each activity in the plan addresses specific findings contained within the ICQA and CCMS SCAMPI reports. K3 Solutions recommended that the IV&V or quality assurance team perform comprehensive milestone "gate" reviews throughout the software development lifecycle, including approval certifications and stakeholder sign-off to increase the rigor and efficiency of the quality assurance program and to effectively determine the quality of CCMS artifacts. The action plan proposed that Deloitte and the AOC work to assemble a QA team and to conduct QA reviews.

The AOC amended the K3 Solutions contract to include work with the Deloitte Consulting team to implement a QA process. This included collecting process improvement documents/artifacts created in accordance with the Process Improvement Action Plan, reviewing the documents, working on clarification or modifications that may be required, creating a process improvement status report with validation findings, working with the Deloitte Consulting team to correct issues identified in the status report, and validating process improvement results with AOC management. Additionally, when the AOC negotiates a maintenance and support contract, it will address the issues identified in the assessments.

Standard CCMI (Capabilities Maturities Model Institute) Appraisal Method for Process Improvement (SCAMPI)—Integrated Systems Diagnostics (ISD)
The development process known as Standard CCMI (Capabilities Maturities Model Institute) Appraisal Method for Process Improvement (SCAMPI) was reviewed by Integrated Systems Diagnostics (ISD).

The purpose of this appraisal was to document the current process maturity baseline of the CCMS Project against the Capability Maturity Model Integration. The appraisal was performed in accordance with established organizational policies and procedures to determine if the vendor rated an independent ML3 or maturity level 3 rating.

According to *CMMI® for Development, Version 1.2:*

> A maturity level is a defined evolutionary plateau for organizational process improvement. Each maturity level matures an important subset of the organization's

processes, preparing it to move to the next maturity level. The maturity levels are measured by the achievement of the specific and generic goals associated with each predefined set of process areas.

There are five maturity levels, each a layer in the foundation for ongoing process improvement, designated by the numbers 1 through 5:

1. Initial
2. Managed
3. Defined
4. Quantitatively Managed
5. Optimizing

At maturity level 3, processes are well characterized and understood, and are described in standards, procedures, tools, and methods. The organization's set of standard processes, which is the basis for maturity level 3, is established and improved over time. These standard processes are used to establish consistency across the organization. Projects establish their defined processes by tailoring the organization's set of standard processes according to tailoring guidelines.[1]

The following Generic Practices are evaluated for a maturity level 3 rating:

1. GP 1.1 Perform Base Practices

2. GP 2.1 Establish an Organizational Policy

3. GP 2.2 Plan the Process

4. GP 2.3 Provide Resources

5. GP 2.4 Assign Responsibility

6. GP 2.5 Train People

7. GP 2.6 Manage Configurations

8. GP 2.7 Identify and Involve Relevant Stakeholders

9. GP 2.8 Monitor and Control the Process

10. GP 2.9 Objectively Evaluate Adherence

11. GP 2.10 Review Status with Higher Level Management

12. GP 3.1 Establish a Defined Process

13. GP 3.2 Collect Improvement Information

Of the 13 Generic Practices evaluated for a maturity level 3 rating, three were seen as partially implemented, which means that there are gaps in the implementation, not all the processes are being followed, or that the processes are not followed all the time. The report notes in the

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[1] Carnegie Mellon University Software Engineering Institute, *CMMI® for Development, Version 1.2,* August 2006, page 37, *www.sei.cmu.edu/reports/06tr008.pdf* (as of February 17, 2012).

Improvement Activities that the vendor has begun to re-institutionalize regular process and work product audits in order to strengthen the processes associated with the three Generic Practices.

In an overview of the business risk assessment, the following four priority areas were identified for process improvement in order to achieve a ML3 rating. Each of these areas has been addressed through the process improvement action plan created by K3 Solutions with the project team and Deloitte Consulting. In January 2012, validation of all of Deloitte's artifacts was completed, and K3 reported that Deloitte has successfully completed all the process improvement action plan items.

1. Measurement and Analysis (MA): There is little demonstrated evidence at this time of fundamental measurement tasks (project objectives and associated qualitative triggers and thresholds) being implemented. Going forward, the metrics plan should be revised to better fit the activities of maintenance versus development, including adjustment of objectives, and associated triggers and thresholds for performance management.

2. Organizational Process Definition (OPD): The measurement data from the Deloitte level are expected in order to be able to assess the project during project startup and then during re-planning activities. The evidence provided did not show that the repository was robust enough to assist CCMS. Additional data analysis and communication from the Organizational level to the project team may be required.

3. Integrated Project Management (IPM): Weaknesses found in MA and OPD are directly correlated to this process area and will have to be addressed first. IPM uses the data from the other two processes area to actively manage the project, know where and how to identify trends that need to be addressed before they even become issues. Defining the project's objectives and gathering and analyzing the data from MA allows the project managers to see how it is progressing at the moment on many fronts, not just the high risk ones. Project metrics should be provided to the OPD repository so that task estimates can continually be refined and then provided back to the project as re-planning is needed.

4. Process and Product Quality Assurance (PPQA): The project can easily start to address this area just by adding more resources and implementing the plan that program has been developing. There could be a higher risk to the project if not addressed in the near future.

Recommendations included:

- Strengthening the Guiding Principles statements in all Playbook processes to indicate that the projects "shall" follow the Playbook processes tailored to their own project needs. Policy appears to be "[t]he project will utilize the organizational standards and methods" in the Guiding Principles.

- Providing sufficient resources focused on evaluating the implementation of process and work products. The current resources do not have sufficient time to conduct all the appropriate evaluations. This will provide ongoing and leading indicators of issues that may be developing.

- Building project repositories for best practices, tools, lessons learned, risks, and issues so recurring problems can be mitigated.

The full SCAMPI report can be viewed at *www.courts.ca.gov/partners/documents/ccms-indydevprocess.pdf*.

Interim case management systems maintenance and support

The AOC currently provides technical support and maintenance to trial courts for interim case management systems (CMS), including two developed and deployed by Bearing Point, Inc. (V2), and Deloitte Consulting, LLP (V3), in coordination with the AOC.

Interim Criminal and Traffic Case Management System (V2)

The AOC continues to support the interim criminal and traffic system installed in the Superior Court of Fresno County. Support in 2011 included:

- Implementation of new releases of the criminal and traffic system to create increased efficiencies.
- A new software release, Release 7.1, to resolve Judicial Branch Statistical Information System (JBSIS) reporting issues.
- A new software release, Release 8.0, that incorporates changes for the Emergency Medical Air Transportation penalty assessment necessitated by a statutory change.
- An ongoing project to reduce the number of servers supporting the application was completed in July 2011, anticipated to result in an annual cost savings of $240,000.
- Implementation of an interface for automated warrants and upgrading the interface with the payment vendor for these warrants for better continuity of service.

Interim Civil, Small Claims, Probate, and Mental Health Case Management System (V3)

- Courts using this interim CMS process 25% of civil case filings statewide and continue to work with AOC staff to evaluate and prioritize fixes for future releases.
- In 2011, the AOC transitioned support for this program from Deloitte Consulting to the CCMS PMO and AOC Information Services Division. This is anticipated to result in savings of $5.3 million through FY 2013–2014.
- Expanding on in-house functional and technical support is expected to help build knowledge that can be applied for future technical support of CCMS.
- In 2011, work began on the first AOC-developed release, 11.00, which contains refinements to the e-filing capability. This release went live in 2011 in all V3 courts (the Superior Courts of Los Angeles, Orange, Sacramento, San Diego, San Joaquin, and Ventura Counties).
- The maintenance and support teams completed work on new statutory enactments that require system changes on January 1, 2012.

- Branch efforts related to electronic business continue. The Superior Court of Orange County accepts electronic filings for civil, small claims, and probate cases using the interim CMS. The Superior Court of San Diego County continues to work towards full implementation of imaging, having successfully begun with one courtroom. The court is developing an electronic filing configuration and policy with implementation projected for early 2012.

CCMS development

The AOC reached a major milestone when the CCMS product was accepted in November 2011. After a delay caused by quality issues with the application code, an intensive effort validated the core product against requirements and then tested it to ensure that it met the acceptance criteria. This was followed by testing the external components and ensuring that they met all of the defined functional requirements and acceptance criteria.

The quality issues that caused the delay were first reported in December 2009, after the AOC and the courts discovered numerous quality issues with the application during early vendor testing activities. A 10-month delay in completion of the core product followed. Additional AOC, court, and vendor resources were dedicated to a comprehensive review process that involved comparing developed code against the final functional design, a process that identified and resolved 50,000 issues prior to moving into vendor testing. The AOC and court subject matter experts were involved in the testing process to ensure readiness.

The core product is the statewide system used by court staff and judicial officers that supports all case categories and case management for the trial courts. Approximately 1,350 scenarios were tested; about half were case-based scenarios that tested the entire lifecycle of a case, and the other half were designed to validate specific features within the application. Core product acceptance testing (PAT) was successfully completed at the end of April 2011 by meeting the contract exit criteria. Seventy testers, including judicial officers, staff from the courts, AOC staff, and professional testers, participated in this critical phase of the project. Testers with knowledge of V3 case categories (civil, small claims, probate, and mental health) were included to ensure consistency between the V3 and the CCMS application.

In order to meet the exit criteria, the testers must find 0 severity-one defects, 0 severity-two defects, and fewer than 50 severity-three defects. Severity-one issues are the most serious and do not have any workarounds. Severity-two issues may impact a critical component but have known workarounds available, while severity-three issues are not critical, have workarounds available, and pose no significant impact on the user.

External component testing began in June 2011 and was completed in August 2011 with conditional acceptance of all external components with the exception of JBSIS. JBSIS was successfully completed and accepted at the end of October 2011. External component testing included e-filing, data exchanges, portals, and the Statewide Reporting Data Warehouse. This phase also included regression testing to ensure that fixes applied to the external components did

not adversely impact the core product. The development teams for the Appellate Court Case Management System and the California Courts Protective Order Registry, the Department of Motor Vehicles, the Franchise Tax Board, the Department of Child Support Services, the California Highway Patrol, the California Department of Justice, Intresys (an e-filing service provider), the State Bar, and HP Convenience Pay (the automated credit card processing service used by the trial courts; formerly EDS) participated in testing the external components.

The requirements for the CCMS application were initially created in 2007. A release to incorporate legislative and other necessary changes is required before the courts can begin using the application. The courts, the AOC, and Deloitte Consulting started design sessions for Release 1.0 in January 2012. The CCMS Operational Advisory Committee is also reviewing and prioritizing proposed enhancements.

The 2010 report noted that Deloitte would be responsible for the costs associated with correcting the quality issues and any costs incurred by the branch as a result of the project's 10-month delay. The development contract included provisions regarding a project delay and the AOC Finance Division's Business Services Unit, Office of the General Counsel, along with executive leadership, negotiated the terms of the vendor delay. The AOC calculated the cost of the delay at $16 million, which included expenditures for technical environments, software licensing, contractors, court subject matter experts, AOC staff, and travel expenses during the 10-month period of the delay. The AOC and Deloitte agreed that deployment to the Superior Court of Fresno County at no charge would be equitable compensation. This agreement was dependent on Judicial Council approval as well as proceeding as planned with the three early adopter courts and reusing tools and templates developed during the project.

According to the contract amendment, if the AOC and the vendor did not enter into the Fresno deployment statement of work by October 31, 2011, the AOC had the right to elect instead to receive from the vendor a payment of 16 million dollars ($16,000,000). The AOC and the vendor extended the date for deciding on an option to March 31, 2012, to allow additional time for the branch to determine how to go forward and to negotiate new terms with the vendor, if necessary. The AOC does not anticipate having a statement of work in place for a Fresno deployment by this time and will propose alternatives to the Judicial Council for taking payment of the $16,000,000 delay cost reimbursement in cash or receiving Deloitte services of equivalent value.

CCMS deployment activities
In March 2011, early adopter readiness and integration assessments were completed for the San Diego, San Luis Obispo, and Ventura superior courts. Deloitte Consulting provided 13 project deliverables that identified individual court preparedness, program strategy, and key issues. The Superior Courts of Ventura and San Luis Obispo Counties approved the deployment plans. The Superior Court of San Diego is focusing on implementation of e-business services, including a document management system and e-filing, prior to converting to CCMS on all case types.

The 2010 report stated that deployment had been slowed, but progress continued, consistent with the discussion with the Legislature's budget conference committee in 2009. The stated plan would have deployed three "early adopter" courts—the Superior Courts of San Diego, San Luis Obispo, and Ventura Counties—pending the outcome of the independent assessments. However, as a result of a $10 million redirection of CCMS funds to trial court operations in the FY 2010–2011 budget and another $56.4 million redirection by the Judicial Council also to trial court operations, the council chose to reconsider its deployment strategy.

At the July 2011 meeting, the council directed the CCMS program to return with a proposal for alternative deployment strategies based on the $14 million allocated by the council for CCMS The AOC and the Superior Courts of San Luis Obispo and Ventura Counties have been working with the CCMS governance committees to develop new deployment strategies based on the funding approved by the Judicial Council at the July meeting. The AOC staff continues activities in preparation for early adopter deployment including developing configuration process maps for use as guides to understand and identify court configurations. The AOC staff is working toward standardization of operational processes and will develop templates and tools for future deployments in order to minimize costs.

At its October 2011 business meeting, the Judicial Council was presented with a potential opportunity to leverage collaborative resources and strategies with the Chan Soon-Shiong Family Foundation and the State Bar of California. The council directed the AOC to execute a letter of intent (*www.courts.ca.gov/partners/documents/Draft-Letter-of-Intent-CCMS.pdf*) to enter a 12-week due-diligence period to determine the feasibility of entering into such a collaborative relationship. The AOC began to examine the legal, financial, communications, governmental affairs, deployment, technical, project management, and governance issues arising from such a collaboration. The track leads identified the activities required to examine the funding opportunity and the staff responsible for reporting progress and communicating risks. By late December 2011, the parties agreed in light of all the complexities not to pursue a collaborative relationship at this time. It was determined that the judicial branch's limited resources should be focused on developing a feasible deployment plan.

The AOC subsequently retained Grant Thornton, again to assist in developing recommendations for a detailed alternative deployment plan. Grant Thornton brings the experience and knowledge of the CCMS system developed in performing the CCMS cost-benefit analysis delivered in February 2011. The alternative deployment report is to be completed in March 2012 and will provide baseline deployment cost estimates for the early adopter courts, a phase-two deployment plan for up to 10 additional courts, cost estimates for deployment, and an analysis of the potential benefits and opportunities. Courts will be selected based on their receptiveness to either full or partial component deployment, the stability of the court's business environment, benefits of full or partial deployment, and return on investment. After the initial interviews, Grant Thornton will develop a recommended plan and approach for the deployment of CCMS, which will include up to 10 selected courts.

As part of the process, 20 courts have been selected for initial interviews. The scope of Grant Thornton's work includes collaborating with the AOC and administrative staff of the selected courts to:

- Determine a discrete number of courts to include in the analysis;
- Understand the IT costs associated with managing current case management environments and the projected costs for maintaining these environments for the next 10 years;
- Analyze and validate the AOC PMO's estimated state-level costs and court costs for the deployment and support of CCMS;
- Provide a detailed deployment approach and plan recommendation for the selected courts; and
- Estimate the benefits of the new system on current workload costs.

The AOC will use the Grant Thornton report to develop a proposed deployment plan. The recommended deployment approach for CCMS will include the scope, sequence, and timeline for the early adopter courts and a phase-two deployment plan to be used as an effective model for the deployment of subsequent courts. The plan will also document the quantitative and qualitative benefits to be delivered by the CCMS system once fully deployed. The Grant Thornton report and AOC staff recommendations for deployment will be presented at the March 27, 2012, Judicial Council meeting. Once the council has decided on a deployment strategy, consistent with the BSA's recommendations, separate companies will perform IPO and IV&V services during deployment

CCMS fiscal analysis
To mitigate the impact of several years of ongoing funding reductions to the judicial branch, the Judicial Council has redirected significant funds to offset reductions to trial court operational funding. In FY 2011–2012, planned funding of $66.4 million for CCMS was redirected by the council for this purpose, with available funding in future years uncertain. The CCMS program continues, as directed and authorized by the council, to modify its strategy in light of current and foreseeable future economic realities as well as the needs of courts whose current systems are at imminent risk of failing.

In 2010, the AOC transitioned support for the V2 application from Deloitte Consulting, for an expected net savings of $4.8 million through June 2012. In 2011, the AOC transitioned support for the V3 application from Deloitte and the projected cost savings is $5.3 million through FY 2013–2014. The CCMS PMO and the AOC Information Services Division continue to look for ways to make the interim case management systems as cost effective as possible until the deployment of CCMS. Current year-end forecasts indicate potentially even higher levels of actual savings than originally estimated.

Total CCMS project costs through FY 2010–2011 are $333.3 million, which includes the development and deployment of the V3 civil application, development and deployment of CCMS, and document management system development and deployment. Through FY 2010−2011, the total project, operational, and interim case management system costs are $521.5 million. These amounts include unreimbursed costs paid directly by the courts to the vendor for the deployment of the V3 civil application as well as court reported costs in FY 2010−2011 for the CCMS program as a whole.

The Judicial Council will continue to work with the Legislature and the Governor to explore all potential approaches for securing sufficient funding to complete the deployment of CCMS. The council will decide on a new strategy for the program based on the recommendations and information reported by Grant Thornton in April 2012. Cost estimates will be provided to the Legislature by the council consistent with those decisions.

Challenges facing the CCMS program
The biggest challenge for the CCMS Program is funding. For the past several years, as the judicial branch was faced with significant budget reductions, funding planned for the CCMS Program has redirected to support trial court operations. In FY 2009–2010, a $191.3 million reduction put CCMS on "life support." In FY 2010–2011, the program was reduced by $7 million, and in FY 2011–2012, by another $66.4 million. Currently, the funding is reduced to a level that puts the program at significant risk. These reductions will impact the rate at which CCMS can be deployed to the courts.

A primary concern is ensuring implementation of CCMS in one or more courts while the application warranty is in effect. Our experience with the interim civil case management system has shown how important having a valid warranty is during the initial implementation of CCMS. A warranty ensures that application defects identified during the initial implementation of the system are addressed at the vendor's expense—not at the expense of the branch. The term of the product warranty remains an open issue. The contract terms currently specify a commencement date for the warranty eight months from product acceptance, or July 28, 2012. The warranty term is one year and would therefore expire in July 2013. These terms were realistic when the contract was negotiated in 2007 but do not fit well with the current deployment expectations. CCMS governance representatives and AOC leadership are continuing discussions with Deloitte Consulting regarding modification of the warranty terms.

Accomplishments to Date[2]

Table 1: Criminal and Traffic Case Management System

Accomplishment	Date Completed
Software developed by the Superior Courts of Orange and Ventura Counties was successfully migrated to a web-based application.	2003
The Superior Court of Alameda County was the first court selected to deploy the product. Analysis phase for this deployment was completed in May 2004. However, in 2006, the court decided it was not beneficial to implement the CMS until all case types had been developed.	May-04
Software coding of the baseline system was completed.	Jul-04
The application was successfully installed in the California Courts Technology Center.	Jul-04
The evaluation environment was established at the California Courts Technology Center to allow courts to assess the application.	2004
Validation testing of the application was completed.	Sep-04
Stress testing of the application was completed.	Aug-05
End users from six lead courts (Alameda, Los Angeles, Orange, Sacramento, San Diego, and Ventura) tested the baseline application. A contract was approved to begin the initial set of enhancements to the baseline application.	May-05
Functional training sessions were held for staff and judicial officers at the Superior Court of Alameda County, and the product configuration training plan was finalized with the vendor.	Jun-05
Major enhancements were completed resulting from the passage of Assembly Bill 3049 (Stats 2004, ch. 952, dealing with traffic matters).	Sep-05
Training environments for the next set of deployment courts were installed.	Oct-05
The criminal case category was completed.	Mid-2006
Fresno was the first court to deploy the criminal and traffic CMS.	Jul-06
Support transitioned from BearingPoint to Deloitte for criminal and traffic product.	Dec-06
Decision by Enterprise-wide Infrastructure Committee to not deploy the criminal and traffic CMS at additional courts, given budget constraints and anticipated completion of CCMS by fall 2010.	Dec-07
Release 4 completed.	Apr-08
Release 5 completed.	Jun-08
Transitioned application to a new California Courts Technology Center vendor.	2008
Application maintenance transferred from Deloitte Consulting to AOC IS Division.	Sep-09
Release 5.8.1, first release developed by AOC V2 team, resolved critical JBSIS issues.	Sep-09

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[2] Only the 2011 entries in each of the following charts are new; prior-year accomplishments are carried over unchanged from prior reports.

Accomplishment	Date Completed
Release 6.1 resolved high priority defects that impacted Fresno court operations.	Mar-10
Release 7.0 upgraded the software stack that supports the V2 application, ensuring ongoing vendor support and maintenance and enabling Fresno client upgrades to Windows 7, Internet Explorer 8, and MS Office 2010.	Jun-10
Release 7.1 successfully deployed, resolving known JBSIS reporting issues.	Sep-10
Oracle database software upgrade completed from 10.2.0.3 to 10.2.0.5.	Nov-10
Release 8.0 implemented the Emergency Medical Air Transportation Penalty for AB 2173.	Mar-11
Sybase vendor software patches to eliminate a security risk and resolve an intermittent application failure.	May-11
Decommissioned 14 servers in production and staging with no degradation to performance for a savings of $240,000 annually.	Sep-11
Release 8.2 implemented Traffic School Confidential Conviction changes for AB 2499 and changes to financial processes, resolved high priority defects that impacted Fresno court operations, and eliminated workarounds.	Nov-11
Release 8.3 will deploy a Sybase vendor software patch to capture information to resolve an intermittent problem with creating documents.	Feb-12

Table 2: Civil, Small Claims, Probate and Mental Health Case Management System

Accomplishment	Date Completed
Deloitte Consulting selected as vendor for civil, small claims, and probate case types.	2003
System design completed and construction and coding of the application began.	Feb-05
Deployment discussions initiated with Los Angeles, Orange, Sacramento, San Diego, and Ventura Superior Courts.	Spring 2005
Application construction completed. Requirements testing of the code begun.	Apr-05
Integration testing completed and application technical testing phase finalized.	Jul-05
Development of test cases, scripts, and scenarios completed.	Jul-05
The technical environment, including hardware and software, installed at the California Courts Technology Center.	Aug-05
Product acceptance testing began. Testing conducted with Superior Courts of Alameda, Los Angeles, Orange, Sacramento, San Diego, and Ventura Counties.	Sep-05
The assessment phase for deployment in the Superior Courts of Sacramento and San Diego Counties was completed.	Sep-05
The application was demonstrated at the California Judicial Conference in the Superior Court of San Diego County.	Sep-05
Product acceptance testing was completed and the application was accepted by the lead courts and the AOC.	Nov-05

Accomplishment	Date Completed
Knowledge transfer requirements defined. First session held with vendor, courts, AOC IS Division staff, and consultants.	2005
Release 4 completed.	Sep-06
Oversight Committee voted to add the mental health case type and the design phase.	Oct-06
Sacramento and San Diego Superior Courts deployed small claims case type.	Nov-06
Court content experts and CCMS staff discussion on standardization of codes and text.	Dec-06
Release 5 of the application completed.	Jan-07
Deployments of additional case categories and locations in Orange, Sacramento, San Diego, and Ventura superior courts.	2007
Release 6 of the application, which included the addition of the mental health case category, completed.	Jul-07
Superior Court of Ventura County completed deployment of all four case categories.	Aug-07
A presentation about the application was given at the National Center for State Courts CTC10, the Tenth National Court Technology Conference, and the National Association for Justice Information Systems Conference.	Oct-07
Superior Court of San Joaquin County deployed all civil, small claims, and probate and mental health CMS categories in all locations.	Apr-08
Superior Court of Los Angeles County deployed the small claims case category at the Alhambra Courthouse.	May-08
Product acceptance testing for Release 7 completed.	Early 2008
The courts, regional project office, and vendor worked with the AOC IS Division to transition to a new technology center.	2008
Release 8/9 completed. Superior Court of Orange County went live with the release with no major issues.	Oct-09
Executive leadership kick-off/orientation meeting at the regional program office with the early adopter courts about initial steps for courts with CCMS deployment.	Feb-10
Orange, Sacramento, San Joaquin, and Ventura go live with Release 8/9	Nov-10
All courts go live on Release 10.01.	May-10
Release 10.02 is in use at the Superior Courts of Los Angeles (4 small claims courtrooms in Alhambra court), Orange, Sacramento, San Diego, San Joaquin, and Ventura Counties, providing the ability to process e-filed documents, which is in use at Orange County Superior Court. Other functionality includes electronic clerk review, digital stamping and endorsing, electronic notification of filing and return of endorsed documents, and system verification that data elements are complete and accurate.	Sept/Oct-10
Update to the interim civil case management system, which was necessitated to implement statutory changes, was provided to courts.	Jan-11

Accomplishment	Date Completed
All courts go live on Release 10.04, which includes updates to the accounting screens and reports, performance improvements on the calendar and disposition screens, and some changes/improvements to the e-filing processing, as well as changes to 17 forms.	Aug/Sep-11
The AOC took over maintenance and support operations effective September 16, 2011. (This is expected to achieve a cost savings of approximately $5.3 million in labor charges through FY 2013–2014, while building in-house functional and technical knowledge to be used for future technical support of CCMS.)	Sep-11
Release 11, which includes refinements to e-filing, was made available to the courts for installation and User Acceptance Testing.	Oct-11
Release 11 is deployed to courts.	Oct/Nov-11
Release 11.01 (Statutory, Legislative, Judicial Council mandated updates) developed, tested and delivered for 1/3/2012 go live date.	Nov/Dec-11

Table 3: California Court Case Management System

Accomplishment	Date Completed
CCMS Oversight Committee adopted the technology framework used in the civil, probate, and small claims case types as the basis to build a unified case management system. The criminal, misdemeanor, infraction, family law, mental health, and juvenile functionality will use the same technology standards as are employed in the civil, probate, and small claims case types.	2006
CCMS Oversight Committee approved a high-level plan to begin process of unifying all case categories into one application.	2006
The lead courts assigned staff to participate in the project workgroups.	2006
CCMS team began defining requirements for unification of additional case categories.	Jul-06
AOC Regional Program Office; IS Division; Center for Families, Children & the Courts; and court project managers reviewed and validated the business requirements.	Apr-07
The AOC amended the development contract with Deloitte Consulting to include: • Design and construction of family, juvenile dependency, and juvenile delinquency case categories; • Incorporation of the criminal and traffic functionality; and • Design of the additional components (portals and reporting database).	Jun-07
Deloitte Consulting began development of CCMS.	Jun-07
Resources from AOC Regional Project Office, IS Division, Center for Families, Children & the Courts, and court project managers reviewed and validated the requirements.	Jul-07

Accomplishment	Date Completed
Sjoberg & Evashenk engaged as an independent project oversight consultant and for Independent Verification &Validation services.	Jul-07
RFP issued for statewide deployment of CCMS.	Feb-08
The deployment RFP bidder's conference was held.	Mar-08
Bids due for the statewide deployment RFP.	Apr-08
AOC began review of final functional design deliverable.	Sep-08
AOC and courts transitioned to new CCTC/shared services vendor (SAIC and IFOX).	Sep-08
Oversight Committee approved Deloitte Consulting as the preferred vendor for statewide deployment RFP. AOC and Deloitte began contract negotiations.	Oct-08
Deloitte began development of test scripts to test the application under each business scenario.	Mar-09
The final functional design deliverable was accepted by the AOC.	May-09
Statewide deployment contract negotiations with Deloitte put on hold due to budget constraints.	May-09
The standardization and configuration deliverable was accepted by the AOC.	Jul-09
Deloitte completed application coding for CCMS.	Aug-09
The creation of all test scripts completed.	Aug-09
Deloitte began integration and stress testing.	Sep-09
Discussions initiated with Deloitte regarding a statement of work for early-adopter deployment.	Sep-09
CCMS early adopter deployment readiness assessment contract begins.	June-10
San Diego, Ventura, and San Luis Obispo hold early adopter kick-off meetings.	June-10
Final functional design (FFD) validation effort completed. This included enhanced rigorous testing of the system, additional testing resources, and the development of high exit criteria.	Jul-10
Initial gap analysis performed for all three early adopter courts, and a draft integration assessment was delivered by Deloitte for review.	Sep-10
Approval of the CCMS product acceptance testing plan for the core product.	Oct-10
Deployment strategy and readiness and integration assessments completed at all three courts. Deployment strategy deliverables, integration and readiness assessment deliverables, and the final CCMS Early Adopter Readiness and Integration Assessment deliverable, CCMS Goals and Objectives, were reviewed and accepted by the CCMS PMO.	Nov/Dec-10
The vendor, AOC, and court subject matter experts completed the validation of the application code against the final functional design. Start of Product Acceptance Testing for CCMS for the core product.	Feb-11

Accomplishment	Date Completed
A comprehensive cost-benefit analysis related to the statewide implementation of CCMS was prepared by Grant Thornton, LLP and presented to the Judicial Council.	Feb-11
The CCMS core product met the product acceptance exit criteria.	April-11
External Components Product Acceptance Testing began.	June - 11
Testing of data exchanges with statewide partners completed. External Components Product Acceptance Testing had a pass rate of 97%.	Aug-11
External components product acceptance testing was completed. External components include the portals, statewide reporting data warehouse (with the exception of JBSIS reports, which were completed in October), data exchanges, e-filing, and the software utility to be used for migrating data from existing CCMS interim case management systems (criminal and civil) to CCMS.	Aug-11
The CCMS user documentation was completed. This includes online help screen content, baseline training materials, and a configuration guide for system administrators.	Aug-11
The Independent Code Quality Assessment by K3 Solutions, LLC, was completed.	Aug-11
The review of the development process known as Standard CCMI (Capabilities Maturities Model Institute) Appraisal Method (SCAMPI) for Process Improvement by Integrated Systems Diagnostics was completed. As discussed more thoroughly in the narrative, the conclusion of these reviews is that the product will work as designed.	Aug-11
Testing of JBSIS was completed.	Oct-11
The Judicial Council approved the execution letter of intent with the AOC, the State Bar, and the Chan Soon-Shiong Family Foundation.	Oct-11
The CCMS Independent Code Quality Assessment Process Improvement Action Plan was completed and presented to the CCMS Governance Committees.	Nov-11
On November 28, the letter of intent was signed by all parties, which began the 12-week period of discussion, information exchange, and planning to determine if the parties wish to enter into a collaborative relationship to begin deploying CCMS and other technology-related activities.	Nov-11
CCMS product was accepted.	Nov-11
Mutual confidentiality agreement between the AOC and the State Bar of California was submitted.	Nov-11
Letter of intent concerning collaboration for deployment of the California Court Case Management System (CCMS) and other technology-related activities was fully executed.	Dec-11
Sjoberg/Evashenk released the final project IPO/IVV report.	Dec-11
CCMS Due Diligence related to the letter of intent was suspended.	Dec-11

Phoenix Program

The Phoenix Program includes the support and deployment of an Enterprise Resource Planning (ERP) system on a SAP technical platform, as well as professional financial and human resources services for the 58 trial courts in the state. This system is equivalent to the executive branch's efforts to deploy an ERP with the FI$CAL and 21st Century Project. The Phoenix Financial System and the Phoenix Human Resources System (together referred to as the "Phoenix System") replace systems and support previously provided to the courts by counties and private entities. This coordinated system provides end users with seamless interaction between the input and retrieval of financial information and support for human resources. The AOC successfully deployed the financial system component of this new technology platform to all 58 courts between 2002 and 2009. In addition, 7 of the 58 courts have implemented the fully integrated system by deploying the human resources system as well.

Phoenix Financial System

The Phoenix Financial System enables the courts to produce a standardized set of monthly, quarterly, and annual financial statements that comply with existing statutes, rules, and regulations and are prepared in accordance with generally accepted accounting principles. The AOC has been providing professional accounting and business services to all 58 trial courts using the Phoenix Financial System since July 2009. The Phoenix Financial System provides immediate access to data, enabling courts to make informed business decisions and improving day-to-day operations.

The judicial branch has realized significant benefits and efficiencies from the statewide implementation of the Phoenix Financial System. In addition to the ability to produce standardized reports and fiscal oversight, the system has also provided the opportunity to better manage judicial branch resources. The recent Bank Account Consolidation program implementation reduced fees on AOC-administered bank accounts, resulting in an annual savings to the trial courts of approximately $700,000. In addition, the Court Interpreter Data Collection program enhances the courts' ability to manage resources and plan for accommodating local language trends by tracking court interpreter–specific data, including language spoken, case type, and type of proceeding as well as associated interpreter costs, including mileage and per diem rates. Lastly, the Comprehensive Payment Solution program, once fully in place, will allow courts to replace paper checks to certain vendors with an electronic payment process, including through commercial credit card networks, benefitting the courts an estimated $1 million.

The Phoenix System is reconfigurable to add more functionality as needed. Reconfiguration is often performed (1) to implement new programs that will benefit the trial courts, (2) in response to legislative mandates, or (3) to address change requests associated with contract negotiations. Several courts have expressed great interest in specific functions within the financial and human resources systems. The most common inquiries from the courts regard:

- Human resources payroll functionality, of interest to at least nine courts that have expiring agreements with their counties or other service providers;
- Talent management tools, such as "Recruitment and Retention," "Training Requirements Compliance Tracking," "Learning Management Solution," and "Performance Management," as part of an integrated ERP system;
- Integrated financial tools, especially for larger courts, to allow more efficiency in complying with new GASB requirements as well as fixed asset and inventory management; and
- New procurement functionality for improved efficiency and to comply with recent statutory requirements of public contracting code related to documentation and tracking.

Accomplishments to Date[3]

The accomplishments of each system are detailed below.

Table 4: Phoenix Financial System

Accomplishment	Date Completed
The AOC surveyed trial courts to determine interest in a statewide trial court financial system.	Early 2001
The AOC launched the implementation of the Phoenix Financial System (then known as the Court Accounting and Reporting System). The Superior Court of Stanislaus County became the first court to use the new system.	Dec 2002
A five-year statewide rollout schedule was released, detailing the trial courts in line for transition to the Phoenix Financial System from fiscal year 2003–2004 through FY 2008–2009.	Feb/Mar 2003
Six trial courts were added to the system: the Superior Courts of Lake, Madera, Placer, San Luis Obispo, Siskiyou, and Tulare Counties.	FY 2003-2004
The Phoenix Financial System was installed at 10 trial courts: the Superior Courts of Alameda, Calaveras, Contra Costa, Kings, Merced, Modoc, San Benito, San Bernardino, Tehama, and Yolo Counties—bringing to 17 the number of courts on the statewide system.	FY 2004-2005
The position of assistant director of the Office of Trial Court Financial Services, in the AOC Finance Division, was established to oversee the Phoenix Financial System on the courts' behalf. This position was filled in November 2004.	Jul 2004

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[3] Only the 2010 entries in each of the following charts are new; all entries for prior-year accomplishments are carried over unchanged from prior reports.

Accomplishment	Date Completed
The system was implemented in an additional 14 courts— the Superior Courts of Colusa, El Dorado, Fresno, Humboldt, Kern, Marin, Napa, Plumas, San Joaquin, Santa Cruz, Solano, Sonoma, Trinity, and Ventura Counties—bringing to 31 the number of courts on the statewide system.	FY 2005-2006
The Phoenix Financial System product was migrated to the newest version of MySAP (4.7c) for the statewide financial system, adding new functionality and reporting capabilities for use by the trial courts.	Apr 2005
Quarterly Phoenix Financial System user group meetings were held to enable the courts to network with the AOC, to improve the level of services received from the accounting processing center, to serve as a forum to raise concerns regarding the functionality of the statewide system, and to help build professional relationships with the newly formed Trial Court Financial Services unit.	2005
A comprehensive governance structure for the Phoenix Financial System was established, encompassing a steering committee composed of AOC Finance, Human Resources, and Information Services divisions and the three regional administrative directors.	Apr 2005
The function of the Treasury Services unit was expanded to include trust accounting services, cash management, and banking services.	May 2005
A contractor was selected as a result of an RFP to study the court trust accounting processes, analyze court business requirements, and identify processing gaps between MySAP and the Phoenix Financial System environment to assess the latter's readiness to include the trust accounting business processes within the statewide system.	Jun 2005
A study was conducted of the trial court cashiering processes to determine the impact of pending and subsequently chaptered legislation affecting the collection of civil assessment and uniform civil filing fees (Assem. Bill 139, Stats. 2005, ch. 74; Assem. Bill 145, Stats. 2005, ch. 75).	Jul 2005
The Business Process Management section in the Division of Finance was established to provide planning and leadership for the Phoenix Financial System and to develop a strategic direction for the system and its future use by the courts.	Dec 2005
Based on a study of business requirements and a functional gap analysis beginning in June 2005, the 12-member trial court working group and the AOC resolved to develop a new civil and criminal bail trust processing computer application for statewide implementation within SAP's Public Sector Collections and Disbursement module. This new trust system application will be fully integrated with the Phoenix Financial System, which is also a SAP application. The development of this trust processing and accounting module is under way.	Jun 2006
The Phoenix Financial System was implemented in an additional 13 courts—the Superior Courts of Alpine, Amador, Glenn, Imperial, Inyo, Lassen, Mariposa, Mono, Riverside, Sacramento, San Francisco, Shasta, and Sierra Counties—bringing to 44 the number of courts on the statewide system.	FY 2006-2007

Accomplishment	Date Completed
The project was renamed from Court Accounting and Reporting System to Phoenix Financial System, a component of the Phoenix Program that incorporates the Phoenix Financial System and the Phoenix Human Resources System.	Jul 2006
The SAP technical infrastructure was expanded to support higher system availability for users and the statewide implementation of the remaining courts. The new infrastructure also complies with higher security standards established by the AOC.	Dec 2006
The Phoenix Financial System was implemented in 5 additional courts— the Superior Courts of Butte, Monterey, San Diego, San Mateo, and Santa Barbara Counties— bringing to 49 the number of courts on the statewide system since its inception.	Jul 2007
The services provided to the courts by Phoenix Financial Services increased significantly as more courts were added to the system. The Accounts Payable Unit processed approximately 20,000 jury checks per month and printed and issued 20,000 operations checks per month on behalf of the trial courts to pay their bills. The General Ledger and Reports Unit balanced 147 trial court bank accounts per month, and the Trust Services Unit tracked $500 million in trust monies for the trial courts annually. These numbers reflect the support provided to 49 trial courts on the Phoenix Financial System during that period.	FY 2007-2008
The AOC participated in an RFP process for a system upgrade (both financial and human resources), beginning in July 2008 with a 12-month preparation and testing period before implementation. The upgrade ensures the continuance of technical support of the system software and provides added system functionality such as enhanced statewide reporting and other features.	Jan 2008
The Phoenix Financial System was deployed to the Superior Courts of Del Norte and Mendocino Counties.	Jan 2008
The Phoenix Financial System was deployed to the Superior Courts of Nevada, Sutter, Tuolumne, and Yuba Counties.	Apr 2008
The Phoenix Financial System was live in all 58 courts, with deployment to the Superior Courts of Los Angeles, Orange, and Santa Clara Counties. In the 58th and final court, the Superior Court of Los Angeles County, implementation is occurring in phases because of the size and complexity of the court.	Jul 2008
The AOC received additional resources for the Phoenix Program through the budget change proposal process to assist with the development and deployment of the project.	Jul 2008
As a result of the RFP process in January 2008, contract services were obtained to assist with a system functionality assessment in preparation for the second phase of the project specific to a system software upgrade and its redeployment. EPI-USE America, Inc. was selected to assist in the final deployment of the Phoenix Financial System to the Superior Court of Los Angeles County and implementation of the Phoenix Human Resources System to the 52 remaining courts. That company will also perform the planned Phoenix Financial System SAP upgrade and redeployment to all 58 courts.	Jul 2008

Accomplishment	Date Completed
Statistics indicated a significant increase in services provided to the 58 courts on the Phoenix Financial System. The Accounts Payable Unit processed approximately 231,000 jury checks per month and also printed and issued 175,000 operation checks per month on behalf of the trial courts to pay their bills. The General Ledger and Reports Unit balanced 228 trial court bank accounts per month, and the Trust Services Unit tracked more than $1 billion in trust monies for the trial courts annually.	Oct 2008
Statewide regional forums were held in an effort to ensure that the vision, goals, and objectives of the Phoenix Program were conveyed to stakeholders, affording them the opportunity to provide essential input for various aspects of the project.	Oct 2008
The project's Blueprint Phase was completed in preparation for the SAP software upgrade from version 4.7 to 6.0 in collaboration with court staff.	Mar 2009
The testing and development for the planned statewide software upgrade was completed.	Apr 2009
The Phoenix Financial System software upgrade was successfully launched. The financial component of the Phoenix System was upgraded, migrating from SAP version 4.7 to 6.0. This statewide effort encompassed many months of planning and collaboration between Phoenix Program staff and court subject matter experts and users, as well as lengthy software testing and development and included new functionality.	Jul 2009
The Superior Court of Los Angeles County phased implementation on the Phoenix Financial System neared completion—a significant milestone that marked the final deployment of this component statewide. The size and complexity of this court presented challenges overcome through the successful partnering of AOC and superior court staff. Plans are currently being developed to complete this effort in 2010.	Jul 2009
The Procurement Program was initiated in the courts. The Procurement Program provides the courts with the option to elect a specific scenario to review and approve their internal purchase orders using the Phoenix Financial System, ensuring that there are checks and balances in place to meet the requirements of the *Trial Court Financial Policies and Procedures Manual*.	Aug 2009
Preparation began for the launch of SECUDE, security software designed to protect the data transmitted between the Phoenix System and SAP environments using a single sign-on configuration. This software will be installed on all finance and human resources users' desktops in each court.	Feb 2010
The Bank Account Consolidation project was launched with the goal of seamlessly consolidating the structure of AOC-administered bank accounts, creating cost savings opportunities for the courts, and simplifying the overall cash management process. The collective cost savings is estimated at $600,000 per year. The phased implementation is planned to take place over seven months.	Feb 2010

Accomplishment	Date Completed
The Phoenix Program's flexible reporting project was launched to enhance the Phoenix System's reporting solution to offer faster, more user-friendly, and more flexible online analytical functionality. Court staff benefit by faster data retrieval and an enhanced user interface.	Mar 2010
The deployment of Solution Manager to the Phoenix production landscape was a continuous-improvement initiative designed to increase effective support for the courts, the AOC, and the underlying information technology infrastructure. The initiative centralizes the handling of court-reported systems issues and allows for quick resolution and tracking. It supports a repository of project and maintenance documentation organized by business process and it allows for systems monitoring for the application and its related infrastructure and hardware.	Apr 2010
Efforts to finalize an encryption solution for a single sign-on for the courts were completed. SECUDE was successfully deployed to all 58 courts.	July 2010
The bank account consolidation project was successfully concluded in all 58 courts as a cost savings measure to reduce banking fees on AOC-administered bank accounts.	Aug 2010
The Phoenix team worked with the Superior Court of Los Angeles County to modify the 2009 version of the data upload process for their general ledger accounts on the Phoenix System. The new process allows the court to load detailed information from its legacy system (eCAPS) into the Phoenix System, providing a complete picture of the court's financial activity. The Los Angeles court remains on its county system for certain other functions, including procurement and financial investment.	Sept – Dec 2010
Efforts for the update and revision of the current *Trial Court Financial Policies and Procedures Manual* began with a late-2011 anticipated release date for the 8th edition.	Dec 2010
New functionality for a Uniform Civil Filing Fee System (UCFS) and Phoenix System interface was developed resulting in the automation of the daily bank balance and capital bank balance reports for each trial court. This interface is used by Treasury Services to determine trial court bank balances to verify that a court has a cash balance sufficient to cover the distribution of fees, and also generates reports for the State Controller's Office and various entities that receive the distributed funds.	Feb 2011
The Phoenix System was reconfigured to enable it to capture court interpreter-specific data including language spoken, case type, and type of proceeding as well as associated interpreter costs, including mileage and per diem rates, to enhance the courts' ability to manage resources and better plan for accommodating local language trends. The Court Interpreter Data Collection program is being offered to the courts as an optional system feature.	May 2011
The AOC is developing interfaces between the Phoenix System and the California Court Case Management System (CCMS). The goal is to gain the ability to extract financial data from CCMS and load it directly into the Phoenix Accounting Module for accounting and reporting purposes.	June 2011

Accomplishment	Date Completed
Pursuant to Senate Bill 78 and Public Contracting Code section 19209 (Mandatory Reporting of Judicial Branch Contracting Information), the Phoenix Financial System has been modified to capture information regarding all trial court vendors or contractors receiving payments. This technical solution will provide the AOC with the ability to generate reports semiannually as mandated by statute.	June 2011
In compliance with GASB Statement 54, *Fund Balance Reporting and Governmental Fund Type Definitions,* , the Judicial Council updated the fund balance policy at the October 2010 business meeting and directed that fund balances be reported using the five distinct classifications of Nonspendable, Restricted, Committed, Assigned, and Unassigned. The Phoenix System was configured to accommodate the council's directive, establishing five GASB General Ledger categories for reporting year-end reserve amounts.	July 2011
The AOC currently manually logs directly into the myCalPERS system (formerly CalPERS ACES) to send data for payroll reporting. This system is scheduled to be decommissioned. The AOC is developing a CalPERS interface that will instead automate data transfer between the Phoenix and CalPERS systems.	Oct 2011

Phoenix Human Resources System
The Phoenix Human Resources System provides a comprehensive information system infrastructure that supports trial court human resources management and payroll needs. Designed for integration with the Phoenix Financial System and first deployed in July 2006, the system offers new standardized technology for human resources administration and payroll processing, provides consistent reporting, ensures compliance with state and federal labor laws, collects data at the source, provides central processing, and provides manager and employee self-service functions to the courts.

Table 5: Phoenix Human Resources System[4]

Accomplishment	Date Completed
A steering committee formed by the AOC voted to support the Court Human Resources and Information System (CHRIS) project and defined the project scope.	Nov 2004
The AOC completed the development and configuration of a CHRIS prototype.	Jun 2005
CHRIS was renamed as the Phoenix Human Resources System, which joined the Phoenix Financial System as part of an integrated system designed to serve the financial, human resources, and payroll needs of the trial courts.	Jun 2006

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[4] Only the 2010 entries in each of the following charts are new; entries for prior year accomplishments are carried over unchanged from prior reports.

Accomplishment	Date Completed
First installed in the Superior Court of Sacramento County, the Phoenix Human Resources System enabled electronic management of personnel administration, organizational management, payroll, time management, benefits administration, training and event tracking, and compensation administration.	Jun 2006
Five additional courts—the Superior Courts of Lake, Riverside, Santa Cruz, Siskiyou, and Stanislaus Counties—went live on the Phoenix HR System.	Jan 2007
Further deployment of the Phoenix Human Resources System was temporarily halted pending an upgrade of the system to be conducted during fiscal year 2008–2009 and until additional resources are provided for this component of the project.	Jul 2008
Scheduled to begin after the planned upgrade to the SAP system in 2009, the deployment of the Phoenix Human Resources System to the remaining 52 courts will include additional modules such as recruitment, performance management, personnel cost planning, and e-learning.	Jan 2009
The project's Blueprint Phase was completed in preparation for the SAP software upgrade from version 4.7 to 6.0 in collaboration with court staff.	Mar 2009
The testing and development for the planned statewide software upgrade was completed.	Apr 2009
The Phoenix System software was successfully upgraded in the six courts using the Phoenix Human Resources System, migrating from SAP version 4.7 to 6.0.	May 2009
Preparation for the statewide deployment of the Phoenix Human Resources System continues. The Global Blueprint phase determines the manner in which the payroll system will be designed and implemented in each of the remaining 51 courts based on the system requirements gathered as part of the extensive planning process. The recent budget reductions have had a significant impact on this critical step, but rather than ceasing the effort completely the Phoenix Program has slowed momentum and extended project completion to future fiscal years, contingent on the availability of resources.	Jul 2009
The Phoenix Human Resources System was initiated in the Superior Court of San Bernardino County. The AOC was approached by the court regarding implementation of the payroll system after receiving notification from San Bernardino County that it would no longer provide the court with payroll services for approximately 1,200 employees. Implementation efforts began in August, and the Trial Court Administrative Services Division anticipates payroll activities to begin in June 2010.	Aug 2009
The Phoenix Maintenance and Operations Stabilization project was launched. The staff of the Phoenix Program collaborated with the six courts already on the system to carry out the redesign of specific technical elements of existing payroll, benefits, and time management functions to ensure the creation of a more stable Human Capital Management (HCM) system with the goal of enhanced flexibility and automation statewide.	Dec 2009

Accomplishment	Date Completed
Refinement of the SAP database, comprising information about trial court bargaining contracts and other similar data, continues. Staff will develop additional reports that can be extracted from the database as management tools.	Jan 2010
The Phoenix Steering Committee reached consensus on a number of guidelines for best practices that have an impact on financial and payroll matters. The finalized best practices were shared with the trial courts over the next few months.	Jan 2010
The Phoenix HR System pilot for implementation of the HR system continued in the Superior Court of San Bernardino County. Program staff continued to configure the system according to the business rules necessary to support the day-to-day operations in the court. The system configuration is 50 percent complete.	Feb 2010
The Phoenix Program launched an initiative to further assist the courts in the area of benefits administration. An online benefits enrollment function will be added to the Phoenix Employee Self-Service (ESS) portal to assist court HR staff in administering qualified life and work events in compliance with federal regulations.	Mar 2010
The AOC completed redesign of specific technical elements of existing payroll, benefits, and time management functions, with the goal of enhanced flexibility and automation in the Phoenix HR System.	Mar 2010
Preparation and testing for the implementation of the Phoenix HR System in the Superior Court of San Bernardino County were successfully completed.	May 2010
The Phoenix Program's Education Support Unit completed the Personnel Administration for Administrators and HR Analysts training for the Superior Court of San Bernardino County in anticipation of their Phoenix HR System launch. Additional training sessions on the payroll attributes of the system were conducted for 1,100 court staff through August 2010.	Jun 2010
Parallel testing was successfully completed in the Superior Court of San Bernardino County. The Phoenix System and the court's legacy system were tested within the same time frame using the same data to ensure that no discrepancies existed in any of the payroll configurations.	Jun 2010
The Phoenix Program implemented a number of improvements within the SAP application for the Phoenix System, reconfiguring the HR component by incorporating the redesign of specific technical elements with the goal of enhancing flexibility and automation uniformly among the courts on the system.	Jul 2010
Before the launch of the Phoenix HR System, Superior Court of San Bernardino County system users engaged in user acceptance testing to determine that they system meets all mutually agreed upon requirements. This testing was successfully completed.	Jul 2010

Accomplishment	Date Completed
Phoenix Program staff collaboratively worked with court staff to successfully and seamlessly implement the Phoenix HR System in the Superior Court of San Bernardino County. A total of seven courts benefit from a fully integrated financial and human resources management system. The configuration utilized for the implementation at San Bernardino will serve as a blueprint for any future deployments made to the courts.	Aug 2010

Funding

The Phoenix Program is funded by the Judicial Administration Efficiency and Modernization Fund, the Trial Court Improvement Fund, the Trial Court Trust Fund, the state General Fund, and reimbursements from the trial courts.

Challenges Facing the Phoenix Program

Due to reductions to the judicial branch budget in recent years and other budget priorities, the planned deployment of the Phoenix Human Resources System to the remaining 51 trial courts, originally scheduled to be completed by 2013, was suspended in May 2010. The deployment suspension has required courts that had planned to use Phoenix Human Resources services to find alternative solutions for their human resources and payroll needs.

Total CCMS and Phoenix Program Funding and Expenses to Date

Attached are a series of tables identifying and describing expenditures to date for the CCMS program, as well as a similar table for the Phoenix program. The progress report on the OCIO's recommendations and the CCMS development IPO and IV&V reports are attached as well. Each of the attachments is preceded by a title page and short explanation of its contents.

Attachment 1

California Court Case Management System (CCMS) Project, Ongoing Programs and Services, and Interim Case Management System Funding and Expenses

This attachment consists of four tables—a high-level summary table and three detail tables, as described below—that reflect funding and expenses through fiscal year 2010–2011 related to the CCMS program. Due to uncertainty regarding funding for deployment to all 58 courts, an updated cost estimate for statewide deployment is not available at this time. To work most effectively within the existing program funding constraints, the Administrative Office of the Courts recently retained Grant Thornton to assist in developing an alternative deployment plan, which will provide baseline deployment cost estimates for the early adopter courts and a phase-two deployment plan for up to 10 additional courts, with cost estimates for their deployment. When the Judicial Council adopts a plan after reviewing the Grant Thornton recommendations, the AOC will update the Legislature with future cost estimates.

Attachment 1A, *California Court Case Management System (CCMS) Project, Ongoing Programs and Services, and Interim Case Management System Funding and Expenses*, provides a summary of the CCMS program funding and expenses, including costs incurred by the trial courts through FY 2010–2011, detailed in Attachments 1B, 1C, and 1D.

Attachment 1B, *California Court Case Management System (CCMS) Project Expenses,* summarizes the expenses, including costs incurred by the trial courts, related to CCMS projects through FY 2010–2011.

Attachment 1C, *Ongoing Program and Services Expenses,* summarizes the expenses, including costs incurred by the trial courts, related to ongoing CCMS programs and services through FY 2010–2011.

Attachment 1D, *Interim Case Management System Expenses,* summarizes the expenses, including costs incurred by the trial courts, related to the interim case management systems through FY 2010–2011.

California Court Case Management System (CCMS)
Project, Ongoing Programs and Services, and Interim Case Management System
Funding and Expenses
(FY 2002-2003 through FY 2010-2011)

	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
FUND SOURCES										
General Fund	-	4,499,992	265,729	238,366	301,156	309,067	266,732	1,216,646	483,150	7,580,838
Modernization Fund	-	4,364,781	13,198,412	2,549,915	11,133,122	8,651,394	13,209,416	18,855,541	142	71,962,723
Trial Court Trust Fund	20,516,563	-	-	-	50,000,000	-	19,674,138	26,376,357	57,702,475	174,269,533
Trial Court Improvement Fund	-	1,447,738	4,494,679	24,121,932	39,162,716	73,026,650	32,620,875	19,450,919	2,719,672	197,045,182
Trial Court Reimbursements (state expenses reimbursed by courts)	-	-	200,000	1,647,987	3,948,790	3,396,790	1,875,435	1,878,995	1,314,947	14,262,944
Trial Court Expenditures (court expenses not reimbursed by state)	-	-	-	20,760,508	20,590,630	8,080,415	190,654	-	6,736,272	56,358,479
TOTAL FUNDING	**20,516,563**	**10,312,511**	**18,158,820**	**49,318,708**	**125,136,415**	**93,464,316**	**67,837,249**	**67,778,458**	**68,956,658**	**521,479,699**
EXPENDITURES										
CCMS Project Costs										
Civil, Small Claims, Probate, MH Development & Deployment	11,694,435	8,198,699	14,744,964	30,596,298	21,177,607	8,080,415	190,654	-	-	94,683,072
CCMS Development (Incl. Planning & Strategy)	4,285,582	1,638,143	556,999	237,791	64,781,131	48,599,380	33,178,862	44,868,136	23,309,132	221,455,155
CCMS Deployment	-	-	-	-	-	-	-	3,681,676	12,774,003	16,455,679
Document Management System (DMS) Development & Deployment	-	-	-	-	-	-	-	-	703,244	703,244
TOTAL CCMS PROJECT	**15,980,017**	**9,836,842**	**15,301,963**	**30,834,089**	**85,958,739**	**56,679,795**	**33,369,516**	**48,549,812**	**36,786,379**	**333,297,150**
Ongoing Program & Services										
CCMS Maintenance & Support	-	-	-	-	-	-	-	-	2,492,460	2,492,460
DMS Maintenance & Support	-	-	-	-	-	-	-	-	-	-
TOTAL OPERATIONAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,492,460**	**2,492,460**
Interim CMS										
Criminal & Traffic Development & Deployment	4,433,993	475,669	1,390,809	4,712,923	615,768	1,600,000	1,000,000	-	-	14,229,162
Criminal & Traffic Maintenance & Support	102,554	-	-	11,167,579	15,835,959	13,583,386	10,433,201	5,161,918	5,977,807	62,262,405
Civil, Small Claims, Probate, MH Maintenance & Support	-	-	1,466,049	2,604,117	22,725,949	21,601,136	23,034,532	14,066,729	23,700,011	109,198,523
TOTAL INTERIM CMS	**4,536,546**	**475,669**	**2,856,858**	**18,484,619**	**39,177,677**	**36,784,521**	**34,467,734**	**19,228,646**	**29,677,819**	**185,690,089**
TOTAL CCMS PROGRAM EXPENDITURES	**20,516,563**	**10,312,511**	**18,158,820**	**49,318,708**	**125,136,415**	**93,464,316**	**67,837,249**	**67,778,458**	**68,956,658**	**521,479,699**

California Court Case Management System (CCMS) Project Expenses
(FY 2002-2003 through FY 2010-2011)

Civil, Small Claims, Probate, MH Development & Deployment	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Development	300,000	4,954,565	14,176,876	8,083,053	-	-	-	-	-	27,514,494
Interim Deployment - State funded	-	-	-	380,000	-	-	-	-	-	380,000
Interim Deployment - Direct pay by Trial Court	-	-	-	18,686,082	20,590,630	8,080,415	190,654	-	-	47,547,781
Funds Awarded to Trial Courts / Trial Court Expenses	10,469,305	2,001,692	227,148	212,099	24,569	-	-	-	-	12,934,814
Hosting - Support & Production Environments (CCTC)	429,400	402,884	334,704	3,235,064	562,408					4,964,460
Hosting - Support Environments (non-CCTC)	-	839,558	6,236	-	-	-	-	-	-	845,794
AOC Consultants	495,730	-	-	-	-	-	-	-	-	495,730
SUBTOTAL	**11,694,435**	**8,198,699**	**14,744,964**	**30,596,298**	**21,177,607**	**8,080,415**	**190,654**	**-**	**-**	**94,683,072**

CCMS Development	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Development	-	-	-	-	49,249,748	37,602,290	9,997,978	18,080,219	716,024	115,646,259
Funds Awarded to Trial Courts / Trial Court Expenses	-	-	-	-	-	1,158,210	1,129,998	1,126,700	2,544,878	5,959,785
Hosting - Support & Production Environments (CCTC)	-	-	-	-	1,673,044	2,278,578	7,080,895	15,098,453	7,566,401	33,697,371
Hosting - Support Environments (non-CCTC)	-	-	-	-	10,001,350	1,252,727	4,780,127	1,904,871	1,322,244	19,261,320
Hardware & Software (non-CCTC)	-	-	-	-	-	-	-	-	932,794	932,794
AOC Consultants	4,285,582	1,558,473	306,270	-	1,945,934	3,398,336	5,710,346	4,508,040	3,192,003	24,904,984
AOC Staff	-	79,670	250,729	237,791	1,911,055	2,909,239	4,479,518	4,149,852	4,442,910	18,460,764
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	697,735	697,735
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	1,852,554	1,852,554
Project Governance	-	-	-	-	-	-	-	-	41,590	41,590
SUBTOTAL	**4,285,582**	**1,638,143**	**556,999**	**237,791**	**64,781,131**	**48,599,380**	**33,178,862**	**44,868,136**	**23,309,132**	**221,455,155**

CCMS Deployment	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
CCMS Deployment Vendor	-	-	-	-	-	-	-	3,000,000	496,600	3,496,600
Technical Training	-	-	-	-	-	-	-	694	-	694
Funds Awarded to Trial Courts	-	-	-	-	-	-	-	-	7,360,000	7,360,000
Hosting - Deployment Specific Environments (CCTC)	-	-	-	-	-	-	-	-	-	-
AOC Consultants	-	-	-	-	-	-	-	148	3,289,048	3,289,197
AOC Staff	-	-	-	-	-	-	-	680,834	1,513,668	2,194,502
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	-	-
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	114,686	114,686
Project Governance	-	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3,681,676**	**12,774,003**	**16,455,679**

Document Management System (DMS) Development & Deployment	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Hardware	-	-	-	-	-	-	-	-	-	-
Software Licenses	-	-	-	-	-	-	-	-	-	-
Hosting - Support & Production Environments (CCTC)	-	-	-	-	-	-	-	-	698,026	698,026
Hosting - Support Environments (non-CCTC)	-	-	-	-	-	-	-	-	-	-
AOC Consultants	-	-	-	-	-	-	-	-	-	-
AOC Staff	-	-	-	-	-	-	-	-	5,218	5,218
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	-	-
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**703,244**	**703,244**

TOTAL CCMS PROJECT	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
TOTAL CCMS PROJECT	**15,980,017**	**9,836,842**	**15,301,963**	**30,834,089**	**85,958,739**	**56,679,795**	**33,369,516**	**48,549,812**	**36,786,379**	**333,297,150**

Ongoing Program and Services Expenses
(FY 2002-2003 through FY 2010-2011)

CCMS Maintenance & Support	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Support - Vendor	-	-	-	-	-	-	-	-	-	-
Software Releases	-	-	-	-	-	-	-	-	1,548,000	1,548,000
IS Trial Court Expenses	-	-	-	-	-	-	-	-	-	-
Hosting - Production & Staging Environments (CCTC)	-	-	-	-	-	-	-	-	-	-
Hosting - Support & Production Environments (CCTC)	-	-	-	-	-	-	-	-	-	-
Hosting - Support Environments (non-CCTC)	-	-	-	-	-	-	-	-	944,460	944,460
Hardware & Software (non-CCTC)	-	-	-	-	-	-	-	-	-	-
AOC Consultants	-	-	-	-	-	-	-	-	-	-
AOC Staff	-	-	-	-	-	-	-	-	-	-
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	-	-
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	-	-
TOTAL ONGOING PROGRAMS & SERVICES	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,492,460**	**2,492,460**

Document Management System (DMS) Maintenance & Support	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Support - Vendor	-	-	-	-	-	-	-	-	-	-
Hosting - Support & Production Environments (CCTC)	-	-	-	-	-	-	-	-	-	-
Hosting - Support Environments (non-CCTC)	-	-	-	-	-	-	-	-	-	-
Software Maintenance (non-CCTC)	-	-	-	-	-	-	-	-	-	-
AOC Consultants	-	-	-	-	-	-	-	-	-	-
AOC Staff	-	-	-	-	-	-	-	-	-	-
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	-	-
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

TOTAL ONGOING PROGRAMS & SERVICES	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,492,460**	**2,492,460**

Interim Case Management System Expenses
(FY 2002-2003 through FY 2010-2011)

Criminal & Traffic Development & Deployment	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Development	1,458,584	-	1,403,824	-	-	-	-	-	-	2,862,408
Interim Deployment - State funded	-	-	-	2,670,793	438,163	-	-	-	-	3,108,956
Interim Deployment - Direct pay by Trial Court	-	-	-	2,074,426	-	-	-	-	-	2,074,426
Funds Awarded to Trial Courts / Trial Court Expenses	2,755,442	-	-	-	175,404	1,600,000	1,000,000	-	-	5,530,846
Hosting - Support & Production Environments (CCTC)	221,206	90,795	25,477	-	-	-	-	-	-	337,479
Hosting - Support Environments (non-CCTC)	-	397,575	-	-	-	-	-	-	-	397,575
Prior Year Adjustments	(1,239)	(12,701)	(38,492)	(32,296)	2,201	-	-	-	-	(82,528)
SUBTOTAL	**4,433,993**	**475,669**	**1,390,809**	**4,712,923**	**615,768**	**1,600,000**	**1,000,000**	**-**	**-**	**14,229,162**

Criminal & Traffic Maintenance & Support	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Support - Vendor	-	-	-	2,560,647	6,250,283	7,134,000	3,913,507	-	-	19,858,437
Software Releases	-	-	-	4,682,399	4,447,155	2,795,628	194,350	-	-	12,119,532
Hosting - Support & Production Environments (CCTC)	-	-	-	2,523,937	4,443,058	2,644,844	3,120,501	2,008,360	2,521,430	17,262,129
Hosting - Support Environments (non-CCTC)	-	-	-	1,012,586	551,976	630,000	661,584	-	-	2,856,146
AOC Consultants	102,554	-	-	47,498	-	244,888	2,318,245	2,576,056	3,093,136	8,382,377
AOC Staff	-	-	-	340,513	143,487	134,026	225,014	577,502	360,419	1,780,960
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	-	-
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	2,823	2,823
SUBTOTAL	**102,554**	**-**	**-**	**11,167,579**	**15,835,959**	**13,583,386**	**10,433,201**	**5,161,918**	**5,977,807**	**62,262,405**

Civil, Small Claims, Probate, MH Maintenance & Support	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006–07	FY 2007–08	FY 2008–09	FY 2009-10	FY 2010-11	Total
Support - Vendor	-	-	-	-	7,451,368	9,612,600	12,830,204	8,172,393	8,810,960	46,877,525
Software Releases	-	-	-	155,111	2,631,872	3,486,961	-	-	-	6,273,944
Hosting - Support & Production Environments (CCTC)	-	-	-	-	10,536,429	6,860,264	8,090,355	3,879,913	4,471,814	33,838,775
Hosting - Support Environments (non-CCTC)	-	-	-	-	1,855,178	1,305,000	1,441,308	1,312,545	1,085,500	6,999,531
AOC Consultants	-	-	1,466,049	2,221,422	-	-	282,465	205,508	3,850,042	8,025,486
AOC Staff	-	-	-	227,584	251,103	336,310	390,200	496,370	1,413,221	3,114,788
Trial Court Hardware & Software	-	-	-	-	-	-	-	-	1,487,726	1,487,726
Trial Court Consultants	-	-	-	-	-	-	-	-	-	-
Trial Court Staff	-	-	-	-	-	-	-	-	2,580,748	2,580,748
SUBTOTAL	**-**	**-**	**1,466,049**	**2,604,117**	**22,725,949**	**21,601,136**	**23,034,532**	**14,066,729**	**23,700,011**	**109,198,523**

| **TOTAL INTERIM CMS** | **4,536,546** | **475,669** | **2,856,858** | **18,484,619** | **39,177,677** | **36,784,521** | **34,467,734** | **19,228,646** | **29,677,819** | **185,690,089** |

Attachment 2

CCMS Expenditure Line Item Definitions

This attachment provides descriptions for each expenditure line item included in Attachment 1, *California Court Case Management System (CCMS) Project, Ongoing Programs and Services, and Interim Case Management System Funding and Expenses*.

Criminal & Traffic CMS

Criminal & Traffic Development & Deployment	Description
Development	Cost for initial development Statement of Work (SOW).
Interim Deployment - State funded	Deployment activities for interim CMS funded by the AOC.
Interim Deployment - Direct pay by Trial Court	Deployment activities for interim CMS paid directly to deployment vendor by the Trial Courts.
Funds Awarded to Trial Courts / Trial Court Expenses	Funds awarded to courts and court expenses related to participation in development of the product paid by AOC.
Hosting - Support & Production Environments (CCTC)	Initial environment development cost used for testing, training, and production environments at the California Courts Technology Center (CCTC).
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities prior to product acceptance.
Prior Year Adjustments	

Criminal & Traffic Maintenance & Support	Description
Support - Vendor	Maintenance and support provided by vendors (e.g. BearingPoint, Deloitte, Sybase).
Software Releases	Statements of Work (SOW) for product enhancements, legislative changes, etc.
Hosting - Support & Production Environments (CCTC)	Hardware and software maintenance, hosting fees for CCTC.
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities after product acceptance.
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.

Civil, Small Claims, Probate, & Mental Health CMS

Civil, Small Claims, Probate, MH Development & Deployment	Description
Development	Cost for initial development Statement of Work (SOW).
Interim Deployment - State funded	Deployment activities for interim CMS funded by the AOC.
Interim Deployment - Direct pay by Trial Court	Deployment activities for interim CMS paid directly to deployment vendor by the trial courts.
Funds Awarded to Trial Courts / Trial Court Expenses	Funds awarded to courts and court expenses related to participation in development of the product.
Hosting - Support & Production Environments (CCTC)	Cost for initial development of environments used for testing, training, and production located at the CCTC.
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities prior to product acceptance.
AOC Consultants	Consultants for project management, product support, documentation, procurement processes, and legal services.

Civil, Small Claims, Probate, MH Maintenance & Support	Description
Support - Vendor	Maintenance and support provided by vendors (e.g. BearingPoint, Deloitte, Sybase).
Software Releases	SOWs for product enhancements, legislative changes, etc.
Hosting - Support & Production Environments (CCTC)	Hardware and software maintenance, hosting fees for CCTC
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities after product acceptance (prior to ISD transition).
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.

California Court Case Management System (CCMS)

CCMS Development (Incl. Planning & Strategy)	Description
Development	Cost for initial development Statement of Work (SOW).
Funds Awarded to Trial Courts / Trial Court Expenses	Funds awarded to courts and court expenses related to participation in development of the product.
Hosting - Support & Production Environments (CCTC)	Cost for initial development of environments used for testing, training, and production located at the CCTC.
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities prior to product acceptance.
Hardware & Software (non-CCTC)	Hardware and software maintenance for environments at vendor facilities prior to product acceptance.
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.
Project Governance	Cost associated with CCMS Governance Committees including the cost of materials and expenses for committee member participation.

CCMS Deployment	Description
CCMS Deployment Vendor	Contracts with vendors for discrete statements of work or deliverables and contractors required for a fixed-term.
Technical Training	Trial court and user group training to support deployment activities (not CCMS application training).
Funds Awarded to Trial Courts	Funds awarded to courts for court expenses related to participation in deployment of the product.
Hosting - Deployment Specific Environments (CCTC)	Hosting environment costs and other infrastructure spend including hardware and software purchases
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.
Project Governance	Cost associated with CCMS Governance Committees including the cost of materials and expenses for committee member participation.
Contingency	Consistent with industry standards, calculated percentage of contract costs to address potential changes in scope or cost.

CCMS Maintenance & Support	Description
Support - Vendor	Maintenance and support provided by vendors (e.g. BearingPoint, Deloitte, Sybase).
Software Releases	SOWs for product enhancements, legislative changes, etc.
IS Trial Court Expenses	Miscellaneous court expenses related to participation in development of the product.
Hosting - Production & Staging Environments (CCTC)	Hardware and software maintenance, hosting fees for CCTC for production environments after court is deployed.
Hosting - Support & Production Environments (CCTC)	Hardware and software maintenance, hosting fees for CCTC for development environments.
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities after product acceptance.
Hardware & Software (non-CCTC)	Hardware and software maintenance for environments at vendor facilities prior to product acceptance.
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.

Document Management System (DMS)

Document Management System (DMS) Development & Deployment	Description
Hardware	Hardware for the deployment of the DMS.
Software Licenses	Licenses for the procurement of a document management application.
Hosting - Support & Production Environments (CCTC)	Hardware and software maintenance, hosting fees for CCTC
Hosting - Support Environments (non-CCTC)	Hosting fees for vendor facilities.
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.

Document Management System (DMS) Maintenance & Support	Description
Support - Vendor	Maintenance and support provided by vendors.
Hosting - Support & Production Environments (CCTC)	Hardware and software maintenance, hosting fees for CCTC.
Hosting - Support Environments (non-CCTC)	Hardware and software maintenance, hosting fees for vendor facilities after product acceptance.
Software Maintenance (non-CCTC)	Hardware and software maintenance for environments at vendor facilities.
AOC Consultants	Consultants for project management, product support, documentation, coding, testing, troubleshooting, etc.
AOC Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent.
Trial Court Hardware & Software	Hardware and software maintenance for environments at court or court-contracted facilities not reimbursed by the state.
Trial Court Consultants	Consultants for project management, product support, etc. not reimbursed by the state.
Trial Court Staff	Staff includes salaries, benefits, operating expenses & equipment, and rent not reimbursed by the state.

Attachment 3

Phoenix Human Resources and Financial Services Revenue and Expenses

This attachment summarizes Phoenix program revenues and expenses to date as well as projected expenditures through FY 2012–2013. Estimates reflect the full deployment of the Phoenix Financial System in 58 superior courts and full deployment of the Phoenix Human Resources System in 7 courts.

Phoenix Human Resources and Financial Services Revenue and Expenses
Through FY 2012–2013 (Estimated for FY 2011–2012 and FY 2012–2013)[1]

FUND SOURCES										Subtotal, FY 2000-01
Fund Allocations	FY 2000–01	FY 2001–02	FY 2002–03	FY 2003–04	FY 2004–05	FY 2005–06	FY 2006–07	FY 2007–08	FY 2008–09	through FY 2008–09
General Fund	$ 109,256	$ 639,450	$ 1,774,488	$ 5,646,640	$ 2,594,877	$ 3,590,099	$ 2,344,864	$ 3,461,267	$ 2,561,627	$ 22,722,569
Modernization Fund	116,865	1,618,242	2,436,594	600,582	4,135,487	2,735,201	23,169	4,124,284	2,944,504	18,734,927
Trial Court Improvement Fund	-	-	1,275,000	2,142,479	780,730	2,589,879	8,575,439	23,336,617	10,584,036	49,284,180
Trial Court Trust Fund	-	-	-	-	-	1,309,669	-	5,243,157	12,208,194	18,761,020
Trial Court Reimbursements (state expenses reimbursed by courts)	-	-	-	-	1,869,815	1,686,716	4,790,112	7,135,877	8,556,019	24,038,539
Trial Court Expenditures (court expenses not reimbursed by state)	-	-	-	-	-	-	-	-	-	-
TOTAL FUNDING	$ 226,121	$ 2,257,692	$ 5,486,082	$ 8,389,701	$ 9,380,909	$ 11,911,564	$ 15,733,584	$ 43,301,202	$ 36,854,380	$ 133,541,235
EXPENDITURES										
AOC Staffing	$ 15,656	$ 419,021	$ 862,808	$ 991,617	$ 1,028,140	$ 3,090,099	$ 1,844,864	$ 4,093,350	$ 3,676,747	$ 16,022,303
AOC ISD ERP/User Support Staff	93,600	112,320	219,030	500,000	465,000	659,448	1,005,332	1,277,744	1,917,234	6,249,708
AOC Support, Center Staff	-	108,109	692,650	971,159	2,513,953	2,658,866	4,711,244	7,385,649	8,307,925	27,349,554
AOC AUPR/Internal Audit Staff	-	-	-	94,000	100,000	150,000	-	-	-	344,000
Subtotal, AOC Staff	$ 109,256	$ 639,450	$ 1,774,488	$ 2,556,776	$ 4,107,093	$ 6,558,413	$ 7,561,440	$ 12,756,743	$ 13,901,906	$ 49,965,565
Trial Court Hardware & Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trial Court Consultants	-	-	-	-	-	-	-	-	-	$ -
Trial Court Staff	-	-	-	-	-	-	-	-	-	$ -
AOC Consultants	116,865	1,457,694	3,447,332	5,281,042	3,336,486	3,834,805	7,628,894	26,300,099	20,759,538	$ 72,162,755
SAP licenses, hardware, maintenance, tech center support, and end-user training	-	160,548	264,262	551,883	1,937,330	1,518,346	543,250	4,244,360	2,192,935	11,412,915
TOTAL EXPENDITURES	$ 226,121	$ 2,257,692	$ 5,486,082	$ 8,389,701	$ 9,380,909	$ 11,911,564	$ 15,733,584	$ 43,301,202	$ 36,854,380	$ 133,541,235

Phoenix Human Resources and Financial Services Revenue and Expenses
Through FY 2012–2013 (Estimated for FY 2011–2012 and FY 2012–2013)[1]

FUND SOURCES Fund Allocations	Subtotal, FY 2000-01 through FY 2008-09	FY 2009–10	FY 2010–11[2]	Estimated FY 2011–12[3]	Estimated FY 2012–13[3]	Total
General Fund	$ 22,722,569	$ 8,959,484	$ 6,313,465	$ 5,427,054	$ 5,627,002	$ 49,049,574
Modernization Fund	18,734,927	-	530,000	755,540	1,583,941	$ 21,604,408
Trial Court Improvement Fund	49,284,180	10,841,032	7,673,187	6,003,037	6,003,037	$ 79,804,472
Trial Court Trust Fund	18,761,020	4,657,863	5,000	-	-	$ 23,423,883
Trial Court Reimbursements (state expenses reimbursed by courts)	24,038,539	8,224,564	7,900,526	8,193,019	8,193,019	$ 56,549,667
Trial Court Expenditures (court expenses not reimbursed by state)	-	-	48,665	48,665	48,665	$ 145,995
TOTAL FUNDING	**$ 133,541,235**	**$ 32,682,943**	**$ 22,470,843**	**$ 20,427,315**	**$ 21,455,664**	**$ 230,577,999**
EXPENDITURES						
AOC Staffing	$ 16,022,303	$ 3,791,453	$ 3,880,451	$ 3,546,138	$ 3,546,138	$ 30,786,483
AOC ISD ERP/User Support Staff	6,249,708	1,598,003	1,572,113	1,814,874	1,814,874	$ 13,049,572
AOC Support, Center Staff	27,349,554	8,224,563	7,900,526	8,193,019	8,193,019	$ 59,860,681
AOC AUPR/Internal Audit Staff	344,000	-	-	-	-	$ 344,000
Subtotal, AOC Staff	**$ 49,965,565**	**$ 13,614,019**	**$ 13,353,090**	**$ 13,554,031**	**$ 13,554,031**	**$ 104,040,736**
Trial Court Hardware & Software	$ -	$ -	$ -	$ -	$ -	$ -
Trial Court Consultants	$ -	$ -	12,506	12,506	12,506	$ 37,518
Trial Court Staff	$ -	$ -	36,159	36,159	36,159	$ 108,477
AOC Consultants	$ 72,162,755	$ 17,269,614	7,156,307	4,883,576	5,904,325	$ 107,376,577
SAP licenses, hardware, maintenance, tech center support, and end-user training	11,412,915	1,799,310	1,912,781	1,941,043	1,948,643	$ 19,014,692
TOTAL EXPENDITURES	**$ 133,541,235**	**$ 32,682,943**	**$ 22,470,843**	**$ 20,427,315**	**$ 21,455,664**	**$ 230,577,999**

Attachment 4

Office of the Chief Information Officer (OCIO) Recommendations—Progress Report

This attachment provides a high-level progress report as of February 2012 in response to the 20 recommendations in the OCIO's *2010 Review of the California Court Case Management System.* Thirteen of these recommendations have been fully addressed, and the remaining 7 will be addressed at the appropriate stage in the project timeline. The OCIO report can be viewed at *www.cio.ca.gov/pdf/CCMS_Final_Report.pdf.*

ADMINISTRATIVE OFFICE
OF THE COURTS

CALIFORNIA COURT CASE MANAGEMENT SYSTEM
PROGRAM MANAGEMENT OFFICE

Recommendations from the Office of the Chief Information Officer (OCIO)—Progress Report

ID	Recommendation Summary	Complete	In-Progress
1	Consistent with Senate Bill X4 13 (Benoit; Stats. 2009, ch. 229), the AOC should submit information technology project concepts with an estimated cost of $5 million or more to the OCIO for review. The OCIO will review and analyze these concepts, allowing the judicial branch to leverage IT efforts underway in executive branch agencies as well as benefit from a broader pool of experience and expertise.	✓	
2	The AOC and the CCMS project team should fully define, baseline, and document the extent to which the system will be deployed, as well as the timeline and resource requirements for the entire deployment phase.	✓	
3	The AOC should enhance the project and contract management resources dedicated to CCMS to ensure the state's interests are being met by the vendor responsible for developing and implementing the system.		✓
4	The AOC should adopt a common methodology and toolset for project management across the judicial branch and use these to provide transparency into the project including costs.	✓	
5	The governance plan for CCMS should be augmented to ensure the commitment of the superior courts to adopt and use the system. To ensure efficient resource allocation, the governance plan should assess the business value of partial deployment of the system if total deployment is not feasible.		✓
6	The AOC and the CCMS project team should develop a well-documented Concept of Operations and implement a Change Control Management solution that addresses quality and testing issues commensurate to the complexity of the CCMS product application stack.	✓	
7	The AOC should deploy CCMS V4 from a central data center.	✓	
8	The AOC should expand the scope of the Independent Verification and Validation and oversight vendor's responsibility to include review of planning and management of post CCMS V4 development activities. All oversight reports should be publicly available.		✓

Updated: February 2, 2012

OCIO Recommendations—Progress Report

ID	Recommendation Summary	Complete	In-Progress
9	Exit criteria for Integration Testing and entrance criteria for Product Acceptance Testing should be developed, approved, and strictly adhered to.	✓	
10	Future releases of CCMS should include performance and stress testing during User Acceptance Testing in the production environments prior to acceptance of the system.	✓	
11	Courts using the California Court Technology Center should be given database access and the ability to build query reports just as counties that self-host have database access.	✓	
12	The Superior Court of Sacramento County should be given priority status for the rollout of the CCMS V4. Sacramento's critical functional issues should be given appropriate consideration for resolution in CCMS V3.	✓	
13a	The AOC should determine which courts have a document management system (DMS) and factor the finding into the overall deployment plan.	✓	
13b	Factor DMS survey results into deployment plan.		✓
14	The AOC should develop a mitigation plan to address the staffing risk and determine how to staff the project for success, possibly by using court staff from beyond the six initial participants in CCMS.	✓	
15	The AOC should not accept or deploy the V4 system beyond the first superior court in the pilot phase of the system deployment until it is fully operational and using live data.	✓	
16	The CCMS project team should ensure that all system testing activities and procedures are adhered to and completed in the live environment prior to the start of the vendor warranty period.		✓
17	Success of the pilot installation should include testing of the original goals of the court processes, and justice partner and public access to data within the system.		✓
18	Final testing criteria should include data and image response time Service Level Agreements (SLAs), and the SLA should be understood by and agreed to by the courts. Metrics against these SLAs should be available to the courts and published on a regular basis.		✓
19	All testing should be complete and the system fully accepted before the vendor warranty period begins.	✓	
20	Prior to the pilot implementation, the AOC should develop a plan for transition of the system during the maintenance and operations period.	✓	

Attachment 5

Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) for the CCMS-V4 Development Project

In compliance with Government Code section 68511.8 (b), this attachment includes the monthly final IPO and IV&V reports provided by Sjoberg Evashenk Consulting, Inc,. regarding the development of CCMS from January 2011 to the final November 2011 report. Consistent with the statutory requirement, the reports include "descriptions on actions taken to address identified deficiencies."

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of January 31, 2011

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of January 31, 2011

Table of Contents

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of January 31, 2011

Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and change over the course of the project.

Period Highlights:

During the month of January 2011, the IPO/IV&V Team primarily focused on requirements traceability, Deloitte's re-plan efforts, and the new CCMS Governance Model as discussed below.

1. The IPO/IV&V Team continued to discuss and assess the testing effort with the CCMS-V4 Project Team. Many documents were prepared and shared by Deloitte Consulting to assist in the IPO/IV&V task to ensure all approved and accepted requirements are being tested in accordance with best practices. Initially, after a meeting between the IPO/IV&V Team, the CCMS Project Management Office (PMO), AOC, and Deloitte, the IPO/IV&V Team was directed to the HP Quality Center tool to review the requirements as the IPO/IV&V Team was informed that this was the repository where the requirements are identified and the linkages between the requirements and the test case(s) that test them reside and are documented.

   The first step the IPO/IV&V Team performed was to verify that the requirements documented in HP Quality Center were the same as the ones documented in the Final Functional Design (FFD) Table of Contents (version 6) that lists accepted and approved requirements and the FFDV (an intermediary tool used by Deloitte to further define FFD requirements into units of work for coding purposes). Yet, we were not able to verify that requirements accepted and approved by the CCMS PMO were the same as those used in the FFDV and/or HP Quality Center. Specifically, for the 1,764 unique requirements in the FFD Table of Contents, 191, or 10.8 percent, cannot be verified to exist within the HP Quality Center set of requirements. For the 3,491 unique FFDV requirements, 257, or 7.4 percent, cannot be verified to exist in the HP Quality Center. As such, the IPO/IV&V Team is concerned that the requirement sets appear to be different in various tools being utilized and, thus, the IPO/IV&V Team questions whether a "requirements master/baseline" set exists and if

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of January 31, 2011

all other development and testing tool repositories are synchronized with this "requirements master/baseline". On January 10, 2011, the IPO/IV&V Team requested Deloitte provide us with the location of the "requirements master/baseline" and have not received an adequate response as of the date of this report.

In addition, the IPO/IV&V Team reviewed the HP Quality Center to verify that all requirements had an associated test case and that those test cases were executed. Specifically, the IPO/IV&V Team generated a report that identifies the number of requirements that have test cases linked to the requirement. The result shows that 1,101, or 22.83 percent, of the 4,823 requirements documented in HP Quality Center do not have a test case(s) for the requirement. While it is agreed between all parties that not all requirements will have a test case as some requirements are more general in nature, this high number still suggests that some requirements may not have test cases[1].

2. In terms of the project re-planning effort, the Deloitte Statement of Work, which the IPO/IV&V Team was informed reflects the documented results of the re-planning effort as discussed in weekly project management meetings as well as identifies the revised project objectives and agreements, was not fully implemented until mid-January 2011. The IPO/IV&V Team has been requesting a copy of the documentation to support the weekly discussions since February 2010. On February 10, 2011, the IPO/IV&V Team received the most recent amendment to the Deloitte Consulting contract with the AOC; the IPO/IV&V Team will review the document and comment in the February 2011 IPO/IV&V Report. Although, at this point, the re-plan efforts have been completed and, thus, the IPO/IV&V Team's review is after-the-fact.

3. The revised CCMS Governance Model dated November 2010 was provided to the IPO/IV&V Team during the month of January and was subsequently reviewed. Receiving reports such as this after they are completed and approved again limits the IPO/IV&V Team's ability to provide constructive comments before implementation. In general, the CCMS Governance Model clarifies certain elements such as governance committee structure, composition, duties, terms of service and voting provisions, For instance, the Model provides appropriate escalation authority to the Administrative Director of the Courts and to the Judicial Council of California; yet, is unclear with respect to whether the final CCMS decision-making authority rests with the CCMS Executive Committee or with the Administrative Director of the Courts and Judicial Council of California.

In addition, the process for review of the monthly IPO/IV&V reports by the CCMS General Administrative Advisory Committee is unclear in the document. The CCMS Governance Model states that the reports are reviewed by the CCMS General Administrative Advisory Committee (CCMS GAAC), but no mention is made whether these reports are also provided to or reviewed by the CCMS Justice Partner

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[1] HP Quality Center actually reflects ~25% of the requirements without test cases, but many of the requirements are not actual requirements due to the failure to use requirement tags/attributes that would identify or distinguish requirements from non-requirements such as headers, etc.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of January 31, 2011

Advisory Committee or the CCMS Operational Advisory Committee for issues that pertain to their duties. The CCMS Executive Committee receives a summary from the CCMS GAAC according to the duties statement but there is no mention of any reporting to the Administrative Director of the Courts and the Judicial Council of California. This would include any duties associated with the statutorily required reporting under Government Code Section 68511.8(b). Providing the reports to the Judicial Council of California would ensure compliance with the recommendation of the California Technology Agency (formerly known as the OCIO) in its 2010 CCMS Review report that stated that "all oversight reports should be publicly available."

We noted that the CCMS Governance Model only made reference to the IV&V portion of the reports, but should also discuss the IPO component as well. Additionally, the CCMS GAAC duties do not discuss any other audit reports that might affect CCMS such as the Bureau of State Audits, the State Controller Office audits of courts (especially concerning distributions), or AOC Internal Audit Services reports.

Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice diligence in conducting project management and systems-engineering activities and processes as established specific for the CCMS-V4 project and industry guidelines, standards, and best practices. As part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

The revised CCMS Governance Model dated November 2010 (approved by the Judicial Council Executive and Planning Committee on December 17, 2010 and implemented in mid-January 2011) was provided to the IPO/IV&V Team on January 21, 2011. In general, the CCMS Governance Model clarifies certain elements such as governance committee structure, composition, duties, terms of service and voting provisions. Additionally, the CCMS Governance Model provides appropriate escalation authority to the Administrative Director of the Courts and to the Judicial Council of California. This is a critical component for a project of this size and magnitude. However, the document is unclear as to whether the final decision-making authority rests with the CCMS Executive Committee or with the Administrative Director of the Courts and Judicial Council of California.

For instance, CCMS Governance Model Exhibit A – CCMS Executive Committee does not indicate a final decision-making authority for the Administrative Director of the Courts and the Judicial Council of California since they are not represented on Exhibit A. Consequently, it appears that the CCMS Executive Committee makes all decisions for CCMS and that the Administrative Director of the Courts and Judicial Council of California have no decision-making authority, other than for escalated items. The CCMS Governance Model explicitly states, "The executive committee shall refer all matters that it **cannot resolve** (emphasis added) to the Administrative Director for resolution, action, or referral to the Judicial Council of California". This implies that only "escalated" matters are decided by the Administrative Director of the Courts and the Judicial Council of California and not all matters that have a measurable impact as is typically employed as a best practice in past experiences of the IPO/IV&V team.

Typically, matters having a measurable impact include any items, activities, or decisions that expand costs (even by one dollar) or delay implementation (even by one day). As the Executive Sponsor of the project, all aspects of the Judicial Council and Administrative Director of the Courts decision making authority should be clearly defined. Further, the IPO/IV&V Team recommends that final CCMS decision-making authority rests with the Administrative Director of the Courts and Judicial Council of California and that authority be clarified in the Model.

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In addition, the CCMS General Administrative Advisory Committee's review of the monthly IPO/IV&V reports is unclear in the document. The CCMS Governance Model discusses "monthly Independent Validation &Verification (IV&V) reports", but the reference should be clarified to refer to the IPO component as well and reference the report as monthly **IPO/IV&V** reports. The CCMS Governance Model states that these reports are reviewed by the CCMS General Administrative Advisory Committee, but no mention is made whether these reports are also reviewed by the CCMS Justice Partner Advisory Committee, the CCMS Operational Advisory Committee, the CCMS Executive Committee, the Administrative Director of the Courts, and the Judicial Council of California. The CCMS Governance Model explicitly states that "The administrative committee shall review the monthly IV&V reports and produce a quarterly report to the executive committee on the effectiveness, performance, challenges, and risks to the CCMS program as detailed in these reports."

The IPO/IV&V Team recommends that these reports be distributed or made available to all four committees (the CCMS Executive Committee would receive the reports when the CCMS GAAC provides the quarterly report), as well as the Administrative Director of the Courts and the Judicial Council of California, since there could be elements or aspects affecting each committee's role and duties. Providing the reports to the Judicial Council of California would ensure compliance with the recommendation of the California Technology Agency (formerly known as the OCIO) in its 2010 CCMS Review report that stated that "all oversight reports should be publicly available." Moreover, protocols should be developed and communicated to address the method of report distribution as well as the process for report content inquires and responses.

The IPO/IV&V Team suggests the following changes be made to update the CCMS Governance Model:

1. Clarify that the final decision-making authority rests with the Administrative Director of the Courts and Judicial Council of California if that is the case.

2. Update CCMS Governance Model Exhibit A – CCMS Executive Committee to indicate a final decision-making authority for the Administrative Director of the Courts and the Judicial Council of California.

3. State that the executive committee shall refer all matters having a measurable impact (e.g., items, activities, and decisions that expand costs or delay implementation) to the Administrative Director for resolution, action, or referral to the Judicial Council of California.

4. Modify the CCMS General Administrative Advisory Committee's review of the monthly IPO/IV&V reports to include language for IPO and not just IV&V.

5. State that the IPO/IV&V reports are reviewed by the CCMS General Administrative Advisory Committee, the CCMS Justice Partner Advisory Committee, the CCMS Operational Advisory Committee, the CCMS Executive Committee, the Administrative Director of the Courts, and the Judicial Council of California.

6. Address the method of the IPO/IV&V report distribution as well as the process for report content inquires and responses.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

No new risks were opened and no risks were closed during the month of January. The resolution dates for Risk 45 and Risk 51 were updated in eRoom in the month of February and not in the month of January as indicated below. The CCMS PMO appears to be adequately tracking the risks and discussing them weekly. Based on a review of documentation contained within eRoom and the JCCProjects website, the IPO/IV&V Team is not aware of any other open risks that are not being monitored by the CCMS PMO. According to the CCMS-V4 planning documents, all risks should be identified and tracked through eRoom. However, no updates were made to Risk 45 or Risk 51 in the month of January. Thus, as of January 31, 2011, the risks identified below by the CCMS-V4 Project Team remain active.

Risk Number	Risk Title	Activity Performed	Target Resolution Date
45	AOC Testing Resources	Although this does not seem to be an issue at this time, this risk will remain open and be reviewed each week.	2-7-11

Risk Number	Risk Title	Activity Performed	Target Resolution Date
51	Stack Upgrade Impact on PAT	The instability of the infrastructure may impact the script execution during PAT, which may reduce their confidence in the application. If the issues are not resolved soon, SAIC may not be able to complete the stack upgrade in the PAT and Stress Test environments which will impact the Stress Test team's ability to complete stress/performance testing before the start of External Components PAT on 5/16/11. In an effort to mitigate this risk, the following actions are being taken: 1. Deloitte has acquired an Oracle support contract to obtain higher levels of support required to address outstanding Oracle-related stack issues. 2. Continue to engage Adobe to support resolution of LiveCycle issues. 3. Acquire additional infrastructure team resources to support resolution of stack upgrade issues.	2-14-11

Issue Management:

No new issues were opened or closed during the month of January. The Project Management Team appears to be adequately tracking the issues and discussing them weekly and as of January 31, 2011, there were no open issues identified by the CCMS-V4 Project Team.

Resource Management:

The resources necessary for testing the external components are being finalized and consequently Risk 45 (AOC Testing Resources) remains open.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

Quality Management:

To address previously raised IPO/IV&V concerns related to Quality Assurance (QA) Report content, the CCMS PMO continues to work with Deloitte management to revise the QA Reports for the project. The last issued QA Report #8 covered the period of November 16, 2009 through February 26, 2010. As of January 31, 2011, a new QA Report had not been issued or received by the IPO/IV&V Team for their review. However, we received a draft Quality Assurance Report #9 on February 10, 2011 covering the period of November 12, 2010 through February 11, 2011; the IPO/IV&V Team will review and provide observations in its February 2011 IPO/IV&V Report. For the period February 27, 2010 through November 11, 2010, there is a gap where no QA Reports were issued and some risks may have not been communicated. Deloitte was only contracted to provide eight QA Reports, so an agreement had to be reached to continue the QA Report activity.

Quality Architecture:

There are no open issues with System Architecture and the System Architecture Team with Deloitte, AOC, ISD, and other Court members have done a good job of identifying and defining the system architecture as well as architectural tradeoffs, raising issues for resolution, and generally creating a solid CCMS-V4 system architecture. The IPO/IV&V Team is researching the AOC Enterprise Architecture to verify how CCMS-V4 currently fits into the current overall AOC architecture. Verbal discussions have been held, but the IPO/IV&V Team is currently waiting on documentation that the CCMS PMO has indicated will be provided in February 2011.

Configuration Management:

There are no new issues with Configuration Management that have not already been discussed in previous IPO/IV&V reports. Configuration Management for documentation is being well controlled through eRoom and JCC Web Sites that have built-in controls for Configuration Management.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no system engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in previous IPO/IV&V reports.

Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in previous IPO/IV&V reports.

Testing Practices and Progress:

During the month of January, the IPO/IV&V Team continued to discuss and assess the testing effort with the CCMS-V4 PMO. Many documents were prepared and shared by Deloitte Consulting to assist in the IPO/IV&V task to evaluate whether all approved and accepted requirements are being tested in accordance with guidelines, standards, and best practices. Additionally, the IPO/IV&V Team met with the CCMS PMO and Deloitte to discuss the traceability of requirements to test cases and was directed to HP Quality Center where we were told all requirements reside and were documented. Deloitte stated that the linkage between individual requirements and the test case(s) could be verified through HP Quality Center since the requirements were defined, documented, and captured within HP Quality Center. Therefore, on January 13, 2011 the IPO/IV&V Team ran a standard HP Quality Center report[2] that shows the coverage of requirement to test cases. The following graph is the result of that report.
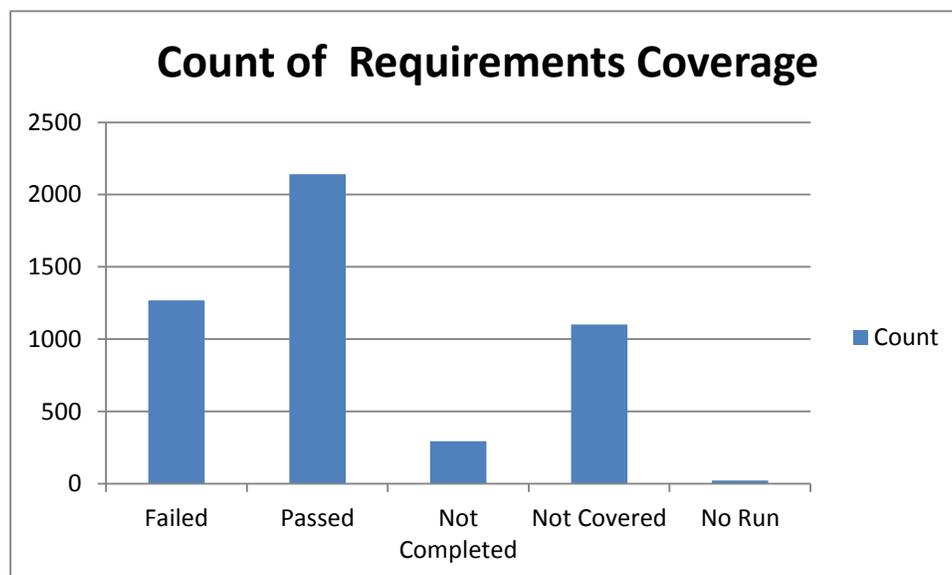
The vertical bars indicate the number of requirements that have linkages to test cases and the status of the test case.

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[2] This chart was derived from the HP Quality Center data, but no requirement items were taken out. If the report is run it would show 5,207 requirements although all of the deleted requirements are not actual requirements because some "requirements" listed are more general in nature and relate to headers, etc.

- "Failed" indicates the number of requirements where the test case(s) were executed, but failed.

- "No Run" indicates the number of requirements where the test case(s) have not yet been executed, which could be for a variety of reasons such as being blocked due to another failure.

- "Not Completed" indicates the number of requirements where the test case(s) are being worked on but are not ready to be executed.

- "Passed" indicates the number of requirements where the linked test case(s) have passed.

The "Not Covered" bar indicates the number of requirements that are not linked to a test case. The "Not Covered" bar indicates that 22.83 percent, or 1,101, of the 4,823 requirements documented in HP Quality Center do not have a test case(s) for the requirement. While all parties agreed that not all requirements will have a test case as some requirements are more general in nature, this high number still suggests that some requirements are not being tested. Thus, the IPO/IV&V Team recommends that documentation is provided to (1) link the "Not Covered" requirements with the existing and associated test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements.

To gain a level of confidence in the consistency of the requirements within HP Quality Center and those defined in version 6 of the FFD Table of Contents (the most current accepted and approved set of project requirements) and the FFDV (an intermediary tool used by Deloitte to further define FFD requirements into units of work), the IPO/IV&V Team compared the requirements listed between these repositories. The IPO/IV&V Team's analysis in the table below identifies that 191 requirements identified in the FFD Table of Contents are not included within HP Quality Center's list of requirements. In addition, 257 requirements identified in the FFDV are not included in HP Quality Center. While the missing requirements are 10.8 percent and 7.4 percent of the Table of Contents and FFDV requirements respectively, it has not been verified if all of the missing requirements are due to the requirements not being testable (e.g., some requirements may not be actual requirements, but rather a heading or label within the requirements documents that were incorrectly identified as a system or software requirement and, therefore, would not be testable in the CCMS-V4 application).

Source	Number of Unique Requirements	Number of Matching Requirement to HP QC	Difference
FFD TOC	1764	1573	191
HP QC	4823		
FFDV	3491	3234	257

However, the IPO/IV&V Team is concerned that the requirements sets appear to be different in various tools and, thus, the IPO/IV&V Team questions whether a "requirements master/baseline" set exists and if all other tools are synchronized with this "requirements master/baseline." On January 10, 2011, the IPO/IV&V Team requested Deloitte provide us with the location of the "requirements master/baseline" and have not received an adequate response as of the date of this report. At a minimum, the IPO/IV&V Team recommends a "requirements master/baseline" be established, if it does not currently exist, and that a requirements synchronization mechanism process be established to ensure that all other requirement repositories are identified, established, and synchronized with the "requirements master/baseline". At this point, we will closely monitor and track these traceability items in Appendix A as "*Jan11.1 Requirements Traceability*" as a critical area of concern.

Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There was one new area of concern identified this month.**

- **The IPO/IV&V Team strongly believes that this project will continue to be a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Jan11.1	January 2011	Requirements Traceability	To ensure all requirements are tested, use the graphical data and results provided in this report to (1) link the "Not Covered" requirements with the existing and associated test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	Finding is new this month; however, the CCMS PMO and Deloitte staff have been working on resolving this area of concern.

| Apr10.1 | April 2010 | QA Report Metrics | Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports. | The IPO/IV&V Team has been waiting for a new QA Report since August 2010. Thus, there is no change in the status. However, in early February 2011, draft QA Report 9 was provided and will be reviewed in February. The IPO/IV&V Team was informed that Deloitte was only contracted to provide eight QA Reports. Since the project ran longer than planned, there was a gap until an agreement was reached to continue the QA Reporting activity. |

Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **No areas of concern were closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

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Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

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Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.

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Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice which has now been discontinued. While this checklist will only be reviewed and updated on a periodic basis, the February 2011 IPO/IV&V report will contain major updates on CCMS-V4 project activities conducted in the various areas listed in the checklist in an effort to make it more readily understood.

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Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project. Deloitte Consulting will update the schedule with construction and testing details after the requirements are complete.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed at an internal weekly meeting between AOC and Deloitte Consulting.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Leads that is shared with the AOC. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date in an Access database.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. Currently, AOC costs are tracked at the overall CCMS level. At this point, a daily (or on-demand) Access database report can be printed showing project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. Yet, the RPO has invoice level data to support its actual cost data tracked in its Access database.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly, monthly, and quarterly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly, monthly, and quarterly status reports.
Is user satisfaction assessed at key project milestones?		X	Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?		X	The CCMS-V3 architecture will be updated to support CCMS-V4. At this point, the IPO/IV&V Team has not seen documentation of the enterprise architecture; however, a meeting to discuss the architecture with the Enterprise Architect, who is actively involved in the project, has been scheduled for early February 2011.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	X		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout. In the interim, Lessons Learned sessions are being conducted at various project phases to identify possible process improvements.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. These will be expanded upon during Detailed Design. Thus, we will review or evaluate those requirements when developed.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings. In addition, the Deloitte Consulting Project Manager meets with the CCMS Product Director weekly to discuss risks.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"		X	Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC. The AOC is not using any other risk identification aids.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly, monthly, and quarterly status reports are prepared and discussed with the project management team as well as the Steering Committee/Oversight Committee. In addition, there are executive meetings held to brief the Lead Court CIOs.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The Product Management Group has primary responsibility for working through the issues and risks. Additionally, issues and status are shared with lead court information officers, court executive officers at bi-weekly steering committee meetings as well as with selected presiding judges at the quarterly oversight committee meetings. The RPO is also working diligently to seek input and have stakeholders assume an active ownership role in the development process.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff are planned to be involved from requirements gathering through testing and into implementation.
Do users formally approve/sign-off on written specifications?	X		The requirements will be approved by the AOC and Court staff.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	X		The RPO Management Team has reported that Deloitte Consulting is using Clear Quest and Clear Case to manage defects and Rational Requisite Pro to track requirements.
Do software engineering standards exist and are they followed?	X		This CCMS-V4 development standards documentation has been reviewed by SEC and found to be adequate.
Is a formal system development life-cycle (SDLC) methodology followed?		X	Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. CMMI Level 3 requirements require that a defined, standard, consistent process and process measurement be followed. This would require that: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?	X		Two levels of code reviews are conducted. Automated reviews of code are conducted using the JCART tool which checks for and highlights unacceptable coding practices. Any issues identified through the JCART execution have to be resolved before the code can be included in the build. Additionally, manual code reviews are conducted by the Architecture Leads (Technical Analysts, Development Leads and the Framework Team). Code review checklists are created and stored in ClearCase. Deloitte should implement a process for ensuring that the coding standards are adhered to as opposed to the AOC assessing the compliance after completion.
Are formal quality assurance procedures followed consistently?	X		The quality assurance documentation was updated to include CCMS-V4. As more QA related data is collected and reported by Deloitte Consulting, the IPO/IV&V Team will be reviewing these reports to assess how data is represented in the reports—such as through metrics—and identify issues with processes if the metrics indicate negative trends.
Do users sign-off on acceptance test results before a new system or changes are put into production?		X	AOC and the Court staff will sign-off on acceptance test results. Acceptance criteria have been established as 0 Severity-1 incidents, 0 Severity-2 incidents, and not more than 50 Severity-3 incidents.
Is the enterprise architecture plan adhered to?		X	The CCMS-V3 architecture will be updated to support CCMS-V4. At this point, the IPO/IV&V Team has not seen documentation of the enterprise architecture; however, a meeting to discuss the architecture with the Enterprise Architect, who is actively involved in the project, has been scheduled for early February 2011.
Are formal deliverable inspections performed, beginning with requirements specifications?	X		All deliverables are approved by the AOC and Court staff.
Are IV&V services obtained and used?	X		SEC has been hired to perform IV&V.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of January 31, 2011

Appendix D: IPO/IV&V Project Scorecard

For January 1, 2011 – January 31, 2011 Time Period

Process Area	AUG 2010	SEP 2010	OCT 2010	NOV 2010	DEC 2010	JAN 2011	REMARKS
Communication Management	🟢	🟢	🟢	🟢	🟢	🟡	Day-to-day communication continues to be strong. Some concerns exist with the CCMS Governance Model.
Schedule Management	🟡	🟡	🟡	🟡	🟡	🟡	The schedule remains aggressive.
Scope Management	🟢	🟢	🟢	🟢	🟢	🟢	Project scope is managed and controlled through a variety of avenues.
Risk Management	🟢	🟢	🟢	🟢	🟢	🟡	The risks are reported, discussed, and managed on a weekly basis but are not updated in the risk repository regularly.
Issue Management	🟢	🟢	🟢	🟢	🟢	🟢	Issues are discussed/reported weekly at project management and Executive Committee meetings.
Resource Management	🟡	🟡	🟡	🟡	🟢	🟢	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	🟡	🟡	🟡	🟡	🟡	🟡	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	🟡	🟡	🟡	🟡	🟡	🟡	Though testing has been ongoing, the IPO/IV&V Team is still unable to draw a conclusion as to the quality of the client functionality. The primary reason for this is the unclear traceability between requirements and test cases, irrespective of the observed defect rates.
Quality Architecture	🟢	🟢	🟢	🟢	🟢	🟢	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	🟢	🟢	🟢	🟢	🟢	🟢	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	🟢	🟢	🟢	🟢	🟢	🟢	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	🟡	🟡	🟡	🟡	🟡	🟡	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules.
Detailed Design Review	🟡	🟡	🟡	🟡	🟡	🟡	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	🟢	🟢	🟢	🟢	🟢	🟢	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	🟡	🟡	🟡	🟡	🟡	🟡	Testing continues to be a concern.

🟢 **Green** – On Track
🟡 **Yellow** – Warning
🔴 **Red** – Significant Problems

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The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of February 28, 2011

SJOBERG✷EVASHENK
CONSULTING, INC

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of February 28, 2011

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IPO/IV&V Report for the CCMS-V4 Project
Status Report as of February 28, 2011

Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of February 2011, the IPO/IV&V Team continued its primary focus on requirements traceability, draft QA Report #9, and Deloitte's re-plan efforts as discussed below.

1. *Requirements Traceability*: Although the IPO/IV&V Team continued to discuss and assess the testing/traceability effort with the CCMS-V4 PMO and Deloitte Consulting during February, there was no change in the overall conclusions in our analysis of the testing effort. As of February 28, 2011, the IPO/IV&V Team is still awaiting sufficient documentation from Deloitte related to the requirements baseline/master documentation and information with respect to how these baseline/master requirements are synchronized with all of the other tools that hold requirements information. Traceability is an important system development practice to ensure requirements are correctly implemented in the design (so that a requirement is not accidently overlooked) and tested. Having this traceability and requirements synchronization improves change management as well since any changes to requirements can be tracked and reviewed for impact to the entire application.

   Once this information is received, the IPO/IV&V Team can continue their assessment of the testing/traceability effort to review the linkages between the requirements and the test case(s). Until that time, the IPO/IV&V Team cannot verify that requirements which were accepted and approved by the CCMS PMO are the same as those used in various Deloitte CCMS-V4 Project tools as required by the contract, nor can the IPO/IV&V Team confirm that all system requirements are slated to be tested. Thus, while continued discussions have occurred between the IPO/IV&V Team and Deloitte throughout the month of February and a variety of documents have been exchanged between the two teams in attempts to resolve issues, the IPO/IV&V Team is still awaiting the "requirements master/baseline" set.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of February 28, 2011

2. ***Draft QA Report #9 Analysis***: Overall, we are concerned that the CMMI Status Report section of QA Report #9 identifies the project to be in full compliance with all aspects of CMMI (which requires a defined set of standard processes and consistent documentation that it is following those processes), when we found instances where Deloitte's practices do not adhere with their stated processes. For instance, we noted that project concerns related to critical path, key timelines, project resources, and quality improvement opportunities are not all tracked or monitored through the normal and stated process through eRoom, nor do many of the "resolutions" to close concerns appear to address the issues.

   Moreover, several of the Deloitte reported actions to address the process improvements identified as being needed in the CMMI Status Section of the QA Report do not fully address the reported need—rather, they appear to only address related interim activities such as scheduling a process audit versus actually performing the audit. Thus, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Integrated Project without reviewing additional project documentation.

3. ***Re-Planning Effort***: In terms of the project re-planning effort, the IPO/IV&V Team received documentation of these efforts on February 10, 2011. Prior to that point, the "re-plan" efforts and strategy were discussed as part of weekly project status meetings with Deloitte and the CCMS PMO. The IPO/IV&V Team listened on those weekly meetings to hear discussion and agreements reached by the participants. Further, according to the CCMS Executive Program Director, the CCMS Executive Team approved the re-plan effort and actions in concept during these meetings although formal documentation of the plan efforts were not codified in writing until mid-January 2011 when Deloitte's contractual Statement of Work was revised. Based on the IPO/IV&V Team's review, it appears that information in the revised Statement of Work reflects the outcomes of weekly discussions that took place during the project status meetings as the re-plan strategy was being developed.

Detailed Observations, Impact, and Recommendations

The continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. As part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

On January 21, 2011, the revised CCMS Governance Model dated November 2010 (approved by the Judicial Council Executive and Planning Committee on December 17, 2010 and implemented in mid-January 2011) was provided to the IPO/IV&V Team. The IPO/IV&V Team's suggested changes to the CCMS Governance Model were provided in the January 2011 monthly IPO/IV&V report. While our IPO/IV&V role is to highlight any concerns and make suggested recommendations, the exact language to be incorporated in any revisions to the model should be crafted by the AOC. Our recommended changes are reiterated in this month's report and summarized below:

1. Clarify that the final decision-making authority rests with the Administrative Director of the Courts and Judicial Council of California—if that is the case.

2. Update CCMS Governance Model Exhibit A – CCMS Executive Committee to indicate that final decision-making authority is by the Judicial Council of California as delegated to the Administrative Director of the Courts.

3. Include specific language that the Executive Committee shall refer all matters having a measurable impact (e.g., items, activities, and decisions that expand costs or delay implementation) through the Project Review Board to the Administrative Director for resolution, action, or referral to the Judicial Council.

4. Modify language describing the CCMS General Administrative Advisory Committee's review of the "monthly IV&V reports" to accurately refer to the reports as "monthly IPO/IV&V report".

5. Clearly state that, after a review/analysis by the CCMS General Administrative Advisory Committee, the IPO/IV&V reports will be made available to the CCMS Justice Partner Advisory Committee, the CCMS Operational Advisory Committee, the CCMS Executive Committee, the Administrative Director of the Courts, and the Judicial Council of California.

6. Address the method of the IPO/IV&V report distribution as well as the process for report content inquires and responses.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

In addition to the following risks identified below that remain active as of February 28, 2011, one new risk (Risk #52) was opened during the month of February. The information below is based on a review of documentation contained within eRoom and the JCCProjects website.

However, the IPO/IV&V Team is aware of additional risks raised in the QA Reports that are not being tracked and monitored through the risk process facilitated by eRoom and JCCProjects website.

Risk Number	Risk Title	Activity Performed	Target Resolution Date
51	Stack Upgrade Impact on PAT	The instability of the infrastructure may impact the script execution during PAT, which may reduce their confidence in the application. If the issues are not resolved soon, SAIC may not be able to complete the stack upgrade in the PAT and Stress Test environments which will impact the Stress Test team's ability to complete stress/performance testing before the start of External Components PAT on 5/16/11. In an effort to mitigate this risk, the following actions are being taken: 1. Deloitte has acquired an Oracle support contract to obtain higher levels of support required to address outstanding Oracle-related stack issues. 2. Continue to engage Adobe to support resolution of LiveCycle issues. 3. Acquire additional infrastructure team resources to support resolution of stack upgrade issues.	3-4-11
52	Transition to External Components PAT	The window of time between Core PAT and External Components PAT is just three weeks. Because there is only one PAT environment, there is schedule risk if Core PAT is extended or set up takes longer than expected.	4-29-11

The following risk was closed during the month of February 2011:

Risk Number	Risk Title	Resolution
45	AOC Testing Resources	The PAT Team is fully staffed. There are a total of 79 testers expected to be available for the duration of PAT. Pre-PAT execution rates demonstrate that resources are sufficient to execute all test scripts within the 9-week execution period.

Issue Management:

Three issues were opened during the month of February and, as identified below, remain active as of February 28, 2011. The information below is based on a review of documentation contained within eRoom and the JCCProjects website.

However, the IPO/IV&V Team is aware of additional issues raised in the QA Reports that are not being tracked and monitored through the issue process facilitated by eRoom and JCCProjects website..

Issue Number	Issue Title	Activity Performed	Target Resolution Date
32	Closely monitor Change Management process for Data Exchanges and confirm that Deloitte will be able to clearly identify differences between DX schema documentation that was published in April 2010 and the updates that will be published when R1 is complete in December and R2 is complete in February.	The remaining items will be delivered on 2-18-11.	2-25-11
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms.	2-25-11
34	Validate on-boarding roles and responsibilities/ timeframe for External Components PAT.	No status is shown in eRoom.	3-2-11

A number of issues were opened and closed during the month of February as shown below. However, the IPO/IV&V Team is not clear how the stated resolutions in eRoom address the issues that were closed. Also, one issue tracked (Issue 38) was closed without a resolution provided.

Issue Number	Issue Title	Resolution
31	Confirm tool to be used for ongoing CCMS demonstrations: HTML vs. iRise.	It was agreed that iRise will be used for everything except JO screens, which are best rendered as they currently are in HTML. Certain usability issues will be resolved (i.e., clean up old duplicative pages that are slowing down performance, and organize the iDocs differently according to demo purposes, not design review as originally structured). Some additional scenarios will be flushed out so that they can be included in the demo.
35	Develop plan for Integration Partner Pre-Connectivity to V4 Test Environments prior to PAT. Dependent upon AOC identifying which partners will be part of INT/PAT testing.	Working with SNET and approved OWSM and FTP methods. Moving to DMZ will require server rebuild effort. Partners may need a date. The dates so far are 3/7-4/4. *It is not clear how this resolution supports the issue.*
36	AOC will escalate at their Operations Meeting the lack of staff with E-Filing experience to assist with External Components Integration Testing	This issue was raised at the operations meeting and staff will be identified and on boarded as necessary. *It is not clear how this resolution supports the issue.*
37	Identify the process to perform XML validation for SME testing in both Integration Testing and PAT.	On boarded Stuart Marsh. Will onboard additional resources as necessary. *It is not clear how this resolution supports the issue.*
38	AOC will work with San Joaquin County to get Probate Notes data for the Data Migration team	*This issue was closed in eRoom but no resolution was listed.*

Resource Management:

The resources necessary for testing the external components were finalized and consequently Risk 45 (AOC Testing Resources) was closed.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

Quality Management:

On February 10, 2011, a draft version of the CCMS-V4 Development Services Quality Assurance (QA) Report 9, dated February 11, 2011 covering the period of November 12, 2010 through February 11, 2011 was delivered to the IPO/IV&V Team. While the Quality Assurance Report prepared by Deloitte for the CCMS-V4 Project mostly adheres to the previous defined contractual requirements for this type of report (although it has never reported code review information which is a contractual requirement for the QA Report), the IPO/IV&V Team finds the report is not consistent with the documentation and reporting guidance provided in IEEE Standard 730-2002, nor with the common industry best practices associated with a Quality Assurance Report.

As we have mentioned in previous reports, the QA function and the resulting reports should report process issues. Like all other QA reports produced for the CCMS-V4 Project, we found that the draft QA Report #9 is a Project Management report and provides little insight to the Project execution of processes. The metrics provided on pages 8 through 11 of QA Report #9 provide some Quality Control information, but no information anywhere else within the report provides information on Quality Assurance activities. Except for Deloitte's HP Quality Center generated metrics, it is difficult to determine if QA is engaged in the project and are performing any QA related activities or functions.

Nonetheless, the IPO/IV&V Team reviewed this draft Quality Assurance Report against Deloitte's contractual requirements for compliance; thus, the comments below are instances where the QA Report did not always adhere to contract provisions. Overall, we are concerned that the CMMI Status Report section of QA Report #9 identifies the project to be in full compliance with all aspects of CMMI which requires a defined set of standard processes and consistent documentation that it is following those processes—yet we found instances where Deloitte's practices do not adhere with their stated processes.

Specifically, we found the following discrepancies that are summarized below and described in more detail in the sections that follow:

- ✓ Several of the reported actions to address the process improvements identified as being needed in the CMMI Status Section of the QA Report do not fully address the reported need—rather, they appear to only address related interim activities needed such as scheduling a process audit versus actually performing the audit. Thus, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Integrated Project Management.

- ✓ Project concerns related to critical path, key timelines, project resources, and quality improvement opportunities are not all tracked or monitored through the normal and stated process through eRoom, nor do many of the "resolutions" to close concerns appear to address the issues.

To better assess the impact and significance of these items, the IPO/IV&V Team needs to obtain the following artifacts from Deloitte:

- ✓ Evidence that process training in the integrated project management section was conducted;

- ✓ Results of internal QA audits and CM audits;

- ✓ Baseline or master set of Requirements and Requirements Traceability; and

- ✓ Examples of how processes have changed based on the QA audits performed.

1. *CMMI Status Report:*

The QA report shows that the Project is in 100 percent "full compliance" with all of the CMMI areas meaning that project practices should be documented and comply with stated processes for the project. Yet, based on the IPO/IV&V issues and concerns identified in the following sections of this report as well as previous IPO/IV&V Reports over the same time period of this draft QA Report #9 where we have identified practices that do not adhere to stated processes, the IPO/IV&V Team cannot find evidence to support the results documented in process areas described in the draft QA Report #9 with respect to the CCMS-V4 CMMI Status. Thus, we cannot agree that the project has fully implemented process improvements identified in process areas related to integration project management, quality assurance, configuration management, requirements development, or requirements management.

- For instance, in the Integrated Project Management section identified that training had not been conducted since the project entered the FFDV phase, although the training plan was being updated to address the training needs. While the reported action states that a training plan was updated, it does not state that the training was conducted. Because the reported actions do not fully address the improvements by actually conducting the process training, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Integrated Project Management.

- Similarly, the Quality Assurance section identified that QA Audits had not been performed since the project entered the FFDV phase although the reported action taken was that QA Audits were scheduled. Because neither the CMMI Status Report nor anywhere within QA Report #9 stated that the QA Audits were actually performed, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Quality Assurance.

- The Configuration Management section identified that Configuration Management (CM) Audits had not been recently performed, although CM Audits were scheduled to be performed. Again, because the reported action taken does not fully address the area of improvement needed to actually perform the CM audit in addition to scheduling the audit, the IPO/IV&V

Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Configuration Management.

- The Requirements Development section in the QA Report identified that the CCMS-V4 requirements are baselined. However, since the IPO/IV&V Team has been waiting for the baseline CCMS-V4 requirements to be identified since January 2011 and neither the CCMS PMO nor Deloitte can identify where the baseline CCMS-V4 requirements are located, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Requirements Development.

- The Requirements Management section identified that requirements traceability was being maintained. However, no traceability between requirements and test cases has been provided by Deloitte to the IPO/IV&V Team after several months of discussions. Also, no baseline/master set of requirements has been identified. Thus, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements with respect to Requirements Management.

2. *Critical Path/Key Timeline:*

The QA identified concerns in this section do not appear to be tracked through the normal risk and issue process in eRoom. In addition, these concerns have on-going activities, and yet they are marked as closed even though the actions to "resolve" the concern do not appear to fully address the closure. Moreover, Deloitte does not identify how the on-going activities related to the concerns will be tracked or monitored.

- For example, Concern CP02 relating to "disagreements over system response time of the core stress test plan" is marked as closed with the following comment—"This item was discussed at a meeting during the week of 2/8/10. An alternative strategy for resolving disagreements over this deliverable is now being introduced. AOC/Court review is needed to gain further information regarding the desired response times for the many transactions detailed in the plan." However, there is no discussion of the alternative strategy introduced or what further information is needed to adequately address the concern.

- Moreover, many of these concerns described in the QA report deal with Project Management related issues such as scheduling and the contract, and not with issues associated to the software development processes as would be appropriate.

3. *Project Resource Concerns:*

The QA identified concerns in this section do not appear to be tracked through the normal risk and issue process in eRoom. In addition, these concerns have on-going activities, and yet they are marked as closed even though the actions to "resolve" the

Attachment 5
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Status Report as of February 28, 2011

concern do not appear to fully address the closure. Moreover, Deloitte does not identify how the on-going activities related to the concerns will be tracked or monitored.

- For example, Concern R03 related to the "SME resource plan for PAT requiring more SMEs than are available" is marked as closed with the following comment—"The AOC has assigned 72 court testers for PAT. The project team is monitoring this item. Several mitigation strategies have been defined, but the issue remains unresolved." Not only does the comment state that the issue remains unresolved, but also the "resolution" should describe the defined mitigation strategies and describe whether Deloitte agrees that the 72 resources are sufficient.

- Moreover, many of these concerns described in the QA report deal with Project Management related issues such as scheduling and the contract, and not with issues associated to the software development processes as would be appropriate.

- Finally, R01 and R02 are shown as new concerns, but these same numbers were previously used in other QA Report for other concerns. The IPO/IV&V Team has reported this issue of reusing numbers and losing track of the previous R01 and R02 in previous IPO/IV&V reports. Specifically, our recommendation was that tracking numbers not be reused; yet, Deloitte continues to re-use numbers.

4. *Other Quality Improvement Opportunities:*

Similar to other areas mentioned in the "critical path/key timeline" and ""project resource concerns" sections, the IPO/IVV& Team found that the QA Report's identified items are not tracked through the normal risk and issue process in eRoom even though the items present risks or issues. In addition, these concerns have on-going activities, and yet they are marked as closed even though the actions to "resolve" the concern do not appear to fully address the closure. Moreover, Deloitte does not identify how the on-going activities related to the concerns will be tracked or monitored.

- For example, Concern QI02 related to "at least one non-functional requirement related to conversion of 250 local forms developed for V2/V3 counties not being detailed" is marked as closed with the following comment—"AOC documented a list of impacted forms/reports. Deloitte reviewed the forms and provided the level of effort to migrate the reports and redesign/rebuild the reports. AOC and Deloitte must still come to an agreement on the resolution." However, because it is unclear what agreements need to be reached and the fact that the agreements have not yet been reached, the IPO/IV&V Team cannot see how the concern has been fully addressed.

- In another instance, Q107 identifies a process problem related to differences between documentation that was closed by an action to actively monitor solution—rather than a process oriented solution to fix the problems identified. Similarly, Q108 identifies process issues with Stress Testing, but the resolution to close the issue related to a timeline update solution instead of a process solution to fix the problem.

Quality Architecture:

There were no changes in this focus area in February 2011. For instance, there continue to be no open issues with System Architecture and the System Architecture Team with Deloitte, AOC, ISD, and other Court members have done a good job of identifying and defining the system architecture as well as architectural tradeoffs, raising issues for resolution, and generally creating a solid CCMS-V4 system architecture.

Additionally, the IPO/IV&V Team is still researching the AOC Enterprise Architecture to verify how CCMS-V4 currently fits into the current overall AOC architecture. Verbal discussions have been held, but as of February 28, 2011, the IPO/IV&V Team had not received documentation that the CCMS PMO had indicated would be provided in February 2011. Subsequently, the Enterprise Architecture documentation was delivered to the IPO/IV&V Team on March 11, 2011—after this February 2011 IPO/IV&V report was produced. Thus, the results of the IPO/IV&V Team's review of this documentation will be provided during March to the CCMS PMO and documented in the March IPO/IV&V 2011 report.

Configuration Management:

There are no new issues with Configuration Management that have not already been discussed in previous IPO/IV&V reports. Configuration Management for documentation is being well controlled through eRoom and JCC Web Sites that have built-in controls for Configuration Management.

However, as QA Report #9 states, "CM Audits have not recently been performed, but are being scheduled." Thus, once these CM Audits are completed, they may reveal issues or concerns related to configuration management.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no system engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports. Refer to the Testing Practices and Progress section of this report for a detailed explanation of the concerns regarding traceability.

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Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

Testing Practices and Progress:

The IPO/IV&V Team continues to have unresolved concerns in this area although we have continued to discuss and assess the testing effort with the Deloitte during the months of January and February. Specifically, we are concerned that:

- ✓ A requirements master/baseline set of requirements has not been produced after two months;

- ✓ There does not appear to be full traceability between requirements and test cases;

- ✓ Deloitte is maintaining critical data such as requirements and test cases in a variety of tools that are not all integrated, nor compliant with its contract with the AOC;

- ✓ Current Deloitte practices related to requirements traceability have negative short term impacts in that requirements may not be correctly implemented in the design (so that a requirement is not accidently overlooked) and tested; and

- ✓ These practices also impact long term system maintainability in that future changes to the system cannot be easily tracked or reviewed for impact to the entire application without the appropriate synchronization.

Specifically, beginning in January 2011, the IPO/IV&V Team asked for the "requirements master/baseline" set and, as of February 28, 2011, the IPO/IV&V Team has not received adequate documentation from Deloitte. Assuming a CCMS-V4 Project "requirements master/baseline" exists, the IPO/IV&V Team is concerned over the lack of availability of it for our review.

In addition, the IPO/IV&V Team has a major concern over the traceability between the requirements and the test cases that verify the requirements—in addition to perceived confusion as to exactly where the requirements-test cases reside. Using the data in Deloitte's HP Quality Center (the tool that held requirements-test case traceability data according to Radek Paces—a Deloitte representative identified by the CCMS PMO for the IPO/IV&V Team to meet with for issue resolution), there are a large number of requirements (greater than 1,200) that do not have traceability to requirements. Subsequently, Radek Paces told the IPO-IV&V Team that the requirements to test case

traceability information resided in an external spreadsheet. However, that spreadsheet had not been provided as of 2/28/11. The CCMS PMO and Deloitte are coordinating to schedule further discussions in March 2011.

Regardless, the information related to where the requirements-to-test case traceability data is located as well as the existence of the FFDV spreadsheet raises another major system development lifecycle concern in that Deloitte is maintaining critical data in a variety of different tools that are not all appropriately integrated. While the CCMS contract requires the use of an integrated software development environment and specifically identifies the Rational Rose suite, it is also known that the Project has Rational Requisite Pro, a requirements management tool that integrates with Rational Rose. However, according to the IPO/IV&V Team's review of the various Deloitte systems as well as discussions with Radek Paces and Rajesh Tahaliyani of Deloitte, we know that the Rational Requisite Pro tool is not being used to manage the FFD requirements. It is also known that the Project is using HP QC, ClearCase, and Rational Rose and all of these tools integrate (meaning the tools can share data) with Requisite Pro.

What is concerning to the IPO/IV&V Team is that even though the Project is required to use the suite of integrated tools, critical data that should be and is normally kept *within* the suite of tools is instead kept *outside* the tools and in spreadsheets—therefore, it is unable to be used and shared by the integrated suite of tools. The IPO/IV&V Team concern is both in the near-term related to baseline/master requirements list and traceability of test cases, as well as for the long-term in terms of maintainability of the CCMS product. Having an integrated suite of software development tools with the critical data connecting and aligning all the individual tools together residing outside the integrated suite will seriously impact maintainability of the CCMS product in the long term because future changes to the system cannot be easily tracked or reviewed for impact to the entire application without the appropriate synchronization.

At this point, we will closely monitor and track these traceability items in Appendix A as "*Jan11.1 Requirements Traceability*" as a critical area of concern.

Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified this month; however, two areas of concern remain open as of 2/28/11.**

- **The IPO/IV&V Team strongly believes that this project will continue to be a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Jan11.1	January 2011	Requirements Traceability	To ensure all requirements are tested, use the graphical data and results provided in this report to (1) link the "Not Covered" requirements with the existing and associated test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	The CCMS PMO and Deloitte staff have been working on resolving this area of concern and the IPO/IV&V Team is awaiting documentation from Deloitte Consulting.

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Apr10.1	April 2010	QA Report Metrics	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports.	The IPO/IV&V Team reviewed draft QA Report 9 and provided feedback in February 2011. In addition to other concerns raised by the IPO/IV&V Team in this month's report, the draft QA Report 9 did not address the initial IPO/IV&V April 2010 recommendations.

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Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **No areas of concern were closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.

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Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice which has now been discontinued. This February 2011 checklist contains major changes in an effort to make it more readily understood, and update any current project practices.

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Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	Unknown at this time		The IPO/IV&V Team is reviewing the AOC Enterprise Architecture documentation (which was provided on March 11, 2011 after this report was produced).
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	This phase of the project has not occurred		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Unknown at this time		The tool exists, but is not being used for requirements management. In addition, the IPO/IV&V Team is awaiting requirements baseline/master documentation.
Do software engineering standards exist and are they followed?		X	The CCMS-V4 project does not appear to be following any of the Software Engineering standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	The practices do not appear to be in line with CMMI Level 3 requirements, Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. CMMI Level 3 requirements require that a defined, standard, consistent process and process measurement be followed. This would require that: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?		X	Per the contract, the code reviews should be included in the Quality Assurance Reports. Since this information is not included in the Quality Assurance Reports, the IPO/IV&V Team cannot assess whether formal code reviews are conducted.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	Unknown at this time		As of February 28, 2011, the IPO/IV&V Team was awaiting AOC Enterprise Architecture documentation. Subsequently, documents were provided to the IPO/IV&V Team on March 11, 2011. These documents will be analyzed and discussed with the CCMS PMO in March and reported in the March 2011 IPO/IV&V Report
Are formal deliverable inspections performed, beginning with requirements specifications?		X	The IPO/IV&V Team cannot assess whether formal deliverable inspections are performed.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

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IPO/IV&V Report for the CCMS-V4 Project
Status Report as of February 28, 2011

Appendix D: IPO/IV&V Project Scorecard

For February 1, 2011 – February 28, 2011 Time Period

Process Area	SEP 2010	OCT 2010	NOV 2010	DEC 2010	JAN 2011	FEB 2011	REMARKS
Communication Management	Green	Green	Green	Green	Yellow	Yellow	Day-to-day communication continues to be strong. Some concerns exist with the CCMS Governance Model.
Schedule Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The schedule remains aggressive.
Scope Management	Green	Green	Green	Green	Green	Green	Project scope is managed and controlled through a variety of avenues.
Risk Management	Green	Green	Green	Green	Yellow	Yellow	The risks are reported, discussed, and managed on a weekly basis, but concerns raised in the QA Reports are not tracked as part of the process.
Issue Management	Green	Green	Green	Green	Green	Yellow	The issues are reported, discussed, and managed on a weekly basis but recent resolutions do not fully address issues closed.
Resource Management	Yellow	Yellow	Yellow	Yellow	Green	Green	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Though testing has been ongoing, the IPO/IV&V Team is still unable to draw a conclusion as to the quality of the client functionality. The primary reason for this is the unclear traceability between requirements and test cases, irrespective of the observed defect rates.
Quality Architecture	Green	Green	Green	Green	Green	Green	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	Green	Green	Green	Green	Green	Green	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	Green	Green	Green	Green	Green	Green	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules.
Detailed Design Review	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	Green	Green	Green	Green	Green	Green	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Testing continues to be a concern.

Green – On Track
Yellow – Warning
Red – Significant Problems

sjobe

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of March 31, 2011

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of March 31, 2011

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Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of March 31, 2011

Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of March 2011, the IPO/IV&V Team continued its primary focus on requirements traceability, and reviewed the AOC Enterprise Architecture documentation.

1. *Requirements Traceability*:

    During March, the IPO/IV&V Team continued to discuss and assess the testing/traceability effort with the CCMS-V4 PMO and Deloitte Consulting. On March 28, 2011, the IPO/IV&V Team was provided an initial "game plan" by Kevin Hughes to correct the problems associated with the requirements-to-test case traceability. If this plan is executed as described and can be verified, the IPO/IV&V Team findings related to requirement and test case traceability should be resolved. However, until that plan can be verified, there is no change in the overall conclusions in our analysis of the testing effort.

    Additionally, on March 14, 2011, the IPO/IV&V Team was provided an updated spreadsheet by Deloitte that identifies the traceability between the CCMS-V4 requirements to test cases. After our sampling with a statistical margin of error of +-3 percent, it was identified that 25.49 percent of the 970 requirements listed in HP Quality Center that are not associated with any test cases are also not included on the spreadsheet that Deloitte provided and still cannot be verified as covered by any test case. This corresponds to 247 requirements. These results were shared with the AOC and Deloitte before the "game plan" was created.

    While continued discussions have occurred between the IPO/IV&V Team and Deloitte throughout the month of March and a variety of documents have been exchanged between the two teams in attempts to resolve issues, the IPO/IV&V Team is still awaiting the "requirements master/baseline" set as of March 31, 2011.

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Further, the IPO/IV&V Team is still awaiting documentation from Deloitte with respect to how the baseline/master requirements are synchronized with all of the other tools that hold requirements information.

Until sufficient activities are performed and information is received from Deloitte, the IPO/IV&V Team cannot verify that requirements which were accepted and approved by the CCMS PMO are the same as those used in various Deloitte CCMS-V4 Project tools as required by the contract, nor can the IPO/IV&V Team confirm that all system requirements are slated to be tested.

2. *AOC Enterprise Architecture Documentation*:

On March 11, 2011, the IPO/IV&V Team received documentation from the Project related to the AOC Enterprise Architecture Plan and how CCMS fits within the Plan. In our review and assessment of the documentation to determine if the document satisfies the intent of the Enterprise Architecture assessment questions in Appendix B of this report, the Statewide Information Management Manual (SIMM), Section 58, was reviewed. The SIMM was reviewed because the assessment questions identified in Appendix B of this report are from SIMM Section 45 Appendix F and SIMM Section 58 discusses Statewide Enterprise Architectures and provides clarification of what is expected for an Enterprise Architecture Plan.

Upon reviewing the SIMM definitions and description of an Enterprise Architecture Plan and the Project provided AOC documentation, the IPO/IV&V has assessed that the provided documentation meets the requirements for an Enterprise Architecture Plan as defined and described by SIMM Section 58. However, the IPO/IV&V Team strongly recommends that the AOC incorporate the MTG contract deliverable into an AOC document and "brand" it as the AOC's plan.

Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice project management and systems-engineering practices in accordance with guidelines, industry standards, and best practices related to the identification and resolution of issues, risks, items for management attention, and modification and change requests. Additionally, the continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. However, as part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

Initially, the IPO/IV&V Team suggested changes to the CCMS Governance Model in the monthly IPO/IV&V Report for February 2011. Our recommended changes were as follows and the resolutions/actions taken during March 2011 are noted below in bold:

1. Clarify that the final decision-making authority rests with the Administrative Director of the Courts and Judicial Council of California—if that is the case.

    After further discussions, this item has been resolved and no further action is needed.

2. Update CCMS Governance Model Exhibit A – CCMS Executive Committee to indicate that final decision-making authority is by the Judicial Council of California as delegated to the Administrative Director of the Courts.

    After further discussions, this item has been resolved and no further action is needed.

3. Include specific language that the Executive Committee shall refer all matters having a measurable impact (e.g., items, activities, and decisions that expand costs or delay implementation) through the Project Review Board to the Administrative Director for resolution, action, or referral to the Judicial Council.

    After further discussions, this item may be addressed in a procedural document outside of the CCMS Governance Model.

4. Modify language describing the CCMS General Administrative Advisory Committee's review of the "monthly IV&V reports" to accurately refer to the reports as "monthly IPO/IV&V report".

    After further discussions, this item may be addressed in a procedural document outside of the CCMS Governance Model.

5. Clearly state that, after a review/analysis by the CCMS General Administrative Advisory Committee, the IPO/IV&V reports will be made available to the CCMS Justice Partner Advisory Committee, the CCMS Operational Advisory Committee, the CCMS Executive Committee, the Administrative Director of the Courts, and the Judicial Council of California.

   After further discussions, this item has been resolved and no further action is needed.

6. Address the method of the IPO/IV&V report distribution as well as the process for report content inquires and responses.

   After further discussions, this item may be addressed in a procedural document outside of the CCMS Governance Model.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

In addition to the following risks identified below that remain active as of March 31, 2011, one new risk (Risk #55) was opened during the month of March. The information below is based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February 2011, the IPO/IV&V Team reported that additional risks raised in the QA Reports were not being tracked and monitored through the risk process facilitated by eRoom and JCCProjects website. Some of these additional risks still are not being captured in eRoom.

Risk Number	Risk Title	Activity Performed	Target Resolution Date
51	Stack Upgrade Impact on PAT	The instability of the infrastructure may impact the script execution during PAT, which may reduce their confidence in the application. If the issues are not resolved soon, SAIC may not be able to complete the stack upgrade in the PAT and Stress Test environments which will impact the Stress Test team's ability to complete stress/performance testing before the start of External Components PAT on 5/16/11. In an effort to mitigate this risk, the following actions are being taken: 1. Deloitte has acquired an Oracle support contract to obtain higher levels of support required to address outstanding Oracle-related stack issues. 2. Continue to engage Adobe to support resolution of LiveCycle issues. 3. Acquire additional infrastructure team resources to support resolution of stack upgrade issues.	4-29-11
52	Transition to External Components PAT	The window of time between Core PAT and External Components PAT is just three weeks. Because there is only one PAT environment, there is schedule risk if Core PAT is extended or set up takes longer than expected. Monitor Core PAT completion, External Components Integration Testing , and External Components PAT environment readiness. Continue to monitor through the end of PAT acceptance.	4-29-11
55	V3/V4 Defects	There are a large number of V3 defects that need to be resolved in V4 prior to acceptance of the Core Release. Additional staff will be applied to resolve defects	4-29-11

Issue Management:

Six issues were opened during the month of March and one issue (Issue #33) continued to be tracked. The following issues remain active as of March 31, 2011. The information below is based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February 2011, the IPO/IV&V Team reported that additional issues raised in the QA Reports were not being tracked and monitored through the issue process facilitated by eRoom and JCCProjects website. Some of these additional risks still are not being captured in eRoom.

Issue Number	Issue Title	Activity Performed	Target Resolution Date
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms.	4-7-11
39	Review the scheduled dates that various components will be available in the stress PAT environment, and identify areas where dates can be pulled in.	This issue will be reassessed if the date can be pulled in and will be tracked until completion.	4-11-11
40	Outline the stress test strategy and identify areas to reduce risk of not completing PAT stress test by 4/29/11.	The environment was turned over on 3/11/11.	4-29-11
41	Layout the steps (obstacles) to building similar/identical V4 environments in a repeatable/cookie cutter manner. 1) ability to provision environments on demand 2) by establishing a repeatable process.	This issue will be reviewed and technical issues/requirements will be discussed with the architects.	4-7-11
42	Steps should be taken to either increase the rate of E-Filing track defect resolution or adjust project timelines to account for the greater than expected time to resolve E-Filing defects.	E-filing continues to be the most complex data exchange area. Integration testing has begun and this issue will continue to be monitored through External Components Integration Testing scheduled to complete on 5/13/11.	5-13-11

Issue Number	Issue Title	Activity Performed	Target Resolution Date
43	1) Confirm that IV&V is confident with the scope of testing coverage of the requirements for the V4 application, 2) Improve the traceability by getting all data into Quality Center and mapping it accordingly.	Deloitte met with IV&V to review the requirements traceability process, repository, and documents. IV&V reported findings and Deloitte is working to close the identified traceability (documentation) gaps. On 3/30/11, AOC worked with Deloitte to develop a plan to build requirements traceability into the case tool. The plan calls for complete requirements traceability to be in the case tool by the end of April 2011.	4-30-11
44	Establish JP and tester connectivity to TEST environment.	Bruce Scheffel and John McNamara are working to establish JP and tester connectivity to TEST environment and expect JP connectivity testing complete by 4/8/11 and complete connectivity test by 4/15/11. Progress will be reported at the weekly status meeting on 4/20/11.	4-20-11

The following issues were closed during the month of March as shown below.

Issue Number	Issue Title	Resolution
32	Closely monitor Change Management process for Data Exchanges and confirm that Deloitte will be able to clearly identify differences between DX schema documentation that was published in April 2010 and the updates that will be published when R1 is complete in December and R2 is complete in February.	The high priority items were delivered on 2/4/11 and the remaining items were delivered on 2/18/11.
34	Validate on-boarding roles and responsibilities/ timeframe for External Components PAT.	AOC SMEs were moved from Core PAT to assist with External Components testing.

In the February 2011 report, the IPO/IV&V Team reported that the issues noted below were opened and closed during the month of February, but were not well documented when closed out. During the month of March, the following resolutions were added to these issues. Consequently, the IPO/IV&V Team has no further concerns with these issues.

Issue Number	Issue Title	Resolution
35	Develop plan for Integration Partner Pre-Connectivity to V4 Test Environments prior to PAT. Dependent upon AOC identifying which partners will be part of INT/PAT testing.	Additional Resolution: We are proceeding with activities to allow partners to perform CCMS Data Exchange testing in both the CCTC ISB Test Environment and the CCMS Integration Test Environment in advance of PAT. The steps include working with partners to address any questions regarding the Data Exchanges to support their development efforts, establishing and testing connectivity to the environments, and supporting test script development. Having the opportunity to perform testing in one or both of these environments will facilitate partner testing in advance of PAT.
36	AOC will escalate at their Operations Meeting the lack of staff with E-Filing experience to assist with External Components Integration Testing	Additional Resolution: Sufficient e-filing resources have been identified to support the External Components effort.
37	Identify the process to perform XML validation for SME testing in both Integration Testing and PAT.	Additional Resolution: Stuart Marsh and Rishi Gupta have defined the plan to validate outbound XML and to load inboard XML.
38	AOC will work with San Joaquin County to get Probate Notes data for the Data Migration team	Additional Resolution: The V3 Data Migration utility team has the San Joaquin probate notes data they need

Resource Management:

There are no new issues with respect to Resource Management that have not already been discussed in previous IPO/IV&V reports.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

<u>Quality Management</u>:

In our February 2011 Report, the IPO/IV&V Team noted that while the Quality Assurance Report prepared by Deloitte for the CCMS-V4 Project mostly adheres to the contractual requirements for this type of report (with the exception of code review information), the IPO/IV&V Team finds the report is inconsistent with the documentation and reporting guidance provided in IEEE Standard 730-2002, and with common industry best practices associated with a Quality Assurance Report.

Further, the IPO/IV&V Team is concerned that the CMMI Status Report section of draft QA Report #9 identifies the project to be in full compliance with all aspects of CMMI which requires a defined set of standard processes and consistent documentation that it is following those processes - yet we found instances where Deloitte's practices do not adhere with their stated processes. Thus, we cannot agree that the project has fully implemented process improvements identified in process areas related to integration project management, quality assurance, configuration management, requirements development, or requirements management.

Specifically, in last month's report we discussed in detail the items summarized below as well as made some additional comments and data requests:

- ✓ Several of the reported actions to address the process improvements identified as being needed in the CMMI Status Section of the QA Report do not fully address the reported need—rather, they appear to only address related interim activities needed such as scheduling a process audit versus actually performing the audit. Thus, the IPO/IV&V Team cannot agree that the CCMS-V4 Project is in "full compliance" with CMMI requirements.

- ✓ Previously, the IPO/IV&V Team reported that project concerns related to critical path, key timelines, project resources, and quality improvement opportunities were not all tracked or monitored through the normal and stated process through eRoom, and that many of the "resolutions" to close concerns did not appear to address the issues. The IPO/IV&V Team can see that some of these concerns are still not being captured in eRoom. In addition, the resolutions noted in the QA report still do not appear to address the issues.

In the February 2011 IPO/IV&V Report, we described in detail the concerns we had with several sections of the draft QA Report #9 Section—*as of March 31, 2011, the items noted have not been addressed*. The prior concerns that remain open are related to the following sections:

- CCMI Status Report Section with items on project management training, performance of QA and Configuration Management audits, baseline requirements, and requirements traceability.

- Critical Path/Key Timeline Section with risks and issues that do not appear to be tracked through the normal risk and issues process in eRoom as well as no information on how the related on-going activities related to the concerns will be tracked or monitored.

- Project Resource Section with risks and issues that do not appear to be tracked through the normal risk and issues process in eRoom as well as concerns closed as "resolved" even though they have on-going activities associated that do not fully address the closure. Additionally, the QA Report addresses issues such as scheduling and the contract and not issues associated to the software development processes as would be appropriate—in addition to reusing issue tracking numbers.

- Other Quality Improvement Opportunities Section with similar concerns that items are not tracked through the normal risk and issue process in eRoom even though the items present risks or issues in addition to closing issues that have on-going activities and do not appear to "resolve" the issue noted.

To better assess the impact and significance of these items, the IPO/IV&V Team requested the following artifacts from Deloitte (current status is shown below each item):

- ✓ Evidence that process training in the integrated project management section was conducted;

  The evidence of processing training above has not been provided as of March 31, 2011.

- ✓ Results of internal QA audits and CM audits;

  The results of internal QA audits and CM audits has not been provided as of March 31, 2011.

- ✓ Baseline or master set of Requirements and Requirements Traceability; and

  This item was discussed during March, but a baseline or master set of Requirements and Requirements Traceability has not been provided as of March 31, 2011.

- ✓ Examples of how processes have changed based on the QA audits performed.

  Examples of how processes have changed based on the QA audits have not been provided as of March 31, 2011.

Quality Architecture:

On March 11, 2011, the IPO/IV&V Team received documentation from the Project related to the AOC Enterprise Architecture Plan and how CCMS fits within the Plan. The primary document reviewed, one of two provided, is titled "Enterprise Technology Designs and Plans Compilation and Assessment", a contracted deliverable from MTG Management Consultants, LLC labeled as a Discussion Draft dated 12-12-03.

In our review and assessment of the document to determine if the document satisfies the intent of the Enterprise Architecture assessment questions in Appendix B of this report, the Statewide Information Management Manual (SIMM), Section 58, was reviewed. The SIMM was reviewed because the assessment questions identified in Appendix B of this report are from SIMM Section 45 Appendix F and SIMM Section 58 discusses Statewide Enterprise Architectures and provides clarification of what is expected for an Enterprise Architecture Plan.

Upon reviewing the SIMM definitions and description of an Enterprise Architecture Plan and the Project provided AOC documentation, the IPO/IV&V has assessed that the provided documentation meets the requirements for an Enterprise Architecture Plan as defined and described by SIMM Section 58. However, the IPO/IV&V Team strongly recommends that the AOC incorporate the MTG contract deliverable into an AOC document and "brand" it as the AOC's plan.

While the Enterprise Technology Designs and Plans Compilation and Assessment report meets the generic requirements defined in SIMM Section 58, the document is not consistent with more common industry standard Enterprise Architecture frameworks, models, and plans. Some of the more common and well-known frameworks/models are the Zachman Framework (a proprietary framework), Reference Model of Open Distributed Processing (RM-ODP) (ISO/IEC 10746, an industry collaboration framework), and the Federal Enterprise Architecture Framework (FEAF) (developed by the US Federal CIO Council).

Configuration Management:

There are no new issues with Configuration Management that have not already been discussed in previous IPO/IV&V reports. Configuration Management for documentation is being well controlled through eRoom and JCC Web Sites that have built-in controls for Configuration Management.

However, as QA Report #9 states, "CM Audits have not recently been performed, but are being scheduled." Thus, once these CM Audits are completed, they may reveal issues or concerns related to configuration management.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no system engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports. Refer to the Testing Practices and Progress section of this report for a detailed explanation of the concerns regarding traceability.

Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

Testing Practices and Progress:

The IPO/IV&V Team continues to have unresolved concerns in this area related to not receiving adequate documentation of the requirements master/baseline from Deloitte as well as a lack of traceability between the requirements and test cases—although we have continued to discuss and assess the testing effort with Deloitte over the last three months. In March 2011, Deloitte provided the IPO/IV&V Team with additional requirements information as well as an initial game plan to correct problems associated with requirements-to-test-case traceability.

For instance, on March 14, 2011, the IPO/IV&V Team was provided an updated spreadsheet by Deloitte that identifies traceability between CCMS0V4 requirements to test cases. The IPO/IV&V Team evaluate the correctness and completeness of the traceability by employing the following approach: 1) obtain an update of the list of requirements identified in the core folder in HP Quality Center that are not associated/linked to any test cases; 2) clean the obtained list to delete section headings and other HP Quality Center identified "requirements" that are clearly not requirements but are HP Quality Center artifacts; 3) use sampling techniques to match the resulting HP Quality Center list, from step 2, to requirements-to-test case traceability in the Deloitte provided spreadsheet; and 4) access HP Quality Center and review the test cases to verify that the test cases exists and are contextually related to the requirement.

After our sampling with a statistical margin of error of +/-3 percent, we identified 25.49 percent of the 970 requirements listed in HP Quality Center that are not associated with any test cases are also not included on the spreadsheet that Deloitte provided and still cannot be verified as covered by any test case. This corresponds to 247 requirements. After our analysis, we compared these results to other information provided— an email sent on 3/14/2011 titled FFDV Mapping Latest which identified the results of analysis performed by Deloitte; the data from this email is shown in the table on the next page.

Specifically, this data identified 1037 requirements as not being covered. This is the same number the IPO/IV&V Team extracted from HP QC before we eliminated duplicates and "requirements" that were obviously not requirements, such as section headings, which we were able to reduce to 970 requirements after scrubbing. However, while the Deloitte data identifies 1037 requirements as not being covered, the IPO/IV&V Team estimate is 247 requirements not being covered.

Deloitte Data

OUW Type	Covered	Not Covered	Not Covered (%)	Total
Batch Jobs	71	5	6.6%	76
Function\Actions (FAM)	1021	183	15.2%	1204
Forms\Notices	363	44	10.8%	407
Reports	128	12	8.6%	140
Screens	755	24	3.1%	779
Sub-Total	2338	268	10.3%	2606
Function\Actions (FAV)	503	198	28.2%	701
Business Rules	471	232	33.0%	703
System Use Cases	59	339	85.2%	398
Total	3371	1037	23.5%	4408

As such, without a resolution to the problems we have identified in past reports, it is impossible to know exactly how many requirements are not covered by test cases and what those requirements are so that test cases can be developed to provide full test case coverage. On March 28, 2011, the IPO/IV&V Team was provided an initial "game plan" by Kevin Hughes to correct the problems associated with requirements-to-test case traceability. If this plan is executed as described, the IPO/IV&V Team findings related to requirement and test case traceability may be resolved.

Yet, until the IPO/IV&V Team can confirm the results of the game plan execution, we continue to remain concerned that:

- ✓ A requirements master/baseline set of requirements has not been produced after three months of requests from the IPO/IV&V Team beginning in January 2011;

- ✓ In addition to perceived confusion as to exactly where the requirements-to-test case traceability reside, there does not appear to be full traceability between requirements and test cases;

- ✓ Deloitte is maintaining critical data such as requirements and test cases in a variety of tools that are not all integrated, nor compliant with its contract with the AOC. While the CCMS contract requires the use of an integrated software development environment and specifically identifies the Rational Rose suite, the Rational Requisite Pro tool is not being used by Deloitte to manage the FFD requirements although the tools being used—HP QC, ClearCase, and Rational Rose—all integrate (meaning the tools can share data) with Requisite Pro.;

- ✓ Current Deloitte practices related to requirements traceability have negative short term impacts in that requirements may not be correctly implemented in the design (so that a requirement is not accidently overlooked) and tested; and

- ✓ These practices also impact long term system maintainability in that future changes to the system cannot be easily tracked or reviewed for impact to the entire application without the appropriate synchronization.

At such, we will closely monitor and track these traceability items in Appendix A as "*Jan11.1 Requirements Traceability*" as a critical area of concern.

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Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified this month; however, two areas of concern remain open as of 3/31/11.**

- **The IPO/IV&V Team strongly believes that this project will continue to be a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Jan11.1	January 2011	Requirements Traceability	To ensure all requirements are tested, use the graphical data and results provided in this report to (1) link the "Not Covered" requirements with the existing and associated test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	The CCMS PMO and Deloitte staff have been working on resolving this area of concern and the IPO/IV&V Team is awaiting documentation from Deloitte Consulting.

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Apr10.1	April 2010	QA Report Metrics	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports.	The IPO/IV&V Team reviewed draft QA Report 9 and provided feedback in February. In addition to other concerns raised by the IPO/IV&V Team, the draft QA Report 9 did not address the previous IPO/IV&V April 2010 recommendations.

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Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **No areas of concern were closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

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Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of March 31, 2011

Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice which has now been discontinued.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
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Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	X		AOC has provided documentation that adheres to SIMM 58 definition of an Enterprise Architecture.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	This phase of the project has not occurred		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Unknown at this time		The tool exists, but is not being used for requirements management. In addition, the IPO/IV&V Team is awaiting requirements baseline/master documentation.
Do software engineering standards exist and are they followed?		X	The CCMS-V4 project does not appear to be following any of the IEEE suite of standards known as the Software Engineering Standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	The practices do not appear to be in line with CMMI Level 3 requirements, Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. CMMI Level 3 requirements require that a defined, standard, consistent process and process measurement be followed. This would require that: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?		X	Per the contract, the code reviews should be included in the Quality Assurance Reports. Since this information is not included in the Quality Assurance Reports, the IPO/IV&V Team cannot assess whether formal code reviews are conducted. While the IPO/IV&V Team was informed that code reviews are conducted, we have not seen evidence of the reviews—such as internal QA code review checklists (with criteria) and notes/minutes from the code reviews; thus, the IPO/IV&V Team cannot verify code reviews were conducted.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	X		Yes, the CCMS Project is reflected in the Enterprise documentation and the scope is consistent with the Plan.
Are formal deliverable inspections performed, beginning with requirements specifications?		X	The IPO/IV&V Team cannot assess whether formal deliverable inspections are performed. Formal deliverable inspections include evaluating a deliverable when it is received against its requirements, which are both contractual requirements and DAD requirements. The DADs do not appear to have IEEE or other standards referenced which would also require the use of standard requirements. While there is sign-off documentation related to deliverables available, the IPO/IV&V Team has not seen evidence of any formal inspection processes such as identification of review and deliverable requirements, comments captured during inspections, and comments provided to Deloitte.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
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Appendix D: IPO/IV&V Project Scorecard

For March 1, 2011 – March 31, 2011 Time Period

Process Area	OCT 2010	NOV 2010	DEC 2010	JAN 2011	FEB 2011	MAR 2011	REMARKS
Communication Management	🟢	🟢	🟢	🟢	🟡	🟡	Day-to-day communication continues to be strong. Some concerns exist with the CCMS Governance Model.
Schedule Management	🟡	🟡	🟡	🟡	🟡	🟡	The schedule remains aggressive.
Scope Management	🟢	🟢	🟢	🟢	🟢	🟢	Project scope is managed and controlled through a variety of avenues.
Risk Management	🟢	🟢	🟢	🟢	🟡	🟡	The risks are reported, discussed, and managed on a weekly basis, but not all concerns raised in the QA Reports are tracked as part of the process.
Issue Management	🟢	🟢	🟢	🟢	🟢	🟡	The issues are reported, discussed, and managed on a weekly basis, but not all concerns raised in the QA Reports are tracked as part of the process.
Resource Management	🟡	🟡	🟡	🟡	🟢	🟢	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	🟡	🟡	🟡	🟡	🟡	🟡	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	🟡	🟡	🟡	🟡	🟡	🟡	Though testing has been ongoing, the IPO/IV&V Team is still unable to draw a conclusion as to the quality of the client functionality. The primary reason for this is the unclear traceability between requirements and test cases, irrespective of the observed defect rates.
Quality Architecture	🟢	🟢	🟢	🟢	🟢	🟢	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	🟢	🟢	🟢	🟢	🟢	🟢	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	🟢	🟢	🟢	🟢	🟢	🟢	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	🟡	🟡	🟡	🟡	🟡	🟡	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules.
Detailed Design Review	🟡	🟡	🟡	🟡	🟡	🟡	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	🟢	🟢	🟢	🟢	🟢	🟢	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	🟡	🟡	🟡	🟡	🟡	🟡	Testing continues to be a concern.

🟢 **Green** – **On Track**
🟡 **Yellow** – **Warning**
🔴 **Red** – **Significant Problems**

sjobe

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of April 30, 2011

SJOBERG ✦ EVASHENK
CONSULTING, INC

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
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IPO/IV&V Report for the CCMS-V4 Project
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Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of April 2011, the IPO/IV&V Team continued its primary focus on requirements traceability, and reviewed the AOC Enterprise Architecture documentation.

1. *Requirements Traceability*:

    Discussions with the CCMS PMO Team and Deloitte on this topic continued in April 2011. On April 26, 2011, the IPO/IV&V Team had a conference call with the CCMS PMO and Deloitte regarding the traceability of requirements to the test cases that verify the requirements. During this call, Deloitte identified that the requirements from the FFD Section 36 are being identified as the baseline requirements and these requirements have been loaded into HP Quality Center. Further, Deloitte confirmed that the traceability between business requirements and the test cases is approximately 35 percent complete with a full completion date target of May 18, 2011.

    The IPO/IV&V Team accessed HP Quality Center and verified the design requirements (units of work) to test case traceability, as well as verified the business requirements to test case traceability for the 35 percent portion completed to date. This traceability is based on business requirement identifiers from FFD Section 36 to test cases at a high level, not at the detailed level that traces each step of a business requirement to a step in a test case. While detailed requirements identification and the subsequent tracing of the detailed requirements to test cases is often performed for Federal and State IT projects using Computer Aided Software Engineering (CASE) tools (typically done when requirements are being identified), detailed requirements identification and the subsequent tracing to test cases was not done for CCMS-V4 even though the CASE tools were available and used in other areas of the CCMS-V4 Project as noted in prior monthly IPO/IV&V reports.

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Since the CCMS-V4 Project did not begin identifying requirements at a detailed level with CASE tools early in the development, the approach used to identify requirements at a higher level using requirement identifiers/labels (where each identifier/label identifies a group of related requirements) was reasonable considering the extensive effort that would be required to go back and identify requirements at a detailed level and trace each to a test case at this stage of the CCMS-V4 Project Development. Moreover, it does allow the tracing of impacted test cases whenever a requirement (in a group of requirements) changes by tracing the requirement identifier/label to the associated test cases—although all associated test cases would need to be reviewed to determine the specific test case(s) impacted.

The risk of using this approach is that it cannot be demonstrated or proven that all detailed requirements have been tested, although a sampling approach can be used and was used by the IPO/IV&V Team to achieve some unquantifiable level of confidence of the details being tested. At some point in time, the impact of these potential requirements that may have not been tested may ultimately be realized when transactions are executed by the Courts and additional defects might be discovered upon execution. While the level of PAT performed may have lowered this risk, the IPO/IV&V Team does not know the extent of ad hoc, or non-test script, testing that was performed. The successful completion of PAT test scripts does not mitigate or lower the exposure of the Courts to this risk. At this point of near completion of the CCMS-V4 Development, the CCMS PMO should just continue to ensure that Deloitte delivers the traceability on May 18th as expected.

Requirements Baseline:

When the IPO/IV&V Team asked Deloitte to identify which version of the FFD was used to load the business requirements into HP Quality Center, they identified that the business requirements were from the FFD version published in January 2011. This was confirmed both during the conference call as well as in a separate email from Deloitte after the call. Based on the IPO/IV&V review of signed eRoom Deliverable Acceptance Form that is posted in eRoom, in addition to discussions with the CCMS PMO, the last FFD that was accepted by the CCMS PMO was accepted on May 1, 2009. Thus, the IPO/IV&V Team has a concern that the baseline set of business requirements that were loaded into HP Quality Center for testing have not been accepted by the CCMS PMO and approved by the appropriate parties.

The difference between the last set of business requirements approved on May 1, 2009 and the version that was published in January 2011 is unknown—although Deloitte has agreed to provide documentation of the changes. As such, the CCMS PMO and appropriate approvers should review the differences/changes between the two versions as reconciled by Deloitte and ensure that all changes were properly processed through the CCMS-V4 documented change order process. Currently, the IPO/IV&V Team cannot view the change requests made and approved through our access in eRoom or JCCProjects to identify and verify all of the changes that should have been incorporated in the January 2011 published version of the FFD.

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Moreover, until business requirements and traceability issues are resolved and AOC formally approves the requirements in use by Deloitte for traceability, coding, and testing purposes, the AOC should not formally accept the CCMS-V4 product. While the likelihood is low that the AOC would **not** approve the changes to requirements between the FFD version approved on May 1, 2009 and the FFD January 2011 version being tested based on the results from PAT, there is some risk that certain changes may not be approved and some recoding and retesting could be necessary.

2. *Quality Management*:

Over the last few months, the IPO/IV&V Team has identified issues and documented concerns over the Deloitte Quality Assurance program and their documented CMMI Maturity Level 3 assessment. In prior IPO/IV&V reports, it was identified that Deloitte was assessed as CMMI Maturity Level 3 on May 30, 2008—three-years ago this month. The awarded CCMI Level 3 certification was awarded by the Carnegie Mellon Software Engineering Institute (SEI), and the CMMI certification is only valid for three years. Because the CCMS V4 contract requires Deloitte to maintain this certification over the life of the contract, Deloitte is required to be recertified as CMMI Level 3 by the end of May 2011.

The IPO/IV&V Team recommends to the AOC that the CMMI re-certification be changed from an un-focused assessment on general Deloitte Practices worldwide (which the last assessment was), to a specific CCMS V4 product focused assessment. If possible, it would be more valuable for the AOC to contract for this assessment, instead of Deloitte, to maintain greater independence over the assessment. On April 29, 2011, the AOC released two requests for proposals seeking vendors to conduct an independent code quality assessment and an independent CCMS SCAMPI appraisal. The SCAMPI review should address the IPO/IV&V Team's recommendation and previously reported concerns related to full compliance with all aspects of a CMMI certification.

Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice project management and systems-engineering practices in accordance with guidelines, industry standards, and best practices related to the identification and resolution of issues, risks, items for management attention, and modification and change requests. Additionally, the continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. However, as part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

There are no new issues with communication management.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

No new risks were raised during the month of April. The risks identified below remain active as of April 30, 2011 and are based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February 2011, the IPO/IV&V Team reported that additional risks raised in the QA Reports were not being tracked and monitored through the risk process facilitated by eRoom and JCCProjects website. Some of these additional risks still are not being captured in eRoom.

Risk Number	Risk Title	Activity Performed	Target Resolution Date
52	Transition to External Components PAT	The window of time between Core PAT and External Components PAT is just three weeks. Because there is only one PAT environment, there is schedule risk if Core PAT is extended or set up takes longer than expected. Monitor Core PAT completion, External Components Integration Testing , and External Components PAT environment readiness. Continue to monitor through the end of PAT acceptance.	4-29-11
55	V3/V4 Defects	There are a large number of V3 defects that need to be resolved in V4 prior to acceptance of the Core Release. Additional staff will be applied to resolve defects.	4-29-11

The following risks were closed in the month of April.

Risk Number	Risk Title	Resolution
51	Stack Upgrade Impact on PAT	The stack upgrade has been completed and this issue can now be closed.

Issue Management:

No new issues were opened during the month of April and the following issues remain active as of April 30, 2011. The information below is based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February and March 2011, the IPO/IV&V Team reported that additional issues raised in the QA Reports were not being tracked and monitored through the issue process facilitated by eRoom and JCCProjects website. Some of these additional issues still are not being captured in eRoom

Issue Number	Issue Title	Activity Performed	Target Resolution Date
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms.	5-28-11
41	Layout the steps (obstacles) to building similar/identical V4 environments in a repeatable/cookie cutter manner. 1) ability to provision environments on demand 2) by establishing a repeatable process.	This issue is being reviewed and technical issues/requirements are being discussed with the architects. Virginia will review this issue with Mark Moore and provide an update on 5-4-11.	5-4-11
42	Steps should be taken to either increase the rate of E-Filing track defect resolution or adjust project timelines to account for the greater than expected time to resolve E-Filing defects.	E-filing continues to be the most complex data exchange area. Integration testing has begun and this issue will continue to be monitored through External Components Integration Testing scheduled to complete on 5/13/11.	5-13-11
43	1) Confirm that IV&V is confident with the scope of testing coverage of the requirements for the V4 application, 2) Improve the traceability by getting all data into Quality Center and mapping it accordingly.	Deloitte met with IV&V to review the requirements traceability process, repository, and documents. IV&V reported findings and Deloitte is working to close the identified traceability (documentation) gaps. On 3/30/11, AOC worked with Deloitte to develop a plan to build requirements traceability into the case tool. The plan calls for complete requirements traceability to be in the case tool by the end of April 2011 and has now been revised to be May 2011. A meeting was held on 4-26-11 to review the progress of outstanding traceability items. The baseline requirements have been updated and mapped to Quality Center and there are a few remaining items that will be addressed prior to 5-18-11.	5-18-11

Issue Number	Issue Title	Activity Performed	Target Resolution Date
44	Establish JP and tester connectivity to TEST environment.	Bruce Scheffel and John McNamara are working to establish JP and tester connectivity to TEST environment and expect JP connectivity testing complete by 4/8/11 and complete connectivity test by 4/15/11. Progress will be reported at the weekly status meeting on 4/20/11. The servers were moved to the DMZ and the team still needs to coordinate testing the connectivity with the CHP. On 4-20-11, it was reported that CHP was not fully ready to test connectivity and that a re-test would be scheduled based on CHP and DFSP readiness. In addition, the team is still waiting on site-to-site VPN for state partners and state bar.	5-20-11

The following issues were closed during the month of April as shown below.

Issue Number	Issue Title	Resolution
39	Review the scheduled dates that various components will be available in the stress PAT environment, and identify areas where dates can be pulled in.	All of the components have been added to the Stress environment. Since the original scheduled completion date has passed, there is no opportunity to bring the date in. As such, this issue can be closed.
40	Outline the stress test strategy and identify areas to reduce risk of not completing PAT stress test by 4/29/11.	The Stress test strategy (and identifying mitigating activities) and timeline are documented in the Stress Test Plan.

Resource Management:

There are no new issues with respect to Resource Management that have not already been discussed in previous IPO/IV&V reports.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

Quality Management:

In the past couple of months, the IPO/IV&V have identified issues and documented concerns over the Deloitte Quality Assurance program and their documented CMMI Maturity Level 3 assessment. In past IPO/IV&V reports, it was identified that Deloitte was assessed as CMMI Maturity Level 3 on May 30, 2008--three years ago this month. The awarded CCMI Level 3certification was awarded by the Carnegie Mellon Software Engineering Institute (SEI), and the CMMI certification is only valid for 3-years. Because the CCMS V4 contract requires Deloitte to maintain this certification over the life of the contract, Deloitte is required to be recertified as CMMI Level 3 by the end of May 2011.

The IPO/IV&V Team recommends to the AOC that the CMMI re-certification be changed from an un-focused assessment on general Deloitte Practices (which the last assessment was), to a specific CCMS V4 product focused assessment. If possible, it would be more valuable for the AOC to contract for this assessment, instead of Deloitte, to maintain greater independence over the assessment. Recently, the AOC has just issued two requests for proposals seeking vendors for two separate engagements—one vendor to perform an independent code quality assessment of the CCMS development software and another vendor conduct an independent project focused Standard CMMI Appraisal Method for Process Improvement (SCAMPI) Appraisal of the CCMS development project. The SCAMPI review should address the IPO/IV&V Team previously reported concerns that the CMMI Status Report section of draft QA Report #9 identifies the project as in full compliance with all aspects of CMMI requiring standard processes that are followed, but the IPO/IV&V Team found instances where Deloitte's practices do not adhere with their stated processes.

Until that recertification is complete, the IPO/IV&V Team will continue to work with the CCMS PMO and Deloitte, to address the items we mentioned in the February and March 2011 IPO/IV&V reports related to risks and issues from certain sections (critical path/key timeline, project resource, and other quality improvement opportunities sections) that do not appear to be tracked through the normal risk and issues process in eRoom as well as no information on how the related on-going activities related to the concerns will be tracked or monitored. Moreover, concerns noted in the report closed as "resolved" even though they have on-going activities associated that do not fully address the closure. Additionally, the QA Report addresses issues such as scheduling and the contract and not issues associated to the software development processes as would be appropriate—in addition to reusing issue tracking numbers.

To assess the impact and significance of these items, the IPO/IV&V Team has requested the following artifacts from Deloitte in February 2011 and is waiting for the documentation. Current status for each request is shown on the following page:

✓ Evidence that process training in the integrated project management section was conducted;

While evidence of processing training above had not been provided as of April 30, 2011, the IPO/IV&V Team has been told that the information is ready to be provided.

✓ Results of internal QA audits and CM audits;

While results of internal QA audits and CM audits had not been provided as of April 30, 2011, the IPO/IV&V Team has been told that the information is ready to be provided.

✓ Baseline or master set of Requirements and Requirements Traceability; and

While this item was discussed during April and some information has been provided related to baseline Requirements and Requirements Traceability as of April 30, 2011, approximately 65 percent of the data still is outstanding— although the IPO/IV&V Team has been informed that it will be provided by May 18, 2011.

✓ Examples of how processes have changed based on the QA audits performed.

While examples of how processes have changed based on the QA audits have not been provided as of April 30, 2011, the IPO/IV&V Team has been told that the information is ready to be provided.

Quality Architecture:

Last month, the IPO/IV&V team compared the Statewide Information Management Manual (SIMM) definitions and description of an Enterprise Architecture Plan with documentation provided by AOC and found the provided documentation met the requirements for an Enterprise Architecture Plan as defined and described by SIMM Section 58. At that time, the IPO/IV&V Team strongly recommended that the AOC incorporate the MTG contract deliverable into an AOC document and "brand" it as the AOC's plan. As of April 30, 2011, the IPO/IV&V Team has not received any information to confirm if that document has been incorporated into the AOC's plan.

Configuration Management:

There are no new issues with Configuration Management that have not already been discussed in previous IPO/IV&V reports. Configuration Management for documentation is being well controlled through eRoom and JCC Web Sites that have built-in controls for Configuration Management.

However, as QA Report #9 states, "CM Audits have not recently been performed, but are being scheduled." Thus, once these CM Audits are completed, they may reveal issues or concerns related to configuration management.

<u>System Engineering Standards and Practices</u>:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no system engineering standards and practices concerns at this point in time.

<u>Requirements Identification and Traceability</u>:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports. Refer to the Testing Practices and Progress section of this report for a detailed explanation of the concerns regarding traceability.

<u>Detailed Design Review</u>:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

<u>System Development Quality and Progress</u>:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

<u>Testing Practices and Progress</u>:

On April 26, 2011, IPO/IV&V had a conference call with the PMO and Deloitte regarding the traceability of requirements to the test cases that verify the requirements. During this call, Deloitte identified that the requirements from the FFD Section 36 is being identified as the baseline requirements and these requirements have been loaded into HP Quality Center. Further, Deloitte identified that the traceability between these business requirements and the test cases is approximately 35 percent complete with a full completion date targeted for May 18, 2011. During that call, Deloitte stated that the traceability between the Units-of-Work (UOW) items and test cases was almost complete, and would be completed by April 27, 2011.

- *Requirements Traceability*: On that date, the IPO/IV&V Team accessed HP Quality Center and verified units of work to test case traceability. Additionally, the IPO/IV&V Team also verified the business requirements to test case traceability for the 35 percent portion completed to date. This traceability is based on business requirement identifiers/labels from FFD Section 36 to test cases at a higher level, not at the level of tracing each step of a business requirement to each step noted in a test case.

  While detailed requirements identification and the subsequent tracing of the detailed requirements to test cases is often performed for Federal and State IT projects using Computer Aided Software Engineering (CASE) tools (typically done when requirements are being identified), detailed requirements identification and the subsequent tracing to test cases was not done for CCMS-V4 even though

the CASE tools were available and used in other areas of the CCMS-V4 Project as noted in prior monthly IPO/IV&V reports.

Since the CCMS-V4 Project did not begin identifying requirements at a detailed level with CASE tools early in the development, the approach used to identify requirements at a higher level using requirement identifiers/labels (where each identifier/label identifies a group of related requirements) was reasonable considering the extensive effort that would be required to go back and identify requirements at a detailed level and trace each to a test case at this stage of the CCMS-V4 Project Development. Moreover, it does allow the tracing of impacted test cases whenever a requirement (in a group of requirements) changes by tracing the requirement identifier/label to the associated test cases—although all associated test cases would need to be reviewed to determine the specific test case(s) impacted.

The risk of using this approach is that it cannot be demonstrated or proven that all detailed requirements have been tested, although a sampling approach can be used and was used by the IPO/IV&V Team to achieve some unquantifiable level of confidence of the details being tested. At some point in time, the impact of these potential requirements that may have not been tested may ultimately be realized when transactions are executed by the Courts and additional defects might be discovered upon execution. While the level of PAT performed may have lowered this risk, the IPO/IV&V Team does not know the extent of ad hoc, or non-test script, testing that was performed. Thus, the successful completion of test scripts does not mitigate or lower the exposure of the Courts to this risk. At this point of near completion on the CCMS-V4 Development, the CCMS PMO should just continue to ensure that Deloitte delivers the traceability on May 18th as expected.

- *Business Requirements*: Additionally, the IPO/IV&V asked Deloitte to identify which version of the FFD was used to load the business requirements into HP Quality Center; they identified that the business requirements were from the FFD version published in January 2011. (This was reconfirmed in a separate email from Deloitte after the conference call.) Based on the IPO/IV&V review of signed eRoom Deliverable Acceptance Form that is posted in eRoom, and through discussions with the CCMS PMO, the last FFD that was accepted by the CCMS PMO was accepted on May 1, 2009. Therefore, the IPO/IV&V Team has a concern that the baseline set of business requirements that were loaded into HP Quality Center have not been accepted by the CCMS PMO and approved by designated parties. The difference between the last approved set of business requirements and the version that was published in January 2011 is unknown.

  Further, during the conference call, Deloitte stated that the process for maintaining synchronization between their requirements repository and the requirements in HP Quality Center is a manual process that is part of the Requirements Engineering process. While this is certainly one way to maintain synchronization, Deloitte's manual process is more prone to error and does not

take advantage of the existing CASE tools that the Project has that would maintain synchronization automatically. The IPO/IV&V critical area of concern in Appendix A, "*Jan11.1 Requirements Traceability*" was updated as a result of the activities occurring in April.

- *Core and External Component Testing*: In terms of PAT activities and data, during the IPO/IV&V review of HP Quality Center for business and design requirements, the IPO/IVV independently generated test defect metrics to present the defects identified during PAT. These metrics generated by the IPO/IV&V Team were consistent with the data presented by the Deloitte Team in the Monthly CCMS-V4 Development Services Status Report 46, differing slightly due to the date each metric was generated.

  Finally, the IPO/IV&V Team was recently asked by the CCMS PMO and AOC IAS to conduct certain activities on the development of external components (non-core) of the CCMS-V4 Product. Previously, only the core product was included by the AOC in Sjoberg Evashenk Consulting's scope of work. As such, the IPO/IV&V Team briefly started reviewing aspects of the non-core development activities in April. Our early observations indicate that, in contrast to the Core PAT plan, there does not appear to be a documented and agreed upon plan for the testing of the external components. If a document and agreed upon plan does not exist, the IPO/IV&V team suggests that this item be raised as an issue through the eRoom issue management process.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of April 30, 2011

Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified this month; however, two areas of concern remain open as of 4/30/11.**

- **The IPO/IV&V Team strongly believes that this project will continue to be a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Jan11.1	January 2011	Requirements Traceability	To ensure all requirements are tested, use the graphical data and results provided in this report to (1) link the "Not Covered" requirements with the existing and associated test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	While progress is being made to complete the traceability between the FFD requirements and the test cases, there is still 65 percent of business requirements that have not been traced. Further, the FFD requirements used to perform this traceability and used in testing have not been formally approved by the CCMS PMO.

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Apr10.1 (Revised)	April 2010	QA Report Metrics and CMMI Level 3 Compliance	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports. In addition, as of April 2011, we requested additional items mentioned in the QA Report to address concerns. We also recommend that the CMMI recertification be changed from an unfocused assessment on general Deloitte practices worldwide to a specific CCMS-V4 product focused assessment that is contracted for by the AOC to provide greater independence to the process.	The IPO/IV&V Team reviewed draft QA Report 9 and provided feedback in February and March 2011. In addition to other concerns raised by the IPO/IV&V Team, the draft QA Report 9 did not address the previous IPO/IV&V April 2010 recommendations. Based on conversations with the CCMS PMO, it is the IPO/IVV&V Team's understanding that some documents we have requested are available and will be provided to the IPO/IV&V Team at some point.

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IPO/IV&V Report for the CCMS-V4 Project
Status Report as of April 30, 2011

Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **No areas of concern were closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements— resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

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IPO/IV&V Report for the CCMS-V4 Project
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Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of April 30, 2011

Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice geared toward assessing and monitoring end product quality.

Periodically over the course of the CCMS-V4 Development, the IPO/IV&V Team has updated this checklist to identify approaches employed on the project, standard industry practices in use, and areas for improvement. At this point of the development, the time has passed for making wholesale changes in practice that might have an impact on quality in that the majority of the software has been built. The focus now is on operations and maintainability of the software built, and the practices employed during the project will dictate the need and/or ease of making changes during the implementation phase.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
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Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	X		AOC has provided documentation that adheres to SIMM 58 definition of an Enterprise Architecture.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	This phase of the project has not occurred		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Unknown at this time		The tool exists, but is not being used for requirements management. In addition, the IPO/IV&V Team is awaiting requirements baseline/master documentation.
Do software engineering standards exist and are they followed?		X	The CCMS-V4 project does not appear to be following any of the IEEE suite of standards known as the Software Engineering Standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	The practices do not appear to be in line with CMMI Level 3 requirements, Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. CMMI Level 3 requirements require that a defined, standard, consistent process and process measurement be followed. This would require that: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?		X	Per the contract, the code reviews should be included in the Quality Assurance Reports. Since this information is not included in the Quality Assurance Reports, the IPO/IV&V Team cannot assess whether formal code reviews are conducted. While the IPO/IV&V Team was informed that code reviews are conducted, we have not seen evidence of the reviews—such as internal QA code review checklists (with criteria) and notes/minutes from the code reviews; thus, the IPO/IV&V Team cannot verify code reviews were conducted.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	X		Yes, the CCMS Project is reflected in the Enterprise documentation and the scope is consistent with the Plan.
Are formal deliverable inspections performed, beginning with requirements specifications?		X	The IPO/IV&V Team cannot assess whether formal deliverable inspections are performed. Formal deliverable inspections include evaluating a deliverable when it is received against its requirements, which are both contractual requirements and DAD requirements. The DADs do not appear to have IEEE or other standards referenced which would also require the use of standard requirements. While there is sign-off documentation related to deliverables available, the IPO/IV&V Team has not seen evidence of any formal inspection processes such as identification of review and deliverable requirements, comments captured during inspections, and comments provided to Deloitte.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of April 30, 2011

Appendix D: IPO/IV&V Project Scorecard

For April 1, 2011 – April 30, 2011 Time Period

Process Area	NOV 2010	DEC 2010	JAN 2011	FEB 2011	MAR 2011	APR 2011	REMARKS
Communication Management	Green	Green	Green	Yellow	Yellow	Green	Day-to-day communication continues to be strong.
Schedule Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The schedule remains aggressive.
Scope Management	Green	Green	Green	Green	Green	Green	Project scope is managed and controlled through a variety of avenues.
Risk Management	Green	Green	Green	Yellow	Yellow	Yellow	The risks are reported, discussed, and managed on a weekly basis, but concerns raised in the QA Reports are not tracked as part of the process.
Issue Management	Green	Green	Green	Green	Yellow	Yellow	The issues are reported, discussed, and managed on a weekly basis, but concerns raised in the QA Reports are not tracked as part of the process.
Resource Management	Yellow	Yellow	Yellow	Green	Green	Green	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Though testing has been ongoing, the IPO/IV&V Team is still unable to draw a conclusion as to the quality of the client functionality. The primary reason for this is the incomplete traceability between requirements and test cases, irrespective of the observed defect rates.
Quality Architecture	Green	Green	Green	Green	Green	Green	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	Green	Green	Green	Green	Green	Green	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	Green	Green	Green	Green	Green	Green	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules.
Detailed Design Review	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	Green	Green	Green	Green	Green	Green	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Testing continues to be a concern.

Green – On Track
Yellow – Warning
Red – Significant Problems

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The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of May 31, 2011

SJOBERG EVASHENK
CONSULTING, INC

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
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IPO/IV&V Report for the CCMS-V4 Project
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Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of May 2011, the IPO/IV&V Team continued its primary focus on requirements traceability and followed-up on the Quality Assurance activities and reports. Specifically, we continued efforts with Deloitte and the CCMS PMO to address IPO/IV&V issues noted in prior months related to requirements traceability and approved baseline requirements. With some clarifications provided in June, our review revealed that the approved high-level baseline requirement identifiers traced to high-level test cases. This traceability provides allows the tracing of impacted test cases whenever a requirement (in a group of requirements) changes by tracing the requirement identifier/label to the associated test cases—although all associated test cases would need to be reviewed to determine the specific test case(s) impacted. Thus, our previous concerns related to traceability have been resolved.

Additionally, our analysis of differences between the approved requirements (Version 4 from March 2009) and the current requirements (Version 7) used for testing have been sufficiently reconciled. Thus, our previous concerns related to baseline requirements have been resolved.

In the past couple of months, the IPO/IV&V have identified issues and documented concerns over the Deloitte Quality Assurance program and their documented CMMI Maturity Level 3 assessment. In last month's IPO/IV&V Report, we reported that Deloitte was assessed as CMMI Maturity Level 3 on May 30, 2008 and they required re-certification to remain compliant with the CCMS-V4 contract. On April 29, 2011, Deloitte Consulting Systems Integration received a new CMMI Level 3 certificate and, therefore, remains in compliance with their CCMS-V4 contractual requirements. Thus, our previous concern related to Deloitte's re-certification has been resolved.

Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice project management and systems-engineering practices in accordance with guidelines, industry standards, and best practices related to the identification and resolution of issues, risks, items for management attention, and modification and change requests. Additionally, the continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. However, as part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

There are no new issues with communication management.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

One new risk (#56) was raised during the month of May. The risks identified below remain active as of May 31, 2011 and are based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February 2011, the IPO/IV&V Team reported that additional risks raised in the QA Reports were not being tracked and monitored through the risk process facilitated by eRoom and JCCProjects website. Some of these additional risks still are not being captured in eRoom as of May 31, 2011.

Risk Number	Risk Title	Activity Performed	Target Resolution Date
55	V3/V4 Defects	There are a large number of V3 defects that need to be resolved in V4 prior to acceptance of the Core Release. Additional staff will be applied to resolve defects. AOC has identified 818 Core V3/V4 Defects. 95 are in development, 94 are ready for closeout, 68 are pending further SME analysis. The remaining are either closed or cancelled.	6-17-11
56	Person/Entity Changes in Application	There is a potential impact of reaching 0-0-50 by the scheduled PAT start date due to Person/Entity Changes. 6 of 11 changes have been delivered to testing; 2 have been reviewed and approved by ISD. The remainder are on schedule to complete development by 5/30.	6-10-11

The following risk was closed in the month of May.

Risk Number	Risk Title	Resolution
52	Transition to External Components PAT	Core PAT has been completed and the timeframe for mitigation has passed.

Issue Management:

One new issue (#45) was opened during the month of May and the following issues remain active as of May 31, 2011. The information below is based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February 2011, the IPO/IV&V Team reported that additional issues raised in the QA Reports were not being tracked and monitored through the issue process facilitated by eRoom and JCCProjects website. Some of these additional issues still are not being captured in eRoom as of May 31, 2011.

Issue Number	Issue Title	Activity Performed	Target Resolution Date
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms.	6-24-11

Issue Number	Issue Title	Activity Performed	Target Resolution Date
42	Steps should be taken to either increase the rate of E-Filing track defect resolution or adjust project timelines to account for the greater than expected time to resolve E-Filing defects.	E-filing continues to be the most complex data exchange area. Integration testing has begun and this issue will continue to be monitored through External Components Integration Testing scheduled to complete on 5/13/11. This issue can be closed upon entry into EC PAT.	6-17-11
43	1) Confirm that IV&V is confident with the scope of testing coverage of the requirements for the V4 application, 2) Improve the traceability by getting all data into Quality Center and mapping it accordingly.	Deloitte met with IV&V to review the requirements traceability process, repository, and documents. IV&V reported findings and Deloitte is working to close the identified traceability (documentation) gaps. On 3/30/11, AOC worked with Deloitte to develop a plan to build requirements traceability into the case tool. The plan calls for complete requirements traceability to be in the case tool by the end of April 2011 and has now been revised to be May 2011. A meeting was held on 4-26-11 to review the progress of outstanding traceability items. The baseline requirements have been updated and mapped to Quality Center and there are a few remaining items that will be addressed prior to 5-18-11. Business requirements were uploaded into Quality Center and are under review.	6-3-11
45	AOC is responsible for providing a complete set of "additional 10% scripts" for External Components Integration Test and Product Acceptance Test. These scripts are due to Deloitte for review by May 18, 2011 so the scripts can be executed in the next test cycle.	As of 5/25, the team is working through the remaining 10 of 17 NFR scripts. The team is also working with the AOC to refine V2 scripts. This issue will be reviewed at the next status meeting (6/1).	6-3-11

The following issues were closed during the month of May as shown below. Issue 41 does not appear to have a resolution noted in eRoom as of May 31, 2011.

Issue Number	Issue Title	Resolution
41	Layout the steps (obstacles) to building similar/identical V4 environments in a repeatable/cookie cutter manner. 1) Ability to provision environments on demand 2) by establishing a repeatable process.	Virginia Sanders-Hinds will review off-line with Mark Moore. Virginia will provide an update on 5/4.

Issue Number	Issue Title	Resolution
44	Establish JP and tester connectivity to TEST environment.	EFSP partner connectivity was established to the TEST environment. JP connectivity was established.

Resource Management:

There are no new issues with respect to Resource Management that have not already been discussed in previous IPO/IV&V reports.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of May 31, 2011

Technical Focus Areas

Quality Management:

Over the past few months, the IPO/IV&V have identified issues and reported concerns over the Deloitte Quality Assurance program and their documented CMMI Maturity Level 3 assessment. We identified that Deloitte was assessed as CMMI Maturity Level 3 on May 30, 2008 and they required re-certification to remain compliant with the CCMS-V4 contract. On April 29, 2011, Deloitte Consulting Systems Integration received a new CMMI Level 3 certificate, shown below, and therefore remains in compliance with their CCMS-V4 contractual requirements.

However, this certification is a "Deloitte Consulting Systems Integration" company-wide non-focused assessment and not a Deloitte CCMS-V4 product specific assessment. Therefore, the IPO/IV&V Team still has concerns over the quality processes and practices being followed for the CCMS-V4 Project that has been reported during the previous months. Recently, the IPO/IV&V Team was informed that the AOC has selected a vendor to conduct a SCAMPI review on the CCMS-V4 product that will assess the processes and practices followed. Thus, our concerns would be alleviated on a go-forward basis.

Until that review is conducted and to better assess our quality concerns, the IPO/IV&V Team has requested additional artifacts from Deloitte for analysis. The status of our assessments from the data provided is discussed on the following page:

✓ Evidence that process training in the integrated project management section was conducted;

Some information has been provided, such as copies of individual self-paced training completion certificates. However, the IPO/IV&V Team will be requesting additional training plan and schedule data to assess the status of planned and completed training.

✓ Results of internal QA audits and CM audits;

The IPO/IV&V Team was provided one checklist of an audit that was performed on the Release Management Process. The checklist identifies that the audit was performed on April 15, 2011; yet all of the review dates are May 10, 2011. In addition, it is unknown who performed the audit since the Auditors Name was not filled entered in the space provided nor who participated in the audit since no names were identified in that section either. As far as the audit checklist itself, the "Items and Evidence" listed are consistent with the defined process and are therefore appropriate. However, the IPO/IV&V Team would like to obtain additional <u>completed</u> samples for review.

✓ Baseline or master set of Requirements and Requirements Traceability; and

Issues related to traceability have been addressed as discussed in more depth in the "Testing Practices and Progress" section of this report.

✓ Examples of how processes have changed based on the QA audits performed.

While the IPO/IV&V Team has been provided a list of the processes, the relationship between a QA Audit and the change made in the processes has not been shown. The IPO/IV&V Team will need access to the QA Audit(s), including recommendations, and the process documentation to verify if processes have been changed due to QA Audits or for some other reason.

<u>Quality Architecture</u>:

In April 2011, the IPO/IV&V team compared the Statewide Information Management Manual (SIMM) definitions and description of an Enterprise Architecture Plan with documentation provided by AOC and found the provided documentation met the requirements for an Enterprise Architecture Plan as defined and described by SIMM Section 58. At that time, the IPO/IV&V Team strongly recommended that the AOC incorporate the MTG contract deliverable into an AOC document and "brand" it as the AOC's plan. Since that time, there are no new issues with Quality Architecture that have not already been discussed in previous IPO/IV&V reports.

Configuration Management:

There are no new issues with Configuration Management that have not already been discussed in previous IPO/IV&V reports. Configuration Management for documentation is being well controlled through eRoom and JCC Web Sites that have built-in controls for Configuration Management.

However, as QA Report #9 states, "CM Audits have not recently been performed, but are being scheduled." Thus, once these CM Audits are completed, they may reveal issues or concerns related to configuration management.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no system engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports. Refer to the Testing Practices and Progress section of this report for a detailed explanation of our verification of traceability.

Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

Testing Practices and Progress:

During May 2011, we continued efforts with Deloitte and the CCMS PMO to address issues raised related to requirements traceability and approved baseline requirements. After some clarifying discussions in June, the IPO/IV&V concerns previously reported related to traceability and approved baseline requirements have been resolved. This traceability provides allows the tracing of impacted test cases whenever a requirement (in a group of requirements) changes by tracing the requirement identifier/label to the associated test cases—although all associated test cases would need to be reviewed to determine the specific test case(s) impacted. As part of our verification of traceability, we performed the following as described on the next page.

To independently confirm traceability between the approved baseline requirements and the most current requirements in use to test cases, we used three data sets for analysis and comparison—Version 4 approved requirements, Version 7 current requirements, and HP Quality Center data capturing Version 7 and test case traceability. On May 23, 2011, the IPO/IV&V Team received a file called "V4FFD_Section 36_submitted_v4_05172011.xlsx" that we were told contained the traceability for the current version of the CCMS-V4 requirements; this version is being called V7. However, after our analysis, we found out that we were provided the wrong file. Subsequently, on June 6, 2011, the IPO/IV&V Team was provided with a new file titled "V4FFD_Section 36_submitted_v4_Submitted February 2011_Version 7.xls" In addition, we were provided the previously approved requirement version in a file called "V4_Section 36_submitted_v4_Submitted Mar 2009_Version 4.xls"—this version is known as Version 4. For the HP Quality Center data, the IPO/IV&V has access into HP Quality Center and was able to collect the requirement data used for testing.

- ***Requirements to Test Case(s) Traceability***: The IPO/IV&V Team performed an analysis between the data documented in the Version 7 set of requirements and the requirements documented in HP Quality Center. We were able to verify that all of the high level requirement identifiers documented in the Version 7 set of requirements are also in HP Quality Center and that these requirements are associated with a high level test case identifier.

  In addition, there were some requirements classified as "non testable" or "duplicate" that would not have an associated test case. To provide some level of confidence that requirements that should have identified test case(s) did have test case(s) and those that were identified as "non-testable" or "duplicate" were actually non testable or duplicate, we sampled 50 requirements marked as "non-testable" or "duplicate" that were not associated with a test case. Our results for the set sampled identified that these requirements were appropriately classified as "non-testable" as they included non-specific requirements that were later refined and made testable in the FFD (generally, non testable requirements are broad-sweeping requirements where a test case cannot be developed for it at the top-level, but once elaborated in the FFD they are now testable at the FFD level) or were appropriately classified as "duplicate" requirements where another copy was associated to a test case.

  While we consider our previous traceability issue to be sufficiently addressed at this moment, as changes continue to be made the traceability may get out of sync unless steps are taken and a process is employed to maintain synchronization between the current version of requirements and associated test cases.

  Moreover, since the CCMS-V4 Project did not identify requirements at a detailed level early in the development, the approach used to identify requirements at a higher level using requirement identifiers/labels (where each identifier/label identifies a group of related requirements) was reasonable considering the extensive effort that would be required to go back and identify requirements at a detailed level and trace each to a test case at this stage of the CCMS-V4 Project

Development. However, the risk with this approach is that it cannot be demonstrated or proven that all detailed requirements have been tested.

- *Business Requirements*: In prior months, the IPO/IV&V Team reported a concern that the baseline set of business requirements that were loaded into HP Quality Center, known as Version 7, may not have been accepted by the CCMS PMO and approved by designated parties. The difference between the last approved set of business requirements, known as Version 4, and Version 7 currently in use is shown below. The approved Version 4 identifies a total of 3,396 requirements, while Version 7 identifies 3,666 requirements—for a difference of 270.

Requirement Change	Count
Deleted from Approved Version	0
Un-Changed	3,396
New to V7 Version	270

However, the IPO/IV&V Team was provided Deloitte Contract Amendment 94, the IPO/IV&V Team was provided documentation showing the requirements added between Version 4 and Version 7 appear to have been incorporated into requirements through an approved contract amendment. Specifically, the IPO/IV&V team was able to reconcile the 270 new requirements to the Deloitte Contract CCMS Agreement 1004701 Amendment 94 ExB4-59-03.pdf showing a series of Alternate Dispute Resolution (ADR) that were approved through the contract process. While the IPO/IV&V Team had identified six ADR requirements that were listed in the contract amendment but not included in Version 7, the CCMS PMO stated that these requirements were not meant to be incorporated into Version 7. As noted in the contract amendment, the six requirements were classified as "out of scope", and thus were not intended to be part of the approved requirements—rather, the table in the contract amendment listed all possible ADR requirements with their ultimate disposition of included in scope or not in scope. Thus, the IPO/IV&V Team will close this area of concern in Appendix A, "*Jan11.1 Requirements Traceability*".

- *External Component Testing*: Because of the time consumed trying to resolve traceability and baseline requirement issues, there was limited work performed on external component testing. Our early observation from last month noted that, in contrast to the Core PAT plan, there did not appear to be a documented final agreed-upon plan for the testing of the external components. We were recently informed that the agreed upon plan was finalized, and a copy of the External Component Product Acceptance Test Plan, version 1.4, April 22nd, 2011 was provided to us on June 9, 2011. The IPO/IV&V Team will review this plan and other external component areas in more depth in June 2011.

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Status Report as of May 31, 2011

Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified this month; however, one area of concern remains partially open as of 5/31/11.**

- **Additionally, the IPO/IV&V Team strongly believes that this project will continue to be a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Apr10.1 (Revised)	April 2010	QA Report Metrics and CMMI Level 3 Compliance	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports.	It does not appear that the IPO/IV&V Team feedback on QA Report 9 in February & March 2011 will be addressed since the report is not revised.
			In addition, as of April 2011, we requested additional items mentioned in the QA Report to address concerns.	In May 2011, the IPO/IV&V Team was provided some items requested that partially resolved our concerns. Additional documentation will be requested in other areas to review Deloitte's processes until the SCAMPI review is completed.
			We also recommend that the CMMI recertification be changed from an unfocused assessment on general Deloitte practices to a specific CCMS-V4 product focused assessment contracted for by the AOC.	The AOC has issued an RFP for an outside vendor to conduct a CCMS-V4 product focused assessment (SCAMPI review); thus, our concerns have been addressed.

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Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **One area of concern was closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.
Jan11.1	January 2011	May 2011	Requirements Traceability	Ensure all baseline requirements are approved and trace to an applicable test case. Suggested methods to achieve traceability included: 1) link the "Not Covered" requirements with existing test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	Deloitte Consulting Provided a high-level requirements identifier traceability matrix between the approved baseline (version 4), current requirement used in testing (Version 7), and applicable high-level test case identifiers. Additionally, the IPO/IV&V Team was provided with Deloitte contract amendment 94 showing approved ADR requirements that documented the approved changes between Version 4 and Version 7 of the requirements.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of May 31, 2011

Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice geared toward assessing and monitoring end product quality.

Periodically over the course of the CCMS-V4 Development, the IPO/IV&V Team has updated this checklist to identify approaches employed on the project, standard industry practices in use, and areas for improvement. At this point of the development, the time has passed for making wholesale changes in practice that might have an impact on quality in that the majority of the software has been built. The focus now is on operations and maintainability of the software built, and the practices employed during the project will dictate the need and/or ease of making changes during the implementation phase.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of May 31, 2011

Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	X		AOC has provided documentation that adheres to SIMM 58 definition of an Enterprise Architecture.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	This phase of the project has not occurred		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Partial Use		The tool exists, but is not being used for requirements management. However, the IPO/IV&V Team recently received documentation showing traceability with high level requirements identifiers.
Do software engineering standards exist and are they followed?		X	Although not a contract requirement for Deloitte, the CCMS-V4 Project does not appear to be following several of the IEEE suite of standards known as the Software Engineering Standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. However, certain practices employed on the CCMS-V4 Project do not appear to be in line with CMMI Level 3 requirements that require that a defined, standard, consistent process and process measurement be followed including: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant. However, the AOC has recently contracted for an independent SCAMPI review that will assess CMMI compliance.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?		X	Per the contract, the code reviews should be included in the Quality Assurance Reports. Since this information is not included in the Quality Assurance Reports, the IPO/IV&V Team cannot assess whether formal code reviews are conducted. While the IPO/IV&V Team was informed that code reviews are conducted, we have not seen evidence of the reviews—such as internal QA code review checklists (with criteria) and notes/minutes from the code reviews; thus, the IPO/IV&V Team cannot verify code reviews were conducted. However, the IPO/IV&V Team was informed that evidence of such reviews will be made available on July 8, 2011.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	X		Yes, the CCMS Project is reflected in the Enterprise documentation and the scope is consistent with the Plan.
Are formal deliverable inspections performed, beginning with requirements specifications?		X	While there are deliverable reviews conducted and sign-off documentation related to deliverables available, the IPO/IV&V Team cannot assess whether **formal** deliverable inspections are performed. Formal deliverable inspections include a documented process for evaluating a deliverable when it is received against its requirements, which are both contractual requirements and DAD requirements. The DADs do not appear to have IEEE or other standards referenced which would also require the use of standard requirements. Recently, the IPO/IV&V Team was provided an example of an FFD review conducted. While a detailed content review was performed, the steps employed do not represent a **formal** inspection processes that—in addition to content review—starts with a written process for evaluating deliverables against the DAD, distributing deliverable for review (and to whom), checklist of comments on how deliverable provided complies with DAD, and resolution of any comments provided to Deloitte during inspection.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of May 31, 2011

Appendix D: IPO/IV&V Project Scorecard

For May 1, 2011 – May 31, 2011 Time Period

Process Area	DEC 2010	JAN 2011	FEB 2011	MAR 2011	APR 2011	MAY 2011	REMARKS
Communication Management	🟢	🟢	🟡	🟡	🟢	🟢	Day-to-day communication continues to be strong.
Schedule Management	🟡	🟡	🟡	🟡	🟡	🟡	The schedule remains aggressive.
Scope Management	🟢	🟢	🟢	🟢	🟢	🟢	Project scope is managed and controlled through a variety of avenues.
Risk Management	🟢	🟢	🟡	🟡	🟡	🟡	The risks are reported, discussed, and managed on a weekly basis, but concerns raised in the QA Reports are not tracked as part of the process.
Issue Management	🟢	🟢	🟢	🟡	🟡	🟡	The issues are reported, discussed, and managed on a weekly basis, but concerns raised in the QA Reports are not tracked as part of the process.
Resource Management	🟡	🟡	🟢	🟢	🟢	🟢	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	🟡	🟡	🟡	🟡	🟡	🟡	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	🟡	🟡	🟡	🟡	🟡	🟡	Though testing has been ongoing, the IPO/IV&V Team is still unable to draw a conclusion as to the quality of the client functionality. The primary reason for this is the incomplete traceability between requirements and test cases, irrespective of the observed defect rates.
Quality Architecture	🟢	🟢	🟢	🟢	🟢	🟢	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	🟢	🟢	🟢	🟢	🟢	🟢	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	🟢	🟢	🟢	🟢	🟢	🟢	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	🟡	🟡	🟡	🟡	🟡	🟡	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules.
Detailed Design Review	🟡	🟡	🟡	🟡	🟡	🟡	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	🟢	🟢	🟢	🟢	🟢	🟢	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	🟡	🟡	🟡	🟡	🟡	🟡	Testing continues to be a concern—focus now is on external components.

🟢 🟡 🔴

Green – On Track
Yellow – Warning
Red – Significant Problems

▲ ▼jobe

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of June 30, 2011

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Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of June 30, 2011

Table of Contents

Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of June 2011, the IPO/IV&V Team focused on planning documentation for External Components.

1. *External Components Product Acceptance Plan*:

   Based on the IPO/IV&V Team's review of the CCMS-V4 Development *External Components Product Acceptance Test (EC PAT) Plan*, *Version 1.4*, dated *April 22nd, 2011,* the Plan was complete with respect to resources, scheduling, environments, script usage/development, processes, data, and defects. Additionally, the IPO/IV&V Team believes the provision allowing the AOC/Courts to submit and execute (up to) 10% additional new test scripts is of great value to the project as they should be scripts that have not been executed before. Moreover, we were informed that AOC/Court testers are performing "ad hoc" testing deviating from test scripts (or not using a test script at all) to find defects that might not otherwise be discovered (such as entering incorrect data to see how the system behaves)—practices that are of great value to the quality of the CCMS-V4 product. If Severity Level 1 defects are identified, they are logged and are required to be corrected Severity Level 1 defects must be remediated prior to completion of EC PAT. Also, per Amendment 105 of the Contract Exhibit C4.59.01, Revision 2 (Deliverable Acceptance Criteria), Endnote C (ii), Severity Level 2 and 3 defects will be "marked for resolution under a separate change order at no charge to the AOC."

2. *Other External Component (EC) Documentation*:

   In addition to the EC PAT Plan, the IPO/IV&V Team requested a variety of documentation on June 28, 2011 as shown below. We anticipate receiving and analyzing the documents during July 2011. Specifically, we requested the following:

✓ Copies of PRB reports & other project reports to evaluate project reporting

✓ Configuration Management Plan (if separate from core) & all procedures referenced in Plan to evaluate processes and tools used by the Project to identify code versions and verify system configurations as well as copies of all QA Audit reports released to Configuration Management

✓ CVS log files, CVS folder structure, CVS usage standard, Build Procedures & build logs generated to assess whether source and object repositories are maintained.

✓ Access to conference calls for change control and Change Management Plan (if separate from the core change mgmt plan) and Change Tracking Logs (multiple over time such as 1-month intervals) to evaluate processes and tools used to manage system changes.

✓ List of software metrics, copies of the metrics used, and knowledge of how they are built to assess use of software metrics in quality assurance.

✓ Confirmation that plans in eRoom for EC requirements, stress, integration, and PAT are the most current versions for our assessment of testing.

✓ Test plans and procedures for each of the interfaces (or combined, if applicable) to assess whether interfaces are tested "end-to-end" with the production platform.

✓ Access to code to pull a sample as well as the coding standard and any test scripts exist that test error handling.

✓ Samples of test error logs over time to verify that test errors found in testing are tracked, logged, and resolved.

✓ Data conversion plan and procedures to evaluate data conversion practices.

✓ Training plans, procedures, and documentation provided to users for review.

✓ Overall implementation plan, individual early adopter court implementation plans, plan for installing core system and customizable specific components

✓ Deployment plan

As of June 30, 2011, the IPO/IV&V Team has received the last 5 months of PRB reports and access to the weekly Dev Tracker change control meetings. Additionally, we were informed that both CCMS PMO and Deloitte are gathering the other documents we requested.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of June 30, 2011

Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice project management and systems-engineering practices in accordance with guidelines, industry standards, and best practices related to areas of identification and resolution of issues, risks, items for management attention, and modification and change requests. Additionally, the continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. However, as part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

There are no new issues with communication management.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

The information in this section is based on a review of documentation contained within eRoom and the JCCProjects website.

Previously in February 2011, the IPO/IV&V Team reported that additional risks raised in the QA Reports were not being tracked and monitored through the risk process facilitated by eRoom; however, these additional issues have now been appropriately captured in eRoom.

No new risks were raised during the month of June, and the following risks (shown on the next page) were closed in the month of June. As of June 30, 2011, there are no active risks in eRoom.

Risk Number	Risk Title	Resolution
55	V3/V4 Defects	There were a large number of V3 defects that need to be resolved in V4 prior to acceptance of the Core Release. All defects have now been addressed.
56	Person/Entity Changes in Application	There was a potential impact of not reaching 0-0-50 by the scheduled PAT start date due to Person/Entity Changes. 11 of 11 have now been delivered and they have been approved by ISD.

Issue Management:

The information in this section is based on a review of documentation contained within eRoom and the JCCProjects website. Since February 2011, the IPO/IV&V Team reported that additional issues raised in the QA Reports were not being tracked and monitored through the issue process facilitated by eRoom; however, as of June 30, 2011, these additional issues have now been appropriately captured in eRoom.

Additionally, ten new issues were opened during the month of June and remain active as of June 30, 2011, along with one other issue (Issue #33).

Issue Number	Issue Title	Activity Performed	Target Resolution Date
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms. This issue has been moved to the contract negotiation process.	7-29-11
51	Day in the Life scenario(s) and activities are needed for External Components PAT Execution.	A plan was created, reviewed, and comments incorporated. The plan is out for final review.	7-8-11
53	Justice Partner Strategy, Schedule, Test Plan, and Resources must be finalized for EC PAT execution.	A draft Justice Partner Testing Plan was completed and reviewed by John McNamara and Art Rodriguez to coordinate schedule and resources. The only item remaining is to schedule the resources.	7-8-11
55	An operations procedure deliverable is required for PAT Exit.	Review sessions will be scheduled with SAIC once the SAIC SME for Adobe and BOXI is available.	7-29-11
56	Tibco PortalBuilder is a required part of the V4 infrastructure and has not yet been deployed.	Deployment is owned by the Deloitte Infrastructure team.	8-1-11
57	Inbound and Outbound utilities for CCTC (network CCTC automation) are needed for EC PAT execution.	The utilities are being finalized.	7-22-11

Issue Number	Issue Title	Activity Performed	Target Resolution Date
58	All necessary deliverables need to be updated and outstanding conditions closed in order to exit EC PAT.	Deloitte has addressed the outstanding conditions and the deliverables are with AOC for review.	8-26-11
63	Additional memory is required for stress test activities.	Bruce Scheffel provided the amount of memory requested and part numbers on 6-1-11. The memory will arrive by 7-1-11 to SAIC, the mezzanines will arrive by 7-5-11 or 7-6-11, and activity is expected to be complete by 7-5-11 or 7-6-11.	7-6-11
64	Deep dive meetings into Data Scrubs will be scheduled before the week-ending 6/24.	Bob Steiner and David Corral reviewed the data scrubs analysis for San Diego and Orange. Most of the issues are agreed upon. A review will occur with appropriate Court PMs and the Deloitte team is following up on few action items as well as performing an analysis of CCTC data scrubs.	7-8-11
67	A follow up meeting is needed with the Interpreter Management representatives to make sure they do not have any additional issues/concerns.	PAT activities have taken temporary priority and the team is planning for this activity with the meeting to take place during the week of July 4th.	7-8-11
68	Mandatory fields analysis for Justice Partner Testing must involve architecture team regarding SOA.	Kevin McCarter will have Omer Enaam incorporate the Architecture Team into the process and will confirm on 7-6-11.	7-8-11

The following issues were opened and closed during the month of June as shown below.

Issue Number	Issue Title	Resolution
46	Deloitte and AOC need to determine and agree to a plan to testing Interpreter Management changes.	An approach has been agreed to and the team is working to the schedule (with IM DW testing occurring from July 5 - 15).
47	EFSP Documentation needs to be updated.	Information provided for e-filing web services validation appears to be complete. No other documentation gaps have been identified.
48	Court Policy File changes need to be approved by DEV tracker and the file needs to be updated.	The court policy file changes were approved in Dev Tracker, and the updated file was delivered to the AOC on 6-8-11.
49	Mandatory fields related to DXs and involvement with Justice Partners.	All 10 DXs impacted by mandatory fields were addressed prior to 6-8-11.
50	ISB testing needs to occur.	Deloitte has confirmed that negative testing was performed during string test and that there is no risk to PAT entrance.
52	Onsite support from Deloitte for courts testing outside of Santa Ana area is required.	Deloitte will support court testing in locations identified by the AOC.

Issue Number	Issue Title	Resolution
54	EC Testing, overall readiness for PAT, communication to testers from management, tester schedules/vacations, quality of scripts – This mainly pertains to the e-filing and e-service scripts, XML validation approach – Clarify approach, process for prepping inbound XML, process for XML response, throughput of test scripts – Do we have enough people to execute all scripts	All items have been addressed and the team is proceeding with PAT execution.
59	Support resources and project management resources are required for justice partners.	Resources have been identified for support and project management activities for justice partners.
60	How did Deloitte execute/pass some of the scripts when SMEs could not?	Specific examples must be provided via appropriate channels.
61	There was a general question over the "quality" of scripts, particularly e-filing and e-service scripts. The questions were over whether stub testing or actual testing with Justice Partners was required.	The Test Plan calls for stub testing as Justice Partners are not ready for actual testing. There will be future opportunities to test this directly with Justice Partners in the future.
62	Need a single point of contact for project management from the AOC with regards to the integrated project plan that is updated daily.	Sean Yingling is the single POC from the AOC for this issue.
65	User ID password reset process needs to be defined for EC PAT.	All users have unique IDs and passwords.
66	Provide a list of all incidents logged during Core Testing with their documented dispositions and maintain that list in the Integrated eRoom for reference.	A complete list was uploaded to the Integrated eRoom on 6-15-11.

Previously in May 2011, the IPO/IV&V Team reported that Issue 41 did not appear to have a resolution noted in eRoom; however, this item has since been corrected.

The following issues were closed during the month of June as shown below.

Issue Number	Issue Title	Resolution
42	Steps should be taken to either increase the rate of E-Filing track defect resolution or adjust project timelines to account for the greater than expected time to resolve E-Filing defects.	E-filing continues to be the most complex data exchange area. Integration testing has begun and this issue will continue to be monitored through External Components Integration Testing scheduled to complete on 5/13/11. It was agreed that this issue would be closed upon entry into EC PAT.

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Issue Number	Issue Title	Resolution
43	1) Confirm that IV&V is confident with the scope of testing coverage of the requirements for the V4 application, 2) Improve the traceability by getting all data into Quality Center and mapping it accordingly.	The baseline requirements have been updated and mapped to Quality Center and confirmed to be complete.
45	AOC is responsible for providing a complete set of "additional 10% scripts" for External Components Integration Test and Product Acceptance Test. These scripts are due to Deloitte for review by May 18, 2011 so the scripts can be executed in the next test cycle.	The scripts were uploaded to Quality Center and reviewed.

Resource Management:

There are no new issues with respect to Resource Management that have not already been discussed in previous IPO/IV&V reports.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

Quality Management:

The SCAMPI team has started their review on the CCMS-V4 product processes and practices followed. Until that review is conducted and to better assess quality concerns that the IPO/IV&V Team has reported in previous reports, the IPO/IV&V Team requested additional artifacts from Deloitte. The status of our requested data is discussed below:

✓ Evidence that process training in the integrated project management section was conducted;

While some information has been provided, such as copies of individual self-paced training completion certificates, the data provided give little confidence that Deloitte CCMS-V4 process training is being conducted. Thus, the IPO/IV&V Team has requested the following:

- *Training plan and schedule data to assess the status of planned versus actual training.*

✓ Results of internal QA audits and CM audits;

While some information has been provided, such as one checklist of an audit that was performed on the Release Management Process, we cannot identify who performed or participated in the audit nor the specific steps or results noted. Thus, the IPO/IV&V Team has requested the following:

- *Additional completed samples of audits for further review.*

✓ Examples of how processes have changed based on the QA audits performed.

While some information has been provided, such as a list of the processes, the data provided gives little indication of the relationship between a QA Audit and the change made to specific processes. Thus, the IPO/IV&V Team has requested the following:

- *QA Audit(s), including recommendations, and the process documentation to verify if processes have been changed due to QA Audits or for some other reason.*

Quality Architecture:

There are no new issues with Quality Architecture that have not already been discussed in previous IPO/IV&V reports.

Configuration Management:

There are no new issues with Configuration Management that have not already been discussed in previous IPO/IV&V reports. Configuration Management for documentation is being well controlled through eRoom and JCC Web Sites that have built-in controls for Configuration Management.

However, as QA Report #9 states, "CM Audits have not recently been performed, but are being scheduled." Thus, once these CM Audits are completed, they may reveal issues or concerns related to configuration management.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no system engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and previous IPO/IV&V reports.

Testing Practices and Progress:

During June 2011, the IPO/IV&V Team reviewed the CCMS-V4 Development *External Components Product Acceptance Test Plan*, *Version 1.4*, dated *April 22nd, 2011*. Overall, the Plan was complete with respect to resources, scheduling, environments, script usage/development, processes, data, and defects.

Currently, the test scripts being used by the PAT Test Team are predominately test scripts that have already been executed once before by Deloitte and passed their execution of the scripts—although the AOC/Courts can submit up to 10% additional scripts for Deloitte review, acceptance, and incorporation into the PAT Test Script suite. Currently, the PAT Testers will use the same Deloitte developed test scripts that have passed testing once to verify that the PAT Testers get the same results—the IPO/IV&V Team agrees that there is precedence for re-running the test scripts based on the results of initial Core Testing and that this is a good practice for the CCMS-V4 project. Additionally, the IPO/IV&V Team believes the provision allowing the AOC/Courts to submit and execute (up to) 10% additional new test scripts is of great value to the project as they should be scripts that have not been executed before. These defects are counted and considered as part of meeting the 0-0-50 EC PAT exit criteria according to contract language. Also, Section 5 of the ECP PAT Plan states the following:

- *"All defects discovered in the CCMS-V4 External Components Software Product using approved PAT scripts and the portion of the additional 10% of scripts available for the External Components release are included in the calculation used to define the number of outstanding defects for evaluating the CCMS-V4 External Components Software Product against its Acceptance Criteria defined in section 3.4 of the Development Agreement. Defects not associated with an approved test script or the portion of the 10% available for the External Components release may be logged during the PAT period but do not factor into the PAT exit criteria."*

Moreover, the CCMS PMO informed the IPO/IV&V Team that AOC/Court testers are performing "ad hoc" testing deviating from test scripts (or not using a test script at all) to find defects that might not otherwise be discovered (such as entering incorrect data to see how the system behaves)—practices that are of great value to the quality of the CCMS-V4 product and any issues noted can be used to improve the overall quality of the CCMS-V4 Product. While the EC Plan does not have a specific provision for "ad hoc" testing by users, the CCMS PMO informed us that the EC testers received direction to perform "ad hoc" testing such as entering incorrect data and seeing how the system reacts.

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If incidents are identified, they are logged and marked as "off script." The IPO/IV&V Team reviewed a listing showing 259 off-script defects noted—of which 221 related to Core PAT and 38 were generated from EC PAT. According to the CCMS PMO, 105 of these incidences currently remain open. Per Amendment 105 of the Contract Exhibit C4.59.01, Revision 2 (Deliverable Acceptance Criteria) Endnote C (i and ii), ad hoc incidents are not included in the calculation for outstanding defects against the EC PAT exit criteria of 0-0-50; moreover, Severity Level 1 defects must be remediated prior to completion of EC PAT and Severity Level 2 and Level 3 defects will be marked for resolution under a separate change order at no charge to the AOC.

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Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified this month; however, one area of concern remains partially open as of 6/30/11.**

- **Additionally, the IPO/IV&V Team strongly believes that this project will continue to be a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Item Number	Date Area of Concern Opened	Area of Concern	Recommendation	Current Status
Apr10.1 (Revised)	April 2010	QA Report Metrics and CMMI Level 3 Compliance	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports.	It does not appear that the IPO/IV&V Team feedback on QA Report 9 in February & March 2011 will be addressed since the report is not revised.
			In addition, as of April 2011, we requested additional items mentioned in the QA Report to address concerns.	In June 2011, the IPO/IV&V Team was provided some items requested that partially resolved our concerns. Additional documentation was requested for further review.
			We also recommend that the CMMI recertification be changed from an unfocused assessment on general Deloitte practices to a specific CCMS-V4 product focused assessment contracted for by the AOC.	The AOC has contracted with an outside vendor to conduct a CCMS-V4 product focused assessment; work began on the SCAMPI review in June 2011. Thus, our concerns have been addressed.

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Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **No areas of concern were closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget will be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.
Jan11.1	January 2011	May 2011	Requirements Traceability	Ensure all baseline requirements are approved and trace to an applicable test case. Suggested methods to achieve traceability included: 1) link the "Not Covered" requirements with existing test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	Deloitte Consulting Provided a high-level requirements identifier traceability matrix between the approved baseline (version 4), current requirement used in testing (Version 7), and applicable high-level test case identifiers. Additionally, the IPO/IV&V Team was provided with Deloitte contract amendment 94 showing approved ADR requirements that documented the approved changes between Version 4 and Version 7 of the requirements.

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Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice geared toward assessing and monitoring end product quality.

Periodically over the course of the CCMS-V4 Development, the IPO/IV&V Team has updated this checklist to identify approaches employed on the project, standard industry practices in use, and areas for improvement. At this point of the development, the time has passed for making wholesale changes in practice that might have an impact on quality in that the majority of the software has been built. The focus now is on operations and maintainability of the software built, and the practices employed during the project will dictate the need and/or ease of making changes during the implementation phase.

Moreover, the AOC has hired a firm to conduct a SCAMPI appraisal and provide an independent opinion about quality and appropriateness of the processes used to create the software as well as an assessment of the quality, consistency and maintainability of the software itself. To support that effort, the AOC also contracted with a separate independent firm to perform the following tasks:

- ✓ Review a sample of project artifacts to determine their internal consistency and assess their quality with respect to best practices for a project of this size and complexity

- ✓ Randomly select artifacts, including requirements, design documents; sections of code and test scripts and conduct a traceability assessment and quality review

- ✓ Conduct non-random reviews of system components and supporting artifacts suggested by analysis of code and data about the effort to date, including but not limited to: reported fault density, change management history, cyclomatic complexity, call frequency, the results of the separately contracted SCAMPI appraisal, and other mechanisms to be determined by the contractor

- ✓ Use existing acceptance test scripts as a point of departure for the exploratory testing of CCMS, creating defect reports to document any defects identified

Both of these reviews are underway and will address many of the areas in the following checklist. Results of these reviews should be available by the end of August 2011.

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Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff is allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	X		AOC has provided documentation that adheres to SIMM 58 definition of an Enterprise Architecture.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	This phase of the project has not occurred		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

| Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Partial Use		The tool exists, but is not being used for requirements management. However, the IPO/IV&V Team recently received documentation showing traceability with high level requirements identifiers.
Do software engineering standards exist and are they followed?		X	Although not a contract requirement for Deloitte, the CCMS-V4 Project does not appear to be following several of the IEEE suite of standards known as the Software Engineering Standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. However, certain practices employed on the CCMS-V4 Project do not appear to be in line with CMMI Level 3 requirements that require that a defined, standard, consistent process and process measurement be followed including: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant. However, the AOC has recently contracted for an independent SCAMPI review that will assess CMMI compliance.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?		X	Per the contract, the code reviews should be included in the Quality Assurance Reports. Since this information is not included in the Quality Assurance Reports, the IPO/IV&V Team cannot assess whether formal code reviews are conducted. While the IPO/IV&V Team was informed that code reviews are conducted, we have not seen evidence of the reviews—such as internal QA code review checklists (with criteria) and notes/minutes from the code reviews; thus, the IPO/IV&V Team cannot verify code reviews were conducted as of June 30, 2011.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project. Refer to various IPO/IV&V issues raised in 2010 and 2011 monthly reports.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	X		Yes, the CCMS Project is reflected in the Enterprise documentation and the scope is consistent with the Plan.
Are formal deliverable inspections performed, beginning with requirements specifications?		X	While there are deliverable reviews conducted and sign-off documentation related to deliverables available, the IPO/IV&V Team cannot assess whether **formal** deliverable inspections are performed. Formal deliverable inspections include a documented process for evaluating a deliverable when it is received against its requirements, which are both contractual requirements and DAD requirements. The DADs do not appear to have IEEE or other standards referenced which would also require the use of standard requirements. Recently, the IPO/IV&V Team was provided an example of an FFD review conducted. While a detailed content review was performed, the steps employed do not represent a **formal** inspection processes that—in addition to content review—starts with a written process for evaluating deliverables against the DAD, distributing deliverable for review (and to whom), checklist of comments on how deliverable provided complies with DAD, and resolution of any comments provided to Deloitte during inspection. IPO/IV&V will meet with ISD and other staff in July 2011 to review more examples.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks for CCMS-V4 product development; AOC is in the process of contracting for two separate vendors to provide IPO and IV&V services on the CCMS-V4 deployment.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

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Appendix D: IPO/IV&V Project Scorecard

For June 1, 2011 – June 30, 2011 Time Period

Process Area	JAN 2011	FEB 2011	MAR 2011	APR 2011	MAY 2011	JUN 2011	REMARKS
Communication Management	🟢	🟡	🟡	🟢	🟢	🟢	Day-to-day communication continues to be strong.
Schedule Management	🟡	🟡	🟡	🟡	🟡	🟡	The schedule remains aggressive.
Scope Management	🟢	🟢	🟢	🟢	🟢	🟢	Project scope is managed and controlled through a variety of avenues.
Risk Management	🟢	🟡	🟡	🟡	🟡	🟢	The risks are reported, discussed, and managed on a weekly basis.
Issue Management	🟢	🟢	🟡	🟡	🟡	🟢	The issues are reported, discussed, and managed on a weekly basis.
Resource Management	🟡	🟢	🟢	🟢	🟢	🟢	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	🟡	🟡	🟡	🟡	🟡	🟡	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	🟡	🟡	🟡	🟡	🟡	🟡	Though the IPO/IV&V Team was unable to draw a conclusion as to the quality of the client functionality because traceability between requirements and test cases was only at high-level identifiers, the CCMS PMO has accepted the product as meeting Core PAT exit criteria.
Quality Architecture	🟢	🟢	🟢	🟢	🟢	🟢	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	🟢	🟢	🟢	🟢	🟢	🟢	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	🟢	🟢	🟢	🟢	🟢	🟢	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	🟡	🟡	🟡	🟡	🟡	🟡	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules at the detailed step level.
Detailed Design Review	🟡	🟡	🟡	🟡	🟡	🟡	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	🟢	🟢	🟢	🟢	🟢	🟢	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	🟡	🟡	🟡	🟡	🟡	🟡	Testing continues to be a concern—focus now is on external components.

🟢 **Green** – On Track
🟡 **Yellow – Warning**
🔴 **Red – Significant Problems**

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of July 31, 2011

SJOBERG ✴ EVASHENK
CONSULTING, INC

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of July 31, 2011

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Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed.

Our monthly IPO/IV&V reports are intended to capture and assess current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices, as well as that potential risk/issues are known by decision makers at a specific point in time; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of July 2011, the IPO/IV&V Team focused on External Components testing and pre-deployment activities such as training and implementation plans. Last month, the IPO/IV&V Team requested many documents and data from the CCMS PMO and Deloitte Consulting—all the documents were provided to us in July along with verbal discussions where needed. Generally, we found many good practices being employed related to risk identification and management, configuration management, and test execution. For instance:

- ✓ Risks and related action items related to completing CCMS-V4 development in August 2011 are being diligently monitored and discussed during the weekly project management team meetings. During these meetings, the CCMS-V4 development team thoroughly discusses items and assigns action item owners—issues are analyzed, addressed, and discussed at subsequent project management meetings.

- ✓ Overall, the approach used for Change Control is very common in industry and follows currently executed industry best practices.

- ✓ In addition to participating in the Change Control meetings, the IPO/IV&V Team reviewed the current Configuration Management Plan, Version 8, dated 5/17/2011, and found that it is an acceptable approach when combined with other related project plans.

- ✓ Additionally, the CCMS-V4 Development Team seems to be doing a good job staying on or ahead of schedule with External Component Testing. As potential defects and/or errors are noted, the Deloitte/CCMS-PMO/Court team is appropriately researching, analyzing, and suggesting ideas for remediation as needed.

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Other processes, such as those related to quality management seem to follow industry practices, but execution of related code review checklists for those we reviewed are incomplete and raise potential issues for the IPO/IV&V Team regarding reasons for the incompleteness that could include inadequate training of the reviewers using the checklist and insufficient quality reviews of the checklists when completed. Although all items on the quality checklists should have been completed to remove question or doubt as to items not marked, the quality of the product is in the process of being reviewed by an external firm contracted by the AOC. Results of that evaluation are expected in August 2011. Further, the CCMS-V4 PMO provided us additional artifacts in August 2011 surrounding the code review process that we will review and comment on in the August 2011 IPO/IV&V report. Thus, the IPO/IV&V Team does not have any recommendations for the CCMS-V4 PMO at this time.

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Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice project management and systems-engineering practices in accordance with guidelines, industry standards, and best practices related to areas of identification and resolution of issues, risks, items for management attention, and modification and change requests. Additionally, the continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. However, as part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

There are no new issues with respect to communication management that have not already been discussed in previous IPO/IV&V reports. Communication during weekly project management team calls seems to be effective with action items tracked, monitored, and followed-up on as needed.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

It appears that adequate risk management practices are being employed by Deloitte that includes risk identification, risk mitigation, risk communication, risk tracking, and risk closure during the weekly project management meetings. Also, based on the IPO/IV&V Team's review of documentation contained within eRoom and the JCCProjects website, four new risks were identified during the month of July and remain active as of July 31, 2011.

Risk Number	Risk Title	Progress
57	Stress Test Activities	The Stress Test environment availability has impacted the already compressed timeframe to conduct stress/performance testing. The mitigation is to compress more activities into a shorter period.

Risk Number	Risk Title	Progress
58	JBSIS Reports	There is a short duration of time to review and remediate the JBSIS report issues. The mitigation is to apply additional resources.
59	Justice Partner Testing Defects	The number of defects arising from JP Testing is unknown. This risk will be monitored.
60	High Availability (Session Replication)[1]	The project team needs to prove session replication with the V4 system/architecture. The mitigation is to perform this in the PAT or Stress environments.

The following risks were closed during the month of July.

Issue Number	Issue Title	Resolution
55	V3/V4 Defects	All defects have been addressed.
56	Person/Entity Changes in Application	All have been delivered and approved by ISD.

Additionally, the IPO/IV&V Team noted that risks and related action items related to completing CCMS-V4 development in August 2011 are being diligently monitored and discussed during the weekly project management team meetings. During these meetings, we heard the CCMS-V4 development team thoroughly discussing items and assigning action item owners—issues are analyzed, addressed, and discussed at subsequent project management meetings.

Issue Management:

It appears that adequate issue management practices are being employed by Deloitte that includes issue identification, issue mitigation, issue communication, issue tracking, and issue closure during the weekly project management meetings. Also, based on the IPO/IV&V Team's review of documentation contained within eRoom and the JCCProjects website, the following issues remain active as of July 31, 2011.

Issue Number	Issue Title	Activity Performed	Target Resolution Date

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[1] Per the CCMS-V4 PMO, high availability (HA) means that there are two servers in a configuration for redundancy. The HA servers are configured to run as active/active. This means that the paired redundant servers will balance the load at 50% each when at full capacity. In an active/active server configuration a failure of one of the paired redundant servers has no noticeable impact to the users on the failed server as sessions are replicated on both paired servers for high availability. The issue is end user experience. V4 will work without session replication, but on V3 there is no session replication and users have to login when an application server fails.

Issue Number	Issue Title	Activity Performed	Target Resolution Date
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms. This issue has been moved to the contract negotiation process.	8-26-11
55	An operations procedure deliverable is required for PAT Exit.	Review sessions will be scheduled with SAIC once the SAIC SME for Adobe and BOXI is available.	8-19-11
64	Deep dive meetings into Data Scrubs will be scheduled before the week-ending 6/24.	215 items require additional information.	8-20-11
69	Review of the Court Policy File was requested	The updated version went into PAT on 7-25-11	8-12-11
70	Oracle RAC behavior is inconsistent	Oracle will distribute an official recommendation	8-5-11

The following issues were closed during the month of July.

Issue Number	Issue Title	Resolution
51	Day in the Life scenario(s) and activities are needed for External Components PAT Execution.	Comments were approved.
53	Justice Partner Strategy, Schedule, Test Plan, and Resources must be finalized for EC PAT execution.	Resources have been identified and scheduled.
56	Tibco PortalBuilder is a required part of the V4 infrastructure and has not yet been deployed.	Deployment will occur and is owned by the Deloitte Infrastructure team.
57	Inbound and Outbound utilities for CCTC (network CCTC automation) are needed for EC PAT execution.	*IPO/IV&V Team Comment: Although this item was closed by Deloitte, no resolution is noted for this issue in eRoom.*
58	All necessary deliverables need to be updated and outstanding conditions closed in order to exit EC PAT.	Deloitte has addressed the outstanding conditions and the deliverables are with AOC for review. *IPO/IV&V Team Comment: Although this item was closed by Deloitte, the resolution does not state whether the AOC accepted the deliverables in eRoom.*
63	Additional memory is required for stress test activities.	The memory was installed.
67	A follow up meeting is needed with the Interpreter Management representatives to make sure they do not have any additional issues/concerns.	Action items and analysis of CCTC data scrubs was completed.

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Issue Number	Issue Title	Resolution
68	Mandatory fields analysis for Justice Partner Testing must involve architecture team regarding SOA.	The Architecture Team will be included in the process.
71	Stress Test Memory	The memory was installed.

Resource Management:

There are no new issues with respect to Resource Management that have not already been discussed in previous IPO/IV&V reports. Weekly project management meetings regularly discuss resources and impacts on schedule, deadlines, and quality.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

Quality Management:
During July, the IPO/IV&V Team reviewed the CCMS-V4 Project Design and Coding Standards document, Version 1.1. While we initially reviewed this document in 2008, it was used again in our review of the now completed Development Code Review Checklists—a quality check to verify compliance with the approved Design and Coding Standard. Yet, based on our review of a sample of code review checklists as discussed below, the IPO/IV&V Team cannot make a good assessment of the adherence of the designs and source code to the CCMS-V4 Design and Coding Standard because the checklists were not consistently or correctly completed. As a result, there is the potential for poor designs, code that use inefficient algorithms, code that may be more difficult to maintain, or unnecessary impacts to memory and performance. In August 2011, the IPO/IV&V Team received additional information and artifacts related to the code review process that we will review and comment on in the August 2011 IPO/IV&V Report.

- However, using the only information made available to us in July 2011, the IPO/IV&V Team received a sample of twelve (12) completed Code Review Checklists to review and assess. Our initial review focused on the checklist template content, primarily the template Item/Descriptions that provide directions on what to review and how to assess it, against the requirements defined in the Design and Coding Standard. The majority of content of the checklists template directly relates to the Design and Coding Standard requirements; a few checklist items are beyond the requirements defined in the Design and Coding Standard but may have been added to improve specific quality issues.

  The Design and Coding Standard is explicit on programming constructs that should be avoided due to their potential to waste memory space, decrease performance, and decrease readability which would reduce maintainability; the

Development Code Review Checklists Item/Descriptions identifies the critical Standard requirements. Then, we reviewed the completed checklists to assess completeness and consistency of the reviewer's findings, comments, and use of the checklist template/form.

- When we reviewed the completed checklists, there was a noticeable difference between the reviewers who performed the review. While some reviewers were thorough and completed all sections (including marking items as not applicable as the template provides and allows), other were not as thorough such as leaving sections of the checklist blank and not dating the checklist items among other incomplete areas. A more thorough quality review of the completed checklists by the CCMS-V4 Project Team would have revealed these inconsistencies. Therefore, while the checklists appropriately map to the approved Design and Coding Standard, the reviewer's completion of the checklists when reviewing design and code artifacts against the checklist requirements was incomplete in several instances.

- Thus, based on the review of the code review checklist artifacts, the potential implication is that some of the design and coding artifacts (code structure and coding statements) may not comply with the approved Design and Coding Standard; and therefore, the source code may use programming features that were identified as restricted to limited use, be difficult to read due to the lack of comments, use un-necessarily complex programming statement, as well as possess minor performance and excessive memory usage problems due to the programming constructs used—namely the potential types of problems the Design and Coding Standard was attempting to minimize or eliminate. The Design and Coding Standard is explicit on programming constructs that should be avoided due to their potential to waste memory space, decrease performance, and decrease readability that can impact overall performance and maintainability.

Given that the CCMS-V4 development is nearing completion, the IPO/IV&V Team has no recommendations to make since it is impractical to go back and re-review all of the designs and code. In August 2011, the IPO/IV&V Team was provided additional artifacts related to the code review process that will be reviewed and commented on in the August 2011 IPO/IV&V Report. Moreover, the AOC has contracted with an external firm to conduct a quality review of the CCMS-V4 product that should address any issues related to poor designs, code that may be more difficult to maintain, or other potential performance issues. That review is expected to be completed in August 2011.

Further, in another area related to quality management, the IPO/IV&V Team has reported concerns related to the QA Report in its previous monthly IPO/IV&V Report. While we were provided additional information and have unresolved items, the IPO/IV&V Team has closed the previous issue since the CCMS-V4 work related to those findings has already been completed. Since the CCMS-V4 development is nearly complete and the CCMS-PMO is aware of the IPO/IV&V findings as well as the long term impacts of

those findings from previous reports and discussions, it is impractical to continue to report on these issues.

Quality Architecture:

There are no new issues with Quality Architecture that have not already been discussed in previous IPO/IV&V reports.

Configuration Management:

Overall, the approach used for Change Control is very common in industry and follows currently executed industry best practices. A major aspect of Configuration Management is Change Control, which is a process of controlling (approving, rejecting, or some other pending action) changes to the baseline configuration of the CCMS software. During July 2011, the IPO/IV&V Team listened in on several of the Change Control meetings with the PMO and Deloitte. Our assessment of these meetings is that they were planned and executed in accordance with industry best practices. For each change presented, the change was identified by number, described, related back to a baseline/formally approved requirement, as well as the scope and impact of the change was discussed and both the PMO and Deloitte identified their initial assessment of whether a change should be classified as a defect, enhancement, out-of-scope, or other factor. Then, additional discussion was held on several of the changes to attempt to reach a resolution; where a resolution was reached, that resolution was documented. For those changes where an agreement could not be reached, additional data was identified that needed to be reviewed and the resolution was appropriately postponed until more analysis/information was available.

In addition to participating in the Change Control meetings, the IPO/IV&V Team reviewed the current Configuration Management Plan, Version 8, dated 5/17/2011, and found that it is an acceptable approach when combined with other related project plans. For instance, while the Plan does not strictly adhere to the requirements for a Configuration Management Plan as defined by IEEE Standard 828-2005, IEEE Standard for Software Configuration Management Plans, this document coupled with other documents such as the Project Management Plan/Configuration Management Plan/Modification and Change Request Process, Version 11, does address the intent of the IEEE Standard. The V4 Configuration Management Plan is strictly focused on identifying and verifying, through reviews and audits, the configuration of the items delivered, hardware and software. It does not address the management of changes to the configuration items, with is identified in the IEEE Standard as part of a Configuration Management Plan. The V4 Project chose to separate the plans, which is an acceptable approach as our review identified that the plans are consistent with each other.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no *system* engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and previous IPO/IV&V reports.

Testing Practices and Progress:

During July 2011, the IPO/IV&V Team reviewed several External Components Plans for completeness and alignment with industry standards and best practices, as well as actual testing practices. We found the following:

- ✓ Specifically, the IPO/IV&V Team reviewed the CCMS-V4 Portal & Stress Test Plan, Version 2.4, the CCMS-V4 External Components Integration Test Plan, Version 3.0, and the External Components Product Acceptance Test Plan. We found that all of the Plans are similar in structure and content with the corresponding Core test plans.

- ✓ From and IPO/IV&V perspective, processes defined and documented for test development, execution, data strategy, defect management, roles and responsibilities, reports, and establishment of entry and exit criteria all follow the same practices that were defined and executed for the testing of the core product. Thus, we have similar comments on these External Component Test Plans as we have reported during our review of the Core Test Plans such as such as the test script strategy, regression testing, and test case to requirements traceability. However, during the IPO/IV&V review of these External Component Test Plans, no significant issues were identified that warrant being reported now that testing is nearing completion.

- ✓ Additionally, the CCMS-V4 Development Team seems to be doing a good job staying on or ahead of schedule with External Component Testing. As potential defects are noted, the Deloitte/CCMS-PMO/Court team is appropriately researching, analyzing, and suggesting ideas for remediation as needed. Although there are certain areas of concern raised by the team related to the data warehouse and JBSIS reporting, these issues are being tracked and extra resources are being allocated according to discussions and agreements in weekly project management meetings.

✓ In terms of defects handling during testing, we found that "defects" are appropriately tracked, logged, and resolved in HP Quality Center. Specifically, the use of HP Quality Center by the PAT Team and their recording of identified defects directly into the tool alleviated a large number of the IPO/IV&V concerns with respect to defects during PAT. Once logged in HP Quality Center, the defects can be traced through their lifecycle until resolved.

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Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified this month; however, one area of concern was closed during July 2011 and memorialized in Appendix B.**

- **Additionally, the IPO/IV&V Team strongly believes that the CCMS-V4 Development project is a high risk project due to the constraints imposed by the budget, schedule, and resources.**

Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **One area of concern was closed this month.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.
Jan11.1	January 2011	May 2011	Requirements Traceability	Ensure all baseline requirements are approved and trace to an applicable test case. Suggested methods to achieve traceability included: 1) link the "Not Covered" requirements with existing test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	Deloitte Consulting Provided a high-level requirements identifier traceability matrix between the approved baseline (version 4), current requirement used in testing (Version 7), and applicable high-level test case identifiers. Additionally, the IPO/IV&V Team was provided with Deloitte contract amendment 94 showing approved ADR requirements that documented the approved changes between Version 4 and Version 7 of the requirements.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr10.1 (Revised)	April 2010	July 2011	QA Report Metrics and CMMI Level 3 Compliance	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports. In addition, as of April 2011, we requested additional items mentioned in the QA Report to address concerns. We also recommend that the CMMI recertification be changed from an unfocused assessment on general Deloitte practices to a specific CCMS-V4 product focused assessment contracted for by the AOC.	It does not appear that the IPO/IV&V Team feedback on QA Report 9 in February & March 2011 will be addressed since the report is not revised. Also, in July 2011, the IPO/IV&V Team was provided some items requested that partially resolved our concerns. Additional data was requested and received for further review. While not all of IPO/IV&V Team concerns were addressed, we are closing the item since the CCMS-PMO is aware of our concerns and long term impacts of our findings— moreover, the opportunity to take corrective action has passed. Moreover, the AOC has contracted with an outside vendor to conduct a CCMS-V4 product focused assessment; work began on the SCAMPI review in June 2011. Thus, our concerns have been addressed.

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Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice geared toward assessing and monitoring end product quality.

Periodically over the course of the CCMS-V4 Development, the IPO/IV&V Team has updated this checklist to identify approaches employed on the project, standard industry practices in use, and areas for improvement. At this point of the development, the time has passed for making wholesale changes in practice that might have an impact on quality in that the majority of the software has been built. The focus now is on operations and maintainability of the software built, and the practices employed during the project will dictate the need and/or ease of making changes during the implementation phase.

Moreover, the AOC has hired a firm to conduct a SCAMPI appraisal and provide an independent opinion about quality and appropriateness of the processes used to create the software as well as an assessment of the quality, consistency and maintainability of the software itself. To support that effort, the AOC also contracted with a separate independent firm to perform the following tasks:

- ✓ Review a sample of project artifacts to determine their internal consistency and assess their quality with respect to best practices for a project of this size and complexity

- ✓ Randomly select artifacts, including requirements, design documents; sections of code and test scripts and conduct a traceability assessment and quality review

- ✓ Conduct non-random reviews of system components and supporting artifacts suggested by analysis of code and data about the effort to date, including but not limited to: reported fault density, change management history, cyclomatic complexity, call frequency, the results of the separately contracted SCAMPI appraisal, and other mechanisms to be determined by the contractor

- ✓ Use existing acceptance test scripts as a point of departure for the exploratory testing of CCMS, creating defect reports to document any defects identified

Both of these reviews are underway and will address many of the areas in the following checklist. Results of these reviews should be available by the end of August 2011.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of July 31, 2011

Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of July 31, 2011

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	X		AOC has provided documentation that adheres to SIMM 58 definition of an Enterprise Architecture.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	This phase of the project has not occurred		Project Closeout activities are planned to occur and we will evaluate and comment whether the planned activities occurred at the project closeout.

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Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Partial Use		The tool exists, but is not being used for requirements management. However, the IPO/IV&V Team recently received documentation showing traceability with high level requirements identifiers.
Do software engineering standards exist and are they followed?		X	Although not a contract requirement for Deloitte, the CCMS-V4 Project does not appear to be following several of the IEEE suite of standards known as the Software Engineering Standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. However, certain practices employed on the CCMS-V4 Project do not appear to be in line with CMMI Level 3 requirements that require that a defined, standard, consistent process and process measurement be followed including: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant. However, the AOC has recently contracted for an independent SCAMPI review that will assess CMMI compliance.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

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Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?		X	Per the contract, the code reviews should be included in the Quality Assurance Reports. Since this information is not included in the Quality Assurance Reports, the IPO/IV&V Team cannot assess whether formal code reviews are conducted. In July 2011, the IPO/IV&V Team received and reviewed a sample of 12 checklists used during code review. In our review, we found that the checklists were not consistently completed with some leaving entire sections of the checklist blank, even though the checklist included a "not applicable" column to annotate if the term does not apply to the code being reviewed. While some checklists were completed, the IPO/IV&V Team cannot state that the formal code reviews are in practice due to the gap between "formal code reviews" and incomplete and inconsistent checklists.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project. Refer to various IPO/IV&V issues raised in 2010 and 2011 monthly reports.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	X		Yes, the CCMS Project is reflected in the Enterprise documentation and the scope is consistent with the Plan.
Are formal deliverable inspections performed, beginning with requirements specifications?		X	While there are deliverable reviews conducted and sign-off documentation related to deliverables available, the IPO/IV&V Team cannot assess whether **formal** deliverable inspections are performed. Formal deliverable inspections include a documented process for evaluating a deliverable when it is received against its requirements, which are both contractual requirements and DAD requirements. The DADs do not appear to have IEEE or other standards referenced which would also require the use of standard requirements. Recently, the IPO/IV&V Team was provided an example of an FFD review conducted. While a detailed content review was performed, the steps employed do not represent a **formal** inspection processes that—in addition to content review—starts with a written process for evaluating deliverables against the DAD, distributing deliverable for review (and to whom), checklist of comments on how deliverable provided complies with DAD, and resolution of any comments provided to Deloitte during inspection. IPO/IV&V will meet with ISD and other staff in July 2011 to review more examples.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks for CCMS-V4 product development; AOC is in the process of contracting for two separate vendors to provide IPO and IV&V services on the CCMS-V4 deployment.

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IPO/IV&V Report for the CCMS-V4 Project
Status Report as of July 31, 2011

Appendix D: IPO/IV&V Project Scorecard

For July 1, 2011 – July 31, 2011 Time Period

Process Area	FEB 2011	MAR 2011	APR 2011	MAY 2011	JUN 2011	JUL 2011	REMARKS
Communication Management	Yellow	Yellow	Green	Green	Green	Green	Day-to-day communication continues to be strong.
Schedule Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The schedule remains aggressive.
Scope Management	Green	Green	Green	Green	Green	Green	Project scope is managed and controlled through a variety of avenues.
Risk Management	Yellow	Yellow	Yellow	Yellow	Green	Green	The risks are reported, discussed, and managed on a weekly basis.
Issue Management	Green	Yellow	Yellow	Yellow	Green	Green	The issues are reported, discussed, and managed on a weekly basis.
Resource Management	Green	Green	Green	Green	Green	Green	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	Yellow	Yellow	Yellow	Yellow	Green	Green	Though the IPO/IV&V Team was unable to draw a conclusion as to the quality of the client functionality due to incomplete traceability between requirements and test cases at a detailed level,. The AOC has hired an external firm to review quality, and the team has signed off that PAT exit has been met.
Quality Architecture	Green	Green	Green	Green	Green	Green	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	Green	Green	Green	Green	Green	Green	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	Green	Green	Green	Green	Green	Green	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules and due to the traceability being done at such a high level.
Detailed Design Review	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	Green	Green	Green	Green	Green	Green	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Testing continues to be a concern—focus now is on external components.

Green – On Track
Yellow – Warning
Red – Significant Problems

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Status Report as of August 31, 2011

SJOBERG ❋ EVASHENK
CONSULTING, INC

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of August 31, 2011

Table of Contents

Executive Summary

Realizing the importance of independent oversight for high criticality technology projects, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System (CCMS-V4) product currently in development. Working under the oversight of the AOC Internal Audit Services, our objectives are to monitor the activities, deliverables, milestones, deadlines, and design of the CCMS-V4 project and communicate status, progress, issues, and challenges to the success of the project as designed. Through monthly report, the IPO/IV&V Team captures and assesses current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned are followed and adhere to industry guidelines, standards and best practices; thus, the monthly items reported are in-flux, continually evolving, and will change over the course of the project.

Period Highlights:

During the month of August 2011, the IPO/IV&V Team finalized its activities in the Quality Management and Testing Practices technical areas. Our observations are highlighted below:

✓ A suite of automated tools are being used to verify that the code conforms to the Project's Design and Coding Standard. We reviewed the outputs from the tools, reports, defect logs, and metrics and found these tools to be extremely valuable, providing significant improvements in providing complete and consistent reviews and verifying the adherence of the code to the Standard. Thus, the IPO/IV&V Team has no open issues or concerns.

✓ Additionally, the IPO/IV&V Team found there was consistency between the designs documented in the Development Packages and the actual designs of the source code. This consistency will improve the overall maintainability and modifiability of the source code, which will be important when the system is deployed.

✓ The AOC-contracted SCAMPI Appraisal focused on the software development processes and practices used for the CCMS-V4 Project rated some process areas as satisfied, but noted the Maturity Level 3 was not achieved. The SCAMPI Appraisal is consistent with issues that have been identified in monthly IPO/IV&V reports.

✓ While no additional testing assessments were made by the IPO/IV&V Team during August 2011, EC PAT was completed with 0-0-13 defect results meeting the required 0-0-50 exit criteria. With agreement to move JBSIS reports outside the EC PAT area, the CCMS-V4 Project Team continues to diligently test, track defects, monitor progress, and communicate status. Thus, there are no IPO/IV&V recommendations.

Given that the CCMS-V4 Development is nearly complete and this is the last monthly IPO/IV&V report, the IPO/IV&V Team does not have any recommendations for the CCMS PMO. A final close-out report will be prepared by the IPO/IV&V Team summarizing issues, activities, and results in the related IPO/IV&V focus area. It is anticipated that the report will be available for review in October 2011.

Attachment 5
IPO/IV&V Report for the CCMS-V4 Project
Status Report as of August 31, 2011

Detailed Observations, Impact, and Recommendations

The CCMS PMO staff, AOC staff, individual court staff, and Deloitte Consulting continue to practice project management and systems-engineering practices in accordance with guidelines, industry standards, and best practices related to areas of identification and resolution of issues, risks, items for management attention, and modification and change requests. Additionally, the continued diligence employed by the CCMS PMO staff, AOC staff, Court staff, and Deloitte Consulting in addressing issues and following its established project management processes specific to the CCMS V4 project has been consistent. However, as part of our continued IPO/IV&V efforts, we offer the following observations and areas of concern related to various project management and system/software development technical areas.

Project Oversight Focus Areas

Communication Management:

There are no new issues with respect to communication management that have not already been discussed in previous IPO/IV&V reports. Communication during weekly project management team calls seems to be effective with action items tracked, monitored, and followed-up on as needed.

Schedule Management:

The schedule is published in the Weekly CCMS-V4 Development Services Status Report and the project team appears to be tracking according to the schedule.

Scope Management:

Scope management items raised by the CCMS-V4 Project Team are being actively managed through eRoom.

Risk Management:

It appears that adequate risk management practices are being employed by Deloitte that includes risk identification, risk mitigation, risk communication, risk tracking, and risk closure during the weekly project management meetings. Also, based on the IPO/IV&V Team's review of documentation contained within eRoom and the JCCProjects website, three new risks were identified during the month of August and the following risks remain active as of August 31, 2011.

Risk Number	Risk Title	Progress
57	Stress Test Activities	Activities are being compressed into a shorter time period.
58	JBSIS Reports	Effort has been focused with the Court, OCR, and Deloitte to validate the 920 measures.

Risk Number	Risk Title	Progress
59	Justice Partner Testing Defects	The number of defects arising from JP Testing is unknown. This risk will be monitored.
62	PAT 0-0-50	Applying necessary testing and development resources.
63	JP Testing Defects	This risk is being monitored.
64	SWRDW-Non JBSIS	Applying necessary testing and development resources

The following risks were closed during the month of August.

Issue Number	Issue Title	Resolution
60	High Availability (Session Replication)1	Failover test was successful proving session replication and that this is no longer a risk.
61	High Availability	Finalized the approach for functional validation of session replication and testing session replication.

Additionally, the IPO/IV&V Team noted that risks and related action items related to completing CCMS-V4 development in August 2011 are being diligently monitored and discussed during the weekly project management team meetings. During these meetings, we heard the CCMS-V4 development team thoroughly discussing items and assigning action item owners—issues are analyzed, addressed, and discussed at subsequent project management meetings.

Issue Management:

It appears that adequate issue management practices are being employed by Deloitte that includes issue identification, issue mitigation, issue communication, issue tracking, and issue closure during the weekly project management meetings. Also, based on the IPO/IV&V Team's review of documentation contained within eRoom and the JCCProjects website, the following issues remain active as of August 31, 2011. While initial target resolution dates had passed when the IPO/IV&V Team initially reviewed the issue list on August 31, 2011, the dates were subsequently updated in eRoom with the appropriate dates.

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[1] Per the CCMS-V4 PMO, high availability (HA) means that there are two servers in a configuration for redundancy. The HA servers are configured to run as active/active. This means that the paired redundant servers will balance the load at 50% each when at full capacity. In an active/active server configuration a failure of one of the paired redundant servers has no noticeable impact to the users on the failed server as sessions are replicated on both paired servers for high availability. The issue is end user experience. V4 will work without session replication, but on V3 there is no session replication and users have to login when an application server fails.

Issue Number	Issue Title	Activity Performed	Target Resolution Date
33	At least one Non-Functional Requirement (NFR) has not been detailed, related to conversion of 250 local forms and reports that were developed for V2/V3 counties. The AOC is currently documenting a list of impacted forms/reports.	Deloitte is currently reviewing the 250 local forms/reports to confirm which already exist in V4. Kevin McCarter will provide a level of effort estimate to migrate the reports and redesign/rebuild the forms. This issue has been moved to the contract negotiation process.	9-30-11
55	An operations procedure deliverable is required for PAT Exit.	Deloitte will incorporate the AOC comments and return.	9-30-11
73	There is a need to determine how to validate monitoring hooks and the level of effort required to hook up monitoring tools to the CCTC	The level of effort is pending confirmation.	10-14-11

The following issues were closed during the month of August.

Issue Number	Issue Title	Resolution
64	Deep dive meetings into Data Scrubs will be scheduled before the week-ending 6/24.	All items received by 7-29-11 were completed.
69	Review of the Court Policy File was requested	Scope and format were agreed to and development is proceeding
70	Oracle RAC behavior is inconsistent	Memory upgrade addressed the problem, and no further issues have been noted.
72	Additional memory is needed for stress environment to complete stress test activities.	Diagnostics were completed and the memory is stable.

Resource Management:

There are no new issues with respect to Resource Management that have not already been discussed in previous IPO/IV&V reports. Weekly project management meetings regularly discuss resources and impacts on schedule, deadlines, and quality.

Cost Management:

There are no new issues with respect to Cost Management that have not already been discussed in previous IPO/IV&V reports.

Technical Focus Areas

__Quality Management__:
In prior months, the IPO/IV&V Team reviewed the CCMS-V4 Project Design and Coding Standards document, Version 1.1 as well as completed Development Code Review Checklists, which are the Quality Checklists used to verify compliance with the Design and Coding Standard.

1. Code Adherence to Standard:

   In early August, we were informed that the Development Code Review Checklists were no longer being used; instead, a suite of automated tools, JCART, Fortify, and a code comment utility, are being used to verify all code conforms to the Standard. We reviewed the outputs from the tools, reports and metrics in August and found these tools to be extremely valuable allowing significant improvements to the completeness, consistency, and adherence of the code to the Standard. Thus, the IPO/IV&V Team has no open issues or concerns with respect to the code adhering to the Coding Standard. Specific results from our analysis are presented below:

   - The use of automated tools to enforce quality significantly improved the quality reviews of all code within CCMS. The previous Checklists were incomplete and the objective assessments dependent of the individual performing the review. By automating the quality reviews with tools that generate reports and metrics, the overall completeness, consistency and adherence of the code to the Standard is significantly improved. In addition, the suite of tools is run for every build, which helps to ensure that the changes made between builds conform to the Standard.

   - The JCART tool ensures that code is error free from various types of coding errors, such as null pointer errors, as well as static code issues. JCART generates three different types of reports that identify the source code file (Package, Class Name, and Method), where in the file the error was identified (starting and ending line numbers), the type and severity of the error, the Coding Standard rule that is violated, and the assigned Quality Manager to resolve the error.

     All defects generated by the tool are logged and tracked until the corrective action is verified. Implemented in a build, and no longer appears in the JCART report. The use of this tool is a significant improvement over the manual subjective Checklist approach.

   - The Fortify tool is primarily used to verify that the code is free of known security vulnerabilities, which are also identified in the Coding Standard. Two Fortify Reports were reviewed that were both related to the Portal functionality, the application, and the framework.

The reports identify the error, the Standard practice violated, the consequences, the severity, defect log number, and additional comments. Since the defects are logged into the defect tracking system, all identified defects are tracked until the corrective action has been implemented. Like all of the other tools, this tool is run for all builds.

- The Code Comment utility reviews all of the code as assesses if the documented number of comments included in the source code is sufficient and in adherence to the Coding Standard. While the direct output from the tool was not provided, metrics associated with different builds were provided as well as the defect tracking log that identifies the Developer, Defect ID, if corrective action was performed, who verified the corrective action, and comments.

2. Code Consistency/Maintainability/Modifiability:

Additionally, the IPO/IV&V Team also reviewed the Development Packages and the consistency between the Development Packages and the source code and found there was consistency, which will help improve the overall maintainability and modifiability of the source code. Specifically, the primary focus in our review was to assess if the designs documented in the Development Packages are consistent with the developed code which we were provided. As such, we concentrated on the architectural designs described in the Packages, not the code specifications. (In concept, our focus is similar to comparing the architectural design of a house to the actual house built, but not the details of the wiring, plumbing, and foundation aspects.)

This assessment was performed to help assess the maintainability and modifiability of the code and the ability to identify what software functions (Methods) are in which code files (Packages and Classes), so the maintainers and developers can identify the areas that need to be accessed to correct a defect or to make enhancements/customizations. Overall, the results of our analysis identified that the Development Packages were consistent with the code that we have on file. While we acknowledge that the detailed code may have changed from the version we were provided, the design or architectural aspects of the code that we have were consistent with the current Development Packages.

3. Independent Process Review:

On August 30, 2011, the AOC received final version of an Appraisal Report, version 1.1, from the independent firm contracted to conduct a Standard CMMI Appraisal Method for Process Improvement (SCAMPI) assessment on the CCMS-V4 development. This SCAMPI Appraisal was different than the assessment Deloitte is required to perform under the CCMS contract to maintain a SEI CMMI Level 3 rating.

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IPO/IV&V Report for the CCMS-V4 Project
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The Deloitte SCAMPI Appraisal is a non-focused assessment and considers the Deloitte software development processes used for a variety of Deloitte projects, including their Federal Security and Department of Defense projects that have very specific software development constraints. The AOC contracted SCAMPI Appraisal was a focused assessment on the software development processes and practices used for the CCMS-V4 Project. Overall, the Appraisal Report states "Some of the Process Areas have been rated as Satisfied, but the Maturity Level 3 was not achieved."

For instance, the Global areas identified as "Satisfied", for both Level 3 and Level 2, are as follows:

1. Organizational Training (Level 3)
2. Organizational Process Definition + IPPD (Level 3)
3. Organizational Process Focus (Level 3)
4. Project Planning (Level 2)

However, the primary Level 3 Global areas that were identified as "Not Satisfied" are as follows:

1. Decision Analysis and Resolution
2. Risk Management
3. Integrated Project Management + IPPD
4. Validation (related to internal validation SEC's IV&V efforts were not assessed)
5. Verification (related to internal verification; SEC's IV&V efforts were not assessed)
6. Product Integration
7. Technical Solution
8. Requirements Development

In addition, a number of Level 2 Global areas were identified as "Not Satisfied" including the following:
1. Configuration Management
2. Process and Product Quality Assurance
3. Measurement and Analysis
4. Project Monitoring and Control, and Requirements Management

From SEC's IPO/IV&V perspective, the AOC SCAMPI Appraisal is consistent with issues that have been identified throughout the IPO/IV&V contracted effort.

Quality Architecture:

There are no new issues with Quality Architecture that have not already been discussed in previous IPO/IV&V reports.

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Configuration Management:

There are no new issues with Quality Architecture that have not already been discussed in previous IPO/IV&V reports.

System Engineering Standards and Practices:

Since Deloitte Consulting appears to be following currently accepted systems engineering standards and practices, even as defined in IEEE Standard 1220, there are no *system* engineering standards and practices concerns at this point in time.

Requirements Identification and Traceability:

There are no new issues with Requirements Identification and Traceability that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

Detailed Design Review:

There are no new issues with the Detailed Design Review that have not already been discussed in other sections of this Report and in previous IPO/IV&V reports.

System Development Quality and Progress:

There are no new issues with the System Development Quality and Progress that have not already been discussed in other sections of this Report and previous IPO/IV&V reports.

Testing Practices and Progress:

During August 2011, no additional testing assessments were made by the IPO/IV&V Team. PAT ended in August 2011 with 0-0-13 defect results, thus meeting the required 0-0-50 exit criteria. With full governance buy-in, the JBSIS reporting piece was moved outside the external component PAT area. However, the CCMS-V4 Project Team continues to diligently test requirements, track defects, monitor progress, and communicate status. Thus, there are no IPO/IV&V recommendations to make in this area.

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Appendix A: Matrix of Areas of Concern (Open)

The matrix below provides a current listing of all open areas of concern, our recommendations, and the action taken by the CCMS-V4 Project Team. As items are resolved, they will be moved to Appendix B. Key statistics are summarized below:

- **There were no new areas of concern identified during August 2011, and no areas that remain open or outstanding. Moreover, since CCMS-V4 development is nearly complete and this is the final IPO/IV&V monthly report, there will be no future areas of concern reported.**

Appendix B: Matrix of Areas of Concern (Closed)

The matrix below provides a matrix of all closed areas of concern, our recommendations, and the action taken to resolve the issues by the CCMS-V4 Project Team. Key statistics are summarized below:

- **There were no areas of concern closed during August 2011, and no areas that remain open or outstanding. Since the CCMS-V4 development is nearly complete and this is the final IPO/IV&V monthly report, there will be no future areas of concern to be tracked and/or closed.**

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

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Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.
Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.
Jan11.1	January 2011	May 2011	Requirements Traceability	Ensure all baseline requirements are approved and trace to an applicable test case. Suggested methods to achieve traceability included: 1) link the "Not Covered" requirements with existing test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	Deloitte Consulting Provided a high-level requirements identifier traceability matrix between the approved baseline (version 4), current requirement used in testing (Version 7), and applicable high-level test case identifiers. Additionally, the IPO/IV&V Team was provided with Deloitte contract amendment 94 showing approved ADR requirements that documented the approved changes between Version 4 and Version 7 of the requirements.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Apr10.1 (Revised)	April 2010	July 2011	QA Report Metrics and CMMI Level 3 Compliance	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports. In addition, as of April 2011, we requested additional items mentioned in the QA Report to address concerns. We also recommend that the CMMI recertification be changed from an unfocused assessment on general Deloitte practices to a specific CCMS-V4 product focused assessment contracted for by the AOC.	It does not appear that the IPO/IV&V Team feedback on QA Report 9 in February & March 2011 will be addressed since the report is not revised. Also, in July 2011, the IPO/IV&V Team was provided some items requested that partially resolved our concerns. Additional data was requested and received for further review. While not all of IPO/IV&V Team concerns were addressed, we are closing the item since the CCMS-PMO is aware of our concerns and long term impacts of our findings—moreover, the opportunity to take corrective action has passed. Moreover, the AOC has contracted with an outside vendor to conduct a CCMS-V4 product focused assessment; work began on the SCAMPI review in June 2011. Thus, our concerns have been addressed.

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Appendix C: Project Oversight Review Checklist

To assist us in determining whether the CCMS-V4 project is on track to be completed within the estimated schedule and cost, the Project Oversight Review Checklist is used to identify and quantify any issues and risks affecting these project components. At the onset of the project in 2007, this checklist was used in the State of California Executive Branch System as a best practice geared toward assessing and monitoring end product quality.

Periodically over the course of the CCMS-V4 Development, the IPO/IV&V Team has updated this checklist to identify approaches employed on the project, standard industry practices in use, and areas for improvement. With the CCMS-V4 Development nearly complete, the time has passed for making wholesale changes in practice that might have an impact on quality in that the majority of the software has been built. The focus now is on operations and maintainability of the software built, and the practices employed during the project will dictate the need and/or ease of making changes during the implementation phase.

Moreover, the AOC hired a firm to conduct a SCAMPI appraisal and provide an independent opinion about quality and appropriateness of the processes used to create the software as well as hired a separate firm to conduct an assessment of the quality, consistency and maintainability of the software. Both of those reviews were completed and made available August 30, 2011, and address many of the areas in the following checklist. For instance, results from the SCAMPI review indicate some of the process areas reviewed have been rated as satisfied, but the Maturity Level 3 was not achieved.

- ✓ For instance, there were global areas identified as satisfied related to organizational training, organizational process definition, organizational process focus, and project planning.

- ✓ However, other global areas were identified as not satisfied in areas including, but not limited to, decision analysis and resolution, risk management, integrated project management, configuration management, process and product quality assurance, measurement and analysis, and requirements development.

- ✓ From SEC's perspective, the SCAMPI appraisal results are consistent with IPO/IV&V findings over the course of development.

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Project Oversight Review Checklist

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Have the business case, project goals, objectives, expected outcomes, key stakeholders, and sponsor(s) identified and documented?	X		The business case has been finalized. The project goals, objectives, and expected outcomes are documented in the Deloitte Consulting Statement of Work. The key stakeholders and sponsors are identified and documented in the Project Management Plan for CCMS-V4.
Has a detailed project plan with all activities (tasks), milestones, dates, and estimated hours by task loaded into project management (PM) software? Are the lowest level tasks of a short duration with measurable outcomes?	X		The project plan that has been approved is loaded into Microsoft Project, updated weekly, and reported weekly.
Is completion of planned tasks recorded within the PM software?	X		Completion of milestones is tracked within Microsoft Project.
Are actual hours expended by task recorded at least monthly within PM software?		X	Actual hours for Deloitte Consulting staff are tracked weekly within Playbook Navigator, but are not shared with the AOC as this is a fixed price development contract. The AOC has historically not tracked this information.
Are estimated hours to complete by task recorded at least monthly within PM software?		X	Estimated hours to complete for Deloitte Consulting staff are tracked weekly, but are not shared with the AOC as this is a fixed-price development contract. Any deviations occurring to planned dates are discussed weekly.
Is there a formal staffing plan, including a current organization chart, written roles and responsibilities, plans for staff acquisition, schedule for arrival and departure of specific staff, and staff training plans?	X		There is a formal staffing plan for Deloitte Consulting that is shared with the AOC as this is a fixed-price development contract. Deloitte Consulting tracks internal project staffing with respect to acquisition, schedule for arrival and departure of specific staff, and staff training plans. The AOC does not currently have a CCMS-V4 Staffing Plan; staff are allocated at the CCMS level and not at the specific project level.
Have project cost estimates, with supporting data for each cost category, been maintained?	X		While development costs are tracked internally by Deloitte Consulting, they are not shared with the AOC since this is a fixed-price development contract. The AOC tracks the project budget, monies encumbered, and monies expended to date.
Are software size estimates developed and tracked?	X		Deloitte Consulting has included estimates for Final Design, Final Construction, Testing, and Conversion.
Are two or more estimation approaches used to refine estimates?	X		A Bottom Up estimate is performed by the Deloitte Consulting Project Manager and a Top Down estimate is performed by the Deloitte Consulting Lead.
Are independent reviews of estimates conducted?	X		There are multiple internal reviewers consisting of Deloitte Consulting, AOC, and Court staff.
Are actual costs recorded and regularly compared to budgeted costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks project budget, monies encumbered, monies expended to date, and monies forecasted to be spent.

* **Either the practice is not in use or there is insufficient information for SEC to verify its use.**

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Planning and Tracking			
Is supporting data maintained for actual costs?	X		Development costs are tracked internally by Deloitte Consulting and not shared with the AOC since this is a fixed-price development contract. The AOC tracks invoice level data to support its actual cost data tracked.
Is completion status of work plan activities, deliverables, and milestones recorded, compared to schedule and included in a written status reporting process?	X		This information is reported weekly and monthly.
Are key specification documents (e.g. contracts, requirement specifications and/or contract deliverables) and software products under formal configuration control, with items to be controlled and specific staff roles and responsibilities for configuration management identified in a configuration mgmt plan?	X		The CCMS-V4 Configuration Management Plan outlines the process and procedures followed for Configuration Management.
Are issues/problems and their resolution (including assignment of specific staff responsibility for issue resolution and specific deadlines for completion of resolution activities), formally tracked?	X		This information is tracked in eRoom and in the weekly and monthly status reports.
Is user satisfaction assessed at key project milestones?	X		Deloitte Consulting has stated that user satisfaction is assessed at key project milestones in the form of deliverable review. All deliverable comments are logged, reviewed, and categorized to indicate if a response is needed. According to Deloitte Consulting, all defects or other comments that require a response are addressed and tracked through closure. Other validation processes include proof of concepts, UI prototypes, design sessions, design council sessions, and cross track meetings. As such, Deloitte Consulting believes that acceptance of the deliverable is evidence of user satisfaction. While there are no satisfaction surveys used or assessments performed at key project milestones, the AOC agrees that there are several opportunities to talk through and resolve deliverable disagreements on a case by case basis.
Is planning in compliance with formal standards or a system development life-cycle (SDLC) methodology?	X		Planning is in compliance with a formal system development life-cycle (SDLC) methodology.
Is there a formal enterprise architecture in place?	X		AOC has provided documentation that adheres to SIMM 58 definition of an Enterprise Architecture.
Are project closeout activities performed, including a PIER, collection and archiving up-to-date project records and identification of lessons learned?	X		Project closeout activities are planned and seem to be in progress. Weekly project management meetings discuss activities related to archiving and identifying, discussing, and documenting lessons learned.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Procurement			
Are appropriate procurement vehicles selected (e.g. CMAS, MSA, "alternative procurement") and their required processes followed?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is a detailed written scope of work for all services included in solicitation documents?	X		The AOC has stated that they adhere to Policy Number AOC 7.2.1 (Procurement of Goods and Services) which is overseen by Grant Walker in the Business Services Unit. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Are detailed requirement specifications included in solicitation documents?	X		Detailed requirements were included in Exhibit B of the Statement of Work. The initial procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle.
Is there material participation of outside expertise (e.g. DGS, Departmental specialists, consultants) in procurement planning and execution?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. For ongoing SOWs, independent third-party vendors are used to review and recommend procurement planning and execution practices.
For large-scale outsourcing, is qualified legal counsel obtained?	X		The procurement phase was complete prior to the point that SEC was brought into the project. Thus, we did not review or evaluate the procurement vehicle. The AOC utilized outside counsel for the V4 Development Contract.
Risk Management			
Is formal continuous risk management performed, including development of a written risk management plan, identification, analysis, mitigation and escalation of risks in accordance with DOF/TOSU Guidelines, and regular management team review of risks and mitigation progress performed?	X		The Risk Management Plan contains the process and procedures for risk. Risks are tracked within eRoom and are discussed during the weekly and monthly status meetings.
Does the management team review risks and mitigation progress at least monthly?	X		The management team reviews risks at weekly and monthly status meetings.
Are externally developed risk identification aids used, such as the SEI "Taxonomy Based Questionnaire?"	X		Additional risk identification aids are internal to Deloitte Consulting and are not shared with the AOC.
Communication			
Is there a written project communications plan?	X		This information is contained in the CCMS-V4 Communication Management Plan.
Are regular written status reports prepared and provided to the project manager, department CIO (if applicable) and other key stakeholders?	X		Written weekly and monthly status reports are prepared and discussed with the CCMS PMO as well as vetted through the CCMS Governance Model.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

Practices and Products	Practice in Use	Practice Not in Use *	Notes:
Communication			
Are there written escalation policies for issues and risks?	X		This CCMS-V4 Project Management documentation contains this information.
Is there regular stakeholder involvement in major project decisions, issue resolution and risk mitigation?	X		The CCMS PMO has primary responsibility for working through the issues and risks. Additionally, issues and status are vetted through the CCMS Governance Model processes.
System Engineering			
Are users involved throughout the project, especially in requirements specification and testing?	X		AOC and Court staff were involved from requirements gathering through testing.
Do users formally approve/sign-off on written specifications?	X		The AOC and Court staff formally approved the FFD documentation.
Is a software product used to assist in managing requirements? Is there tracking of requirements traceability through all life-cycle phases?	Partial Use		The tool exists, but is not being used for requirements management. However, the IPO/IV&V Team recently received documentation showing traceability with high level requirements identifiers.
Do software engineering standards exist and are they followed?		X	Although not a contract requirement for Deloitte, the CCMS-V4 Project does not appear to be following several of the IEEE suite of standards known as the Software Engineering Standards for documentation and processes.
Is a formal system development life-cycle (SDLC) methodology followed?		X	Deloitte is using an overlapped waterfall SDLC as evidenced by the structure of their project plan and the manner in which activities are performed. However, certain practices employed on the CCMS-V4 Project do not appear to be in line with CMMI Level 3 requirements that require that a defined, standard, consistent process and process measurement be followed including: • Technical processes are defined in writing; • Project roles are clearly defined; • Staff are trained in standard methods and process activities before they are assigned to roles; and • Technical management activities are guided by defined processes. It is not clear where the processes and roles are documented and whether the CCMS-V4 Project is CMMI Level 3 compliant. However, the AOC has recently contracted for an independent SCAMPI review that will assess CMMI compliance.
Does product defect tracking begin no later than requirements specifications?	X		Product defect tracking occurs during deliverable review. Users submit defects by entering comments in the deliverable. Each defect is tracked to closure within the deliverable. Any corresponding response is attached to the original defect in the body of the deliverable. Before approval of the deliverable, the AOC confirms that all defects have been appropriately addressed.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

| Practices and Products	Practice in Use	Practice Not in Use *	Notes:
System Engineering			
Are formal code reviews conducted?	X		Based on evidence provided in August 2011, code reviews are being conducted for every build. The Project is using a suite of tools to automate the reviews that verify compliance to the Project's Design and Coding Standard.
Are formal quality assurance procedures followed consistently?		X	It does not appear that formal quality assurance procedures are followed consistently for the CCMS-V4 Project. Refer to various IPO/IV&V issues raised in 2010 and 2011 monthly reports.
Do users sign-off on acceptance test results before a new system or changes are put into production?	Unknown at this time		This phase of the project has not occurred. Consequently, the IPO/IV&V Team cannot assess this area.
Is the enterprise architecture plan adhered to?	X		Yes, the CCMS Project is reflected in the Enterprise documentation and the scope is consistent with the Plan.
Are formal deliverable inspections performed, beginning with requirements specifications?		X	While there are deliverable reviews conducted and sign-off documentation related to deliverables available, the IPO/IV&V Team cannot assess whether **formal** deliverable inspections are performed. Formal deliverable inspections include a documented process for evaluating a deliverable when it is received against its requirements, which are both contractual requirements and DAD requirements. The DADs do not appear to have IEEE or other standards referenced which would also require the use of standard requirements. Recently, the IPO/IV&V Team was provided an example of an FFD review conducted. While a detailed content review was performed, the steps employed do not represent a **formal** inspection processes that—in addition to content review—starts with a written process for evaluating deliverables against the DAD, distributing deliverable for review (and to whom), checklist of comments on how deliverable provided complies with DAD, and resolution of any comments provided to Deloitte during inspection. IPO/IV&V will meet with ISD and other staff in July 2011 to review more examples.
Are IV&V services obtained and used?	X		SEC has been hired to perform certain IPO/IV&V tasks for CCMS-V4 product development; AOC is in the process of contracting for two separate vendors to provide IPO and IV&V services on the CCMS-V4 deployment.

* Either the practice is not in use or there is insufficient information for SEC to verify its use.

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Appendix D: IPO/IV&V Project Scorecard

For August 1, 2011 – August 31, 2011 Time Period

Process Area	MAR 2011	APR 2011	MAY 2011	JUN 2011	JUL 2011	AUG 2011	REMARKS
Communication Management	Yellow	Green	Green	Green	Green	Green	Day-to-day communication continues to be strong.
Schedule Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The schedule remains aggressive.
Scope Management	Green	Green	Green	Green	Green	Green	Project scope is managed and controlled through a variety of avenues.
Risk Management	Yellow	Yellow	Yellow	Green	Green	Green	The risks are reported, discussed, and managed on a weekly basis.
Issue Management	Yellow	Yellow	Yellow	Green	Green	Green	The issues are reported, discussed, and managed on a weekly basis.
Resource Management	Green	Green	Green	Green	Green	Green	AOC and Deloitte's level of project resources are being defined and appear adequate.
Cost Management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	ISD costs and CCMS PMO costs are maintained in separate databases and there is no effort to combine these in the near future.
Quality Management (Client Functionality)	Yellow	Yellow	Yellow	Green	Green	Green	Though the IPO/IV&V Team was unable to draw a conclusion as to the quality of the client functionality due to incomplete traceability between requirements and test cases at a detailed level. The AOC has hired an external firm to review quality, and the team has signed off that PAT exit has been met.
Quality Architecture	Green	Green	Green	Green	Green	Green	Quality Architecture is currently adequately defined from an industry-sound SEI approach.
Configuration Management	Green	Green	Green	Green	Green	Green	CM, for documentation, is being well controlled through the eRoom and JCC web sites that have built-in controls for CM.
System Engineering Standards and Practices	Green	Green	Green	Green	Green	Green	Deloitte Consulting appears to be following currently accepted systems engineering standards and practices.
Requirements Identification and Traceability	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The IPO/IV&V Team has concerns with the lack of traceability between use cases and business rules and due to the traceability being done at such a high level.
Detailed Design Review	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	The Technical Design documentation was delivered to the CCMS PMO, but is an artifact and not a deliverable. Therefore, the Detailed Design cannot be assessed.
System Development Quality and Progress	Green	Green	Green	Green	Green	Green	The technical architecture and design is proceeding on the defined schedule with only minor changes.
Testing Practices and Progress	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Testing is completed with the exception of JBSIS reporting.
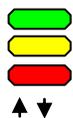
Green – On Track
Yellow – Warning
Red – Significant Problems

The Judicial Council of California, Administrative Office of the Courts

Independent Project Oversight (IPO) and
Independent Verification and Validation (IV&V)
For the CCMS-V4 Development Project

Final Closeout Report

November 2011

SJOBERG ✦ EVASHENK
CONSULTING, INC

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Executive Summary

In the summer of 2007, the Judicial Council of California, Administrative Office of the Courts (AOC) hired our firm, Sjoberg Evashenk Consulting, Inc. (SEC) to provide certain Independent Project Oversight (IPO) and Independent Verification and Validation (IV&V) services for the California Case Management System-V4 (CCMS) Development Project. Working under the oversight of the AOC Internal Audit Services and on behalf of the CCMS Executive Sponsor, our objectives were to review and monitor the activities, artifacts, milestones, and design of the CCMS-V4 Development Project in specific focus areas and to communicate status, progress, issues, and challenges to the success of the Project as designed. Our IPO/IV&V activities were conducted "after-the-fact" as project activities were completed and relied on written artifacts or other project activity documentation.

To better ensure a successful project development, an organization should do everything in their control to employ industry best standards and lessons learned on other projects over the management and technical deliverables. As such, the IPO activities focused on the project management activities related to organizing and managing resources to complete the Project within the defined scope, time, and cost constraints. In concert, the IV&V activities focused on the technical aspects at the crux of the application development to raise issues where there is risk or variances from industry standards and best practices.

Over the last four years, we have captured information and assessed current project activities to determine whether process and procedures employed to build and manage the CCMS-V4 application as planned were followed and whether industry standards were adhered to, as well as to note potential risks and issues. Each month, the IPO/IV&V Team prepared a summary of that month's project activities and any IPO/IV&V concerns that were discussed with the CCMS Project Management Office (PMO). Over the course of the engagement, there have been 50 reports prepared for the months of July 2007 through August 2011.

This IPO/IV&V Final Closeout Report is intended to summarize previous report observations of project management and technical activities conducted during the systems development lifecycle of the CCMS-V4 Development Project—not to raise new findings or issues. While we have summarized our monthly findings by IPO/IV&V focus area in the body of this report, we highlight some of the more significant results below by systems development lifecycle phase:

Planning Phase

- ✓ All CCMS stakeholders, including the Courts, AOC, and Deloitte, did a commendable job with discussing and resolving issues as they arose, and working well and productively together throughout the Project. In general, the CCMS-V4 Project Team reported, discussed, and managed issues and risks needing attention on a weekly, if not more frequent basis.

✓ Certain project management practices and improvements were implemented throughout the Project; however, at times, the established plans were not always followed.

During the initial phases of the Project, a CCMS Governance Model was distributed to members of the various CCMS committees to add clarity and definition of the persons, positions, and committees responsible for overall, ultimate policy and project decisions for the system development. Yet, the early governance model lacked clarity about who could escalate issues related to project scope, schedule, and/or budget including to whom the issues would be elevated and what was the process or protocols for issue escalation. The project management team took proactive steps to address this concern by having the Steering Committee participate in project decisions regarding scope, cost, and schedule. While the CCMS Governance Model changed over the course of the Project, it ultimately ended with strong oversight and management of the system development.

Design and Build Phases

✓ *Quality Architecture in Place*—The Architecture Team addressed and vetted, on a proactive basis through architecture design discussions, any architectural concerns or issues as they arose over the Project. The approach was consistent with the Attribute Driven Design approach for defining architectures as recommended by the Software Engineering Institute of Carnegie Mellon University, a de facto industry standard.

✓ *Risk Elevated for Missing Requirements or Gaps in Functionality*—The IPO/IV&V Team found that the Joint Application Design process was never documented in a Plan and the observed processes used to gather system requirements needed improvements to include how workflows and the interrelationship of business processes would be developed to ensure there were no missed requirements or gaps in functionality between one business process and another. The review of the Final Functional Design (FFD) deliverable was itself at risk since reviewers would not be able to identify all inconsistencies or gaps with the FFD business requirements due to the short timeframe for review for such a large deliverable and the lack of references between business processes. While the aggressive schedule for the development and completion of the CCMS-V4 product only amplified this risk and concern, it did not appear that significant steps were taken to address this concern.

✓ *Deloitte's Plan to begin Coding before the Design was Approved Increased the Risk of Rework that Would be Needed*—While we were informed that Deloitte was attempting to mitigate the risk of the Court users not being able to complete their review of the 17,000+ page FFD deliverable by coding "infrastructure" components that had a low risk of changing, the approach increased the potential risk of re-work and schedule delays if pre-coded components required changes. Ultimately, the CCMS-V4 Project (Deloitte) accepted the risk and the Court users required additional time to complete their review. Moreover, in 2010, the Project went through a 9-month collaborative effort with judges, subject matter experts, and Deloitte staff with a goal of identifying any gaps in functionality—none were identified.

✓ *Approved FFD Deliverable Contained areas of Inconsistency and Ambiguity*—This concern presented a risk to the construction and testing phases of the Project due to sections of the FFD document containing text subject to the interpretation of an individual programmer or a test case developer. In turn, this could cause miscoding and higher levels of defects during Product Acceptance Testing, threatening the product completion date, or leading to functionality concerns with the application when exposed to end users.

Testing Practices/Acceptance Phase:

✓ *System Engineering Practices were Sound*—From a top-level perspective, Deloitte appeared to follow currently accepted systems engineering standards and practices. The IPO/IV&V Team compared the approach used for CCMS-V4 with the approach recommended by industry standards and found them consistent with no major differences or gaps.

✓ *Problems Existed with the System Development Quality Program*—In 2009, problems began to emerge when the AOC's onsite Software Quality Assurance Team noted problems such as untrained developers, skipping of code reviews, and a lack of adherence with coding standards during the build/coding phase of the Project. Coding issues related to adherence to standards, incorrect functionality, and insufficient lower-level testing were identified late in Integration Testing that forced a restructuring and re-working of testing.

✓ *Deloitte's Quality Assurance Activities did not Align with Best Practices*—While activities in this area focused on quality control of the products, meaning checking the quality after items have been developed, industry best practices define quality assurance as being process-centric focusing on the process of how the product is built, improve the quality of an artifact as its being developed and eliminate to minimize re-work. During the IPO/IV&V effort on this Project, the IPO/IV&V Team expressed concern over the quality assurance of software development processes and practices used by Deloitte. Later in the Project, the AOC contracted for an external Standard CMMI Appraisal Method for Process Improvement (SCAMPI) that found issues consistent with those identified in the IPO/IV&V effort.

✓ *Requirements to Test Case Traceability Was Limited to High-Level*—Though it appears that traceability was performed between test cases and use case requirements documented in Deloitte's automated Quality Center tool, this traceability was performed at a high-level using the case identifier numbers only (e.g. a document title) and not the detailed requirements within the use cases; at this high-level, there was no way to verify that all of the individual requirements within the use cases were tested. Further, the use cases requirements documented in Quality Center were not the Project's master requirements repository and, therefore, as changes were made to requirements, it was not possible to verify that changes to requirements in the master repository were also made to the requirements and affected test cases in Quality Center.

IPO/IV&V Scope and Methodology

In general, the IPO/IV&V efforts were designed to assess, from an independent and unbiased perspective, whether the process and procedures employed to build and manage the CCMS-V4 application as planned were followed and adhered to industry standards as well as that potential risks and issues were known by project decision makers. The IPO/IV&V effort had no authority to require change; however, any identified and reported findings and results should have been considered by the project sponsors.

When our IPO/IV&V services were contracted in July 2007, it was not established to be a continuous, integral process within the Project itself. Rather, it was a periodically performed, adjunct activity that did not fall within the day-to-day managerial oversight or control of the CCMS-V4 Project Management Team. Thus, our role was not to provide a "continuous presence" within the CCMS-V4 Core Development Project; instead, it was designed to be an after-the-fact, independent assessment of the project artifacts and documentation created by the Project Management Team and Deloitte. In 2011, the AOC asked the IPO/IV&V Team to also provide review services on the remaining CCMS-V4 Non-Core Development Efforts as well.

To provide appropriate and independent review on the CCMS-V4 Project, the IPO/IV&V Team conducted activities relative to the following focus areas:

1. Schedule Management and Time Tracking
2. Scope Management and Change Processes
3. Cost Management and Budget Control
4. Resource Management
5. Communication Management
6. Risk Management
7. Issue Management
8. Requirements Identification and Traceability
9. Detailed Design Review
10. Architecture
11. System Engineering Standards and Practices
12. Configuration Management
13. System Development Quality and Progress
14. Quality Management
15. Testing Practices and Progress

Areas not in Scope

In the initial phase of the IPO/IV&V effort, the AOC clarified that several development areas were not covered by the IPO/IV&V contract. For instance, efforts did not address the management surrounding the application developer's budget. Because the AOC awarded Deloitte Consulting a fixed-price contract, a time and material type review and

analysis was not warranted in this situation. In another example, the IPO/IV&V Team was not involved with assessing contracting activities including the initial request for proposal, resulting contract, interim change requests/work orders, subsequent contract amendments, and compliance with contract requirements. Because several development activities and processes were internal to Deloitte, we could not have visibility into them for review and comment. Moreover, the IPO/IV&V Team did not perform activities related to the following areas:

- ✓ Cost Management
- ✓ Contract Management and Compliance
- ✓ Deliverable Review
- ✓ Implementation/Disaster Recovery
- ✓ System Operation and Support

Additionally, the IPO/IV&V efforts did not review or address the completeness of the business requirements developed as part of functional design joint application development (JAD) sessions. While we reviewed the business requirements from a technical perspective to assess whether they contained sufficient levels of specificity to ensure proper coding and end-user functionality as planned, the IPO/IV&V effort cannot ensure that all critical business processes and steps were appropriately captured in the business requirements to meet court needs.

Methodology Employed

IPO/IV&V activities can vary depending on the project—on this engagement, the IPO/IV&V Team was not designed to function in a daily on-site capacity, part and parcel to the development process. Rather, we mostly reviewed final artifacts and documents that were maintained in project repositories identified to us in the AOC's JCCProjects site and Deloitte's eRoom. As such, the IPO/IV&V Team conducted document research on their own without interfering with the project staff to minimize disruption to daily project activities. In the execution of our duties, the overriding assumption is that the IPO/IV&V Team had full access to documentation and if a document or plan has been created, that we should be able to find it without the constant involvement of project staff.

Because the IPO/IV&V efforts were designed to be an independent review of artifacts and documentation, much of our work surrounded a review of documents. Refer to Appendix B for a list of documents reviewed. Additionally, we met with key project staff in the various IPO/IV&V areas of focus to obtain perspective, clarification on activities and documents reviewed as needed, but at least on a monthly basis. Some of the activities conducted included the following:

- Conducted observations, on-going interviews, and document examinations to assess risks to project for meeting timelines, deliverables, and milestones as described in the system development lifecycle schedule;

- Reviewed project management processes and documents (such as the project management plan, communication plan, change management plan,

implementation plan, and governance structure) to comment on compliance with industry best practices;

- Observed certain critical requirements gathering and physical design sessions (JAD sessions) for family law, criminal, traffic, finance, distributions, and audit functionality to validate processes are in adherence with project planned processes and industry best standards;

- Reviewed Requirement Traceability to ensure that the design has addressed all the functional requirements and that all test cases/scripts were developed to test the requirements;

- Analyzed the Functional Design, Technical (software) Design Specification to assess the readability, consistency, and testability of the design;

- Assessed the Test Methodology review by sampling test scripts and tracing them to the requirements and to the design specification as well as reviewing the data elements necessary for the scripts; and,

- Reviewed a sample of source code to provide feedback on compliance to coding standards and comparisons to the design requirements.

Based on our monthly review of documentation, we compiled the results of the IPO/IV&V efforts into a written report containing process compliance issues, findings and conclusions, risks and best practices, and recommendations. These reports were discussed with the CCMS Project Management Office as well as oversight committees.

Project Oversight Focus Areas

Schedule Management

The Project schedule was published weekly in the CCMS-V4 Development Services Status Report and the project team appeared to be tracking according to the schedule. Yet, throughout the Project, the IPO/IV&V Team has expressed concern with the aggressive project schedule in that there may not have been sufficient time allocated to the various project phases—especially the testing phase. To mitigate this concern, additional time was added to the overall project schedule in 2008. While the time extensions appeared to be a good response to help ensure adequate time, our concerns still remained surrounding whether there was sufficient time allocated to the testing effort.

Additionally, we found Deloitte's approach of coding ahead of schedule on the less volatile portions of the application to have presented challenges and risks to the CCMS-V4 Project in that design changes may have occurred during the review of the FFD and may have ultimately caused a delay in the schedule due to the rework involved in correcting the already-coded components. Although the risk was accepted by Deloitte, the early coding ultimately resulted in rework needed and significantly contributed to a 10-month delay in the schedule as well as extra time added to the testing effort.

Once the overall project schedule and timelines were revised in the fall of 2010, the CCMS-V4 Team and the system developer did a good job of adhering to the revised schedule and meeting the revised final development deadlines.

Scope Management

In general, the CCMS-V4 Development project scope was managed and controlled through a variety of avenues. The Project employed a work breakdown structure to identify tasks and deliverables into manageable components that were tracked by Deloitte. There was also a detailed deliverable review process to analyze and accept the completed project scope and deliverables. On a more functional scope level, the AOC track leads assigned to attend/monitor the JADs and Court project managers raised concerns informally, through the JAD parking lot, or as was documented in JAD session minutes—these issues were escalated to the weekly project team and management meeting and the Design Council, if needed.

As part of those weekly project team and management meetings, any scope concerns were revisited weekly and tracked on formal issue tracker matrices until vetted and resolved. Scope items were tracked in two places—the AOC's JCCProjects Intranet Issue Tracker and Deloitte's eRoom.

Cost Management

The IPO/IV&V effort focused on reviewing processes to track total development costs including both developer contract costs and internal staff costs as well. Although an

external vendor, the Gartner Group, developed a project status reporting mechanism (including budget and actual costs) for several newly created AOC executive level committees, the process slowed down in 2007 and 2008 forcing the CCMS-V4 Team to forge forward on its own. Most project costs were tracked at the overall CCMS level through an Access database that provided more detailed budget and actual CCMS costs down to an invoice level. The CCMS-V4 Project Management Office captured staffing and consulting services costs in one database, while ISD captured the technology costs in another. When the IPO/IV&V Team reviewed this focus area, there was no plan to merge these costs into one central database. From a best practices perspective, a time tracking mechanism should have been implemented that tracked both planned and actual staff hours and costs at the work breakdown structure level in order to assess cost variances. However, the AOC did not have a tool to perform this function and there was no plan in place to develop this function.

Costs were tracked with a daily (or on-demand) report from the Access database that depicted what had been spent during the fiscal year as well as what was forecasted to be spent by the CCMS-V4 Project Management Office and the AOC's Information Services Division. Further, project managers reviewed the database reports weekly, monthly, and quarterly with a goal of providing more granularity of detailed cost on the CCMS Project Management Office side in the future. Additionally, a monthly Service Delivery Status report was shared with the project Management Team in place at the time that contained data on costs as well as other items.

Other processes were in place to track progress against budget:

- **Contracts Tracking** – Each development contract or statement of work was monitored from the budget stage through contract execution and encumbrance of funds.

- **Consultants Tracking** – Consultant's hours and travel expenses were tracked monthly for compliance with contract.

- **Invoice Tracking** – Each invoice was processed, approved, and entered into a tracking system. Reports were generated for each contract Statement of Work to show invoices paid, in process, and not yet submitted. Every invoice for a deliverable on the development project must be submitted with a Deliverable Acceptance Form signed by the AOC Project Manager.

- **Unit Manager Change Updates** – Reports were reviewed and updated regularly with Finance budget analysts for staff salaries, benefits, and operating expenses. These reports showed progress against the current year budget and projected current year expenditures.

In terms of developer's costs, Deloitte operated under a fixed-price contract to provide certain deliverables. When additional services or deliverables were requested from Deloitte, a process was employed whereby Deloitte prepared "levels of effort" estimating the number of hours and cost that were reviewed and considered against the budget as well as discussed with oversight committees for approval. However, since the AOC did not have a time tracking mechanism formally in place to track staff hours and costs at the

work breakdown structure level, project estimates and actual costs could not be tracked and managed. This was a concern to the IPO/IV&V Team because when additional services or deliverables were requested from Deloitte, there was no process, or historical accounting, for the AOC to validate whether the "level of effort" estimate was consistent with previous estimates or whether the increased cost could be absorbed within the pre-allocated CCMS-V4 development budget. Ideally, the AOC should have utilized a time tracking mechanism and tracked both planned and actual staff hours and costs at the work breakdown structure level to be better able to assess cost variances.

Resource Management

Roles, responsibilities, and reporting structures were developed, assigned, and documented for the CCMS team members. During the course of the Project, it appeared that Deloitte had staffed the Project with consistent and committed individuals and teams that made themselves accessible to the AOC, Court subject matter experts, and the IPO/IV&V Team as needed. However, in early 2010, Deloitte added several new management staff to the CCMS-V4 Project. Since that time and with the inclusion of some new individuals employed, Deloitte seemed motivated to address and resolve concerns raised by the IPO/IV&V Team.

At the same time, Court officials, Court subject matter experts, and AOC staff resources were stretched thin given the project scope and schedule. Yet, the AOC and Courts were both faced with shrinking budgets and limited resources to assign to the development effort—and, thus, had limited control over resources available for the Project. Staff on the CCMS-V4 Development Team reached out to courts statewide in a plea to supply additional court resources to maximize the leveraging of staff.

As a way of incentivizing courts to participate in the Project, the AOC arranged to pay Court testers and project managers in an effort to gain more participation from the Courts. Project managers were offered pay of $25,000 per quarter plus travel expenses, based in Santa Ana, and participated, on behalf of their Court, in all project manager-related activities. Court testers were offered pay between $20,000 and $55,000 depending on the project phase and length of participation, with the expectation of committing to a testing phase. Other steps were taken to bolster resources such as redirecting retirement annuitants toward the CCMS-V4 Project for three to six month assignments, and looking at hiring professional testers to supplement the Court subject matter experts (SMEs).

In an effort to mitigate resource risk, metrics were gathered at the start of integration testing through the end of product acceptance testing that indicated daily progress for each SME.

Communication Management

Overall, communication within the day-to-day requirements gathering, design, and build teams went well. Project participants were identified and methods established for collecting, storing, accessing, and distributing project information. A Design Council

was implemented consisting of Court project managers with their focus being to discuss and consider scope and design concerns. A standardized format for documenting minutes/meeting outcomes was created for use in all JAD sessions to formalize communications and provide a mechanism for traceability between cross-track items. In addition, the CCMS-V4 Project Team discussed both existing and emerging items during and outside of project meetings.

Communication continued to be managed during the coding and testing phases of the CCMS-V4 Project. Weekly status meetings continue to be executed with precision and timeliness while still allowing input from participants. The CCMS-V4 Project Team members continue to vet open and emerging items during these meetings, as well as hold other periodic meetings on an as-needed basis to discuss and deliberate areas or items requiring research or longer periods of time. Some subject matter experts, such as the Center for Families, Children, and the Courts, were involved on a daily basis while others such as the Office of General Counsel and Finance were brought in as needed. Further, the CCMS-V4 Project Team was receptive to our recommendations; for instance, we suggested a separate weekly meeting to address action items outside of the weekly project management meeting.

Governance Model

The IPO/IV&V Team raised some areas of concern with the initial governance structure in place for the CCMS-V4 Project related to ambiguity on what person, position, or committee was responsible for overall, ultimate policy and project decisions for the system development in addition to unclear escalation practices to be employed. Moreover, there did not appear to be a mechanism in place for addressing, weighing, and documenting issues between scope of the Project (additional functionality) and impact to schedule—or to the overall budget. For instance, meetings conducted with the Steering Committee (consisting of Court Executive Officers (CEO) and Court Information Officers that meet on a bi-weekly basis) and an Oversight Committee (with judges and CEOs that generally gather for quarterly meetings) had appeared to mostly discuss project status rather than deliberate critical issues and reach agreements and decisions. Based on these observations, the CCMS-V4 Project Team incorporated several good improvements into the governance model and process.

In December 2010, the Judicial Council Executive and Planning Committee approved a revised CCMS Governance Model that clarified certain elements such as governance committee structure, composition, duties, terms of service and voting provisions. Additionally, the revised CCMS Governance Model provided appropriate escalation authority to the Administrative Director of the Courts and to the Judicial Council of California although it was unclear as to whether the final decision-making authority rested with the CCMS Executive Committee or with the Administrative Director of the Courts and Judicial Council of California. While there were a few unclear and incomplete areas noted by the IPO/IV&V Team, the CCMS-V4 Project Management Office revised the model to add clarity and completeness.

Risk Management

In general, the CCMS-V4 Project Team reported, discussed, and managed risks and other items needing attention on a weekly basis mostly through the reports prepared by the system developer. Mostly, Deloitte's tracking repository in eRoom (the vehicle established to track and communicate project risks) was updated regularly with risk status.

At times during the development project, there were instances where risks were not updated on a weekly basis in eRoom. The IPO/IV&V Team was concerned that eRoom may not contain the most up to date information on project risks and that there were other tools possibly being used to identify and track risk where the project team could potentially not known the resolution. For instance, in a February 2011 monthly report, the IPO/IV&V Team reported that additional risks raised in the QA Reports were not being tracked and monitored through the risk process facilitated by eRoom and JCCProjects website. In other instances, eRoom was updated with risk status, but target resolution dates were often past due. When the IPO/IV&V Team raised its concerns, the CCMS-V4 Project Team was responsive to make appropriate changes.

Over the course of the development, a number of risks were identified, tracked, mitigated, and resolved related to a variety of areas such as subject matter expert involvement and staffing plan, data exchange timeframes, form creation, standardization and configuration, functional design review schedule, change control methodology, testing readiness, test scripts, and justice partner readiness.

Issue Management

For the most part, the CCMS-V4 project team reported, discussed, and managed issues and other items needing attention on a weekly basis mostly through the reports prepared by Deloitte. Issues were discussed/reported weekly at various project management and Executive Committee meetings.   In Deloitte's weekly Development Services Status Report, there was a section reserved for issues as well as modifications and change items. Mostly, Deloitte's tracking repository in eRoom was updated regularly with issue status.

In the earlier phases of requirements gathering for the development project, the IPO/IV&V Team reported opportunities for process improvements such as creating a central location where all cross-track issues were addressed to better manage how issues were addressed/resolved rather than rely on each lead staff to collect information from their individual email accounts. Additionally, while there were issues and action items raised during the Steering Committee meetings tracked in agendas and meeting recap documents, but there did not seem to be a central repository that captured all issues raised through the various mechanisms. In the project's later stages, there were processes employed to better capture and track all issues in a central location (eRoom).

At times, there were instances where issues were not updated on a weekly basis in eRoom or where the resolutions noted did not specifically address the issue being closed. Additionally, in a February 2011 monthly report, the IPO/IV&V Team reported that additional issues raised in the QA Reports were not being tracked and monitored through

the risk process facilitated by eRoom and JCCProjects website. In other instances, eRoom was updated with issue status, but target resolution dates were often past due. When the IPO/IV&V Team raised its concerns, the CCMS-V4 Project Team was responsive to make appropriate changes.

Over the course of the development project, a wide range of issues were tracked by the CCMS-V4 Project Team and Deloitte related to areas such as interface design issues, adequacy of schedule, high volume form printing, V3 changes affecting V4 functionality, legal issues surrounding portal functionality, and system delays. By the end of product acceptance testing on the project development, the AOC provided conditional acceptance dependent on the successful completion of JBSIS testing—ultimately, completed in October 2011.

Technical Focus Areas

Requirements Identification and Traceability

The IPO/IV&V Team had major concerns over the requirements identification and documentation for the CCMS-V4 Project. For instance, requirements identification used a Joint Application Design (JAD) process, which is a method of eliciting requirements through a planned and structured set of meeting and interviews. The main IPO/IV&V concern with how this approach was used for CCMS-V4 is that there was no predefined and documented plan on how JAD would be performed. Without a clear, structured, and deliberate approach to eliciting requirements, the likelihood of requirements gaps, missed requirements, and inconsistent requirements was high.

Initially, only discreet functional business areas were discussed in JAD sessions and not the interrelationships or workflows between business areas during the requirements elicitation sessions. Thus, there was a risk that the cross-cutting requirements that flow between business area workgroups were not being adequately documented or addressed forming gaps in the requirements. To fully identify the requirements, including the potential gaps, a requirements elicitation plan, or JAD Plan, should have been developed to address what would be discussed in each track, when it would be discussed, and how workflows and interrelationships would be addressed. The absence of a requirements elicitation plan with this level of detail presented a risk that functional requirements and interrelationships between the functional areas would be missed when the requirements were developed. While the IPO/IV&V Team identified this finding, no JAD Plan was ever documented and provided.

Potential Missing Process Overlaps

Detailed requirements elicitation schedule
without a plan for addressing workflows

Detailed requirements elicitation schedule
with a plan for addressing workflows
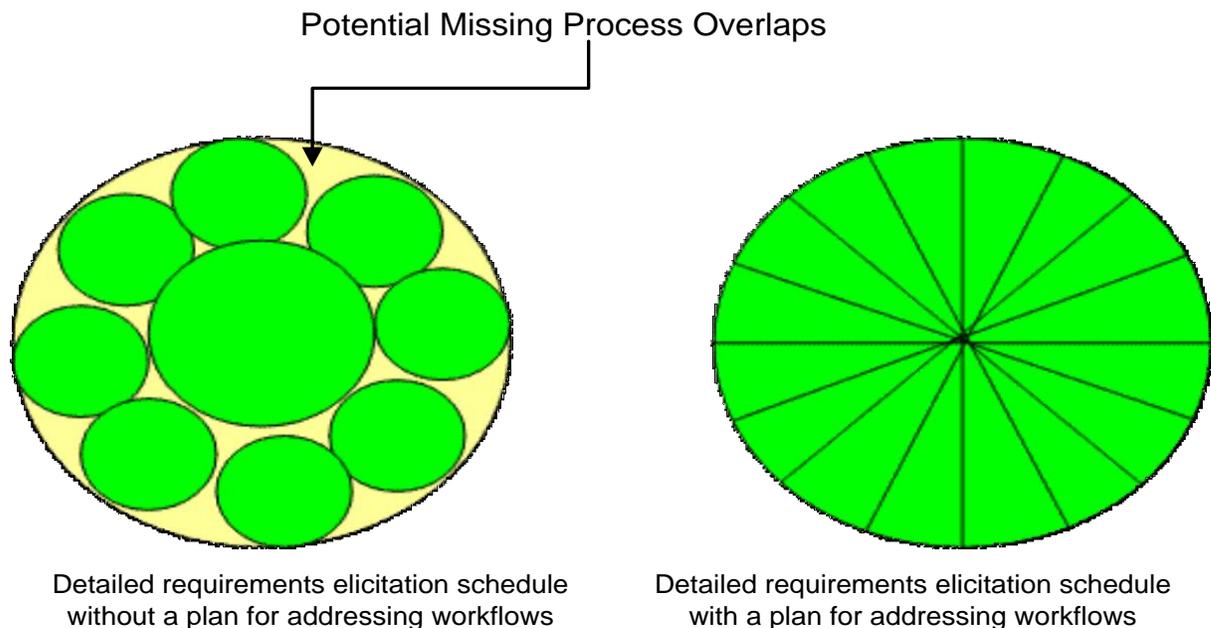
The IPO/IV&V Team made a suggestion to plan additional requirements elicitation sessions that focused strictly on cross-functional unit business flows and identify how the cross unit flows were captured in the Intermediate Functional Design. By focusing on business flows, the movement of data and additional requirements could be uncovered. While this may have added some additional time to the schedule, it was one approach to mitigate the common JAD process problem of gaps due to the approach the Project was using. There was progress made in this area by creating and using cross-track session to capture and monitor issues and resolutions that occurred in individual, discreet-topic requirements elicitation tracks. However, these cross-track sessions held on the CCMS-V4 Project were focused on trying to identify specific requirements versus business process flows.

Another option for addressing the potential missing gaps was to negotiate with Deloitte that any current court business processes that had been missed through the use of the requirements gathering would fall within the scope of the current contract since the vendor was on contract to develop the requirements, lead the sessions, and elicit the requirements from the Court subject matter experts. Moreover, Deloitte was responsible for planning and conducting a requirements elicitation process that recognized the problems of the elicitation technique they were using—i.e. the problem of gaps caused by using the JAD approach, and to plan a method or approach to mitigate and/or reduce the elicitation processes problem(s). While this approach addressed the contractual responsibility aspect, it does not consider the project aspects of schedule and user perception of the system when they begin user testing and gaps are discovered.

JAD Sessions

We found that the Joint Application Design (JAD) sessions appeared to be well-run, with positive feedback generated on Deloitte and Court track leads related to facilitation, understanding of court processes, and general focus on business needs.

The IPO/IV&V Team observed various Joint Application Design sessions and identified that meeting minutes were not being adequately captured and items that need escalation to management were not being elevated. Although a Parking Lot was used for issues needing further discussion, a more complete record of requirements elicitation session items covered, decisions made, and other general results discussed and agreed-upon was not consistently documented for key project stakeholders to review and/or to take action upon. Without this critical information adequately documented, functionality or process decisions could have been made that unknowingly conflict with or not consider other requirements elicitation session track actions, larger project implications, or judicial branch policies. Thus, the IPO/IV&V Team suggested that the Project monitor and summarize decisions made in the requirements elicitation sessions—through participation in the sessions or through a review of the minutes—and elevate those of potential interest to oversight bodies, especially those decisions that may require higher level policy decisions.

However, the documentation and escalation began to improve later in the JAD process due to the use of a common template being used across multiple JAD tracks, topic areas,

though not all tracks were using the new template. While the IPO/IV&V Team made a recommendation to standardize the use of the JAD template across all tracks, the JAD activity completed without implementing the recommendation.

Requirements Traceability

Of major concern for the IPO/IV&V Team throughout the Project was the lack of detailed traceability. As early as September 2008, the IPO/IV&V Team identified initial concerns that there was no traceability between use cases and business rules, documented within the same functional design document, that created a risk for higher numbers of testing defects due to the lack of traceability combined with the potential need of developers/coders who do not know court business processes to interpret or guess which business rule maps to which specific step in the use case. In response, the project management stated they were strengthening the testing effort and putting a management structure in place which they believed would provide oversight in this area. The IPO/IV&V Team believed that these measures were insufficient to mitigate the concern, would add time to the already compressed schedule, and would create a significant risk for a higher number of testing incidents and therefore re-work to correct the requirement, design, code, and repeat testing. Moreover, the IPO/IV&V Team expressed concern in the lack of traceability when combined with concerns related to gaps in requirements identification from using the discreet functional area, or silo, JAD approach.

Moreover, with the limited traceability between Use Cases and Business Rules, the SMEs and concurring reviewers may have wanted and communicated certain business rules that may not end up in the system, could end up functioning incorrectly in the system, or be performed in the wrong order in the system.

While traceability exists between the high level contractual requirements and the test cases, detailed traceability was never provided. Despite our requests, traceability between the contractual requirements to the requirements in the Final Functional Design documents, the Final Functional Design documents to the software design, and these documents to the system level test cases were never provided; this is called vertical and horizontal traceability. Traceability was performed between test cases and use cases documented in Deloitte's automated Quality Center tool, at a high-level. However, the use case were only documented at the use case identifier number level only (e.g. use case title) but not at a detailed level that would identify each requirement within the use case. Further, the use cases requirements documented in Quality Center were not the Project's master requirements repository and therefore, as changes were made to requirements, it was not possible to verify that changes to requirements in the master repository were also made to the requirements and affected test cases in Quality Center.

A major factor that contributed to the IPO/IV&V Team's concern over traceability was the lack of the use of the tools available to the Project to document and verify traceability. The Project had Rationale Requisite Pro, a requirements management tool that is used to perform and support requirements traceability and is typically the master requirements repository due to its built in version control and auditing capabilities. ClearCase, a tool that captures design and coding artifacts, directly integrates with

Requisite Pro to provide tracing of the requirements to designs and code. HP Quality Center, a tool that captures all of the test cases, scripts, data and the results of testing, integrates with Requisite Pro through the use of a Mercury Synchronizer tool and merges the requirements within Requisite Pro to the test cases documented in Quality Center and flags Quality Center requirements and test cases when a Requisite Pro requirement changes. Instead, the traceability was performed manually through spreadsheet and manually moving requirements to Quality Center; both of these manual processes are error prone and have latency depending on how often they are performed.

Detailed Design Review

The identified requirements from the JAD sessions were documented in an Intermediate Functional Design and a Final Functional Design. Detailed Design encompasses both the Functional Design (requirements) as well as the actual software design. The Project began with creating a good approach for reviewing the functional design by creating Intermediate Functional Design documents that were distributed and reviewed by the Court subject matter experts that participated in the JAD sessions, which was the source for the functional design. However, when the IPO/IV&V Team reviewed the Intermediate Functional Design documents, we identified issues such as completeness and testability. Based on these types of problems noted, the IPO/IV&V Team believed that developers would be unable to code from the documents without individual interpretations or discussion with someone who had expertise in the domain. The IPO/IV&V Team further recommended that each section be reviewed as a standalone document with potential references to other documents for the pre-conditions and each section require little or no detailed domain knowledge by the coders. Several recommendations were made by the IPO/IV&V Team to the CCMS-V4 Project Team.

Final Design Documentation

On September 8, 2008, the Final Functional Design deliverable was provided by Deloitte Consulting to the AOC and Courts for review to ensure requirements developed through the requirements elicitation sessions captured all the business process nuance and functionality needed for the CCMS-V4 application. These final functional business requirements will be used as a basis from which programmers will write system code to adhere to the requirements. Although the Final Functional Design deliverable incorporated many of our IPO/IV&V suggestions for improvement made during the intermediate design resulting in a much cleaner and consistent product, there continued to be areas of inconsistency and limited traceability between Business Rules and applicable Use Cases(s). Thus, the IPO/IV&V Team found many requirements that remained ambiguous—especially with respect to the various interpretations that could be made for the documented requirements, posing an elevated risk to coding and testing. Specifically, there were higher risks to the construction and testing phases of the Project since several sections of the FFD contained text subject to the interpretation of an individual programmer that could (1) translate a similar protocol differently than another individual programmer resulting in two different system results for the same required action or (2) construe a requirement incorrectly from how Court SMEs involved in requirements gathering needed the Court action to be accomplished.

While the IPO/IV&V Team made recommendations to correct the problems and identified the impacts that could occur if not corrected, the CCMS-V4 Project Team chose to mitigate the IPO/IV&V concerns with the requirements by increasing the testing effort. This approach simply deferred the corrective actions associated with correcting the requirements until later, during the testing phase, which would then have a major impact on the project schedule.

With respect to the software detailed design, neither the AOC nor the IPO/IV&V Team had visibility into this activity being performed by the software developer.

Design Review

Based on the types of problems the IPO/IV&V Team noted, there was increased risk that Deloitte would be unable to code from the documents without individual interpretations or discussion with someone who had expertise in the domain. Individual translations may have resulted in the system not being coded and designed in accordance with desired business requirements that Court SMEs had spent more than a year discussing and communicating to Deloitte Consulting. Moreover, with the limited traceability between Use Cases and Business Rules, the SMEs and concurring reviewers may have wanted and communicated certain business rules that would not end up in the system, could end up functioning incorrectly in the system, or be performed in the wrong order in the system.

Additionally, the sheer size of the total CCMS-V4 Core Product Final Functional Design documents totaling more than 17,000 pages challenged the AOC's and Courts' ability to perform a thorough review. Because some inconsistencies can only be seen when you look across sections (versus reviewing one section and assuming it is representative of all sections), the IPO/IV&V Team made recommendations to create a small group of people that could address certain issues noted related to ambiguous wording, incompleteness, and traceability.

At the time of design review, the IV&V Team stated that if the recommendations were not adequately addressed, other implications could be felt during the testing phase as well as gaps and defects identified. Specifically, the users would likely encounter more exceptions during testing since requirements were interpreted incorrectly or inconsistently—thus, adding more time to the already compressed testing schedule through activities needed to document defects and perform regression tests once issues were addressed by Deloitte. Yet, the CCMS-V4 Team decided to accept the risk, continue with the planned approach, and defer the unclear requirements risk to the testing phase. From an IV&V Team perspective based on Software Engineering and Computer Science, the later the requirement problems and issues are dealt with the greater the impact in terms of cost, schedule, functionality and overall quality of the software solution. Subsequently, the CCMS-V4 Development Project experienced significant issues related to defects during testing that led to delays in project completion.

Architecture

The Technical Architecture Team designs for the system are driven by the non-functional requirements such as security, availability, performance, and recoverability. These areas are all considered "Quality Attributes" by the Carnegie Mellon Software Engineering Institute (SEI) per their Architecture Tradeoff Analysis Method. The weekly Technical Architecture meetings focused on product-specific solutions that could achieve the architecture driven requirements, such as reporting tools, email, and security tools.

With respect to the development of the CCMS-V4 architecture, the Project followed current leading industry best practices in the development of the CCMS V4 architecture, such as the practices defined by the Software Engineering Institute—the leader for defining such practices for the Department of Defense and other Federal entities. Evidence of this was provided through the numerous Architecture meetings, architecture documents, presentations, action item lists, and meeting minutes. Overall, from an IPO/IV&V Team perspective, the Architecture Team with Deloitte, AOC, ISD, and other Court members has done a very good job in identifying and defining the architecture as well as architectural tradeoffs, raising issues for resolution, and generally creating a solid CCMS-V4 architecture.

Further, the IPO/IV&V Team identified that CCMS-V4 Project was consistent with a "proposed" Enterprise Architecture for the Courts and the "proposed" Enterprise Architecture document generally adhered to the Statewide Information Management Manual (SIMM), Section 58 requirements. However, the "proposed" Enterprise Architecture document provided to the IPO/IV&V Team was a contract deliverable provided to the AOC under a separate contract. No AOC Enterprise Architecture document was provided to the IPO/IV&V Team that documented that AOC's official Enterprise Architecture plan. Upon reviewing the SIMM definitions and description of an Enterprise Architecture Plan and the Project provided AOC documentation, the IPO/IV&V Team assessed that the provided documentation met the requirements for an Enterprise Architecture Plan as defined and described by SIMM Section 58. However, the IPO/IV&V Team strongly recommended that the AOC incorporate the MTG contract deliverable into an AOC document and "brand" it as the AOC's plan.

While the Enterprise Technology Designs and Plans Compilation and Assessment report met the generic requirements defined in SIMM Section 58, the document was not consistent with more common industry standard Enterprise Architecture frameworks, models, and plans. Some of the more common and well-known frameworks/models are the Zachman Framework (a proprietary framework), Reference Model of Open Distributed Processing (RM-ODP) (ISO/IEC 10746, an industry collaboration framework), and the Federal Enterprise Architecture Framework (FEAF) (developed by the US Federal CIO Council).

System Engineering Standards and Practices

Throughout the IPO/IV&V effort, the IPO/IV&V Team found no issues with the CCMS-V4 use of Systems Engineering Standards and Practices. From a top-level perspective,

Deloitte appeared to follow currently accepted systems engineering standards and practices, as defined in IEEE Standard 1220, Systems Engineering Process section, clause 6. The use of these standards and practices was led by the Architecture Team with respect to the hardware, software, interfaces, and their integration. The IPO/IV&V Team compared the approach used by the CCMS V4 Project with the approach recommended by IEEE Standard 1220-2005, IEEE Standard for the Application and Management of the Systems Engineering Process, and found them consistent with no major differences or gaps.

Configuration Management

The IPO/IV&V Team primarily focused on the Configuration Management of documentation, not on the software design or source code. While the software designs and source code were managed through the use of a tool, ClearCase, that has the capability to perform configuration management, the ability to adequately assess the actual practices used to manage the configuration of the design and code was not practical from a remote location. Because the IPO/IV&V Team services were not contracted to be provided on-site, the IPO/IV&V Team therefore only focused on the Configuration Management of the documentation, which could be assessed remotely.

For the Configuration Management of documentation, the IPO/IV&V Team found no issues throughout the duration of our efforts. Through the use of tools, such as eRoom and JCC web sites, the Configuration Management of documentation was periodically assessed and found to be controlled.

System Development Quality and Progress

At the System Development level, the initial development of the CCMS V4 system was on-track with respect to the Project schedule. In addition, the system design was being developed in accordance with industry standards. However, at the lower-level, problems were beginning to emerge—these problems were not being detected and reported by Deloitte QA, but rather were found by the AOC Software QA team. The AOC Software QA Team began identifying problems, such as untrained developers, skipping of code reviews, and lack of adherence with the coding standards in June 2009. The problems identified were provided to Deloitte, but coding issues were still identified late in testing that forced a restructuring and re-accomplishment of all levels of testing completed. Software Quality is further discussed in the Quality Management section of this report.

While System Development was being performed in accordance with industry standards, one practice that was not being performed in accordance with standards was the clear and consistent documentation of trade-off decisions made during the development process. As always, architectural decisions are based on the non-functional aspects of a system, such as reliability, maintainability, modifiability, security, and performance—and not the functional needs. Thus, the architectural decisions made by the team must be well documented to understand why certain tradeoff decisions were made as well as how the decisions were balanced against other competing non-functional needs of the AOC, such as high security conflicts with high performance. Without this type of documentation,

more time and effort could be required to revisit and reanalyze past decisions and, ultimately, increase the risk that past mistakes could be repeated. However, ISD was actively participating in the Architecture Team and had visibility into the decisions that were made and the rationale for them.

During the development of the system, trade-offs decisions were required to be made due to conflicting requirements, such as performance and security. When these trade-off decisions were made, the rationale for why one option was selected over another were not documented in a single consistent repository, but are instead documented in individual presentations, reports, or other artifacts. This creates a difficulty in reviewing the rationale for individual decisions as well as across different trade-off decisions to ensure that rationale is consistent.

The IPO/IV&V Team recommended that the team decisions be better documented to understand why certain tradeoff decisions were made as well as how the decisions were balanced against other competing non-functional needs of the AOC. Without this type of documentation (e.g., tradeoff matrix), more time and effort could have been required to revisit and reanalyze past decisions and, ultimately, increased the risk that past mistakes were repeated. Although ISD actively participated in the Architecture Team and had visibility into the decisions that were made and the rationale for them, a tradeoff matrix was not developed.

Quality Management

Early in the Project, the IPO/IV&V Team reviewed the Quality Assurance (QA) Plan and found that the Plan was product centric, which is defined as Quality Control (QC) and not Quality Assurance. QA is process-centric and strives to improve the quality of an artifact as it is being developed, not after it has been developed. While the revised version of the QA Plan included a discussion of how quality activities would be inserted into the deliverables development process, the plan still mainly focused on after-the-fact reviews—or quality reviews after the deliverable is developed. The IPO/IV&V Team findings were reported to the AOC Project Management Team concerning the impact of only reviewing the product, and not the process on how the product is built. Regardless, the final approved version of the QA Plan was still product centric.

In addition, the IPO/IV&V Team reviewed the format and content of the QA Report developed by the Project. Early in the Project, the QA Report was very detailed and provided specific data. However, the data was presented in raw numbers, without time correlation, and were difficult to read; no metrics were provided to indicate and report trends. Thus, the report may not have been useful to CCMS-V4 management unless the managers had sufficient time to analyze the data themselves and made the effort to draw their own inferences and conclusions based on that data. As such, managers could not assess if the project quality was getting better or worse based on the data provided in the QA Report and there was increased risk that, without these good management indicators, management could not recognize problems before they impacted the Project—only after they impacted the Project.

In November 2008, the IPO/IV&V Team identified a significant change in the content of the QA Report. The QA Report changed to be a management status report that included such items as Critical Path/Key Timeline Concerns, Contract Issues, Project Resources, etc. The QA focus on managing and reporting quality was removed from the report. While the IPO/IV&V Team reported this finding to the AOC Project Management Team, we were informed that the new report content is the level of information they wanted in the report. The IPO/IV&V Team concern over the lack of QA and QC reporting in the QA Report continued through the Project. Though the AOC SQA Team produced a few QA Reports that were more typical of a QA Report than the QA Report delivered by Deloitte, these reports were only provided for 2 to 3 months and then stopped.

However, the Project did develop quality standards, such as User Interface Standard, Design and Coding Standard, and the CCMS-V4 Manual Checklists—which were positive trends with respect to QA. However, the IPO/IV&V Team identified that training on the standards as well as tying the standards to the development process would be required to obtain the benefits of the standards.

While Deloitte was required to have and maintain a CMMI Level 3 assessment throughout the entire CCMS V4 Project, which they did, the IPO/IV&V Team expressed concern over the software development processes and practices used for the CCMS V4 Project. The CMMI Level 3 assessment awarded to Deloitte was a non-focused assessment of Deloitte corporate wide and not specific to the processes and practiced used on the CCMS V4 Project. Later in the Project, the AOC contracted for a focused CCMS V4 specific assessment and the Project was assessed as deficient in meeting the Level 3 requirements in areas such as risk management, requirements development, integrated project management, measurement and analysis, and process and product quality assurance. From the IPO/IV&V Team's perspective, the AOC SCAMPI Appraisal was consistent with issues that had been identified in the IPO/IV&V contracted effort.

Testing Practices and Progress

The IPO/IV&V Team reviewed the Test Plans for System and Acceptance Testing and only identified minor issues with both plans. However, the biggest issue the IPO/IV&V Team had with respect to testing was the inability to verify that the test cases and scripts were complete and tested all of the detailed Final Functional Design requirements, which is horizontal traceability. Without this ability, it was unknown if all requirements were tested.

Testing Resources

During the execution of the testing, the IPO/IV&V Team reviewed the testing data, metrics, and participated in conference calls to be aware of the discussions and plans to remediate identified testing issues. Prior to Acceptance Test execution, the AOC Project Team identified a deficiency in the number of resources available to perform testing and performed the necessary actions to obtain the needed resources. Yet, over the course of the development project, the CCMS-V4 Project Team did a commendable job thinking

creatively and persuasively to encourage Court subject matter experts to participate in the development—ultimately, securing the needed level of testing resources.

System Testing

Industry standard System Testing should test/validate that every requirement and every possible process exception functions are required; this type of testing is not typically performed in either Integration Testing or in Product Acceptance Testing (PAT). In CCMS-V4 Integration/PAT, the subject matter experts execute test scripts developed only for the typical court processes—this testing formed the basis for approving the CCMS-V4 product. Thus, System Testing is important to ensure all requirements are tested and validated.

In 2009, the Deloitte sent the IPO/IV&V Team a small sample set of System Test scripts, which the IPO/IV&V Team was able to verify, that the Use Cases were included in the System Test traceability for the sample set Deloitte selected and provided to us for review. However, the IPO/IV&V Team could not confirm that every Use Case and every requirement within the use cases traced to a System Test script or whether these scripts were actually executed during System Test.

Integration Testing

In late 2009, the AOC expressed concern that the development effort was running behind schedule, the outstanding defects had not been resolved, and the application appears unstable and experiences down times. Moreover, during each of the testing sessions, the Court/AOC testers found approximately 4 to 5 times the number of defects per script than the Deloitte testers. Since both Deloitte and the SMEs developed, wrote, and reviewed the scripts, this high of an error rate is unusual and may partially indicate that the scripts were not reviewed as thoroughly as needed (especially given the large volume of scripts that had to be reviewed). The lack of a thorough review may have been due to the tight schedule, the design still being finalized while the scripts were being reviewed, non-availability of court resources, or various other reasons.

As a result of this information surrounding Integration Testing, the IPO/IV&V Team was concerned that the application was not sufficiently integration tested in order to proceed forward into the PAT Testing phase. Our concern was that if PAT commenced prematurely, the resulting application could have had many defects preventing the Courts from using the application in production, needed many iterations to correct the application prior to going live, and potentially not have met the needs of the Courts.

Product Acceptance Testing

Several good practices were employed during this stage. For instance, the CCMS-V4 Project Management Office informed the IPO/IV&V Team that AOC/Court testers are performing "ad hoc" testing deviating from test scripts (or not using a test script at all) to find defects that might not otherwise be discovered (such as entering incorrect data to see how the system behaves)—practices that are of great value to the quality of the CCMS-V4 product and any issues noted can be used to improve the overall quality of the CCMS-V4 Product. Additionally, a variety of test defect metrics were captured, analyzed, and

tracked throughout the PAT process to ensure timely resolution and keep the testing effort on track.

Test Case Traceability

Beginning in November 2010, the IPO/IV&V Team focused on the Project's testing practices to ensure that all of the requirements were tested and that there were test cases associated with each requirement (basically the horizontal traceability (coverage) of requirements to test cases). At that time, the IPO/IV&V Team was unable to verify that all of the requirements were in HP Quality Center.

Over a seven-month period, the IPO/IV&V Team worked with the CCMS-V4 Project Team to address issues related to requirements traceability and approved baseline requirements. Ultimately, traceability at a high level was provided and our issues were closed. The resulting traceability allowed the identification of a set of potentially impacted test cases whenever a requirement (in a group of requirements) changes. This is performed by having all tests cases associated with a use case identifier traced to the identifier number; then, when a requirement within a use case changes, all test cases associated with the use case identifier would need to be reviewed to determine if the test case is impacted and needed to be modified. The IPO/IV&V Team performed an analysis between the data documented in the Version 7 set of requirements and the use case identifiers documented in HP Quality Center. We were able to verify that all of the high level requirement identifiers documented in the Version 7 set of requirements are also in HP Quality Center and that these identifiers are associated with a test cases.

This traceability is based on business requirement identifiers (e.g. use case titles) from FFD Section 36 to test cases, not at the level of tracing each business requirement identified in a use case to a test case. While detailed requirements identification and the subsequent tracing of the detailed requirements to test cases is often performed for Federal and State IT projects using Computer Aided Software Engineering (CASE) tools (typically done when requirements are being identified), detailed requirements identification and the subsequent tracing to test cases was not done for CCMS-V4 even though the CASE tools were available and used in other areas of the CCMS-V4 Project as noted in prior monthly IPO/IV&V reports.

Since the CCMS-V4 Project did not begin identifying requirements at a detailed level with CASE tools early in the development, the approach used to identify requirements at a higher level using requirement identifiers/labels (where each identifier/label identifies a group of related requirements) was reasonable considering the extensive effort that would be required to go back and identify requirements at a detailed level and trace each to a test case at this stage of the CCMS-V4 Project Development. Moreover, it does allow the tracing of impacted test cases whenever a requirement (in a group of requirements) changes by tracing the requirement identifier/label to the associated test cases—although all associated test cases would need to be reviewed to determine the specific test case(s) impacted.

The risk of using this approach was that it could not be demonstrated or proven that all detailed requirements had been tested, although a sampling approach could be used and

was used by the IPO/IV&V Team to achieve some unquantifiable level of confidence of the details being tested. At some point in time, the impact of these potential requirements that may have not been tested may ultimately be realized when transactions are executed by the Courts and additional defects discovered upon execution. While the level of PAT performed may have lowered this risk, the IPO/IV&V Team does not know the extent of ad hoc, or non-test script, testing that was performed. Thus, the successful completion of test scripts does not mitigate or lower the exposure of the Courts to this risk.

Appendix A: Summary Matrix of Areas of Concern

In addition to the IPO/IV&V Team observations, suggestions, and comments provided in the monthly reports, the IPO/IV&V Team also captured more significant or overarching areas of concern in a matrix format. On the following pages, we provide a comprehensive listing of all IPO/IV&V areas of concern reported over the course of the development project, our recommendations, and the action taken by the CCMS-V4 Project Team.

Item Number	Date Area of Concern Opened	Date Area of Concern Closed	Area of Concern	Recommendation	Resolution
Jul07.1	July 2007	June 2009	Aggressive schedule	The schedule should be reviewed to ensure that ample time has been allocated to each phase of the Project.	While the IPO/IV&V Team believes the schedule will remain aggressive for the duration of the Project adding to project risk, the RPO and AOC have extended the schedule through contract amendments. At this point, the RPO and AOC have accepted the project risk as neither the schedule nor the budget can be changed.

Aug07.1	August 2007	April 2008	JAD Schedule	There does not appear to be a comprehensive schedule of JADs so that participants can plan time accordingly. Thus, Deloitte Consulting should prepare a detailed schedule that sets realistic timeframes needed to JAD each functional area and ensure the schedule is agreed to by all relevant parties.	JAD scheduling has improved to the point that this is no longer an area of concern. Consequently, this item has been closed. Deloitte Consulting has been diligent in setting and adhering to its JAD schedule. As the Project enters the final design stage, participants appear able to plan time accordingly to ensure they are available to participate in tracks as needed and share their subject matter expertise. Meetings were also held to hear concerns that more time was needed to review developing requirements—resulting in more time added to the overall project development schedule.

Sep07.1	September 2007	June 2008	Requirements Gathering	Ensure that a detailed JAD schedule includes a plan for how the workflow inter-relationships will be addressed.	The AOC has implemented a requirement review process that will be conducted both vertically (within a given subject area) and horizontally (within a business process that crosses subject areas. This step should help address some of our concerns. However, since the final design is nearing completion, there is little value in fully mitigating this concern.
Oct07.1	October 2007	August 2008	Project Oversight Activities	Assign person in role of day to day project management responsible for ensuring that issues are resolved timely, do not impact downstream work efforts, and are not in conflict with other project activities, legal provisions, or branch policy.	Bob and Sean have established a seamless working relationship. Bob has ultimate responsibility for all project management activities. Sean's focus rests with coordinating the FFD review, reporting to the Steering Committee, and following up on issues with the V4 Court Project Managers.
Oct07.2	October 2007	June 2008	JAD Session Documentation	Utilize new template or other mechanism to document detailed JAD Session minutes including areas of discussion, results or actions taken, agreements reached, and issues raised as well as distribute timely for approval.	Since the final design is nearing completion and most JAD sessions had already been held and scheduled, there is little value in mitigating this concern.

Oct07.3	October 2007	May 2008	Governance Structure and Escalation Process	Clarify and establish the complete governance structure to eliminate confusion related to issue escalation process and decision-making.	The CCMS Governance Model appears to be in use and effective in allowing participation in project decisions regarding project scope, cost, and schedule.
Apr08.1	April 2008	June 2009	Unclear Requirements	Review the requirements to determine the types of clarifications needed for understanding in order to avoid confusion during downstream activities such as coding and preparing for testing. As of our 09-2008 review of the FFD, we have suggested the following additional recommendations: 1. Identify and evaluate subjective text in FFD (such as may or could) and clarify within the context of use; 2. Perform a traceability exercise to link use cases to business rules—again to reduce need for individual interpretation; 3. Review business rule part of each section to ensure complete and clear rules have been incorporated into the use case. 4. Evaluate pre and post-conditions to ensure they are correct and complete.	The IPO/IV&V Team has continued to express their concern that the ambiguity surrounding the interpretation of final requirements presents a risk to the construction and testing phases of the Project. Data is being captured by the AOC Software Quality Assurance Team during early testing that should assist in defining the extent of the problem and any future concerns will be raised as part of the testing assessment.

Dec08.1	December 2008	February 2009	Standardization and Configuration	It is not clear what impact the Standardization and Configuration requirements will have on the FFD and on long-term maintenance of the application. Once all Standardization and Configuration requirements have been defined, the requirements should be traced back into the FFD and reviewed again.	The RPO Management Team reported that the Standards and Configuration Management Group will determine whether configurable items are statewide standards or local configurations and that these decisions will not impact the FFD.
Dec08.2	December 2008	February 2009	Single Point of Contact for ISD	A single point of contact should be established for AOC that can track and manage daily progress on ISD-related activities	It was clarified that Virginia Sanders-Hinds is the single point of contact with the authority to make decisions on behalf of ISD.
Mar09.1	March 2009	July 2009	Justice Partners (Interfaces) Plan	Determine the state and progress of the common "State" interfaces which are currently being reviewed by the Justice Partners and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Statewide Justice Partners will participate in PAT.
Mar09.2	March 2009	July 2009	Document Management Plan	Determine the state and progress of the agnostic "generic" interface to support any existing document management solution and assess the progress for project schedule impact.	The CCMS-V4 Project Team has clarified that the Lead Courts which use FileNet are scheduled to test this interface during PAT.
Aug10.1	August 2010	October 2010	PAT Plan	Either modify the PAT Plan or establish risks for each of the points identified by IPO/IV&V in this report and implement appropriate corrective actions to mitigate the risks.	The IPO/IV&V Team reviewed version 1.4 of the PAT Plan and found that all previous concerns have been remedied.

Jan11.1	January 2011	May 2011	Requirements Traceability	Ensure all baseline requirements are approved and trace to an applicable test case. Suggested methods to achieve traceability included: 1) link the "Not Covered" requirements with existing test case, (2) create a dummy test case and link those requirements that are not testable to that dummy test case, and (3) develop and execute test cases for the remaining requirements as needed to ensure coverage of all requirements. In addition, identify or establish requirements baseline and synchronization mechanisms with other requirement repositories.	Deloitte Consulting Provided a high-level requirements identifier traceability matrix between the approved baseline (version 4), current requirement used in testing (Version 7), and applicable high-level test case identifiers. Additionally, the IPO/IV&V Team was provided with Deloitte contract amendment 94 showing approved ADR requirements that documented the approved changes between Version 4 and Version 7 of the requirements.

Apr10.1 (Revised)	April 2010	July 2011	QA Report Metrics and CMMI Level 3 Compliance	Continue the use of metrics in the QA Reports, but include a definition or interpretation of all metrics shown in the reports. In addition, as of April 2011, we requested additional items mentioned in the QA Report to address concerns. We also recommend that the CMMI recertification be changed from an unfocused assessment on general Deloitte practices to a specific CCMS-V4 product focused assessment contracted for by the AOC.	It does not appear that the IPO/IV&V Team feedback on QA Report 9 in February & March 2011 will be addressed since the report is not revised. Also, in July 2011, the IPO/IV&V Team was provided some items requested that partially resolved our concerns. Additional data was requested and received for further review. While not all of IPO/IV&V Team concerns were addressed, we are closing the item since the CCMS-PMO is aware of our concerns and long term impacts of our findings— moreover, the opportunity to take corrective action has passed. Moreover, the AOC has contracted with an outside vendor to conduct a CCMS-V4 product focused assessment; work began on the SCAMPI review in June 2011. Thus, our concerns have been addressed.

Appendix B: Artifacts and Documents Reviewed

Over the course of the IPO/IV&V effort, the team reviewed a multitude of documents, artifacts, and deliverables including, but not limited to, those listed below:

1. Activity Diagrams
2. Annual Reports to the State Legislature
3. Architecture Presentations and Topics
4. Batch Job Specifications
5. Batch Printing Documentation
6. Budget Process Documents
7. Calendar for SME Involvement
8. Calendar for SMEs Documentation
9. Case Assignment Scope Documentation
10. CCMS Executive Updates
11. CCMS Forms Summit Documentation
12. Change Control Plan
13. ClearCase Logs
14. Code Review Checklists
15. Communication Management Documentation
16. Configuration Bulk Loading Documentation
17. Configuration Management Plan
18. Consistency JAD - Participant Roles and Stages
19. Consistency JAD Documentation Tracker
20. Core Business Requirements
21. Core Business Rules
22. Core FindBugs Summary Trend Reports
23. Core PMD Summary Trend Reports
24. Cross-Track Schedule
25. Decisions Document Summary
26. Deloitte CMMI Process Assessment
27. Deloitte Contract and Statement of Work
28. Deloitte Process Training Documents
29. Delivery Process Document
30. Deployment and Development Updates
31. Design and Coding Standards
32. Detailed Calendar for SME Involvement
33. Development and Test Infrastructure Design
34. Development Code Review Checklist
35. Development Packets
36. Development Services Status Reports—weekly
37. Dev Tracker Documents
38. Draft Development Process Document
39. E-filing Impact on Core Application Documentation
40. Executive Status Reports
41. FFD Review Schedule

Appendix B: Documents Reviewed (continued)

42. Final Functional Design
43. Form/Notice Mock-ups and Specifications
44. Function/Action List
45. Governance Model
46. Guiding Principles
47. Information Architecture Framework
48. Integration Test Plan for Core and External Components
49. Intermediate Functional Design
50. JAD Session Minutes
51. Joint Application Development (JAD) plan
52. Product Acceptance Test Plan for Core and External Components
53. Payment Distribution requirements
54. Phoenix Design JAD material
55. Portal FindBugs Summary Trend Report 20090622
56. Pre and Post-Conditions
57. Project Communication Plan
58. Project Management Plan
59. Project Oversight Plan
60. Project Quality Assurance Plan
61. Project Review Board Reports
62. Project Risk Management Plan
63. Project Schedule
64. Quality Assurance (QA) reports #1 through #9
65. QA Code Analysis Trend Reports
66. Release Management Process
67. Release Management Standards and Naming Conventions
68. Report Mock-ups and Specifications
69. Requirements Engineering Plan
70. Requirements Traceability Matrix
71. Resource Planning Update
72. Responsibility Matrix
73. Risk Management Supervisor File
74. Screen Mock-ups and Specifications
75. Specialized and Generalized Calendar Types
76. Standardization and Configuration Track Schedule, Communication, Documentation
77. Statewide Reporting Data Warehouse Documentation
78. Steering Committee Action Items and Items for Management Attention
79. Steering Committee Action Items Lists
80. Steering Committee Agendas
81. Steering Committee Key V4 Design Issues
82. Steering Committee Minutes
83. Steering Committee Presentations
84. Stress Plan for External Components
85. System Architecture

Appendix B: Documents Reviewed (continued)

86. System Testing Scenarios - Core with Data Exchanges Artifact
87. System Use Cases
88. Technical Architecture
89. Test Scenarios
90. Test Scripts
91. Test Strategies
92. Testing Staffing Plan
93. Training Plan
94. User Interface and General Standards
95. V2 and V3 Monthly Status Reports
96. V3 Defects List
97. V3 Deliverables
98. V3 Development Standards Documentation
99. V3 Enhancements List
100. V3 Minute Codes Documentation
101. V3 Quality Reports
102. V3-V4 Joint Batch Design JAD
103. V4 Standardization and Configuration Comment Response
104. V4 CIO Briefing Meeting Minutes
105. V4 CIO Briefing Presentation
106. V4 Configuration Items Tracking
107. V4 Development Amendment Status Report
108. V4 Development Budget Report
109. V4 Development Services Deliverables
110. V4 Folder Structure and Promotion Path
111. Venue Transparency JAD Materials

Appendix C: Standards Applied—External and Internal

Part of the IPO/IV&V efforts compared the processes, documentation, and protocols employed on the CCMS-V4 Development Project with best practices used in the industry as well as the Project's own developed standards such as the following:

- CMMI Level 3 requirements
- CCMS User Interface (UI) Standard
- CCMS Design and Coding Standard
- V4 Manual Checklist

Additionally, we compared the CCMS-V4 efforts and activities in our review focus areas with nationally recognized software engineering standards including Quality Attributes (as identified by the Software Engineering Institute (SEI) and Parametric models (developed by the University of Southern California's Center for Software Engineering and the US Air Force) in addition to those shown below:

Standard Number	Subject
730 (or 703)-1998	Standard for Software Quality Assurance Plans
828-1998	IEEE Standard for Software Configuration Management Plans
829-1998	IEEE Standard for Software Test Documentation
830-1998	Recommended Practice for Software Requirements Specifications
982-1988	IEEE Standard Dictionary of Measures to Produce Reliable Software
1008-1987	IEEE Standard for Software Unit Testing
1012-2004	IEEE Standard for Software Verification and Validation
1016-1998	IEEE Recommended Practice for Software Design Descriptions
1028-1997	IEEE Standard for Software Reviews
1045-1992	IEEE Standard for Software Productivity Metrics
1058-1998 et sec.	IEEE Standard for Software Project Management Plans
1061-1998	IEEE Standard for a Software Quality Metrics Methodology
1063-1987	IEEE Standard for Software User Documentation
1074-1997	IEEE Standard for Developing Software Life Cycle Processes
1156.2-1996	IEEE Standard for Environmental Specifications for Computer Systems
1219-1998	IEEE standard for Software Maintenance

1220-1998	IEEE Standard for Application and Management of the Systems Engineering Process
1228-1994	IEEE Standard for Software Safety Plans
1233-1998	IEEE Guide for Developing System Requirements Specifications
1298-1992	IEEE Standard Software Quality Management System
1362-1998	IEEE Guide for Information Technology System Definition/Concept of Operation Document
12207-1996 et seq.	IEEE/EIA Standard: Industry Implementation of International Standard ISO/IEC 12207:1995 Standard for Information Technology - Software Life Cycle Process
12207.1-1997	Standard for Information Technology – Software Life Cycle Process – Life Cycle Data
ISO 15504	Software Process Improvement and Capability Determination
SEI-SA-CMM Version 1.03	Software Acquisitions Capability Maturity Model
Meta Group-2002	Building Operational Excellence-IT People and Process Best Practices