USAID | Administration of Justice Support Project

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TDY Report
Ministry of Justice Egypt

ADMINISTRATION OF JUSTICE SUPPORT (AOJS) II
ACTIVITY SUPPORT

USAID/MCIO/BCCS Assessment Team
November 25 - December 5, 2007

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Prepared by:
USAID/MCIO/BCCS

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1.0 EXECUTIVE SUMMARY:

The purpose of the Administration of Justice Support (AOJS) II program is to provide enhanced capability for Egypt's Ministry of Justice and the Courts. A series of projects will assist the judiciary in automating the various administrative functions within the courts to improve efficiency and systemic connectivity. The AOJS and follow-on AOJS II initiatives have been an on-going concern since 1996 and has involved the design and acquisition of a complete infrastructure system, including hardware and software, for facilities located at the Courts of First Instance in Alexandria and Mansoura, the National Center for Judicial Studies (NCJS) Offices in Cairo and Alexandria, and the Judicial Information Center (JIC) Office in Cairo. The more recent AOJS II contract calls for AMIDEAST to provide technical assistance, training, and equipment procurement services to improve the efficiency of Egyptian Courts of First Instance, and to build capacity for support in the Ministry of Justice (MOJ).

In September of 2007, USAID Egypt requested a mid-term evaluation of the operational sustainability of the AOJS program by the USAID/MCIO/BCCS team. The team responding to this request has identified a set of recommended activities, stated below and condensed in Appendix C, designed to improve the operational sustainability of the overall AOJS II system. These activities cover four areas of evaluation: the ECMA case management system, help desk operations, judge's research room efficiency, and the Web site sustainability.

The assessment team has determined that both the MOJ and the USAID project teams are harmoniously integrated, proud of their accomplishments to date, and actively seeking ways to optimize their operation. The growing staff of the MOJ in particular is enthusiastic about their work. The USAID/MCIO/BCCS team's major findings are as follows:

- The AOJS project has experienced great success to date through the strong partnership of the MOJ, USAID, and their contractors.
- The AOJS project effort has achieved foundational capabilities in all four of the evaluated categories.
- There are critical gaps in security, help desk, and metrics although these are widely recognized and are in the process of being addressed.
- There are infrastructure and personnel gaps which will need to be addressed as the number of sites expands.
- The project should encourage further development of expertise in architecture, analysis (network and business), and security areas to facilitate future efforts.

The recommendations provided herein will be reviewed by USAID/Egypt and the MOJ. They will then make a determination of the value and level of effort to pursue each effort.

2.0 GLOSSARY OF TERMS

	Acronym	Full Title
1.	AIIM	Association for Information and Image Management
2.	AOJS	Administration of Justice Support Project
3.	AOJS II	Administration of Justice Support Project II
4.	ARMA	Association of Records Managers & Administrators
5.	BCCS	Business Consulting and Client Services
6.	BPM	Business Process Management
7.	CIO	Chief Information Officer
8.	CISSP	Certified Information Systems Security Professionals
9.	CO	Contract Officer
10.	CTO	Cognizant Technical Official
11.	EA	Enterprise Architecture
12.	ECMA	Electronic Case Management Application
13.	HP	Hewlett Packard
14.	ICT	Information and Communications Technology
15.	ISS	Information Systems Security
16.	IT	Information Technology
17.	IV&V	Independent Verification & Validation
18.	JIC	Judicial Information Center
19.	M	Management
20.	MOJ	Ministry of Justice
21.	NCJS	National Center for Judicial Studies
22.	QA	Quality Assurance
23.	SLA	Service Level Agreements
24.	TDY	Temporary Duty
25.	XML	Extensible Markup Language

3.0 BACKGROUND:

The purpose of the AOJS II program is to provide enhanced capability for Egypt's Ministry of Justice and the Courts. A series of projects will assist the judiciary in automating the various administrative functions within the courts to improve efficiency and systemic connectivity. The AOJS and follow-on AOJS II initiatives have been an on-going concern since 1996 and has involved the design and acquisition of a complete infrastructure system, including hardware and software, for facilities located at the Courts of First Instance in Alexandria and Mansoura, the National Center for Judicial Studies (NCJS) Offices in Cairo and Alexandria, and the Judicial Information Center (JIC) Office in Cairo. The more recent AOJS II contract calls for AMIDEAST to provide technical assistance, training, and equipment procurement services to improve the efficiency of Egyptian Courts of First Instance, and to build capacity for support in the Ministry of Justice (MOJ).

In 2005, AOJS II began working in two Courts of First Instance— Alexandria and Mansoura— and has now assumed responsibility for deployment in additional Courts of First Instance (and four related satellite locations). In addition, USAID has recently extended the scope of AOJS II to cover automating Mediation Offices for Family Justice Cases using the same network. The USAID value of the AOJS II procurements since 2005 is $5,570,000 USD. The procurements have included servers, desktop and laptop computers, peripheral devices such as printers and scanners, network equipment, software, and services.

4.0 OBJECTIVE:

The purpose of the initial needs assessment TDY was to conduct a mid-term review of the AOJS II project in Egypt. During this TDY, the team from the USAID Headquarters in the Washington, DC Office of M/CIO/BCCS performed a series of interviews with USAID/Egypt management and program, MOJ, and the AOJS II contractors. During their investigation, the team documented their understanding of the following in order to complete their assessment and recommend solutions:

- **ECMA:** Review the support structure, efficiency, and quality assurance process for the software applications in the Mansoura Court of First Instance (main review should focus on operational model rather than the software itself).

- **Help Desk:** Review the JIC's ability to support and monitor network and court operations through the Help Desk.

- **Judge's Research Room:** Review the efficiency of the Judges' Research Room in the Mansoura Court of First Instance.

- **Web Site:** Review the Operational (not content) Sustainability of the MOJ Web sites.

- **People:** Review the organizational and human resource structure in place to support the MOJ and AOJS II system.

- **Processes:** Review the current processes and procedures in place supporting the MOJ and AOJS II system.

- **Infrastructure:** The information and communications technology (ICT) infrastructure supporting the MOJ and AOJS II system. This includes computers, networks, and legacy systems currently in place or currently under procurement.

- **Policy:** The policies governing the function of the MOJ and AOJS II system.

In the context of the above, the outcome of this analysis provides USAID/Egypt with a documented needs assessment, including an initial set of findings and recommendations. USAID/Egypt and the MOJ will analyze these findings and recommendations and identify and prioritize those activities it wishes to undertake.

5.0 FINDINGS AND RECOMMENDATIONS:

Based on a series of interviews with the representatives from the MOJ, the USAID/Egypt team, AMIDEAST, and contractors, the TDY Assessment Team was able to determine an initial set of findings regarding the current AOJS II project environment within the Egyptian Ministry of Justice. The team then analyzed the findings to develop an appropriate set of recommendations which USAID/Egypt and the MOJ could apply in order to proceed with further AOJS implementation.

Although these recommendations center on the provision of an IT solution(s) in four functional areas, their scope is broader in nature, focusing on the IT aspects of these additional four areas: people, processes, infrastructure, and policy. This approach reflects the fact that functional IT solutions are often linked across organizations in broader considerations. The findings and recommendations are provided below accordingly. Combined, the set of recommendations provides an integrated approach to the AOJS implementation necessary for success in both the near and long-term environment.

The recommendations vary in the degree of complexity and level of effort required to execute them and have been classified accordingly. The following provides a generalized description of the varying levels of effort:

- **Low:** Relatively easy to implement in the short-term; require a low level of effort; require a low level of financial or staff resources; has little or no dependency on other recommendations.

- **Medium:** Relatively more complex to begin implementation in the short-term; require a medium-term timeframe in which to complete; may require the completion of precedent

recommendations/tasks; require some level of financial or staff resources; tend to require more than one interrelated set of activities or tasks.

- **High:** Most complex to implement; require a long-term approach, commitment, and timeframe to complete; may require the completion of precedent recommendations/tasks; require major level of financial or staff resources; requires several interrelated sets of activities or tasks.

5.1 ECMA:

5.1.1 QUALITY ASSURANCE (QA)

Finding: Quality assurance is not formalized in ECMA I and is highly dependent on human capabilities. Audit tools are available but quality as a discrete process is not built into the current ECMA system.

Recommendation: Quality should be introduced into the ECMA workflow at several steps in the process in particular the front desk and electronic archiving steps. This could be introduced as a discrete part of the workflow or done post capture through viewing tools currently in the system. In general, QA is best done systematically prior to the user visibility to prevent erosion of confidence in the system. The amount of QA done in the system should be statistically significant but for the volumes of the ECMA system can be from 1% to 5% of the transactions. QA can be used to audit individuals or groups. It can also be used as part of a training transition to monitor the work of newly hired employees or as part of specialized audits. The QA step itself can be executed by a departmental supervisor, a discrete QA team, or by the IT department.

Recommended Deliverable: **Quality assurance audit of sample ECMA operation**
Level of Effort: **Low to Medium**

5.1.2 BAR CODING

Finding: The current ECMA system receives a file folder from the lawyer and carries this folder through subsequent processing steps. Printed case information is produced at the front counter and attached to the submitted documentation. This case information is re-keyed or hand logged at different steps in the process.

Recommendation: In many operations, physical records are controlled by the means of applied bar codes which minimize the amount of data entry and potential error introduction further in the system. Bar codes can consist of a sequential number or can incorporate the proper case number as generated by the ECMA system – making it both machine and human legible. Enhancements to the current front counter operation should incorporate a bar code printer (s) with a workstation. Bar codes could be centrally generated and applied when the folder comes to the centralized review desk. This would eliminate the need for current paper log. While savings might be minor at the current front desk and electronic archive steps, the folder can be better tracked as it moves to the physical archival areas.

Recommended Deliverable: **Evaluate cost benefit of bar coding from front counter**
Level of Effort: **Low to Medium**

5.1.3 ELECTRONIC ARCHIVE (SCANNING PROCESS)

Finding: The current ECMA electronic archiving process has implementation inefficiencies which are only addressed by high labor quality. Currently, the operator does both the preparation and scanning at a single desk which is insufficiently sized. A copier is available at Mansoura but is not centrally located for the operators. Scanners are non-duplex although many documents are dual sided. Currently, the operator scans both sides of the document set and manually assembles the electronic version. When both sides of the document are scanned there is no whitespace detection implemented in the software to assist the operator in deleting pages. No thumbnails are displayed for the operator to easily rearrange the documents; the operator has to use a drop down listing of pages for manipulation. The operator uses single page feeds and does a manual count which avoids double feed issues.

Recommendation: The operation is inefficient but is likely adequate given the volumes and high quality of labor. As mentioned in recommendation 5.1.1, a QA process should be introduced and can be used to validate this. While changes to the software are not likely given the advanced state of deployment, consideration should be given better planning of future scanning areas. A proper preparation area should be centralized and easily accessible for all operators. It should be equipped with all materials needed such as staple removers, tape, staplers, etc. It should be collocated with a copier, so operators can use the copier instead of the scanning process.

Recommended Deliverable: **Same as 5.1.1**
Level of Effort: **Low to Medium**

5.1.4 PHYSICAL ARCHIVE AND SCANNING

Finding: Physical documents from the current ECMA process are stored in an on-site semi-active archive. Files are stored loosely on available shelf space; different rooms house various calendar periods. Files are logged manually. Requests for file production are initiated directly at the archival areas. A significant number of requests are received daily. Eventually files are moved to a central national archive.

Recommendation: Files should be stored in a box structure for better handling and protection. The existing rack structure would be sufficient. If a decision is made to incorporate bar coding, it can easily be expanded to include boxes in the archive rooms as well as their folder contents. If efficiently implemented, the archive could be serviced with a single workstation to minimize cost. If linked to the ECMA system, requests could be serviced directly at the front counter. Since it is likely that document requests may be related to a new court action, consideration could be given to scanning from the archive using the existing scanning capability. Users could select, perhaps for an additional fee, to receive documents in a scanned format.

Recommended Deliverable: **Evaluate cost benefit of physical archive scanning**
Level of Effort: **Medium**

5.1.5 PROJECT DOCUMENTS AND TRACEABILITY

Finding: Basic project artifacts are incorporated in the ECMA project but are not timely enough in their development to have maximum impact.

Recommendation: The ECMA project needs to have timely production of core artifacts at the proper time in the project lifecycle. At a minimum, these artifacts should include functional requirements, technical requirements, design documents, use cases, and test plans. Traceability through these documents will become more critical to success as the complexity of the environment grows. The discipline in the production and enforcement of these will be valuable to the MOJ not only with current efforts but all future projects.

Recommended Deliverable: **Review current project documents for completeness with project management standards**
Level of Effort: **Medium**

5.1.6 FILENET COMPONENTS

Finding: Filenet is an underlying component of the ECMA architecture.

Recommendation: While not a specific recommendation, the AOJS team should understand that the Filenet system is a high-end solution not currently fully utilized in the ECMA solution. Filenet is generally considered an expensive solution with license and labor rates usually 50 to 100% higher then mid-tier solutions, commonly used for archival systems. It is expected that the project has already given consideration to the vendor support and life cycle costs of this technology selection. Availability of in-country resources and support should be understood.

Recommended Deliverable: **Evaluate current IBM/Filenet support pricing for Egypt review competitive pricing to validate Filenet choice.**
Level of Effort: **Low**

5.2 HELP DESK:

5.2.1 HELP DESK PLANNING

Finding: No current help desk capability exists to review. The planned HP Openview solution has not been implemented and planning is minimal. Detailed planning is set to begin this month. In discussions with project personnel, there were valid reasons to postpone this effort but the appropriate staff is in place to begin this effort.

Recommendation: Incorporation of a help desk is significant to the success of the AOJS program. The court at Mansoura has 150 users meaning that each subsequent implementation expands the base. The implementation must incorporate the Level 1 staff at the courts as well as the supporting vendors. Strong local operations may complement higher levels of support but must operate in an integrated model. It should serve as the single point of entry for issues in the system. The help desk must encompass an implemented desktop management solution. The help desk should incorporate troubleshooting trees for each of the supported

applications/systems. Information gathered in the help desk system in supporting users should feed back into the training plans. Depending on user characteristics, the help desk system may incorporate a Web portal model and should also be expanded to support the Judge's Research Room solution, which will support a large number of seats. While a previous model was developed, a traffic model for the help desk must be updated with a proper set of requirements. Staffing plans, funding, resources, and training must be identified in the planning effort.

Recommended Deliverable: **Initiate help desk planning effort**
Level of Effort: **Medium**

5.3 JUDGE'S RESEARCH ROOM:

5.3.1 CURRENT SOLUTIONS

Finding: The team reviewed two current systems supported by the MOJ as well as held discussions with Ladis, an AOJS project subcontractor, concerning their solution. Of the two JIC supported systems, the JIC believes that the new system has superior search capabilities. The JIC intends to continue to support the two versions for their user community. While we did have the ability to speak to the Judge's Research Room staff and Judge Hesham, we did not test either system. In general, the systems appear viable and the JIC has identified support staff for technology refresh and data updates.

Recommendation: Both the source and frequency of updates for the Judge's Research Room products is not clear at this time. If the JIC continues to support both solutions, consideration needs to be given to an integrated updating mechanism to prevent errors or needless duplication – perhaps based on an XML data interchange developed in the future. Since the application is clearly a product and not a capability, updating should become standardized with regular release periods. The decision to support the product is significant, the results of which should be clearly realized. Since the new version is intended to be installed by the Judges themselves, it should use one of the commercial distribution tools, especially as it has significant data components. A clear set of computer requirements must be defined and checked by the program prior to installation. An installation log should be produced to aid with troubleshooting. Depending on complexity, the JIC should consider a satellite model of installation making use of the court technical resources. Prior to deployment, the JIC should test as many of the identified user PC configurations as possible. Support for the application itself should be tied into the help desk application.

It can be difficult for operational organizations to also be product development organizations; often the resource demands for documentation, support, and testing are not clearly understood. In practice, development itself is often less then 40% of a product company's direct product effort. The JIC has identified staff for this but should continually evaluate development resources to ensure that a proper level of resources is available. Finally, with the addition of the new product, the MOJ should give consideration to evolution of the current Judge's Research Room staff. This could include providing them a broader set of tools for research on the internet or enabling them some role in collation of research and interim information development.

Recommended Deliverable: **Complete detailed product planning for launch**
Level of Effort: **High**

5.4 WEB SITES:

5.4.1 SUPPORT

Finding: None of the three targeted Web sites were cutover at the time of the review. Basic tools for content management and monitoring are in place. All of the MOJ and JIC staff have received basic training in the software. In addition, the JIC staff has skills in management of the Web site application itself. All of the sites are currently managed through a hierarchical content management model, which is appropriate to the MOJ agencies. The different agencies have stated a desire to directly host their own Web sites. Each site also desired to host a mirror English version.

Recommendation: The MOJ should move towards a hybrid model where Web sites are hosted directly by the IDSC with content management by the different Web tenants. This preserves the content independence for the users while allowing for the improved security and monitoring of the common hosting model. The JIC will have all responsibility for technical management and security to include site protection as well as screening of the uploaded tenant content. As the Web sites expand, the MOJ should consider putting in place a policy to limit English content to summary information only.

Recommended Deliverable: **Cutover Web operations using IDSC hosting capabilities**
Level of Effort: **Low**

5.4.2 ARCHITECTURE

Finding: The solution is well architected for the volume of traffic expected.

Recommendation: As mentioned in section 5.4.1, the MOJ should move towards a hybrid model where Web sites are hosted directly by the IDSC with the JIC providing technical management. This has advantages in load balancing, security, and monitoring. The system should have the ability to monitor for traffic and security threats; it should proactively monitor, track, and predict server performance as well monitor customer activity.

Recommended Deliverable: **IDSC provides hosting with JIC assuming technical management of MOJ Web operations**
Level of Effort: **Low**

5.5 PEOPLE:

This includes a review of the organizational and human resource structure in place to support the AOJS II system including MOJ, JIC, and contractor staff.

5.5.1 TECHNICAL TRAINING

Finding: Significant investment has been made in the technical and support staff at both the JIC and in the automated courts. All facilities feature capable training areas adequate for initial and refresher training. However, while vendor training has been provided in the cutover of these operations, skills must be preserved and extended to enhance the technical effectiveness of the Ministry's staff. An on-going technical training plan would broaden and preserve the technical base. It is also concerning that none of the staff interviewed has progressed towards higher forms of technical certification. While certifications themselves are not a final guarantee of technical capability, they 1) create a more rewarding and challenging environment, 2) continue to build a strong reputation for the MOJ and JIC, 3) reduce reliance on outside contractors for core skills and 4) can reduce attrition of technical staff if properly structured.

Recommendation: Resources should be directed towards the establishment of an ongoing technical training program for MOJ staff. A body of self study materials should be available at each facility. This should include training for the common Microsoft, ARMA, AIIM, and CISSP certifications. Staff should be encouraged and rewarded for the completion of desirable certifications. The program could consider reimbursement of fees for successful completion of testing. This would serve to provide the government with a consistent supply of technical expertise and would also serve to attract professionals into government service. If possible, support for training and testing could be tied to an additional window of commitment to employment at MOJ. For instance, if an employee left before their commitment was completed, consideration should be given to making them financially liable for some reimbursement. It cannot be over emphasized that the success of all IT related activities in this report depends on an adequate supply of trained technical staff to support the MOJ IT infrastructure.

Recommended Deliverable: **Identify ongoing training activities for key operational and support resources**
Level of Effort: **Medium**

5.5.2 SPECIALIZATION

Finding: The survey at the JIC, MOJ, and Court at Mansoura clearly indicated a fresh staff with a few stronger employees. Employees and training are often general in nature – especially at the court level. At the JIC, some areas such as database are well targeted by the MOJ for skills coverage. Currently, in core areas such as security, there is great reliance around outside resources.

Recommendation: As the JIC evolves the skills mix in their operation, as well as incorporates standard operations policies, it will be important to have further specialization in staff functions with concentrations in areas such as database, imaging, networking, and security. Staff depth, especially at the JIC, can be developed through assignments and mentoring. Care should be taken to avoid having stronger staff members with dominant and exclusionary knowledge of a given area. As the complexity of their operations grows, the JIC will need to have augmentation in business process analysis, architecture, and security.

Recommended Deliverable: **Identify critical specialization skills and related development plan for technical staff**

Level of Effort: **Medium**

5.5.3 STAFF BACKUP

Finding: The JIC currently has critical personnel with unique skills involved in many aspects of the implementation of the project. Availability of these personnel has critical impact on project delivery.

Recommendation: As mentioned previously, the JIC needs to build backup staff capability through mentoring and assignments. Staff management must become a critical role for mid-tier supervisors.

Recommended Deliverable: **Identify critical positions, qualified personnel and development plan for augmentation**
Level of Effort: **Low**

5.6 PROCESSES:

This includes the current processes in place supporting the AOJS system.

5.6.1 PAPER BASED OR NON AUTOMATED PROCESSES

Finding: Throughout the AOJS operation, there is a tendency to use paper based processes as in ECMA I or non automated processes such as the current help test tools. This is a natural state for organizations migrating into automated operations. However, it is traditionally the cause for error or lack of responsiveness.

Recommendation: As the AOJS system migrates into automation, there should be a commitment to the increased use of automated processes. This does not mean that MOJ staff would be removed as part of the process; they would maintain their current role in monitoring, supervision, and decision making. However, the data produced in the system will have increased integrity over the more manual systems and responsiveness will be improved. As part of its role as architect for the MOJ, the JIC should seek to continuously improve the level of automation in the organization. The use of paper based logs, in particular, within the MOJ should be actively eliminated, where it is cost effective. However, any automation must lend itself to integration; uncoupled spreadsheets are often really no more effective then paper logs.

Recommended Deliverable: **Validate that cutover to ECMA II eliminates current paper based workflows**
Level of Effort: **Medium**

5.6.2 ECMA WORKFLOW

Finding: The ECMA system has several related workflows which are currently uncoupled. Some of these will be addressed in ECMA II but others remain.

Recommendation: A detailed analysis of ECMA workflow was outside of the scope of this IV&V effort and the team did not view the ECMA II system. However, the ECMA project should consider additional workflow extension to front counter areas, archive rooms, experts, and court panels. Some of these recommendations are contained in sections 4.1.2 and 4.1.4. Improvements in all of these areas will help the sustainability and operational effectiveness of the ECMA system.

Recommended Deliverable: **Identify ECMA product roadmap and cost benefit of possible automation process steps**
Level of Effort: **Medium**

5.6.3 TESTING AND DEPLOYMENT MODEL

Finding: As organizations, the MOJ and JIC take justifiable pride in delivering high quality systems. One result of this has been that the AOJS program has experienced long deployment cycles due, in part, to approaches used in requirements finalization, development, and testing.

Recommendation: As the organization evolves, it would benefit from a tighter integration of these areas which have, in the past, increased deployment times. Additionally, not all projects in the future will require such precision in delivery. In some areas, such as Web development, the very nature of the application demands flexibility and responsiveness. Over definition of these types of applications actually calcifies the solution making it ineffective. Projects can take so long in deployment that they are actually outdated on delivery.

The AOJS program could conduct a formal lessons learned in all projects to identify areas which have contributed to project delays. While not all areas will be addressable, steps can certainly be taken in certain areas to streamline the process. Additionally, the AOJS team could adopt certain IT management techniques which facilitate rapid deployments. In particular, Agile project management techniques are particularly well suited to some technology areas.

Recommended Deliverable: **Review, document, and measure past project deployment issues and remedies**
Level of Effort: **Medium**

5.6.4 METRICS USAGE

Finding: Metrics or business process measurements are now only being considered for the AOJS projects at the business level. Comprehensive metrics do not exist at all at the technology level.

Recommendation: In parallel with the effort to introduce metrics for the AOJS business operation, metrics should be defined for all of the supporting technology services. These metrics must span business processes, infrastructure, help desk, and vendor Service Level Agreements (SLA's). Some metrics will also be derived from the analysis efforts recommended in section 5.7. Metrics must be supported by system generated data and should be accessible through dashboards or traditional reports.

Recommended Deliverable: **Complete business metrics plan and determine optimal system metrics to support that plan. Review examples of other metric based solutions**

Level of Effort: **Medium**

5.7 TECHNOLOGY AND INFRASTRUCTURE:

This includes the AOJS II infrastructure and includes computers, networks, and legacy systems currently in place to support the project as well as planned capabilities in the future.

5.7.1 SECURITY AND AUDIT FEATURES

Finding: Security efforts have not been systematically addressed outside of component procurements. Major security components have been procured.

Recommendation: The security policy recommended in 5.8.2 should be developed. Security capabilities should be implemented to limit desktop configuration risk by locking out foreign media, enforce server access, enforce identity management, ensure automated updating of security applications and appliances, and review application/archive protection. An analysis should examine the audit capability of the applications and any level of effort required to remedy them. Consideration should be given to tying all security and audit capabilities into a dashboard application.

Recommended Deliverable: **Conduct security audit of ECMA system**
Level of Effort: **Medium**

5.7.2 MODELS AND ANALYTICS

Finding: There is little use of analytic tools for tracking and prediction across the areas of the AOJS.

Recommendation: At a minimum, models should be updated for end-of –life backups, storage, network and server utilizations. System metrics should be compared to these models on a monthly basis and updated. These results should also be used to support the MOJ's hardware retention policies.

Recommended Deliverable: **Update analytic models for recommended areas of backups, storage, network and server utilization**
Level of Effort: **Low**

5.8 POLICIES:

This is the documentation, implementation, and enforcement of the AOJS II project's IT policies. While policies are often considered overhead and are often developed well after project implementation, in practice they are critical documents in the development of the project architecture.

The implementation of both policies and processes can greatly enhance the effectiveness of information technology. Additionally, the proper incorporation of technology features can enable a policy to be far more effective in implementation and management. Technology makes processes, and therefore policy implementation, more efficient, but if the policy is flawed, the application of technology will only produce a more efficient implementation of that flawed policy.

5.8.1 DISASTER RECOVERY POLICY

Finding: Basic backup procedures are in place and executed in a regular fashion. No provisions or infrastructure for disaster exists. The JIC center has local equipment redundancy but no geographic redundancy.

Recommendation: A complete disaster recovery policy with accompanying procedures needs to be developed and implemented in the near term. Likely scenarios and appropriate responses should be developed. Standards of recovery need to be determined based on the organization's business requirements. The plans must include disaster recovery for the local courts as well as the JIC operation. Depending on the criticality and resources, the AOJS program may consider a reduced disaster recovery capability where only critical capabilities are recovered and performance metrics are relaxed. Courts may be serviced by a fly-away spare server which can be built and shipped from the JIC in the event of a failure. Once implemented, disaster recovery plans need to be executed on an annual basis.

Recommended Deliverable: **Develop, measure, and monitor disaster recovery policy**
Level of Effort: **Medium**

5.8.2 SECURITY POLICY

Finding: Basic security provisions are implemented and infrastructure tools such as firewalls and Symantec security applications at the server and desktop are in place. No organizational wide security policy or procedures exist. Basic password standards are implemented. Access controls are key based but no audit of access exists. It is likely that viruses are commonly found in the organization.

Recommendation: Develop and implement a security policy including application, physical security, logon credentialing, network security, file encryption, integrated monitoring, and audit. Updates of security systems should be automated. In parallel with development of a security policy, an audit should be conducted of the AOJS system based on one of the common criteria models. JIC should play a role in the periodic test of security procedures put in place.

Recommended Deliverable: **Develop, measure, and monitor security policy**
Level of Effort: **Medium**

5.8.3 BACKUP POLICY

Finding: Basic backup procedures are in place and executed in a regular fashion. Only databases are currently backed-up up remotely.

Recommendation: A complete backup policy with accompanying procedures needs to be developed and implemented in the near term. Standards of recovery need to be determined based on the organization's business requirements. A plan for offsite backup of electronic archives needs to be developed. Synchronization features between the electronic archive and the database backup must be implemented.

Recommended Deliverable: **Develop, measure, and monitor backup policy**
Level of Effort: **Medium**

5.8.4 MAINTENANCE POLICY

Finding: Maintenance planning is incomplete and an encompassing strategy does not exist.

Recommendation: A complete maintenance policy with accompanying procedures needs to be developed and implemented in the near term. The policy must include all elements of policy from daily support, contracts, and end-of-life planning. Standards of support need to be determined based on the organization's business requirements.

Recommended Deliverable: **Develop, measure, and monitor maintenance policy**
Level of Effort: **Medium**

6.0 CONCLUSION:

The AOJS II program has experienced great success to date through the partnership of the MOJ, USAID, and their contractors. The team is well integrated both at the operational as well as the executive level.

While at different states of deployment, the four evaluated areas are capable of meeting the organizational requirements. ECMA is already fielded and shortly to undergo a planned upgrade. The help desk, while still early in the planning phase, will rest on the mainstream capabilities of HP Openview. The JIC Judge's Research Room application will require additional product planning but has significant development and support resources. Finally, the Web applications are to be imminently fielded and will be hosted on an existing, stable infrastructure.

Looking to the future, the MOJ plans to significantly increase both site deployment and supported functionality. To enable this, improvements should be sought in both the ECMA and JIC Judge's Research Room products. As the number of supported users increases, the help desk must play a more critical role. With a more complex and larger network, the MOJ should enhance their skills in areas such as architecture, analysis, and security to facilitate their future efforts.

Success for AOJS has been achieved so far through strong leadership and key individual efforts. To sustain and increase scope of operation, the AOJS program will need to continue to grow the organization, broaden the skills, and mature the processes that have brought it success thus far.

APPENDIX A: TEAM MEMBERS AND SCHEDULE

Nicole Uzzle (USAID/MCIO/BCCS)
John Doby (DKW Communications, Inc.)
Yazmine Zaki (Translation Services)

Saturday 24 November, 2007

1700	Assessment Team arrives in Cairo

Sunday 25 November, 2007

1100 – 1200	Meeting at USAID Egypt with USAID personnel (Margaret Groarke, Bruce Abrams, Amani Selim, Fouad Ellaithy) for project overview and discussion of schedule and logistics
1400 – 1600	Meetings with AMIDEAST with Brian LeDuc, Donald Cinnamond, and Gary DiNoia to coordinate meetings and gather technical information

Monday 26 November, 2007

1100 – 1200	Meeting with Egyptian Ministry Counselor Osama Attaweya
1200 - 1400	Meetings with MOJ Project Staff and MOJ Web Development Staff
1500 – 1630	Continued Data Gathering at AMIDEAST

Tuesday 27 November, 2007

1100 - 1130	Meeting with Egyptian Ministry Counselor Ahmed Hany
1130 - 1430	Tour of JIC facility and meetings with JIC Staff, review of Judge's Research Room
1500 – 1630	Continued Data Gathering at AMIDEAST

Wednesday 28 November, 2007

0800 - 1130	Travel to Mansoura

1130 - 1200	Meeting with Chief Justice
1200 – 1400	Tour of Mansoura Court of First Instance
Thursday 29 November, 2007	
1100 – 1130	Exit Meeting with Chief Justice
1130 – 1300	Detailed Review of Front Desk, Electronic Archive, Physical Records and IT Areas
1400	Travel to Cairo
Friday 30 November, 2007	
	Development of Report and Presentation
Saturday 1 December, 2007	
	Development of Report and Presentation
Sunday 2 December, 2007	
1000 – 1130	Meetings with Ladis/Raya
	Preparation of USAID Presentation
Monday 3 December, 2007	
1100 - 1230	Presentation of Findings to USAID
Tuesday 4 December, 2007	
1100 - 1230	Presentation of Findings to MOJ
	Delivery of Draft Report

APPENDIX B: RECOMMENDATIONS TABLE

	Recommendation	Level of Effort
5.1 ECMA		
5.1.1 Quality Assurance	Quality should be introduced into the ECMA workflow at several steps in the process in particular the front desk and electronic archiving steps. The QA step itself can be executed by a departmental supervisor, a discrete QA team, or by the IT department.	Low to Medium
5.1.2 Bar Coding	In many operations, physical records are controlled by the means of applied bar codes which minimize the amount of data entry and potential error introduction further in the system. Bar codes can consist of a sequential number or can incorporate the proper case number as generated by the ECMA system – making it both machine and human legible. Enhancements to the current front counter operation should consider the incorporation of a bar code printer (s) with a workstation. Bar codes could be centrally generated and applied when the folder comes to the centralized review desk. This would eliminate the need for current paper log. While savings might be minor at the current front desk and electronic archive steps, the folder can be better tracked as it moves to the physical archival areas.	Low to Medium
5.1.3 Electronic Archive (Scanning Process)	The operation is inefficient but is likely adequate given the volumes and high quality of labor. As mentioned in recommendation 5.1.1, a QA process should be introduced and can be used to validate this. While changes to the software are not likely not possible given the advanced state of deployment, consideration should be given better planning of future scanning areas. A proper preparation area should be centralized and easily accessible for all operators. It should be equipped with all materials needed such as staple removers, tape, staplers, etc. It should be collocated with a copier so operators can use this instead of the scanning process.	Low to Medium
5.1.4 Physical Archive and Scanning	Files should be stored in a box structure for better handling and protection. If a decision is made to incorporate bar coding, it can easily be expanded to include boxes in the archive rooms as well as their folder contents. Linked to the ECMA system, requests could be serviced directly at the front counter. Consideration could be given to scanning from the archive using the existing scanning capability.	Medium
5.1.5 Project Documents and Traceability	The ECMA project needs to have timely production of core artifacts at the proper time in the project lifecycle. At the minimum, these should include functional requirements, technical	Medium

	requirements, design documents, use cases, and test plans. Traceability through these documents will become more critical to success as the complexity of the environment grows. The discipline in the production and enforcement of these will be valuable to the MOJ not only with current efforts but all future projects.	
5.1.6 Filenet Components	While not a specific recommendation, the AOJS team should understand that the Filenet system is a high end solution not currently fully utilized in the ECMA solution. It is expected that the project has already given consideration to the vendor support and life cycle costs of this technology selection. Availability of in-country resources and support should be understood in this.	Low
5.2 Help Desk		
5.2.1 Help Desk Planning	Incorporation of a help desk is significant to the success of the AOJS program. The implementation must incorporate the Level 1 staff at the courts as well as the supporting vendors. It should serve as the single point of entry for issues in the system. The help desk must encompass an implemented desktop management solution. While a previous model was developed, a traffic model for the help desk must be updated with a proper set of requirements. Staffing plans, funding, resources, and training must be identified in the planning effort.	Medium
5.3 Judge's Research Room		
5.3.1 Current Products	If the JIC continues to support both solutions, consideration needs to be given to an integrated updating mechanism to prevent errors or needless duplication. Updating should become standardized with regular release periods. To ease installation, it should use one of the commercial distribution tools. A clear set of computer requirements must be defined and checked by the program prior to installation. The JIC should consider a satellite model of installation making use of the court technical resources. Prior to deployment, the JIC should test on as many of the identified user PC configurations as possible. Support for the application itself should be tied into the help desk application. The JIC has identified support staff for this effort but should continually evaluate this to ensure that a proper level of resources is available. The MOJ should give consideration to evolution of the current Judge's Research Room staff.	High
5.4 Web Sites		
5.4.1 Support	The MOJ should move towards a hybrid model where Web sites are hosted directly by the IDSC with content management by the different Web tenants. This preserves the content independence	Low

	for the users while allowing for the improved security and monitoring of the common hosting model. The JIC will have all technical responsibility for the sites to include site protection as well as screening of the uploaded tenant content. As the Web sites expand, the MOJ should consider putting in place a policy to limit English content to summary information only.	
5.4.2 Architecture	As mentioned in section 5.4.1, the MOJ should move towards a hybrid model where Web sites are hosted directly by the IDSC with JIC assuming technical responsibility for the sites. This has advantages in load balancing, security, and monitoring. The system should have the ability to monitor for traffic and security threats; it should proactively monitor, track, and predict server performance as well monitor customer activity.	Low
5.5 People		
5.5.1 Technical Training	Resources should be directed towards the establishment of an ongoing technical training program for MOJ staff. A body of self study materials should be available at each facility. Staff should be encouraged and rewarded for the completion of desirable certifications and fees for successful completion of testing should be reimbursed. This would serve to provide the government with a consistent supply of technical expertise and would also serve to attract professionals into government service. If possible, support for training and testing could be tied to an additional window of commitment to employment at MOJ.	Medium
5.5.2 Specialization	As the JIC evolves the skills mix in their operation as well as incorporates standard operations policies, it will be important to have further specialization in staff functions with concentrations in areas such as database, imaging, networking, and security. Staff depth, especially at the JIC, can be developed through assignments and mentoring. Care should be taken to avoid having stronger staff members with dominant and exclusionary knowledge of a given area. As the complexity of their operations grows, the JIC will need to have augmentation in business process analysis, architecture, and security.	Medium
5.5.3 Staff Backup	The JIC needs to build backup staff capability through mentoring and assignments. Staff management must become a critical role for mid-tier supervisors.	Low
5.6 Process		
5.6.1 Paper Based or Non Automated Processes	As the AOJS system migrates into automation, there should be a commitment to the increased use of automated processes. The use of paper based logs in particular within the MOJ should be actively eliminated where it is cost effective. However, any automation must lend itself to integration.	Medium
5.6.2 ECMA Workflow	A detailed analysis of ECMA workflow was outside of the scope of this IV&V effort and the team did not view the ECMA II system. However, the ECMA project should consider additional	Medium

	workflow extension to front counter areas, archive rooms, experts, and court panels.	
5.6.3 Testing and Deployment Model	As the organization evolves, it would benefit from a tighter integration of these areas which have, in the past, increased deployment times. The AOJS program could conduct a formal lessons learned in all projects to identify areas which have contributed to project delays. The AOJS team could adopt certain IT management techniques which facilitate rapid deployments. In particular, Agile project management techniques are particularly well suited to some technology areas.	Medium
5.6.4 Metrics Usage	In parallel with the effort to introduce metrics for the AOJS business operation, metrics should be defined for all of the supporting technology services. Metrics must be supported by system generated data and should be accessible through dashboards or traditional reports.	Medium
5.7 Technology and Infrastructure		
5.7.1 Security and Audit	The security policy recommended in 5.8.2 should be developed. Security capabilities should be implemented to limit desktop configuration risk by locking out foreign media, enforce server access, enforce identity management, ensure automated updating of security applications and appliances and review application/archive protection. An analysis should examine the audit capability of the applications and any level of effort required to remedy them. Consideration should be given to tying all security and audit capabilities into a dashboard application.	Medium
5.7.2 Models and Analytics	At a minimum, models should be updated for end-of –life backups, storage, network and server utilizations. System metrics should be compared to these models on a monthly basis and should be updated. These results should also be used to support the MOJ's hardware retention policies.	Low
5.8 Policies		
5.8.1 Disaster Recovery Policy	A complete disaster recovery policy with accompanying procedures needs to be developed and implemented in the near term. Once implemented, disaster recovery plans need to be executed on an annual basis.	Medium
5.8.2 Security Policy	Develop and implement a security policy including application, physical security, logon credentialing, network security, file encryption, integrated monitoring, and audit. JIC should play a role in the periodic test of security procedures put in place.	Medium
5.8.3 Backup and Recovery Policy	A complete backup policy with accompanying procedures needs to be developed and implemented in the near term. Standards of recovery need to be determined based on the organization's	Medium

	business requirements. A plan for offsite backup of electronic archives needs to be developed.	
5.8.4 Maintenance Policy	A complete maintenance policy with accompanying procedures needs to be developed and implemented in the near term. The policy must include all elements of policy from daily support, contracts and end-of-life planning. Standards of support need to be determined based on the organization's business requirements.	Medium

The following provides a generalized description of the varying levels of effort:

- **Low:** Relatively easy to implement in the short-term; require a low level of effort; have little or no dependency on other recommendations.
- **Medium:** Relatively more complex to begin implementation in the short-term; require a medium-term timeframe in which to complete; may require the completion of precedent recommendations/tasks; tend to require more than one interrelated set of activities or tasks.
- **High:** Most complex to implement; require a long-term approach, commitment and timeframe to complete; may require the completion of precedent recommendations/tasks; requires several interrelated sets of activities or tasks.