



DEPARTMENT OF THE ARMY
OFFICE OF THE SECRETARY OF THE ARMY
107 ARMY PENTAGON
WASHINGTON DC 20310-0107

FEB 13 2004

MEMORANDUM FOR THE OFFICE OF THE SECRETARY OF DEFENSE
(CHIEF INFORMATION OFFICER)

SUBJECT: U.S. Army Chief Information Officer Certification of the Transportation Coordinator's Automated Information for Movement System II (TC AIMS II) to Support the Milestone C Decision for Block 2, and Milestone B Decision for Block 3.

In accordance with section 8084(c) of the FY04 Defense Appropriations Act, this memorandum forwards the Army Chief Information Officer (CIO) package for CIO certification of the Transportation Coordinator's Automated Information for Movement System II (TC AIMS II) for Milestone C, Block 2, and Milestone B, Block 3. I certify that TC-AIMS II is being developed in accordance with the Clinger-Cohen Act of 1996 (40 U.S.C 11101 et seq.) and that the following steps have been taken with respect to this system:

- Business Process Reengineering
- Analysis of Alternatives
- Economic Analysis
- Performance Measures
- Information Assurance

The enclosed TC AIMS II certification package contains the funding baseline and milestone schedules as required by Section 8084(c). This funding baseline supports the Army Cost Position.

Encl

A handwritten signature in black ink, appearing to read "S. W. Boutelle".

Steven W. Boutelle
Lieutenant General, GS
Chief Information Officer/G-6

TRANSPORTATION COORDINATOR'S AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II (TC-AIMS II)

CCA Compliance Documentation for TC AIMS II Milestone C, Block 2 and Milestone B, Block 3 February 2004

ANALYSIS OF ALTERNATIVES and BUSINESS PROCESS REENGINEERING

TC-AIMS II Block 2 was developed in compliance with the AoA as documented in the Joint Transportation CIM Center, Business Case Study for Transportation Systems Migration, dated 5 January 1996. Block 2 enhanced Block 1 Unit Move functionality as well as provided a web-based capability for accessing and executing the system. It provided a single, joint source for unit deployment data as well as put a communications independent solution in the hands of unit move officers. Block 3 will continue to develop functionality approved by the AoA in the areas of Reception, Staging, Onward Movement and Integration. These functions will provide the ability to receive Unit Move data generated in Blocks 1 and 2 and give the Combatant Commander the ability to execute movements within a Theater of Operations

As directed by the Acquisition Decision Memorandums (ADM) dated 6 Aug 02 and 4 Nov 02, the USJFCOM and the Assistant Deputy Under Secretary of Defense, Transportation Policy (ADUSD TP) are currently performing a new BPR activity and supporting AoA for the to be joint deployment process. In the interim the OIPT principals have agreed to recommend that the ITAB approve proceeding with the development of Block 3. Further, the DoD Comptroller and functional domain owner, have agreed that TC-AIMS II Block 3 will not impact the Business Enterprise Architecture.

The 8 Dec 03 memorandum from the USJFCOM to the ASD NII recommended the program proceed with Block 3 prior to the completion of their BPR project. USJFCOM analysis has determined that the functionality to be included in Block 3 would not adversely impact or conflict with the functionality of the "to be" deployment process. They further stated that the planned Block 3 processes were critical to fulfilling current operational requirements. This analysis was further supported by the fact that Block 3 development will implement necessary US Army Title X directed functionality. The functionality provides in-theater movement control from Port of Debarkation to the tactical assembly area. It replaces a legacy system and completes the fort to foxhole ITV capability. The requirements were validated in the JROC approved March 2003 ORD and are in compliance with the Capstone Requirements Document.

The Services have critical deployment requirements that needed to be met, made even more urgent by OEF and OIF. In early 2003 TC-AIMS II had been designated as the deployment/redeployment system of record for the CENTCOM AOR. Therefore, the

PMO requested senior OSD leadership to approve development of Block 3 in order to provide Combatant Commanders the functionality required to utilize information made available in Blocks 1 and 2, to support in theater operations.

The alternative Block 3 scenarios briefed to senior leaders consisted of the following:

- 1) Proceed with Block 3 (Movements Control, Movements Planning and Map Graphics) development as planned,
- 2) Proceed with a limited set of functionality (e.g., Movements Control and Movements Planning without Map Graphics) out of the current Block 3 requirements, and
- 3) Do not proceed with Block 3 until the Joint “to-be” process is established, the AoA is completed and a subsequent decision is made.

These three scenarios were evaluated quantitatively and qualitatively in terms of cost, benefit, risk and impact. The results are summarized in Table 1 below and the benefits, risks and impacts of the preferred alternative are provided in the EA section of this document.

	Scenario 1 Develop Block 3 as planned	Scenario 2 Develop Block 3 (-) (no Map Graphics)	Scenario 3 Delay Block 3 for up to 2 years
Direct Cost	<ul style="list-style-type: none"> • \$10M in development; • \$5.5M in integration, test, and training development; • \$22M in life cycle software maintenance. • Block 3 is fully funded through the POM, 	<ul style="list-style-type: none"> • \$9M in development; • \$5M in integration, test and training development; • \$22M in life cycle software maintenance. 	<ul style="list-style-type: none"> • Eliminates all development costs in FY04/05 timeframe; • Fielding, training and sustainment of existing capability continues.
Benefit	<ul style="list-style-type: none"> • Provides critical Theater Movements Control and Planning functions; • Eliminates need for out-dated DAMMS-R (Cost Avoidance of \$180M over the life cycle); • Extends ITV making “Fort to foxhole” visibility possible; • Enhances ability to interface with other Transportation mode movement systems, sharing data in both directions. 	<ul style="list-style-type: none"> • Apparent FY04/05 reduction of approximately \$1.5M in development-related cost (however, see impact below); • Provides Movements Control and Planning functions, but has no reference to terrain or infrastructure 	<ul style="list-style-type: none"> • Apparent FY04/05 reduction of all development-related costs and Block 3 life cycle software maintenance costs (however, see impact below);
Risk	<ul style="list-style-type: none"> • Block 3 won’t fit in the new, “to-be” process - LOW; • Block 3 costs are underestimated - LOW; 	<ul style="list-style-type: none"> • Block 3 won’t fit in the new, “to-be” process - LOW; • Block 3 costs are underestimated - LOW; 	<ul style="list-style-type: none"> • Local Army and Navy elements may generate alternate systems or have to revert to manual processes - HIGH • If the “to-be” decision includes TC-AIMS II with

			additional functionality, JPMO is not in a position to execute - HIGH
Impact	<ul style="list-style-type: none"> + Supports the Warfighter; + Keeps an approved project on an approved schedule; + Maintains continuity of experienced development personnel 	<ul style="list-style-type: none"> - <i>“Losing visibility of shipments and high-value assets/convoys puts soldiers’ lives at risk”</i> V Corps quote; - Development-related cost reduction is simply deferred until a later Block or into a maintenance enhancement project. 	<ul style="list-style-type: none"> - <i>“Losing visibility of shipments and high-value assets/convoys puts soldiers’ lives at risk”</i> V Corps quote; - Development and maintenance-related cost reduction is deferred into a maintenance enhancement project; - Effectively ends TC-AIMS II development program.

Table 1 Summary of Evaluation

Senior OSD leadership supported the request to pursue scenario 1, and that is part of the decision being taken to the ITAB.

Business Process Reengineering is an inherent part of JPMO managed development activities. Once Joint requirements are identified, several iterations of design take place, decomposing each requirement to an elementary level. Once the functional decomposition has occurred, functionals and developers work to determine the best operational and technical solution for the requirement.

As a result of this process, Blocks 1 and 2 have moved the ability to manage deployment/redeployment activities down to the unit level. They have provided the Navy with an automated capability, replacing paper and pencil. Processes have made it possible to support the CJCS 72 hour Time Phased Force & Deployment Data (TPFDD) process. The system provides source data for in-transit visibility, as well as fulfilling CJCSI 3020.01, that defined the Joint deployment data flow to be from TC-AIMS II through JFRG to JOPES. When fully fielded, Block 2 will permit the legacy TC-ACCIS system to be retired. When Block 3 is fielded, the Army’s legacy DAMMS-R system can be turned off. Through process reengineering Block 2 also provided a single platform capability, supporting the co-hosting of TC-AIMS II and the AALPS system on the same hardware platform, eliminating duplicate hardware requirements as well as implementing a shared data base.

TC-AIMS II Blocks 2 and 3 continue to comply with program BPR initiatives, by implementing Joint Requirements Office prioritized and approved requirements. Any issues involving requirements are resolved in a 06 level Configuration Management Board and ultimately at a GO level Joint Steering Committee. The web-based solution implemented in Block 2 provides for a totally new business paradigm for the conduct of deployment/redeployment operations by: permitting intra-theater operations, supporting Army Transformation through network-centric enterprise solution, reducing hardware investment by hosting multiple applications on a single platform and by supporting operations in support of Navy’s land-based forces. The ORD was revalidated by the

JROC in March 2003 and has been approved by the J8 as adequate for use for the Block 3 development; with a CDD to be provided to the JROC and J6 within six months of the Block 2/3 ADM.

If it is assumed that there will be a standard, Joint system that supports the deployment, sustainment, redeployment and retrograde operations of US Forces, there are five possible outcomes in relation to TC-AIMS II.

1. Standard Joint system(s) is/are imposed and TC-AIMS II is included – No risk to development of Block 3 as planned.
2. Minor adjustments are made to the current systems – The Army and Navy continue to use TC-AIMS II and there is no risk to development of Block 3 as planned.
3. A family of systems with data sharing or an integrated data environment is chosen – The Army and Navy continue to use TC-AIMS II and there is no risk to development of Block 3 as planned.
4. The Joint deployment process solution is contracted out to a commercial entity – JS National Security concerns exist.
5. COTS solution, either single or multiple is chosen – limited risk in that the Army and Navy will continue to need TC-AIMS II until the COTS solution is completely implemented.

In terms of overall risk, there are five areas that are common to any scenario.

1. Delay in the replacement of a Theater Movements Control/Mode operational capability may result in reverting to manual or disparate, stove-piped systems – Risk is rated HIGH.
2. The schedule under which the Joint “to-be” process is to be delivered is uncertain – Risk is rated MODERATE.
3. USJFCOM “to-be” AoA work is not fully funded – Risk is rated MODERATE.
4. How the Joint “to-be” process will be implemented is uncertain – Risk is rated MODERATE.
5. How Block 3 fits into the Joint “to-be” process is uncertain – Risk is rated LOW.

ECONOMIC ANALYSIS

The TC-AIMS-II EA has been completed.

In support of approving the program EA, the Office of the Deputy Assistant Secretary of the Army - Cost Estimating (ODASA-CE), the JPMO and representatives from other U.S. Army agencies, the U.S. Navy, the U.S. Air Force, and the U.S. Marine Corps participate in a Cost Working-level Integrated Product Team (Cost WIPT) to develop a joint cost position. The current recommended Joint Cost Position (JCP) was briefed to the Cost Review Board (CRB) on 16 Dec 03 and approved. On 30 December 2003, the Army Assistant Secretary Financial Management and Comptroller signed out a

memorandum approving the EA for the program, and verifying that it meets the statutory requirements for Clinger-Cohen Act compliance.

The program currently reflects a total of five software Blocks. Initial Operating Capability was achieved in FY02 and Block 1 continues to be fielded. Block 2 is anticipated to be approved for fielding in Jan/Feb 03, conditional upon ATEC verification of open fixes. Blocks 3, 4 and 5 will evolve the TC-AIMS II application into its Full Operating Capability in FY10. Each of these development periods are based on 18-month development blocks. These evolutionary Blocks will each provide a stand-alone capability in accordance with the Information Management Reform Act of 1996 (Clinger-Cohen Act). Cost estimates are based on the TC-AIMS II Cost Analysis Requirements Description (CARD) dated 22 Jun 03, with updates through Sep 03. The JPMO used function point estimates and the COCOMO II model to estimate software development costs. ODASA (CE) developed an Independent Cost Estimate (ICE) for software development costs using the SEER-SEM model. Hardware costs were estimated using a 5-year replacement policy for the Army; other services are responsible for procuring and replacing service-specific hardware. Current progress on the JCP indicates that an affordable program will be presented.

Over the period Oct 2003 to Dec 2003 numerous senior leader-level meetings were held to review the PMO, TIS request to proceed with seeking Milestone B approval to begin development of Block 3 software. The following paragraphs summarize the points covered within those discussions and document some of the key elements supporting the decision by the Army Acquisition Executive (AAE) and senior OSD leadership to allow the Milestone B OSD-level review to be scheduled.

Assumptions:

Two primary assumptions were established;

1. Scenarios must not exceed current cost and schedule parameters, and
2. Any software acquisition associated with the "to-be" Joint deployment process will take at least one year to implement after completion of the subsequent AoA.

Overview:

Block 3 functionality focuses on the Joint Reception, Staging, Onward Movement and Integration (JRSOI) activities that support the planning, coordination and execution of movements within a Theater of Operations. While Blocks 1 and 2 support movement from the "Fort to the Port", Block 3 will extend that capability all the way down to the Tactical Assembly Area, providing in-transit visibility (ITV) from the "Fort to the foxhole". It will receive cargo information from port systems, support planning and coordination of movement to determine how and when cargo should move, and provide the capability to ensure the addressee is capable and ready to receive cargo. It will support coordination with commercial carriers and provide critical data to Corps and Division controllers. Block 3 will also provide the capability to verify the arrival of cargo and to issue directions to either hold or divert the cargo if the addressee is not in a position to receive the cargo.

At the present time, the number of users and locations fielded has a much bigger impact on the benefits of the system than does the specific Block of software that is to be developed or fielded. The current Army legacy systems, Transportation Information Systems – Theater Operations (TIS-TO, formerly known as DAMMS-R) and the Transportation Coordinator’s – Automated Command and Control Information System (TC-ACCIS) cannot be terminated until all Army users have been fielded, regardless of the specific Block-functionality available to them when they are fielded. The Block 2 software available upon Milestone C approval already contains more functionality than either of the existing Army systems; however, the legacy systems can’t be terminated until all Army users have TC-AIMS II capability. For the Navy, Block 2 provides automated capabilities that replace current manual processes or “home-grown” spreadsheets and templates.

For all Services, Block 2 supports enterprise management and web-based access to improve configuration control and provide a significantly higher level of Help Desk support to the users; however, quantifiable benefits are again based primarily on the number of users and locations that are fielded and not the specific Block of software. The current Marine Corps systems will not be replaced until Maritime Pre-Positioning functionality is provided in Block 4; however, Marine Corps users will start to use TC-AIMS II upon successful completion of the Block 2 Marine Corps Operational Test. The Air Force currently has no plans to field TC-AIMS II until the Installation Transportation Office/Traffic Management Office (ITO/TMO) functionality is provided in Block 5.

The impact of all of this is that TC-AIMS II will start to generate specific, quantifiable benefits as it is fielded to more users and more locations. Increases in the user base of TC-AIMS II will allow legacy system termination, reduce the uniqueness of Service deployment, sustainment, redeployment and retrograde operations (eliminating the requirement to “hand-jam” Service-unique elements into a common Joint view or capability) and result in significant productivity increases of unit-level movement personnel across all Services. The ability to provide common data to systems such as the Global Transportation Network (GTN) will significantly improve the reliability and consistency of ITV/TAV data and contribute to the more efficient use of transportation assets. Awareness of where in the transportation pipeline a specific asset or commodity is will allow the Combatant Commanders to more accurately plan and conduct operations and activities required in support of their mission, be it in peace-time conditions or in the middle of hostilities.

- **Cost**

Specific costs associated with Block 3 include approximately \$15.5M in RDTE dollars over the period FY 2004 to FY 2005 for software development, integration of COTS/GOTS products and testing, and approximately \$22M in OMA dollars over the period FY 2006 to FY 2020 in life cycle software maintenance. Allocation of other costs such as procurement, fielding, training, and hardware replacement to the individual Blocks would show a Block 3 life cycle Investment cost of \$96.9M in RDTE and OPA combined over the years FY 2004 to FY 2007, and \$44M in OMA life cycle Operations

and Support, and Status Quo Phase-Out cost over the years FY 2006 to FY 2008. Costs outside of these specific years are allocated against other Blocks in the total project.

- **Benefits**

The best description of Block 3 benefits, and indeed the critical need for TC-AIMS II capabilities, is in the words of Commanders and Warfighters. Samples of comments coming out of the Operation Iraqi Freedom (OIF) Lessons Learned include the following:

“Losing visibility of shipments and high value assets/convoys put soldiers’ lives at risk.”
V Corps

“Movement Control Teams (MCTs) don’t know what cargo is inbound to Surface Ports of Debarkation (SPOD) to enable them to do onward movement planning. In desperation to execute movement control, some MCTs put together basic MS Access programs attempting to replicate basic “DAMMS-R” functionality.”

“The Division has not had ITV of forward moving supplies. Corps MCTs are handicapped in ability to capture and forward ITV information regarding movement of supplies to the Division.” 3rd ID

“(not having visibility) takes away a leader’s flexibility in predictability of logistics within the Corps Area of Responsibility (AOR)”. V Corps

“Unit movement ... has been extremely variable. Failure to keep later moving units off congested routes added to the congestion.” 3rd ID

The bottom line is that Block 3 software, together with fielding hardware to more users and locations, will provide critical, Joint visibility of deployment, sustainment, redeployment and retrograde operations, from the Fort to the foxhole and back home again. It will provide the opportunity to terminate 20-year old Army legacy systems, resulting in a cost avoidance of approximately \$180M over the years FY 2006 through FY 2020, automate existing manual and/or unique movement-related solutions used by the Navy, and promote battlefield awareness and visibility for the Joint commander and combat support forces.

- **Risk**

The only risk specifically associated with developing Block 3 as planned is that it won’t fit in with the “to-be” reengineered Joint Deployment process. While this is statistically possible, the Joint assessment of occurrence, as discussed previously, is low. The current, approved Business Case Study requires a material solution to the Joint deployment process. USJFCOM has reviewed the proposed Block 3 requirements and stated they will not adversely impact their “to-be” Joint deployment process development and the RSOI capabilities to be provided in Block 3 are within the scope of the anticipated “to-be” process.

In general, there is a risk that the costs associated with Block 3 are under-estimated. However, the software cost and schedule models that have been developed by both the JPMO and by ODASA (CE) cost analysts during the Cost Review Board Working Group are classified as being medium-risk models and not overly aggressive, high-risk estimates. In addition, the JPMO software development process is geared to early identification of requirements and frequent software model updates to allow the user community the opportunity to prioritize those requirements that can reasonably be developed within the constraints of schedule and budget. Based on the combination of these factors, the overall cost risk is assessed to be low.

- **Impact**

The preferred alternative has positive impacts for the user and the JPMO. Critical functionality is provided to support RSOI movements control and planning within a Theater of Operations and ITV is expanded to provide visibility all the way from the Fort to the foxhole. In addition, the quality of the software, both in development and in maintenance is higher due to the retention of experienced contractor personnel who would be forced to look for employment elsewhere if Block 3 were delayed.

The EA, USJFCOM and OSD sponsor of TC-AIMS II all support a Milestone B decision for development of Block 3 as planned. There is an opportunity cost of approximately \$10M in software development, but this cost mitigates multiple risks while providing critical Theater functions that support the warfighter. If Block 3 development is delayed, that decision effectively ends TC-AIMS II development. Executing anything less than the full Block 3 requirement creates functionality without a reference system.

PERFORMANCE MEASURES

TC-AIMS II is a top down directed system that fills multiple needs within the mission area of mobility and sustainment as identified in the Defense Planning Guidance of FY 95-99. TC-AIMS II is critical to the realization of Joint Vision's operational concept of Focused Logistics and is a part of USTRANSCOM's FY00-05 Integrated Priority List. TC-AIMS II directly addresses one of the primary goals of the Secretary of Defense, supporting the Joint Warfighter mission. It also supports goals of the Army Transformation, serving as a migration system, eliminating legacy, redundant, Service unique deployment systems. Disparate, Service unique, stovepipe systems were not capable of providing the data necessary to adequately conduct transportation movement operations.

The Army intends to use performance measures to assess system effectiveness in meeting Service missions and goals. DUSD (TP), TRANSCOM, JFCOM and Service user representatives will refine these measures and define the metrics to be used to evaluate system effectiveness. The Army will act to assess and quantify the following performance measures in a manner that will support a Post Implementation Review (PIR).

- Provides the ability to support OPTEMPO, by handling necessary volumes of reliable data, in a near-real time manner, as necessary for effective operations.
- Supports Force Projection objectives by enabling communications among a variety of Service units, activities and commands.
- Supplies a single integrated platform capable of operating in garrison or in deployed mode, providing flexibility and reducing required numbers of legacy systems along with associated hardware and servers.
- By reducing the number of systems a movement officer has to execute to achieve the necessary horizontal and vertical data views, training and processing time is reduced.
- Provides source data, in accordance with the Defense ITV Integration Plan, enabling unprecedented asset management of both personnel and materiel.
- Intended to replace Service and DoD unique systems, eliminating redundant capabilities and providing a new level of integration and uniformity of information.
- Provides an accurate common DoD information picture of the status of deployments and Defense Transportation System movements.
- TC-AISM II provides a single interface point to supply advance movement information to command and control systems, providing immediate and accurate information to the COCOMs.
- Provides information that enables getting the right commodity to the right place at the right time, reducing the need for large inventories and eliminating waste in the supply chain.
- Allows movement planners to direct the best use of available transport assets to meet the highest priority command needs.
- Provides a common DoD level view of all modes of transportation to include airlift and sealift as well as linking transshipment points, to include airports, seaports, barge, terminals, railheads and truck hub-and-spoke terminals.

Blocks 1 and 2 provide the source data and capability to support the above performance improvements. Block 3, supporting in theater movement management, will provide the ability to identify inbound shipments and plan for their quick onward movement. It will further document cargo for onward movement utilizing prepositioned electronic data and AIT devices, redirect frustrated cargo, expedite shipments and report on status of shipments in transit. As a result, storage times and redirective actions and their associated costs will be reduced.

Block 2 was developed in compliance with the performance measures included in the ORD, validated by the JROC in Mar 2003. The program is being managed and executed to an OSD approved APB. As documented above, Key Performance measures reflective of the “to be” joint deployment process are to be developed by the USJFCOM, in partnership with the ADUSD (TP), USTRANSCOM and the Joint Staff, for post Block 2 functionality. Given that this BPR activity is still ongoing, the IIPT recommends that the existing performance measures are adequate to begin Block 3 development.

The program is requesting Block 2 fielding approval, conditional on ATEC, OSD DTE and DOTE verification that required software fixes have been successfully made. ATEC serves as the independent Operational Test evaluator, and as such provides the first formal assessment (measurement) of the performance of the system. The PMO and ATEC two phased Block 2 evaluation approach has been briefed to the OSD test community and was accepted. This evaluation, in conjunction with prior formal Developmental and Operational test events will validate that the system is effective, suitable and survivable; essentially meeting all performance measures. The JITC and approved program C4ISP also attest to the system’s ability to meet defined performance measures. TC-AIMS II is being engineered to share information among multiple, automated Service personnel, materiel, and transportation systems. This allows rapid collection, transmission, and aggregation of Service deployment information while reducing the number of man-hours normally associated with this process.

Block 2 essentially provides the infrastructure, data structures and processing capability to support strategic and operational portions of Unit Movement within the Joint Deployment Mission, as defined in the associated Capstone Requirements Document. As such, it supports Unit Planning, Preparation for Movement and the Execution of a Movement. Subordinate functions that have been automated to support the Joint mission include: maintaining equipment and personnel lists, building unit deployment lists, creating movement and convoy plans, labeling shipment units, documenting hazardous cargo, containerizing/palletizing cargo, scheduling and coordinating movements and selecting mode and carrier. The system also generates the necessary movement documents, transmits In-Transit Visibility data, supports in-check of arriving cargo and enables discrepancy reporting.

Block 2 built upon initial TC-AIMS II capability, enhancing AIT recognition of linear bar codes, optical memory cards, 2 dimensional bar codes and CAC cards. It also supports inter service interfaces with over 20 Service specific and Joint systems providing Joint visibility at the Battalion/Separate Company level for Materiel Management, Load Planning and Joint Transportation functions. This functionality directly provides the ability for the Services to meet Chairman’s directive to complete the generation of Time Phased Force Deployment Data within 72 hours from notification.

Additionally the Block 2 solution has been supplemented with an austere communications capability, directly supporting the 13th COSCOM, 49th Transportation Battalion, with an ITV capability, that they requested for use in the massive OIF

deployment/redeployment operation. The request to use the system serves as further testament to the improved performance capabilities provided by TC-AIMS II.

Effective JPMO management of the program is exemplified by the following comparisons attributed for Block 1 to 2. Cost to develop: \$170M to \$10M. Time to develop: 72 months to 22 months. The number of essential function failures experienced during Block 1 testing was reduced by over 50% for Block 2. Effectiveness in achieving critical mission functions and interoperability measures increased substantially between Blocks 1 and 2, as assessed and evaluated by ATEC during operational test.

As a standard procedure the JPMO captures Reliability, Accessibility and Maintainability (RAM) statistics on system use. The ability to track and manage RAM has been greatly enhanced by the enterprise management capability introduced in Block 2. Mean time between essential function failure is also tracked. The A sub o, or system availability, was evaluated by ATEC to be at 98% and will be tracked when Block 2 is fielded. Help desk statistics are also captured and closely monitored, to include time to resolution. The web-based enterprise management system enables the JPMO support staff to duplicate reported problems as well as "see" and even take over an operator's system to assist in error identification and resolution.

The following system Key Performance Parameters (KPPs) are defined in the ORD: Joint Interoperability, Automatic Identification Technology (AIT), Data Automation and Report Generation. Interoperability provides for the exchange of data across multiple legacy systems. AIT devices are being used to improve accuracy and efficiency of data capture and transfer. The objective for data automation is to reduce function processing time by at least 20% under previous levels. Report Generation enables generation of reports, forms, labels tag data and Common Access Card data. Associated performance measures are in the approved ORD and in the Army approved APB.

Achieving these KPPs results in providing the Combatant Commander with an unprecedented view of the data required to automate the processes of planning, organizing, coordinating and controlling unit-related deployments, sustainment, day-to-day Installation Transportation Officer/Transportation Management Officer operations, redeployment and retrograde operations in support of the Defense Transportation System. As upgrade block development progresses, TC-AIMS II will interface with installation, unit and depot-level supply systems, the Global Transportation Network, and the Joint Operational Planning and Execution System through the use of the Joint Force Requirements Generator II.

The Interface Exchange Requirements (IERs) captured in the validated ORD and revised C4ISP stipulate performance parameters for critical data exchanges. The TEMP documents specific thresholds and objectives to be met for the system KPPs. With the Navy transitioning from manual processing, performance improvements and capabilities are expected to be significant. TC-AIMS II brings a re-deployment capability to the user that did not previously exist.

The web-centric enterprise management capability introduced by Block 2 provides the JPMO ability to centrally distribute and monitor system software. System accessibility was also enhanced so that any user who has the capability to get on the web can access TC-AIMS II. During Block 2 development, over 60 systems were delivered to SWA in support of COCOM OIF requirements. Early indications are that Army and Navy land based users have reacted favorably with respect to system capabilities and the substantial reduction of formerly manual processes.

The JPMO has undertaken several initiatives to improve performance in the acquisition and development of the system. An 18 month incremental block development cycle has been implemented. Future development will be re-competed, IAW FAR Part 39, amongst contractors who must have demonstrated a Software Engineering Institute Software Capability Maturity Model (SEI Sw CMM) rating of Level 3 or higher, ensuring that standard repeatable and documented processes will be executed in the development of each Block. An IV&V team reports directly to the PM to assist in risk mitigation, perform process oversight and ensure the application of software engineering best practices.

INFORMATION ASSURANCE

The TC-AIMS II IA strategy has been reviewed by OSD and approved for Blocks 2 and 3.

The TC-AIMS II system meets the requirements of the Government Information Security Reform Act, OMB policy and NIST guidance by being managed under the provisions of the DoD 5200.40 (DITSCAP). TC-AIMS II has been reviewed and received formal accreditation for Block 1 prior to fielding 1QFY03. The methodology used during the review was based on the DITSCAP. As part of this review, the US Army Information Systems Engineering Command's Information Assurance and Security Engineering Directorate (the Certification Authority) tested the system's management, operational, and technical security controls.

The Designated Approving Authority (DAA) will formally accredit Block 2 and grant approval to operate prior to fielding. The assessment and certification prep work has been completed and the accreditation letter is expected to be signed by the end of January 2004. A System Security Authorization Agreement, agreed to by the Materiel Developer, the functional user, certification agent and DAA representative, serves as the foundation for defining the development, testing and operational characteristics of each Block. This agreement will be updated for Block 3 to accurately reflect the current Block.

All TC-AIMS II users receive initial and annual security information assurance training as a portion of their responsibilities of users of the systems processing sensitive government information.

All PEO EIS systems are compliant with the provisions of the Army Computer Emergency Response Team (ACERT) Information Assurance Vulnerability Assessment (IAVA) process. Continual monitoring for compliance is accomplished by the Regional Computer Emergency Response Team (RCERT) and reporting by PM is made through PEO EIS IAPM channels directly the ACERT IAVA Data Base Management System.

All contract solicitations have the required DoD compliant security paragraph to ensure the system is developed and maintained IAW provisions of DoD and Army policy. TC-AIMS II facility is under the control and continual monitoring of the ACERT.

Effective use of security controls and authentication tools to protect privacy for TC-AIMS II is ensured through continual monitoring by security personnel and unannounced security compliance validation inspections conducted by the PEO EIS IA Staff, in concert with DA Net COM and the OSD Defense Information Assurance program. Constant monitoring of accesses and user validation through approved audit of system use. All infractions to the DoD policies are reported and administrative action is taken by the chain of command if procedures are not followed.

APPENDIX A

FUNDING BASELINE and MILESTONE SCHEDULE

Funding Baseline

The table presents the TC-AIMS II Approved Joint Cost Position, Excursion Costs and Funding

(As of BES/POM 04-09 Lock, 25 Sep 03)

JPMO	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	Sub-Total
TOTAL Funded	45.2	31.2	43.0	49.3	63.0	77.7	68.6	70.6	448.6
TOTAL Rqmts	45.2	31.2	43.0	49.3	63.0	77.7	68.6	70.6	448.6
TOTAL Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Milestone Schedule

TC-AIMS II was developed under the oversight of an ASD C3I led Working-Level Integrated Product Team (WIPT). On 9 Jan 1997 the ASD C3I, MAISRC Acting Chairman signed the ADM granting formal program approval. This decision served as a MS I/II for the program.

In Nov 02, the program received MS III approval to fully field Blk 1 to the Army and Navy. This decision was documented by the ADM dated 4 Nov 02. This ADM directed that the program come in for a MS B prior to undertaking post-Blk 2 work, thus the MS B for Blk 3. Milestone Decision Reviews for the program are as follows:

MS I/II for TC-AIMS II	Planned 2QFY97	Actual Jan 1997
MS III for lmted Blk 1 fielding	3QFY02	6 Aug 02
MS III for Blk 1 fielding to Army and Navy	3QFY02	4 Nov 02
MS C for Blk 2	1QFY04	tbs
MS B for Blk 3	2QFY04	tbs
MS C for Blk 3	4QFY05	tbs
MS B for Blk 4	4QFY05	tbs
MS C for Blk 4	1QFY08	tbs
MS B for Blk 5	1QFY08	tbs
MS C for Blk 5	1QFY10	tbs