

**SYSTEMS REALIGNMENT AND CATEGORIZATION (SRAC)  
RECOMMENDATIONS FOR THE MARINE CORPS LOGISTICS  
TRANSPORTATION DOMAIN**



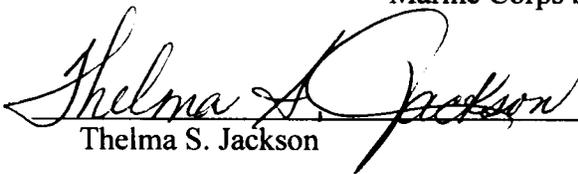
Marine Corps Systems Command

February 2002

**Systems Realignment And Categorization (SRAC)  
Recommendations  
For The  
Marine Corps Logistics  
Transportation Domain**

**PREPARED BY**

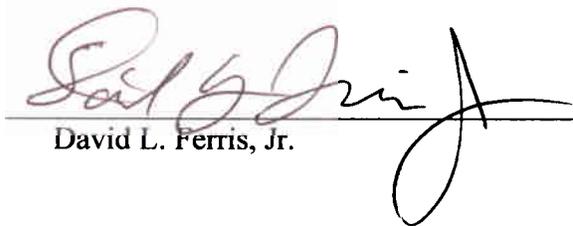
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**Systems Realignment and Categorization (SRAC) Recommendations for the Marine Corps Logistics  
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**EXECUTIVE SUMMARY**

The Systems Realignment and Categorization (SRAC) Transportation Domain is separated into two sub-domains: Unit Move, which represents Force Deployment Planning and Execution (FDP&E) operations, and Traffic Management, which represents the sustainment portion of freight, personal property, and passenger movements. In SRAC Phase 3, Part 3 (Domain Solutions), this segmentation leads to two sets of migration strategies, analyses and recommendations. It is expected that SRAC Phase 3, Part 4 (Cross-domain Solutions) - based on the Integrated Logistics Capability Operational Architecture/Technical Assessment (ILC OA/TA) - may indicate the need for closer integration of these sub-domains.

The Unit Move and Traffic Management migration strategies presented in this document are the result of a collaborative effort between the SRAC Core Team and the SRAC Transportation Domain Team. The SRAC Core Team recommends that these migration strategies be adopted.

In the Unit Move sub-domain, there are five existing Automated Information Systems (AIS): Marine Air Ground Task Force Deployment Support System II (MDSS II), Transportation Coordinators' Automated Information for Movement System (TC-AIMS), Tactical Air load Planning System (TALPS), Computer-Aided Embarkation System (CAEMS), and Computer Aided Load Manifest (CALM). They will be replaced by three new systems: TC-AIMS II, Integrated Computerized Deployment System (ICODES), and Automated Air Load Planning System (AALPS).

In the Traffic Management sub-domain, there are 15 existing AIS: Automated Government Transportation Request System (AGTRS), Cargo Movement Operations System (CMOS), Global Air Transportation Execution System (GATES), Group Operational Passenger System (GOPAX), Integrated Booking System (IBS), Worldwide Port System (WPS), Automated Manifest System - Tactical (AMS-TAC), Global Transportation Network (GTN), Defense Transportation Tracking System (DTTS), Financial and Air Clearance Transportation System (FACTS), Global Freight Management (GFM), PowerTrack, Transportation Management System (TMS), Transportation Operational Personal Property Standard System (TOPS/PTOPS), and Asset Management System (AMS). The systems will be migrated as follows.

Two systems (AGTRS and TMS) will be retired. Four systems (WPS, IBS, GOPAX, and GATES) will have their user interfaces accessed through CMOS<sup>1</sup>. Two systems (CMOS and AMS-TAC) are proposed to become part of TC-AIMS II. Two systems (AMS and TOPS/PTOPS) are under review by the United States Transportation Command (USTRANSCOM) and Military Traffic Management Command (MTMC) and will be addressed in Fiscal Year (FY) 03. The remaining four systems (GTN, DTTS, FACTS, and PowerTrack) are retained. The transaction processing functionality in WPS and IBS will be integrated into the new AIS, Standard Transportation Management System (STMS). STMS will also subsume GFM. In addition to STMS, two other new systems (DTS and TC-AIMS II) will be fielded.

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<sup>1</sup> Note that the transition of the user interfaces to CMOS does not replace the use of the four systems as transaction systems.

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If TC-AIMS II is delayed beyond FY06, it is recommended that the functionality consolidations planned for this AIS be redirected to the United States Air Force (USAF) legacy CMOS in the Traffic Management sub-domain (already in the planned migration path), and that the United States Marine Corps' (USMC) legacy MDSS II be investigated as a potential hub application in the Unit Move sub-domain.

AIS scores are used as reference data to formulate and check the validity of proposed migration strategies in the SRAC program. However, AIS scores are not sufficient by themselves to make decisions regarding the retirement of any AIS. Scores are combined with other SRAC data, such as AIS retirement impact, cost effectiveness, and overlap analysis information, to provide a rational evaluation of the migration strategies.

SRAC Phase 3 AIS scoring is summarized for the Transportation Domain in this document. The overall score for fielded AIS considers user functionality, provider support, and technology. Among the Unit Move sub-domain AIS used for FDP&E, the highest scoring AIS is MDSS II and the lowest scoring AIS is USAF CALM. In the Traffic Management sub-domain, the highest scoring AIS is the AMS-TAC and the lowest scoring AIS is the USMC legacy TMS.

The consolidations described in the Unit Move and Traffic Management migration strategies are supported by SRAC overlap analyses. Specifically, those AIS whose user interfaces are accessed through CMOS in the Traffic Management sub-domain show a high level of functional overlap with CMOS. This means they are good candidates for the proposed consolidation. Similarly, systems replaced by TC-AIMS II in the Unit Move sub-domain show a high degree of overlap with TC-AIMS II functions. The overlap analysis also points to a re-engineered version of MDSS II as a potential hub AIS for Unit Move should TC-AIMS II fielding be further delayed. The SRAC overlap analysis indicated additional possibilities for consolidation, however, these possibilities are not recommended because the AIS in question are not owned by the Marine Corps and have other Military Service, Defense Agency, or USTRANSCOM specific requirements.

Potential Transportation Domain AIS gaps in functionality are identified within the SRAC Phase 3 program. Sixty-six (66) Traffic Management and fifty-seven (57) Unit Move tasks were defined as having no AIS support. These tasks have been described<sup>2</sup> with comments indicating whether they are actual gaps, out of scope for SRAC analysis, or not subject to computerization because of the nature of the task. The gap analysis does not enter into SRAC scoring of AIS, but will be passed to the USMC ILC and Global Combat Service Support-Marine Corps (GCSS-MC) portfolio management programs for further analysis and action.

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<sup>2</sup> Available in the SRAC QuickPlace Web Site (Transportation Team Room) document library.

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This report also describes the integration capability that will be inherited by the remaining migration systems once the transportation AIS retirements recommended by SRAC have taken place. This is based on the best information concerning current AIS interface capability. Integration capability diagrams for Traffic Management, Unit Move, and the entire set of transportation AIS are presented. These diagrams, together with the individual AIS interface diagrams collected and edited by the SRAC program, will be made available to support the ILC and GCSS-MC portfolio management programs.<sup>3</sup>

The cost avoidance associated with implementing the recommended migration plans will range between \$2.1M and \$4.1M over a 5-year period that ends during FY07. These avoidances will be realized primarily by the implementation of TC-AIMS II for FDP&E. If the fielding of TC-AIMS II were further delayed, the cost avoidance would be substantially less and tied to plans for the re-engineering of MDSS II and, to a lesser extent, CMOS and AMS-TAC.

The primary benefits of the proposed migration strategies to Unit Move are a reduction in complexity through the reduction in the number of AIS from five to three and the resulting reduction in the number of required interfaces. A single interface from TC-AIMS II to GTN should also enhance the accuracy and timeliness of In-Transit Visibility (ITV) data. In the Traffic Management sub-domain, the primary benefit from implementing the proposed migration strategy will be the elimination of the “swivel chair” environment of multiple user interfaces for outbound freight and passenger movement. The implementation of a Shared Data Environment (SDE) will potentially eliminate the requirement for multiple and independent AIS interfaces.

The primary risk to these migration strategies is the failure of TC-AIMS II to satisfy Marine Corps transportation requirements.

Appendix A contains a summary of the proposed schedule for retirement of legacy transportation AIS used by the Marine Corps. For most of the systems owned by other Department of Defense (DoD) components, retirement is defined as the cessation of training and usage by the Marines Corps and the cessation of payment of any associated usage and support fees. For USTRANSCOM owned AIS, retirement is defined as the cessation of training and usage by the Marine Corps. Since USTRANSCOM AIS capitalization is classified as overhead in the Transportation Working Capital Fund (TWCF), the Marine Corps will continue to pay the same surcharge rate regardless of the number or level of usage of USTRANSCOM-owned AIS. For USMC owned logistics applications, retirement also includes the cessation of all related acquisition and support delivery activities.

All approved recommendations will be forwarded to Commandant of the Marine Corps (CMC), Logistics Plans Policy & Strategic Mobility Division (LP) for analysis of implementation impact and formulation or modification of existing policy.

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<sup>3</sup> Refer to SRAC QuickPlace Web Site (Transportation Team Room).

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**The migration strategies presented in this document are the result of Transportation Domain data collection and analyses performed in Parts 1 through 3 of SRAC Phase 3. They may be modified based on the results of SRAC Phase 3, Part 4 that includes cross-domain analysis and harmonization with the ILC OA/TA, SDE, and GCSS-MC programs. At the end of Part 4, changes based on new developments in reengineering initiatives from the Office of the Secretary of Defense (OSD)/United States Transportation Command (USTRANSCOM) may also be considered.**

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**1.0 TRANSPORTATION DOMAIN AIS MIGRATION STRATEGIES**

The SRAC Transportation Domain migration strategies are described in two parts, Unit Move and Traffic Management.

**1.1 Unit Move (FDP&E) AIS Migration Strategy<sup>4</sup>**

Unit Move represents FDP&E functions and activities. The Unit Move migration strategy is expressed in two potential courses of action (COA). Both involve a reduction of AIS from five in FY02 to three in FY08. The only difference between the potential COA is the timing of the fielding of TC-AIMS II and subsequent consolidation of AIS.

**1.1.1 COA #1 - Successful TC-AIMS II Pilots**

COA #1 is based on the assumption that TC-AIMS II pilots in FY02 are successful and the USMC decides to push on with TC-AIMS II operational implementation. The migration strategy associated with this COA is illustrated in Figure 1-1.

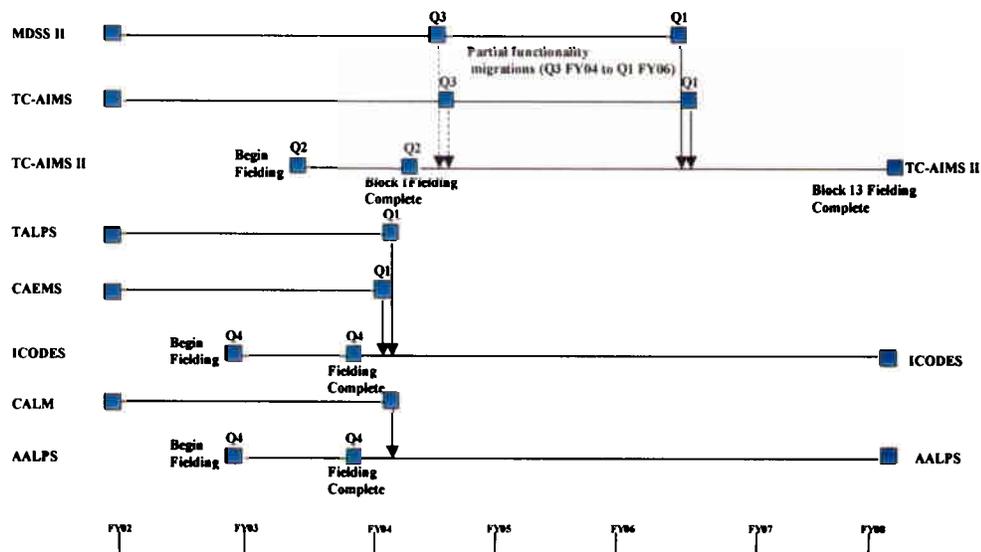


Figure 1-1. Unit Move AIS Migration, COA #1 – Successful TC-AIMS II Pilots

<sup>4</sup> Migration strategies based on TC-AIMS II are subject to review after receipt of new operator surveys on TC-AIMS II and MDSS II and receipt of formal reports (anticipated by early February 2002) on USMC Initial Operational Testing & Evaluation (IOT&E) conducted in December 2001.

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Legacy USMC applications in the MAGTF Logistics (LOG) AIS family of systems (i.e., MDSS II, TC-AIMS, CAEMS, and MAGTF II), TAV-B Automated Load Planning System (TALPS), and the USAF CALM system will transition to the Joint migration systems that support FDP&E. These Joint Staff selected systems include the Joint Force Requirements Generator II (JFRG II)<sup>5</sup>, AALPS, ICODES, and TC-AIMS II, as shown in the migration strategy. This results in a consolidation of Unit Move transportation AIS from five during FY02 to three by the First Quarter (Q1) of FY06.

Additionally, there is an Air Force initiative to migrate from the CALM system to Military Traffic Management Command (MTMC) AALPS. The fielding and migration strategy was developed to align efforts of all involved in funding, training, system implementation, and retirement of legacy systems. It provides a framework and general timeframe for planning the migration.

There is also a Naval integration aspect to this migration. Fielding of new applications to the Marine Forces (MARFOR) must also be integrated with fielding by the Navy to amphibious ships personnel who perform duties relating to ship load planning for embarking organizations. This will require further coordination with Chief of Naval Operations (CNO), Naval Sea Systems Command (NAVSEA), and Naval Transportation Support Center (NAVTRANS) staffs and others fielding the joint migration systems to the Navy<sup>6</sup>.

TC-AIMS II version 3.01 completed the USMC initial operational test and evaluation (IOT&E) in December 01. The IOT&E formal results are expected to be published during Q2 of FY02. Based on the IOT&E results, the Marine Corps will decide whether or not to begin fielding TC-AIMS II during Q2 of FY03. Once fielded, TC-AIMS II will be the single joint source data system for Unit Move information for the Joint Operations Planning and Execution System (JOPES). TC-AIMS II will be fielded to the battalion, squadron, and separate company level in the MARFOR Atlantic, MARFOR Pacific, and to the TMO community within the Supporting Establishment (SE). Commander, Marine Forces Reserve (COMMARFORRES), in coordination with Commander, Marine Corps Systems Command (MCSC), is currently verifying the number and location of sites for the fielding of TC-AIMS II. At the time of this writing, MCSC is consolidating comments from earlier staffing of the TC-AIMS II User's Logistics Support Summary (ULSS) to MARFOR. Final review and release of the ULSS is expected during Q3 of FY02. The ULSS allows operators to verify the number and location of sites for TC-AIMS II to be fielded.

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<sup>5</sup> The FDP&E AIS (i.e., JFRG II, JOPES, and MAGTF II) discussed in this migration strategy are out of scope for SRAC logistics. They do not appear in the migration diagram above nor are they analyzed in SRAC. They are discussed here only to provide a complete migration strategy for FDP&E systems.

<sup>6</sup> See CMC WASH DC/LPO/ 190945Z OCT 01, Migration Strategy for MAGTF LOG AIS and Joint Transportation System.

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JFRG II was released by the Defense Information Systems Agency (DISA). It will be the sole source feeder to JOPES once TC-AIMS II is fielded. The JFRG II fielding schedule is currently dependent upon the TC-AIMS II fielding. JFRG II will be fielded to the regiment and group level in the MARFOR.

AALPS version 4.1 has been released to the joint community. Fielding of AALPS within the Marine Corps is dependent upon a viable method to pass and receive data between MDSS II and AALPS that is expected to exist in May 02 (either as a product of the MCSC SDE effort or as a two way interface). AALPS will be fielded to the battalion, squadron, and separate company level.

ICODES version 5.1 has been released to the joint community. Fielding of ICODES within the Marine Corps, like AALPS, is dependent upon a viable method to pass and receive data between MDSS II and ICODES that is expected to exist in May 02. The current version of ICODES does not yet include complete functionality to replace the unique capability currently provided by TALPS. TALPS will be retained until such functionality is incorporated in a future version of ICODES currently anticipated by Q1 of FY04. ICODES will be fielded to the battalion, squadron, and separate company level.

The following schedule applies to COA #1:

Table 1-1. Courses of Action #1

<b>DATES</b>	<b>COA</b>
Jan 02	Field hardware (h/w) to Formal Learning Centers (FLC).
Feb 02	Initial and Key Personnel Training (IKPT) for TC-AIMS II (FLC).
Mar 02	Begin TC-AIMS II curriculum development at FLC.
May 02	Begin AALPS and ICODES instruction at FLC.
Jun 02	Field h/w to MARFOR and the Supporting Establishment (SE).
Jul 02	Begin fielding AALPS and ICODES to MARFOR.
Sep 02	Begin fielding JFRG II to MARFOR.
Jan 03	Begin TC-AIMS II instruction.
Jan 03	Begin fielding TC-AIMS II to MARFOR and SE.
May 03	Validate FLC curriculum with Course Content Review Board (CCRB) with operation force subject matter experts (SME) participation.
Oct 03	Retire TALPS, CAEMS, and CALM.
Jun 04	Begin use of TC-AIMS II to replace MDSS II and TC-AIMS functionality.
Mar 06	Retire MDSS II and TC-AIMS.

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**1.1.2 COA #2 - Delayed TC-AIMS II Fielding**

If TC-AIMS II does not achieve a successful operational test and the USMC decides to delay fielding, COA #2 will be the migration strategy, as illustrated in Figure 1-2.

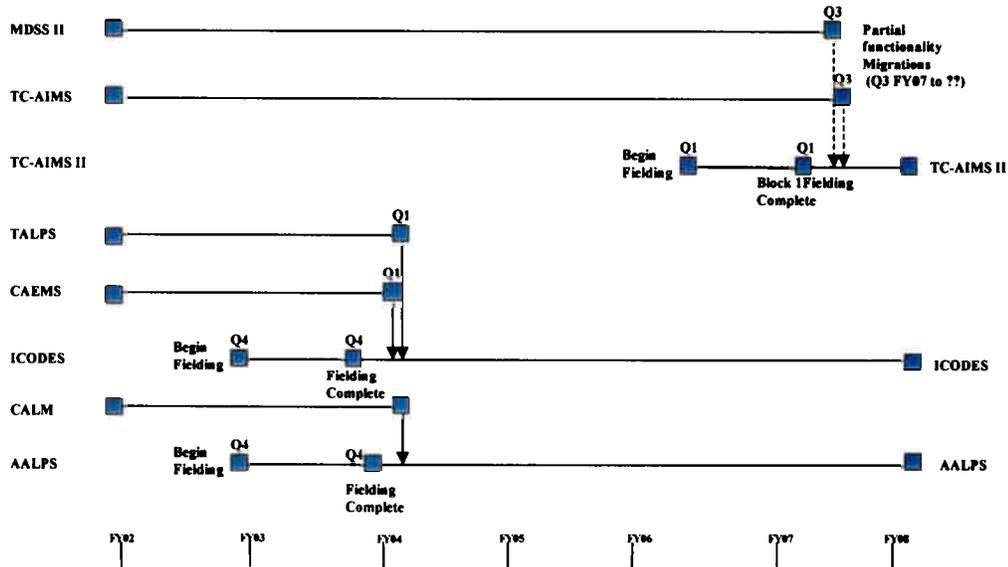


Figure 1-2. SRAC Unit Move AIS Migration, COA #2 – Delayed TC-AIMS II Fielding

In COA #2, the USMC will not field TC-AIMS II until such time as it satisfies USMC FDP&E requirements. The current estimate for planning purposes is that this will not occur until Q1 of FY06. The schedule for fielding hardware, ICODES, and AALPS does not change in COA #2. The remainder of the schedule shifts are shown in Table 1-2.

Table 1-2. Courses of Action #2

DATES	COA
Jan 02	Field h/w to FLC.
May 02	Begin AALPS and ICODES instruction at FLC.
Jun 02	Field h/w to MARFOR and the SE.
Jul 02	Begin fielding AALPS/ICODES to MARFOR.
Aug 02	Field MAGTF LOG AIS version 6.4 with the ability to interface MDSS II with JFRG II, ICODES, and AALPS or have another viable method (e.g., SDE) to pass and receive data between MDSS II and JFRG II.
Sep 02	Begin fielding JFRG II to MARFOR.
Oct 02	Begin fielding ICODES to MARFOR and begin FLC instruction in ICODES.

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<b>DATES</b>	<b>COA</b>
Oct 03	Retire TALPS, CAEMS, and CALM.
Oct 05	Begin TC-AIMS II instruction.
Oct 05	Begin fielding TC-AIMS II to MARFOR and SE.
Jun 07	Begin use of TC-AIMS II to replace MDSS II and TC-AIMS functionality.

### **1.1.3 Necessary Actions for Unit Move AIS Migration**

The following critical actions are required from the Marine Corps to support the two COA.

#### **1.1.3.1 MCSC**

- Based on the above projected schedule, request procurement and fielding of hardware to support fielding of the Joint Staff selected LOG systems.
- Submit Program Objectives Memorandum (POM) 04 packages to support the implementation and sustainment of the selected LOG systems.
- Submit waivers as necessary through CMC (Command, Control, Communications, and Computer (C4)/Chief Information Officer (CIO)) to procure hardware.
- Coordinate with Training and Education Command (TECOM), Marine Corps Combat Development Command (MCCDC) to ensure the FLC are prepared to deliver courses of instruction for the selected LOG systems consistent with the documented schedules for both COA.
- Develop, distribute, and monitor actions associated with the retirement or discontinued use of AIS per the approved migration strategy.

#### **1.1.3.2 CMC (C4/CIO)**

Assist MCSC in obtaining the Navy Marine Corps Intranet (NMCI) waiver for procurement and fielding of hardware.

#### **1.1.3.3 MARFOR**

Verify the number and location of fielding requirements that are contained in the ULSS to be staffed by MCSC. Ensure that fielding requirements to support the Joint Staff selected LOG systems are included and correspond with NMCI seats identified to CMC (C4/CIO).

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### **1.1.3.4 TECOM**

Coordinate with MCSC Program Manager Information Systems (PMIS) to ensure training requirements are identified. Ensure that training supports the fielding schedules in both COA.

### **1.1.3.5 CMC (LPO)**

- Provide assistance with LOG systems POM 04 initiatives submitted to support TC-AIMS II, AALPS, ICODES, and JFRG II to CMC Logistics Distribution Center (LPD).
- Provide assistance with waiver approvals through CMC (C4/CIO) in support of this fielding schedule. Coordinate the Naval integration aspect of this migration with CNO, NAVSEA, and NAVTRANS staffs.

### **1.1.4 Phase out of CAEMS, TALPS, and CALM**

COA #1 and #2 are intended to accomplish complete fielding of joint migration applications to the MARFOR in a 12-month period.

Commencement of instruction on a migration system at the FLC implies that instruction on the legacy application has been discontinued.

Software support of each legacy system being phased out will be provided until 90 days after the last units are fielded for the related migration system.

A retirement date for each legacy application will be based on the successful fielding of each migration system, announced via separate correspondence with retirement instructions to affected organizations.

## **1.2 Traffic Management AIS Migration Strategy**

The Traffic Management AIS migration strategy is illustrated in Figure 1-3.

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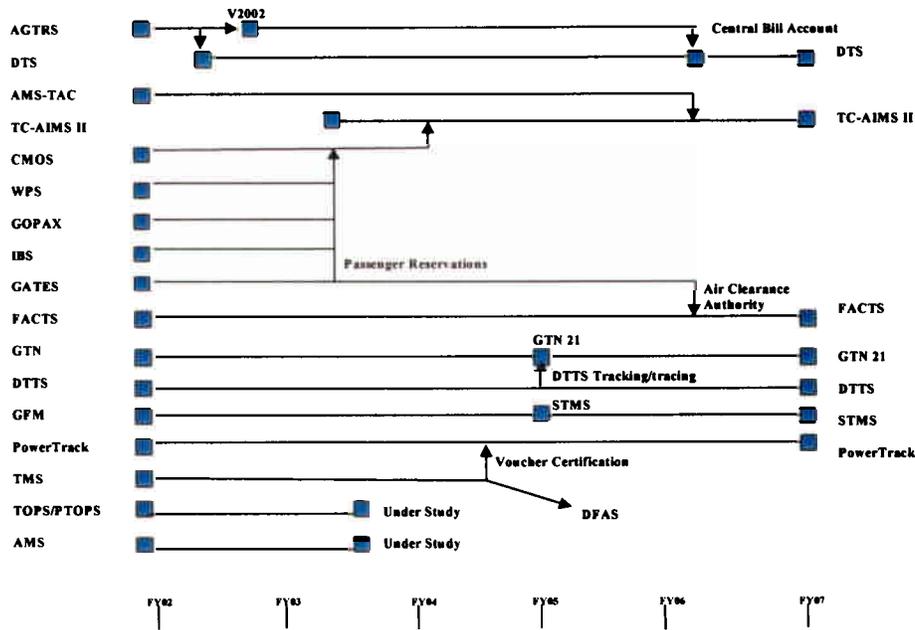


Figure 1-3. SRAC Traffic Management AIS Migration

The user interfaces for WPS, IBS, GOPAX, and GATES will be consolidated into one CMOS user interface to support the ocean booking, ocean documentation, and air passenger reservation functions. Later, CMOS and AMS-TAC are proposed to become a part of the TC-AIMS II program. This provides the Traffic Management user productivity improvements by eliminating “swivel chair” and multiple user interfaces, but will not eliminate the consolidated AIS. Operators will still be active in back-end transactions performed by the Air Mobility Command (AMC) and MTMC in support of the ocean and passenger processing services that are provided to the Marine Corps as discussed in Section 5.2, Traffic Management Integration Capability.

### 1.2.1 Necessary Actions for Traffic Management AIS Migration

The Traffic Management migration strategy requires that the following actions be performed for legacy AIS.

#### 1.2.1.1 AGTRS-2002/DTS

During FY02, it is anticipated that the USMC legacy Automated Government Transportation Request System (AGTRS) will be migrated to AGTRS-2002. Also, CMC (LPD) and CMC Liaison & Technical Services Branch (RFL) will begin testing the new Defense Travel System (DTS).

During FY06, it is anticipated that the DTS Project Office will have fully deployed DTS throughout the entire DoD system. Once DTS has been fully deployed to the Marine

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Corps, the use of AGTRS-2002 will be terminated once AGTRS Central Billed Account functionality has been fully incorporated into DTS.

**1.2.1.2 TC-AIMS II**

Currently, the TC-AIMS II Program Management Office development plans do not anticipate fully incorporating Traffic Management capability in TC-AIMS II until FY05 - 06. In anticipation of this long lead-time, the Air Force with the support of all the Military Services has taken the initiative to propose that CMOS be designated the joint Installation Transportation Office/Traffic Management Office (ITO/TMO) system under the TC-AIMS II umbrella. It currently satisfies nearly 60% of the required functionality as defined in the TC-AIMS II requirements database. The Air Force proposal states that it will add the remaining functionality required by TC-AIMS II into CMOS, provided joint TC-AIMS II dollars are made available. The final decision on this currently rests with Office of the Secretary of Defense (OSD), the Joint Staff, and the Joint Transportation Management Board.

If the Air Force receives the joint designation for CMOS, it is anticipated that the passenger reservation capability from the GATES and MTMC GOPAX systems will migrate to CMOS during FY03. Additionally, the ocean booking capability in MTMC IBS and the Transportation Control Movement Document (TCMD) preparation in MTMC WPS would migrate to CMOS once Blount Island Command, Jacksonville, FL, and MCLB Barstow, CA, are implemented under the Marine Corps CMOS Regionalization Plan. Operator input for all these capabilities will be transferred to the CMOS user interface. This will remove these systems from the NMCI network. However, it should be noted that the back-end transaction server systems for GATES, GOPAX, IBS, and WPS will still exist external to the Marine Corps where they will provide service for all DoD organizations. The transaction processing capabilities of IBS and WPS will be subsumed by STMS in FY05. The Marine Corps will continue to be surcharged for the use of these back-end systems.

Currently the Marine Corps is working with the TC-AIMS II Joint Requirements Office to properly document inbound freight processing requirements on behalf of the Marine Corps. Upon completion of this activity, it will be suggested that AMS-TAC be used as the joint inbound receiving system to satisfy the TC-AIMS II requirements.

If the aforementioned events materialize by FY07, it is anticipated that TC-AIMS II will include the USAF CMOS and USMC AMS-TAC functionality.

**1.2.1.3 FACTS/GATES**

The joint FACTS is the final migration system for all Military Services Continental United States (CONUS) Air Clearance Authorities (ACA). For the Marine Corps, Marine Corps Logistics Base (MCLB) Barstow, CA, serves as the Marine Corps ACA.

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The Marine Corps plans to work with the Navy FACTS Program Office to expand the FACTS ACA functionality to overseas ACA. For the Marine Corps, this will impact Camp Butler, Okinawa, Japan, which currently uses a portion of GATES for this function.

### **1.2.1.4 GTN/DTTS**

Currently USTRANSCOM is in the process of re-engineering the design and functionality of Global Transportation Network (GTN) into a new system called GTN 21. The Marine Corps will continue to use the joint GTN for tracking and tracing in-transit shipments pending the deployment of GTN 21.

The MTMC is working with a joint team that includes the Marine Corps to consider expanding the Navy DTTS functionality to comply with new security requirements for sensitive shipments, such as monitoring the status and notification of safe havens and destinations.

During FY05, it is anticipated that USTRANSCOM will begin testing GTN 21. As part of this upgrade, the DTTS tracking and tracing functionality will be included in GTN 21. By FY07, the Marine Corps will use GTN 21 as its sole source for tracking and tracing information, to include sensitive shipments. The Marine Corps will use DTTS to exercise operational control of sensitive shipments in accordance with new policy procedures currently under development.

### **1.2.1.5 GFM**

MTMC GFM is the final migration system for DoD Traffic Management support functions such as maintenance, use of the DoD Transportation Facilities Guide, submission of Transportation Discrepancy Reports, and access to the DoD Table of Distances. GFM will be migrated to STMS in FY05.

### **1.2.1.6 PowerTrack/TMS**

Currently in CONUS, DoD uses the U.S. Bank Commercial Off-the-Shelf (COTS) PowerTrack system to process payments for commercial freight shipments. CINC USTRANSCOM is evaluating the feasibility of using PowerTrack to process and pay Transportation Component Command (TCC) (e.g., the AMC, MSC, and MTMC components) and personal property bills. The Marine Corps is also exploring the feasibility of expanding PowerTrack to Marine Corps Air Station Iwakuni and Marine Corps Base Camp Butler, Japan, and Outside the Continental United States (OCONUS) for the payment of small package express shipments. If this is successful, the Marine Corps OCONUS TMOs will take on the additional role of paying TCC and personal property bills once USTRANSCOM decides to incorporate that capability into the PowerTrack process.

During FY04, if USTRANSCOM employs the use of PowerTrack for the payment of TCC and personal property bills, the USMC legacy TMS voucher certification function at

## **Systems Realignment and Categorization (SRAC) Recommendations for the Marine Corps Logistics Transportation Domain**

Marine Corps Logistics Base Albany, GA, can be migrated into PowerTrack. Upon successful migration of this functionality to PowerTrack, the remaining TMS module for disbursing can be turned over to the Defense Finance Accounting Service, Kansas City, MO (DFAS-KC), for maintenance of software. DFAS-KC is the only operator of this portion of TMS.

### **1.2.1.7 TOPS/PTOPS**

During the first part of FY02, USTRANSCOM will evaluate the results of the Management Reform Memorandum (MRM) #6 re-engineering pilots to identify the best business practices that will satisfy DoD personal property movement requirements. Once this determination has been made and staffed through the Military Services, the supporting AIS will be identified. It is anticipated that a plan should solidify in late FY02 or early FY03.

### **1.2.1.8 AMS**

Currently MTMC is working with a joint team to develop requirements and a business case for best managing and executing container management and related functions. USTRANSCOM will use the business case cost analysis to evaluate outsourcing this function vice retaining it within the Government. Based on the MTMC and USTRANSCOM actions, it will be decided whether or not AMS will be retained, modified, or replaced by a new AIS. It is anticipated that a plan should be solidified by early FY03.

## **2.0 AIS SCORING**

In SRAC Phase 3, Part 3, scores are calculated for the high value AIS that have survived Phases 1 and 2 without incurring recommendations for retirement. These scores provide a check on the viability of proposed AIS migration strategies.

AIS scores are calculated from AIS characterization data collected from operators and program office system experts. The overall AIS score considers user functionality, provider support, and technical capability. Because of the difficulty of collecting reliable cost data for joint as well as USMC owned AIS, cost effectiveness is calculated where data is available, as an independent variable.

User functionality and provider support is rated by a large number of operators via electronic surveys. Technology scores are obtained by applying a single rating scheme to technical implementation data obtained from the AIS program office. The cost effectiveness of AIS is calculated as a relative ratio of value to cost. Value in SRAC Phase 3 is defined as the product of functional coverage, functional score, and the number of operators of the AIS. Cost is based on the average 5-year total ownership cost (TOC) for the AIS. Cost effectiveness is determined by dividing the AIS value by its cost.

All values for functional coverage used in AIS scoring are derived from AIS mapping based on user survey forms.

### **2.1 Traffic Management AIS Scores**

Table 2-1 contains the results of the SRAC Phase 3 AIS scoring for Traffic Management.

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**Table 2-1. Traffic Management AIS Scores**

	Funct Coverage (%)	Funct Score(%)	Provider Score(%)	Technical Score(%)	Overall AIS Score(%)	Average TOC \$ (000's)	No. Users	Phase 3 Value	Cost Effect. Score
AIS**									
AGTRS	18	90	58	100	82	0*	102	1652	100*
AMS-TAC	21	90	89	65	81	162	493	9357	100
CMOS	34	93	86	69	82	267	221	6955	45
DTTS	25	92	100	41	78	0*	1	23	100*
FACTS	4	99	99	78	92	300	20	79	0
GATES	19	93	88	75	85	68	83	1461	37
GFM	10	95	96	75	89	50	61	581	20
GTN	4	84	91	100	91	305	371	1246	7
IBS	5	96	90	59	82	6	7	34	10
PowerTrack	25	92	96	90	93	0*	38	877	100*
TOPS/PTOPS	31	85	83	79	82	224	230	6057	47
TMS	1	70	51	31	51	85	82	57	1
VPS	9	93	86	38	73	10	12	101	17

Note: **Green** = superior performance, **yellow** = mediocre, **red** = problem area

\* Indicates Marine Corps is charged no fee for this AIS, assume cost effect =100.

\*\* GOPAX and AMS are omitted from this table because of insufficient survey responses.

The functional coverage column in Table 2-1 indicates the percentage of the 166 Traffic Management activities and tasks that are supported by each AIS. CMOS exhibits the highest functional coverage of any Traffic Management AIS, which corroborates its selection as a migration system. TMS has the worst functional coverage with only 1% of the tasks addressed. FACTS, GTN, and IBS all have less than 5% coverage. This may not be important in the case of GTN, because it also serves the important job of acting as the DoD ITV data collector for the entire Transportation Domain. Also, FACTS is the DoD Air Clearance Authority system. Each Military Service ACA uses the same system for this function. TMS and IBS are proposed for migration of their existing functionality to PowerTrack and CMOS respectively (See figure 1-3).

The functional scores for the AIS are averages of scores assigned by operators responding to the SRAC Phase 3 functional evaluation survey. Operators are asked to rate the AIS only for the support it gives to the activities and tasks that they perform in their normal work. In Traffic Management, FACTS received the highest functionality score and TMS received the worst score. In general, operators seem satisfied with the functional capability of the Traffic Management AIS, with only GTN receiving a marginally mediocre functional score. This is consistent with the USTRANSCOM plan to re-engineer the current GTN architecture and functionality in GTN 21 (See Figure 1-3).

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The operators of the AIS were also asked to rate several categories of support obtained through their AIS provider. The numbers in the provider column are averages of these scores. Support provided was scored highest for DTTS and reasonably high for most of the Traffic Management AIS. AGTRS and TMS were exceptions, receiving very poor customer support scores. This is to be expected since neither of these AIS has a formal support structure. A wealth of comment data collected from operators should be invaluable in correcting deficiencies in customer support for the red and yellow coded AIS.

The SRAC technical scores rate information technology components in various categories (e.g., operating environment, user interface, programming languages, databases, security, middleware, etc). The SRAC technology scoring system was developed in conjunction with Information Technology and enterprise architecture SME from the MCSC Systems Engineering and Integration (SE&I) directorate. AGTRS and GTN were judged to have the best technology of the group based on the criteria employed. As might be expected of legacy applications, several Traffic Management AIS have poor technology ratings.

The overall AIS score for SRAC Phase 3 is determined by averaging the user functionality, provider support, and technical scores. PowerTrack, a COTS application, received the highest overall AIS score. The lowest score was calculated for TMS. Looking horizontally across the table, it is possible to understand how component scores contribute to the overall score for individual AIS. TMS scored poorly, for example, because it achieved the lowest scores in functionality, provider support, and technology. Fortunately, the TMS voucher certification functionality will be migrated to PowerTrack and the rest of its functionality passed to DFAS-KC according to the migration strategy shown in Figure 1-3. Thus, the Marine Corps will no longer need to struggle with TMS.

It was difficult to obtain good TOC data for USTRANSCOM/TCC-owned AIS used by the Marine Corps. These systems are mandated for use by OSD and are managed by the transportation process owner, whereas the Marine Corps is a customer of the process. Some Traffic Management TOC data has therefore been calculated based on an allocation formula using gross USTRANSCOM AIS depreciation data factored against a percentage representing the Marine Corps share of the USTRANSCOM revenue base. This formula was developed specifically for the SRAC program. As such, the cost figures represent the best current estimate of average yearly costs based on available data.

The cost effectiveness numbers in Table 2-1 are normalized to the maximum cost effectiveness number for the Traffic Management sub-domain for easy comparison. AMS-TAC had the highest calculated cost effectiveness score and was therefore assigned a value of 100. AGTRS, DTTS, and PowerTrack have little or no cost to the Marine Corps so they were also assigned a maximum cost effectiveness of 100. FACTS had the worst cost effectiveness score of the Traffic Management AIS.

### **2.2 Unit Move AIS Scores**

Table 2-2 contains the AIS scores for the fielded Unit Move AIS.

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Table 2-2. Unit Move AIS Scores

	Funct Coverage (%)	Funct Score (%)	Provider Score(%)	Technical Score(%)	Overall AIS Score(%)	Avg TOC \$(000's)	No. Users	Phase 3 Value	Cost Effect. Score
AIS***									
CAEMS	27	83	78	44	68	390	1200	26765	55
CALM	32	80	83	**	54	0*	1200	30639	100*
MDSS II	71	85	81	44	70	584	1200	72663	100
TALPS	18	87	92	51	77	83	100	1563	15
TC-AIMS	27	77	71	44	64	584	1200	24965	34

Note: Green = superior performance, yellow = mediocre, red = problem area

\*Indicates Marine Corps is charged small surcharge for this AIS (effectively zero relative to other AIS), assume CE = 100.

\*\*Inability to collect data.

\*\*\*TC-AIMS II, AALPS, and ICODES are not included because these AIS are not yet fielded.

The Unit Move functionality scores are generally lower than Traffic Management indicating more demanding operators and/or less satisfaction with functionality. The best functionality score was achieved by TALPS. TC-AIMS scored the worst.

The provider scores for Unit Move AIS were generally unimpressive and may be improved by utilizing comments collected in the user survey. The best provider score was attained by TALPS and the worst by TC-AIMS.

The technology scores for Unit Move AIS were low which is expected for legacy AIS. The low technology score achieved by TC-AIMS II (not shown), the Unit Move sub-domain migration system, is somewhat disturbing.

The number of operators for Unit Move AIS is generally much higher than for Traffic Management AIS. This inflates the cost effectiveness figures for Unit Move; therefore they are only calculated within the sub-domain.

USMC TOC values were not available for the USAF CALM AIS. The cost effectiveness of the MDSS II AIS was highest because of its substantially higher functional coverage.

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**3.0 AIS OVERLAP ANALYSIS**

The overlap analysis performed by the SRAC Core Team supports both the Unit Move and Traffic Management migration strategies discussed in Section 1. This analysis further indicates which AIS should be considered for re-engineering as hub migration systems if TC-AIMS II is further delayed.

All overlap analyses in this recommendation are based on functional coverage mapping performed by SME at a Transportation workshop.

**3.1 Functional Overlap Among Unit Move AIS**

Table 3-1 shows the result of a functional overlap analysis for Unit Move AIS.

Table 3-1. Unit Move AIS Overlap Analysis

	AALPS	CAEMS	CALM	ICODES	MDSS II	SCM	TALPS	TC-AIMS	TC-AIMS II
AALPS	27	74	100	74	100	4	19	56	100
CAEMS	57	35	57	80	100	6	23	63	97
CALM	100	74	27	74	100	4	19	56	100
ICODES	71	100	71	28	100	7	29	54	96
MDSS II	34	44	34	35	79	6	10	54	97
SCM	20	40	20	40	100	5	40	40	80
TALPS	62	100	62	100	100	25	8	62	88
TC-AIMS	25	37	25	25	73	3	8	59	100
TC-AIMS II	29	37	29	29	83	4	8	63	93

**Legend**

	Number of tasks supported by AIS
	Percentage of shared tasks supported between 61 and 80 %
	Percentage of shared tasks supported between 81 and 100 %

The number of activities or tasks supported by each Unit Move AIS is given in the diagonal (green) cells. The table is read from the left and up as follows: X% of the tasks supported by “Row AIS” are also supported by the “Column AIS” where X is the number contained in the cell that is at the intersection of the associated row and column. For example, 73% of the 59 tasks supported by TC-AIMS are also supported by MDSS II. Based on functional overlap alone, AIS with high numbers in their columns may be good candidates for migration systems (i.e. require further examination). Overlap indicates only the potential for overlap. Two AIS may not necessarily be providing the same functional support for a shared task.

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The SRAC overlap analysis in Table 3-1 supports the Unit Move migration strategy because it shows that TC-AIMS II provides support for 80% or more of the tasks supported by all other Unit Move AIS. In fact, this simple analysis argues that ICODES and AALPS should be investigated for consolidation with TC-AIMS II.

The Unit Move overlap analysis also shows that AALPS is a good candidate to replace the functionality of the USAF CALM AIS and that ICODES is a good candidate to replace TALPS. The implied shortfall of functional coverage (80%) of ICODES for CAEMS functions should be examined in ICODES acquisition planning.

If TC-AIMS II is further delayed, the analysis points to MDSS II as a potential hub AIS for Unit Move since MDSS II is involved with most of the activities and tasks supported by other legacy AIS. In this scenario, MDSS II would have to be re-engineered to support the activities and tasks supported by TC-AIMS since it currently addresses only 73% of these activities and tasks.

### 3.2 Functional Overlap Among Traffic Management AIS

Table 3-2 shows the result of a functional overlap analysis for Traffic Management AIS.

Table 3-2. Traffic Management AIS Overlap Analysis

	AGTRS	AMS-TAC	CMOS	DTTS	FACTS	GATES	GFM	GOPAX	GTN	IBS	PowerTrack	TOPS	TMS	WPS
AGTRS	3	0	0	0	0	0	0	0	0	0	0	0	0	0
AMS-TAC	0	22	55	9	14	14	9	0	9	0	0	0	0	5
CMOS	0	44	27	7	19	7	22	0	7	7	0	0	0	11
DTTS	0	100	100	2	100	100	0	0	100	0	0	0	0	0
FACTS	0	33	56	22	9	22	0	0	22	0	0	0	0	11
GATES	0	38	25	25	25	8	0	25	38	0	0	12	0	0
GFM	0	20	60	0	0	0	10	0	0	0	0	0	0	0
GOPAX	0	0	0	0	0	67	0	3	0	0	0	0	0	0
GTN	0	67	67	67	67	100	0	0	3	0	0	33	0	0
IBS	0	0	100	0	0	0	0	0	0	2	0	0	0	100
PowerTrack	0	0	0	0	0	0	0	0	0	0	4	0	0	0
TOPS/PTOPS	0	0	0	0	0	6	0	0	6	0	0	17	0	0
TMS	0	0	0	0	0	0	0	0	0	0	0	0	25	0
WPS	0	33	100	0	33	0	0	0	0	67	0	0	0	3

#### Legend

	Number of tasks supported by AIS
	Percentage of shared functions supported between 61 and 80 %
	Percentage of shared functions supported between 81 and 100 %

## **Systems Realignment and Categorization (SRAC) Recommendations for the Marine Corps Logistics Transportation Domain**

The SRAC overlap analysis for Traffic Management indicated minimum overlap of functions. In large part, this is due to separating functions along modes of transportation (freight, personal property, and passenger movement). The diagonal (green) cells of Table 3-2 indicate the fundamental problem with the associated degree of specialty in Traffic Management AIS. Out of the 166 functional tasks defining Traffic Management operations, seven (7) AIS support less than five (5) tasks.

This situation has arisen from legal precedent, organizational stovepiping, and to some extent, fragmentation of commercial transportation industries by mode of transportation.

The USTRANSCOM is the unified command that is the DoD single manager for sea, land, and air transportation in both peace and war. USTRANSCOM controls all DoD transportation assets except those that are Service unique or theater assigned.

The three TCC of USTRANSCOM are the Air Force AMC, the Navy Military Sealift Command (MSC), and the Army MTMC. Each TCC is a major command of its parent Military Service and continues to organize, train, and equip its forces as specified by law. Each TCC also performs Service unique missions.

AMC acts as the single manager for airlift, inter-theater, intra-theater, and Continental United States (CONUS) aero-medical evacuation, aerial refueling support, and support services to the DoD Components. MTMC acts as the single manager for surface and surface inter-modal Traffic Management services, common-user ocean terminal support, and transportation engineering support to the DoD Components. MTMC also provides rates (other than inter-modal rates, including ocean rates), routing, and commercial carrier quality control. MSC acts as the single manager for providing ocean transportation, to including ocean movement and support services, to the DoD Components.

The segmented organization and affiliation to their parent Military Service has caused the TCCs to independently develop AIS to support their respective mission areas. The segmentation is reinforced by the fact that nearly 80% of cargo, passengers, and personal property move via commercial assets that may reside in separate commercial industries.

The SRAC overlap analysis clearly supports the migration of WPS and IBS user interfaces to CMOS in the Traffic Management migration strategy. While DTTS appears to be a candidate for consolidation with a number of AIS, its primary function of dealing with hazardous materials makes this type of migration unlikely. The extreme focus on hazardous materials plus the federal, state, and local regulations associated with these tasks make work with hazardous materials very specialized.

Although Table 3-2 shows a potential overlap between GTN and GATES, the function of GTN as a repository for ITV data argues for its retention as a separate system. The first initiative of the USMC ILC program established the desirability of separating decision support environments from transactional supply chain systems. This is also supported by

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the migration of ITV tracking functionality from DTTS to GTN 21 in the 1Q of FY05  
(see section 1.2, Traffic Management AIS Migration Strategy).

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### **4.0 AIS GAP ANALYSIS**

SRAC Phase 3, Part 3 also produced a functional gap analysis. Gaps are defined as activities or tasks in the “as-is” business process that are not supported by AIS. In some cases, these tasks are not subject to automation. In others, they have not been addressed yet. The gap analysis defines each gap activity and gives comments that may be of future use in closing gaps left by legacy AIS.

In the Transportation Domain, fifty-seven (57) Unit Move and sixty-six (66) Traffic Management gaps have been cataloged and passed on to the ILC OA/TA and the GCSS-MC portfolio management programs for further analysis and action. Gaps that exist in the “as-is” business process may be associated with tasks that are no longer active in the “to-be” operational architecture. For this reason, gap analysis will be re-visited in SRAC Phase 3, Part 4; where the ILC/OA is considered.

## 5.0 AIS INTEGRATION CAPABILITY

SRAC Phase 3, Part 3 produces a catalog of AIS interface diagrams (also known as bubble charts) for AIS judged to be migration systems in the migration strategies presented in Section 1. Migration systems are those AIS appearing at the right hand side of the migration diagram. Bubble charts for each migration system convey the interfaces currently known to exist for each AIS.

The latest bubble charts were collected for the transportation AIS and edited, where necessary, to make them current. These bubble chart collections will be passed on to the ILC OA/TA and the GCSS-MC portfolio management programs for further analysis and action. Consolidation of these individual AIS interface charts at the sub-domain and domain levels are presented below to aid in the understanding of legacy system integration capabilities.

All integration capabilities described in this section are internal to the Transportation Domain. They do not describe interfaces to other logistics domains (e.g., supply and maintenance) or to other domains outside of the scope of USMC logistics (e.g., finance and manpower). These external links will be part of the integration capability definitions of SRAC Phase 3, Part 4 (Cross-domain Solutions).

### 5.1 Unit Move Integration Capability

Integration capabilities associated with the end-state migration systems for Unit Move are straightforward as indicated in Figure 5-1.

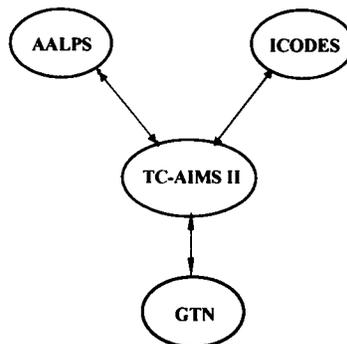


Figure 5-1. Unit Move Migration System Integration

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TC-AIMS II becomes the hub application for Unit Move through bi-directional interfaces with AALPS and ICODES. Also shown is an interface from TC-AIMS II to GTN for Unit Move ITV data. Although GTN has been treated as a Traffic Management AIS for SRAC analysis purposes, it does manage transportation ITV data for both domains.

### 5.2 Traffic Management Integration Capability

Integration capability for Traffic Management AIS is represented for three modes of transportation in Figures 5-2 through 5-4 (freight, personal property, and passenger movement). These figures show the likely integration capability associated with migration systems that will survive SRAC.

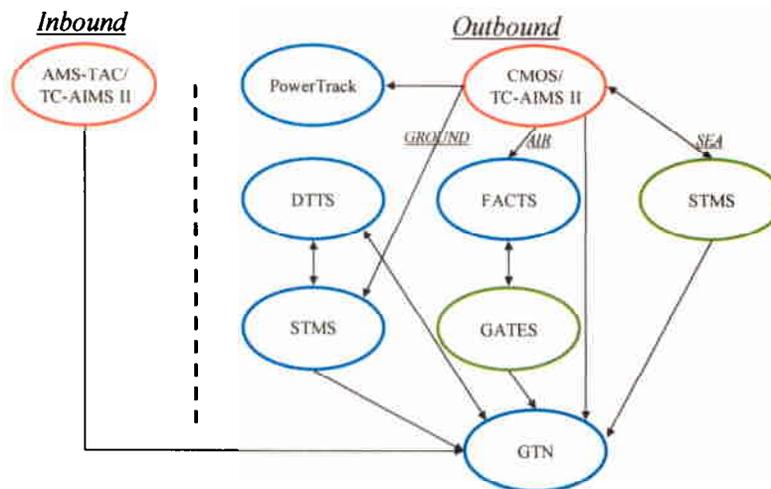


Figure 5-2. Freight Function

For inbound<sup>7</sup> freight management, AMS-TAC is the only AIS in use by the Marine Corps. Currently, AMS-TAC is being modified to transmit ITV data to GTN. While there is a desire to establish interfaces with GATES and STMS to preposition manifest information into AMS-TAC and transmit TCMD data from AMS-TAC, there is nothing officially approved to do so.

For outbound freight management, the integration capability is based on the mode of transportation (e.g., air, ocean, surface, and rail). For commercial ocean movements managed by MTMC, CMOS will transmit TCMD data to STMS. For commercial and military air movements, CMOS will transmit TCMD data to FACTS for clearance and

<sup>7</sup> Inbound freight refers to shipments that a TMO receives for further dispatch (outbound) to the ultimate consignee.

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booking and to GATES for prepositioning of the data at the aerial port of embarkation (APOE). Marine Corps Logistics Base Barstow, CA, and overseas Marine Corps ACA will use the air clearance portion of FACTS.

For commercial motor, rail, and ground express movement, CMOS will transmit its Commercial Bills of Lading (CBL) to STMS. If the movement is for sensitive material, STMS and DTTS will interface so that DTTS can perform its command and control function over these movements.

Finally, CMOS interfaces with PowerTrack, a third party bill payment system, for all commercial freight and small package movements via ocean, air, and surface. This system enables commercial carriers to receive payments directly from a commercial bank vice DFAS, reducing interest payments made by the Government to commercial carriers. PowerTrack is being prototyped for use in paying for military air movements via AMC.

Although the user input functions of GATES will be absorbed by the CMOS user interface, the back-end transaction processing portions of this AIS will still be operating, post-SRAC, as shown.

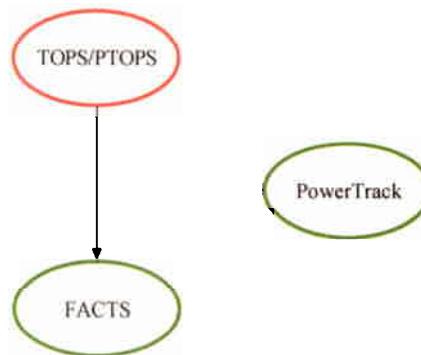


Figure 5-3. Personal Property

Figure 5-3 contains what is currently known about the integration capability for personal property movements. The only interface within the realm of the Transportation Domain is for those personal property shipments that need to be lifted either via commercial or military air. To do so, the information must be provided to FACTS where it can be cleared and booked. As illustrated in Figure 1-3, the migration strategy for TOPS/PTOPS

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is still under study and will not be completed until mid FY03. However, any future AIS will likely have an interface with PowerTrack, so that commercial carriers (air, surface, or ocean) can receive their payments via the same third party bill payment system used by the freight side of the house.

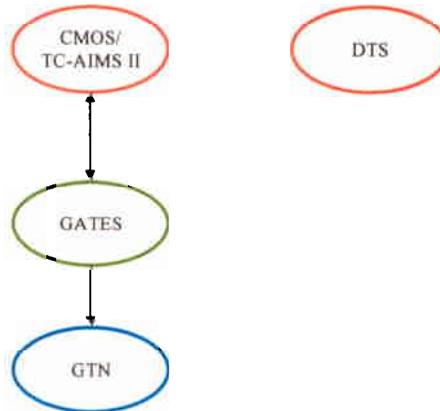


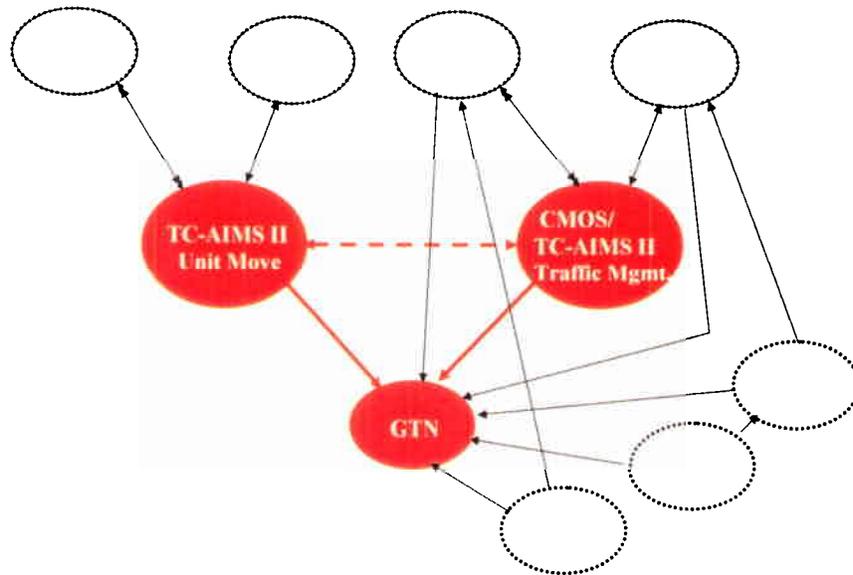
Figure 5-4. Passenger Travel

For passenger travel requirements in which the traveler must fly on either an AMC owned aircraft (e.g., C-17, C-5) or a commercial charter, the booking request will be generated in CMOS and transmitted to GATES. For Permanent Change of Station and Temporary Duty travel otherwise managed by each base's commercial travel office, the individual traveler will generate travel orders, transportation requirements, lodging needs, and other requirements in the DTS. Upon completion of travel, the individual traveler will generate an expense voucher in DTS for approval by the chain of command and payment by DFAS. Interface capabilities for DTS to Marine Corps transportation AIS have not yet been determined. DTS will have many interfaces to commercial entities and DFAS financial systems.

### 5.3 Transportation Domain Internal Integration

Figure 5-5 shows integration capability for the migration systems in the Transportation Domain with emphasis on links between the Unit Move and Traffic Management sub-domains. External interfaces to the USMC Transportation Domain will be addressed in SRAC Phase 3, Part 4 (Cross-domain Solutions).

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**Figure 5-5. Transportation Migration System Integration**

The primary transactional processing interface between the Unit Move and Traffic Management sub-domains will be between TC-AIMS II and CMOS. Only a small percentage of the total transportation transaction passes through this interface (dotted line) because the transportation requirements generator and documentation requirements are vastly different in the two sub-domains. This link is exercised only when the embarkation community requires commercial carriers to provide transportation for unit equipment by request through the Traffic Management Office.

If TC-AIMS II (Unit Move) is further delayed, SRAC analysis indicates that the Marine Corps legacy system MDSS II might be enhanced to act as the hub AIS for Unit Move and provide this interface to CMOS. In the event that TC-AIMS II is further delayed, it is recommended that MDSS II be investigated for re-engineering. This could be done either by absorbing TC-AIMS functionality within MDSS II or by continuing to run the two AIS as interfaced systems. In either case, SRAC analysis indicates that MDSS II would have to undergo a major technology upgrade as part of its re-engineering.

Both Unit Move and Traffic Management data for freight and some passenger movements will be sent to GTN for ITV. Since TC-AIMS II (Unit Move) will contain a consolidated database for FDP&E transportation, only one interface to GTN for Unit Move will be required. The situation is more complicated for Traffic Management where the non-Marine Corps owned AIS (STMS, DTTS, and GATES) will have to maintain separate interfaces to GTN.

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**6.0 COST AVOIDANCE**

The cost avoidance associated with implementing the migration strategies proposed in this document may be viewed two ways.

1. Reduction in operational costs associated with NMCI by reducing the number of AIS running on Marine Corps systems.
2. Reduction in development and operational costs associated with retired legacy AIS.

Average TOC for AIS proposed for retirement from the Transportation Domain are shown in Table 6-1.

Table 6-1. Average Yearly Total Ownership Costs

<b>AIS</b>	<b>Domain</b>	<b>Average TOC* (K\$/year)</b>
MDSS II	Unit Move	584
TC-AIMS	Unit Move	584
TALPS	Unit Move	83
CAEMS	Unit Move	390
TMS	Traffic Management	85
<b>Total</b>	Transportation	1,726

The total shown in Table 6-1 is the maximum cost avoidance per year assuming no additional surcharges from owning groups or changes in operational costs. The actual cost avoidance will depend on the acquisition plan and the fielding plan for systems. It has been suggested, for example, that transitioning from two major software upgrades per year to one for Unit Move AIS might create substantial economies. These numbers are based on the assumption that TC-AIMS II is fielded.

In the absence of detailed acquisition and fielding plans, a rough estimate of the time value of the cost avoidance may be obtained by combining the average cost avoidances with the quarterized retirement schedules shown in the migration strategies.

For Unit Move COA #1, the cost avoidance over time is shown in Figure 6-1.

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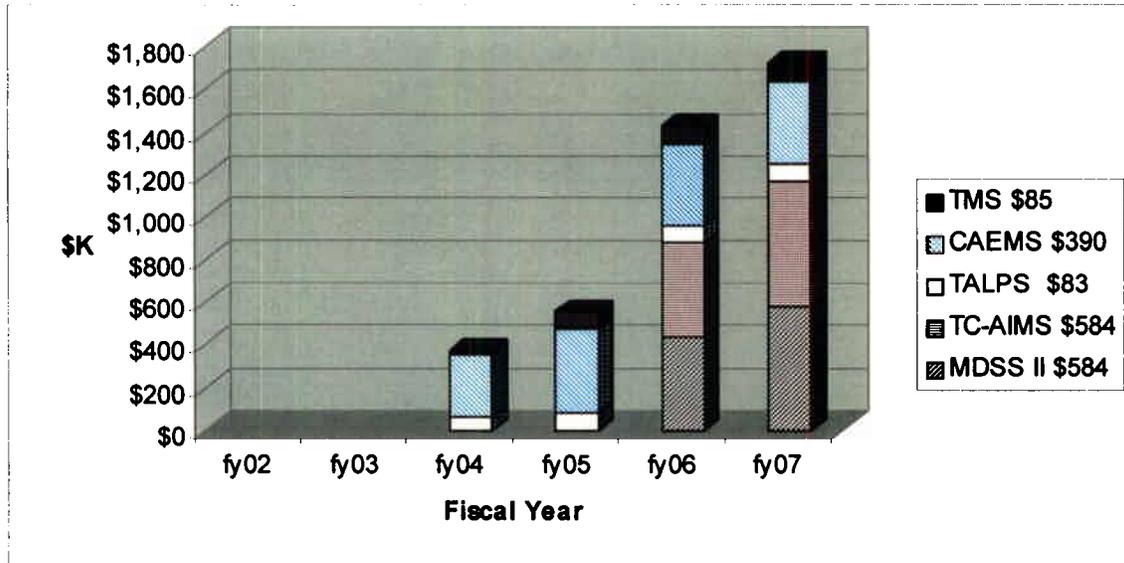


Figure 6-1. Cost Avoidance Assuming Unit Move COA #1

With Unit Move COA#1, the total 5-year cost avoidance (FY03 through FY07) related to retirement of AIS across the Transportation Domain is \$4,094K.

For Unit Move COA #2, the cost avoidance over time is shown in Figure 6-2.

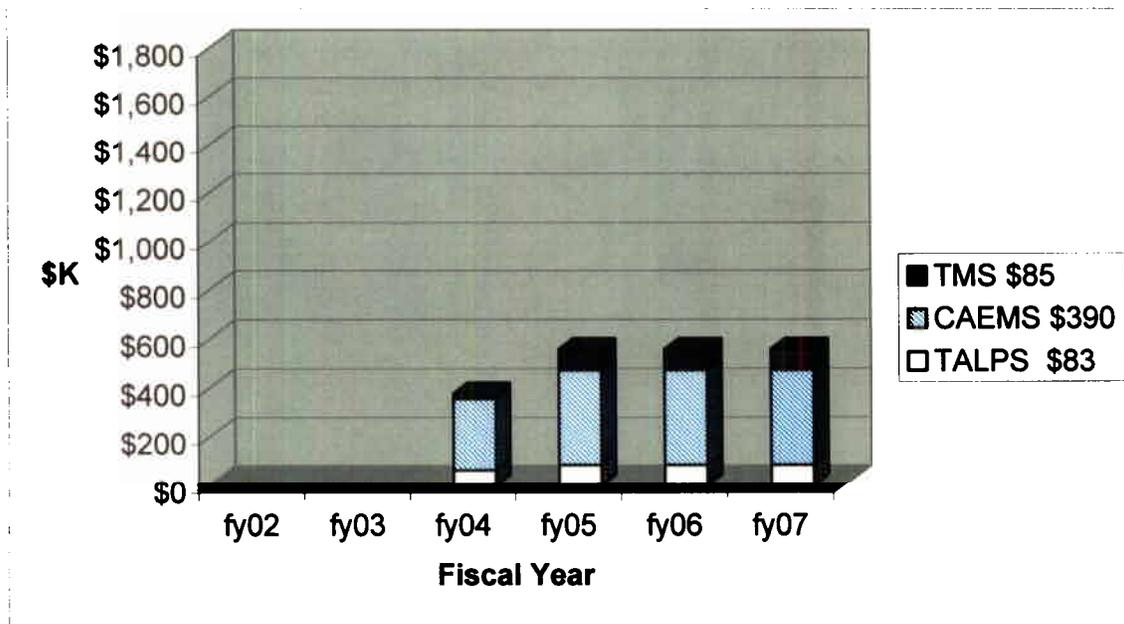


Figure 6-2. Cost Avoidance Assuming Unit Move COA #2

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With Unit Move COA#2, the total 5-year cost avoidance (FY03 through FY07) related to retirement of AIS across the Transportation Domain is \$2,050K.

A change in the surcharges paid by the Marines Corps for use of joint systems is not anticipated. Cost for use of the USAF CALM AIS is small relative to other USMC transportation IT expenditures. The surcharge associated with the use of AALPS vice CALM will be, more or less, the same.

The primary cost avoidance in the Unit Move sub-domain will be realized in the migration of MDSS II and TC-AIMS functionality to TC-AIMS II and the migration of TALPS and CAEMS functionality to ICODES.

The cost avoidance for the Traffic Management sub-domain will be minimal. Although the consolidation of the user client systems to one interface system (TC-AIMS II/CMOS) will provide productivity improvements, the Marine Corps will continue to be surcharged for the use of the back-end transaction systems (IBS, WPS, GOPAX, and GATES) since they are still needed to process shipment requests through the respective TCC. These costs cannot be recovered by declaring non-use of AIS, as the Marine Corps pays a surcharge on all USTRANSCOM provided shipping services, regardless of which AIS are or are not used. USTRANSCOM treats its total AIS capitalization account as an overhead component in the surcharge.

One might expect that the user training costs would go down with one, vice several, interfaces, but no training has been given for the multiple data entry systems in the past. Savings associated with the retirement and migration of functionality from the TMS system will amount to only \$85K a year. AGTRS will go away, but will be replaced by the new system DTS.

## **7.0 MIGRATION STRATEGY BENEFITS AND RISKS**

As illustrated by the simplified integration diagram for the Transportation Domain, full transportation integration is heavily dependent upon the success of both the TC-AIMS II program for Unit Move AIS and the CMOS user interface consolidation for the Traffic Management AIS. If these programs should fail, integration across the Transportation Domain will continue to rely on a host of custom interfaces that may require modification upon a new release of every interfaced system and continuation of the ‘swivel chair’ environment for multiple movement modes.

There is a risk that the migration strategies proposed in this document will not support the requirements of the supply chain integration for the ILC/OA and SDE. These relationships will be examined in SRAC Phase 3, Part 4 (Cross-domain Solutions) and adjustments will be made as required.

The detailed benefits and risks to the Marine Corps of the retirement of individual AIS listed in Appendix A are currently contained in the retirement impact statements stored in the SRAC reference database.

A summary of the important benefits and risks of the proposed migration strategy at the sub-domain level are discussed below.

### **7.1 Unit Move Migration Strategy - Benefits and Risks**

Benefits of the Unit Move migration strategy are the reduction of the number of AIS and a substantial decrease in interfaces required both within the transactional systems and to the GTN ITV environment. The single interface between the hub application TC-AIMS II and GTN should also provide the near real-time ITV that Marines require within the deployed environment.

The major risk is the dependence of this strategy on the TC-AIMS II program, which has been a costly development program and has had a history of schedule delays.

### **7.2 Traffic Management Migration Strategy - Benefits and Risks**

The unification of Marine Corps operator input to Traffic Management AIS via the CMOS interface and later in TC-AIMS II should provide an opportunity for more efficient processing of transactions and reliable, more timely in-transit data for non-deployed resources. It should be noted, however, that the real benefits would be highly dependent upon program management approaches and overall technology architecture employed. If, for example, program management does not provide for a single configuration management and release strategy, the benefits may be illusory.

The primary benefit to the Marine Corps in the Traffic Management arena will be the elimination of “swivel-chair input” to multiple systems and a reduction of complexity in front of the operator. The complexity of the associated back-end transaction systems will be somewhat reduced with the introduction of STMS but will not go away.

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More aggressive consolidation of AIS within the Traffic Management sub-domain is prevented by several factors including reliance on organizations external to Marine Corps for AIS acquisition based on current mandates, organizational stovepiping among the providing organizations, and AIS segmentation by categories of movement (i.e., freight, personal property, and passenger movement).

The USMC needs to capitalize on opportunities to influence other DoD components to ensure supply chain integration and near real-time asset visibility for Traffic Management operations. This can best be achieved by encouraging the use of smart middleware to integrate back-end Traffic Management AIS and that Enterprise Application Interface (EAI) software be selected for this purpose which is compatible with the EAI implementation plans for the Marine Corps SDE.

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**APPENDIX A  
RECOMMENDED AIS RETIREMENT SCHEDULE**

Tables A-1 through A-3 contain recommended schedules for SRAC AIS retirements for planning purposes. The projected retirement dates are derived from the recommended migration strategies for the Transportation Domain in Section 1 of this document. Retirement means the cessation of use by the Marine Corps. For non-USMC owned AIS, this may also mean the stoppage of payment of license and other fees associated with operation of the AIS and the notification of NMCI to no longer support the AIS on USMC systems. For USMC owned AIS, retirement also includes the cessation of all development, maintenance, and support work by USMC resources.

Table A-1. Traffic Management AIS Retirement Recommendations

<b>AIS</b>	<b>OWNER</b>	<b>TARGET MIGRATION TIMEFRAME</b>	<b>DEPENDENCIES*</b>
AGTRS	USMC	Q2 FY06	Successful tests of DTS.
GATES**	TRANSCOM	Q3 FY04	User interface for passenger reservation capability moved to CMOS.
GOPAX**	MTMC	Q3 FY04	User interface for passenger reservation capability moved to CMOS.
IBS**	MTMC	Q3 FY04	User interface for ocean booking capability moved to CMOS.
WPS**	MTMC	Q3 FY04	User interface for transportation control movement document preparation capability moved to CMOS.
TMS	USMC	Q4 FY04	Migration of TMS voucher certification capability for TCC and personal property bills into PowerTrack.

Notes:

- \* For more dependencies see Section 1-2 and the SRAC Retirement Impact Statement for each AIS on the retirement list.
- \*\* User client systems go away, not transaction servers. User interface moves to a single CMOS interface.

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**Table A-2. Unit Move AIS Retirement Recommendations for Migration Course of  
Action No. 1**

<b>AIS</b>	<b>RETIREMENT DATE</b>	<b>DEPENDENCIES*</b>
CALM	Q1 FY04	Interface between MDSS II and AALPS fielded. AALPS fully fielded prior to retirement.
CAEMS	Q1 FY04	Interface between MDSS II and ICODES fielded. ICODES fully fielded prior to retirement.
MDSS II	Q1 FY06	ULSS completed. TC-AIMS II fielding complete prior to retirement.
TC-AIMS	Q1 FY06	ULSS completed. TC-AIMS II fielding complete prior to retirement.
TALPS	Q1 FY04	Interface between MDSS-II and ICODES fielded. Migration of unique functionality from TALPS to ICODES completed. ICODES fully fielded prior to retirement.

**Notes:**

- \* For more dependencies see Sections 1.1.3, 1.1.4, and the SRAC Retirement Impact Statement for each AIS on the retirement list.

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**Table A-3. Unit Move AIS Retirement Recommendations for Migration Course of  
Action No. 2**

<b>AIS</b>	<b>RETIREMENT DATE</b>	<b>DEPENDENCIES*</b>
CALM	Q1 FY04	Interface between MDSS II and AALPS fielded. AALPS fully fielded prior to retirement.
CAEMS	Q1 FY04	Interface between MDSS II and ICODES fielded. ICODES fully fielded prior to retirement.
TALPS	Q1 FY04	Interface between MDSS II and ICODES fielded. Migration of unique functionality from TALPS to ICODES completed. ICODES fully fielded prior to retirement.

**Notes:**

- \* For more dependencies see Sections 1.1.3, 1.1.4, and the SRAC Retirement Impact Statement for each AIS on the retirement list.

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**APPENDIX B  
LIST OF ABBREVIATIONS AND ACRONYMS**

AALPS	Automated Air Load Planning System
ACA	Air Clearance Authorities
AGTRS	Automated Government Transportation Request System
AIS	Automated Information Systems
AMC	Air Mobility Command (Air Force)
AMS	Automated Manifest System
AMS-TAC	Automated Manifest System-Tactical
APOE	Aerial Port of Embarkation
C4	Command, Control, Communications, Computer
CAEMS	Computer Aided Embarkation System
CALM	Computer Aided Load Manifest System
CBL	Commercial Bill of Lading
CCRB	Course Content Review Board
CINC	Commander-in-Chief
CIO	Chief Information Officer
CMC	Commandant, Marine Corps
CMOS	Cargo Movement Operations System
CNO	Chief of Naval Operations
COA	Courses Of Action
COMMARFORRES	Commander, Marine Forces Reserve
COMMARCORSYSCOM	Commander, Marine Corps Systems Command
CONUS	Continental United States
COTS	Commercial Off-the-Shelf
DFAS-KC	Defense Finance Accounting Service, Kansas City
DISA	Defense Information Systems Agency
DoD	Department of Defense
DTS	Defense Travel System
DTTS	Defense Transportation Tracking System
EAI	Enterprise Application Interface
FACTS	Financial Air Clearance Transportation System
FDP&E	Force Deployment Planning and Execution
FLC	Formal Learning Centers

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FY	Fiscal Year
GATES	Global Air Transportation Execution System
GCSS-MC	Global Combat Service Support-Marine Corps
GFM	Global Freight Management
GOPAX	Group Operational Passenger System
GTN	Global Transportation Network
IBS	Integrated Booking System
ICODES	Integrated Computerized Deployment System
IKPT	Initial Key Personnel Training
ILC	Integrated Logistics Capability
IOT&E	Initial Operational Test And Evaluation
IT	Information Technology
ITO	
ITV	In-Transit Visibility
JFRG	Joint Force Requirements Generator
JOPES	Joint Operations Planning and Execution System
JRO	Joint Requirements Office
LFT	Logistics Planning Transportation
LOG AIS	Logistics Automated Information Systems
LP	Strategic Mobility Division
LPO	Logistics Plans Operations
MAGTF	Marine Air-Ground Task Force
MARFORLANT	Marine Forces, Atlantic
MARFORPAC	Marine Forces, Pacific
MARFOR	Marine Forces
MC	Marine Corps
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCCDC	Marine Corps Combat Development Command
MCLB	Marine Corps Logistics Base
MCSC	Marine Corps System Command
MDSS	Marine Deployment Support System
MRM	Management Reform Memorandum
MSC	Military Sealift Command (Navy)

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MTMC	Military Traffic Management Command (Army)
NAVSEA NAVTRANS NMCI	Naval Sea Systems Command Naval Transportation Support Center Navy Marine Corps Intranet
OA OCONUS OSD	Operational Architecture Outside the Continental United States Office of the Secretary of Defense
PCS PM IS POM PTOPS	Permanent Change of Station Program Manager, Information Systems Program Objectives Memorandum Pilot Transportation Operational Personal Property System
Q	Quarter
RFL	Commandant Marine Corps Liaison and Technical Services Branch
SDE SE SE&I SRAC SME	Shared Data Environment Supporting Establishment Systems Engineering and Integration Systems Realignment and Categorization Subject Matter Expert
TA TAV-B TALPS TC-AIMS	Technical Assessment  Tactical Air load Planning Systems Joint Transportation Coordinators Automated Information for Movement System
TCC TCMD	Transportation Component Command Transportation Control Movement Document
TDY TECOM TMO TMS TOC TOPS TWCF	Temporary Duty Test and Evaluation Command Traffic Management Office Transportation Management System Total Ownership Cost Tactical Onboard Processing Subsystem Transportation Working Capital Fund

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ULSS	User's Logistics Support Summary
USAF	United States Air Force
USMC	United States Marine Corps
USTRANSCOM	United States Transportation Command
WPS	Worldwide Port System