TEST AND EVALUATION MASTER PLAN (TEMP)

FOR

TRANSPORTATION COORDINATORS' - AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II TC-AIMS II BLOCK 3

Program Executive Office
Enterprise Information Systems
(PEO EIS)

D R A F T

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TEST AND EVALUATION MASTER PLAN
FOR
TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II (TC-AIMS II)
BLOCK 3

PROGRAM ELEMENTS

OMA - 432612

OPA - 528995

RDTE 655013

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PART 1. SYSTEM INTRODUCTION

1.1 MISSION DESCRIPTION

The Transportation Coordinators'-Automated Information for Movement System II (TC-AIMS II) is a top-down directed program that addresses critical shortfalls in moving cargo and people in support of the Department of Defense (DoD) mission. TC-AIMS II is an Office of the Secretary of Defense (OSD) directed joint program designed to address joint interoperability among the Services and Agencies for the deployment and transportation of materiel and personnel in support of Department of Defense (DoD) operations.

The Army is designated as Lead Service and is responsible for software development, initial training, and life cycle maintenance for the system. The individual Services and Agencies are responsible for hardware procurement. The Commander, U.S. Joint Forces Command is the functional proponent for TC-AIMS II, chairs the TC-AIMS II Joint Requirements Board (JRB) and represents the user community to the acquisition milestone decision authority. Force structure changes within DoD have created a need for more rapid and effective force projection to accomplish United States defense objectives. To achieve these objectives, the Department must rely on Information Technology (IT) systems to reduce the time required to move and track (via ITV) Joint Forces. TC-AIMS II will facilitate interoperability among the Services and Agencies by providing the IT system that enables the Joint Deployment Process. TC-AIMS II Block 3 will provide the capability to register, manage and track theater movements and will continue to provide users the ability to source Time Phased Force Deployment Data in support of OPLANS and contingency operations. TC-AIMS II provides greater capability than any single service or agency IT system to meet the unit movement and transportation IT requirements of the Combatant Commander in peace and during war.

TC-AIMS II Block 3, will incorporate, enhance, and extend the Theater Movement Management functions presently found in the Transportation Information Systems – Theater Operations (TIS-TO), formerly the Department of the Army Movement Management System -Revised (DAMMS-R). TC-AIMS II Block 3 will encompass theater movements, movement control, convoy operations, management and control of organic and common user transportation assets, and will interface to specific external systems unique to Joint Reception, Staging, Onward Movement, and Integration (JRSOI) environment, convoy operations, or to specific theaters. Block 3 will also increase joint interoperability beyond Unit Movement and allow management of common user-land transportation assets. Concentrating on deployment related transportation management functions Block 3 will extend transportation planning and execution capability forward from the Port of Debarkation to the Tactical Assembly Area (TAA) in theater completing the Unit Movement.

This Test and Evaluation Master Plan (TEMP) focuses on the Test and Evaluation (T&E) of TC-AIMS II Block 3, JRSOI. Block 3 functionality and minimum configurations for Operational Testing (OT) are in Attachments 1 and 2. The Acquisition Decision Memorandum (ADM) dated May 04 approved the Milestone B decision for TC-AIMS II Block 3 development.

1.2 SYSTEM THREAT ASSESSMENT

The battlefield threats to TC-AIMS II Block 3 include physical damage and destruction, computer network attack and computer network exploitation, electronic warfare (EW), directed energy weapons and nuclear weapons, and their electromagnetic pulse effects. It is possible that a threat force could detect, locate, and target TC-AIMS II from the radio frequency emissions of supporting communications, or from the low power emissions of RF tags and interrogators, to include the emissions of integrated or collocated, interfacing movement tracking systems. Radio frequency weapons can degrade, damage, or destroy critical command, control, and communications systems, computers, and automated information systems. Other threats to the TC-AIMS II system may be computer network attack and computer network exploitation that could include malicious code insertion, remote insertion of false data, internet protocol spoofing, unauthorized computer access, interference or tampering with cable communications, direct signal attack, and indirect signal attack. TC-AIMS II was initially accredited in April 2002 and was accredited to operate in the TIS enterprise environment in January 2004.

1.3 SYSTEM DESCRIPTION

Comment: Coordinate section with the CDD.

TC-AIMS II Block 3 will provide an automated transportation planning and execution capability for JRSOI operations within the theater of operations, and enhance related convoy operations. Block 3 will be employed by theater movements control activities to include movement control teams (MCTs), in-theater movements managers, trans-shippers, and mode operators. Block 3 will be used in forward deployed remote locations including ports, beaches, airfields, and traffic nodes operating on existing information infrastructure networks. Expeditionary (previously known as stand-alone and/or break-away) configurations may be implemented to support occasions where communications are not available.

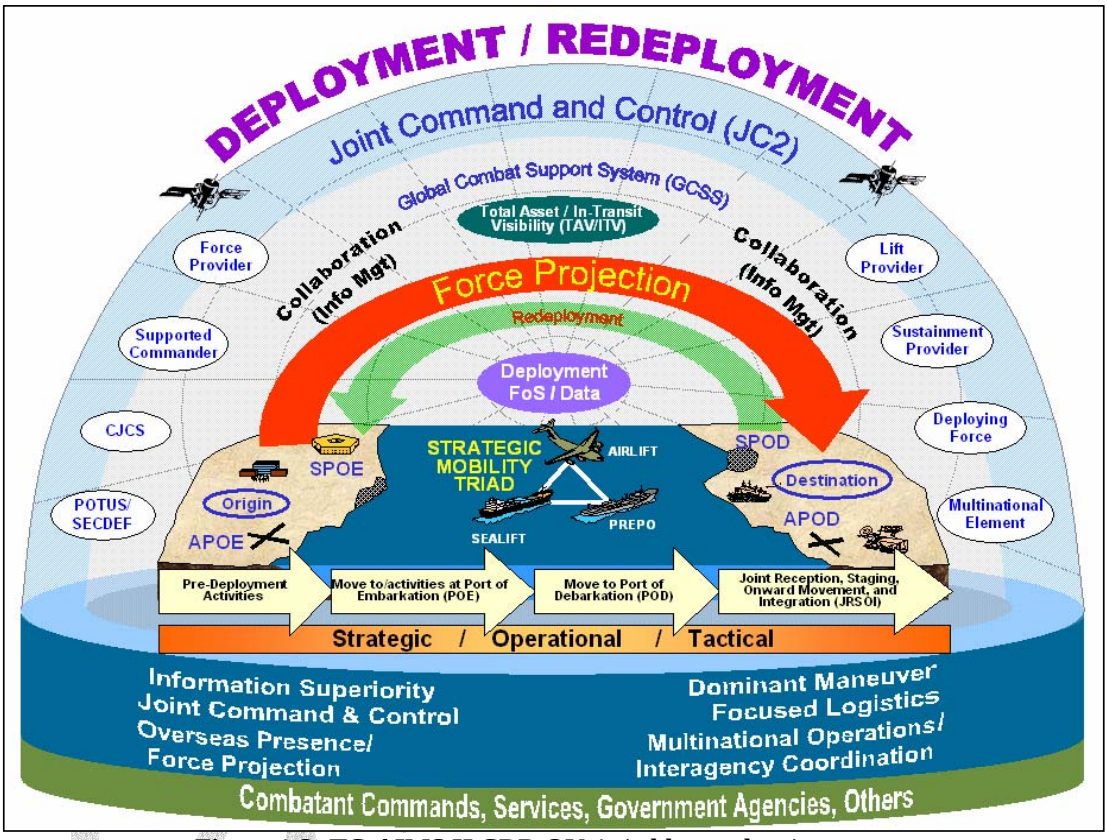

Figure 1-3: TC-AIMS II CDD OV-1 (add new chart)

1.3.1 Key Features and Subsystems

Block 3 will provide JRSOI capability including a mix of functions to support Common User Land Transportation (CULT) procedures, movement control, mode operations, and convoy operations for onward movement requirements in a theater of operations. The following are key features of the Block 3 system:

1. The TC-AIMS II Block 3 architecture will continue to support enterprise, client/server and expeditionary operations. The user will be provided the capability to tailor the configuration to accommodate specific needs and to operate within hardware limitations and with varying communication infrastructures.

2. TC-AIMS II Block 3 will consist of multiple Computer Software Configuration Items (CSCIs) operating on Windows 2000 or later operating systems. The Block 3 application will provide the following JRSOI functions:

a. Will support staging through the preparation of movement documentation, tasking of mode asset support, planning, scheduling and de-conflicting of convoys.
b. Will support onward movement by execution and reporting of units and equipment moving to TAA or other destinations.
c. Will support integration by monitoring movement execution and reporting arrival of units and equipment being moved to TAA or other destinations

3. The Movement Control functional area will allow the user to request, schedule and coordinate organic and CULT assets to support a movement plan. Block 3 will allow movement control activities to receive, create, and maintain movement requirement data and to schedule, coordinate, and manage transportation services to include tasking military carriers. Movement Control functionality will also allow for preparation of shipment documentation for the movement of passengers and cargo.

4. Mode Operations functionality will support driver forecast and asset availability, assignment of movement requirements received from tasking movement control activities, mission planning, creation of driver operations orders, and production of additional documentation to support mission execution.

5. Convoy Operations will be enhanced with the addition of map graphics that will provide improved capabilities for scheduling, managing, and tracking multiple convoy movements to include creating and maintaining convoy routes and automated convoy de-confliction capabilities.

1.3.3.1 Interfaces with External Systems

The following are the required Block 3 interface capabilities:

1. Unit Level Logistics System – S4 **(ULLS-S4)** Import. The ULLS-S4 interface provides a one way data exchange from ULLS-S4 to TC-AIMS II providing an organizational level supply, maintenance, property accountability, readiness and unit status information of tactical units for the active Army, the Army National guard and the Army Reserve.

2. Property Book Unit Supply Enhanced (**PBUSE**) Import. The PBUSE interface provides a one-way data exchange from PBUSE to TC-AIMS II providing the supply property functionality product in the GCSS-Army initiative. PBUSE is a web based, fully interactive, Chief Financial Officer (CFO) compliant, combat support property accountability system.

The following are the desired Block 3 interface capabilities:

1. **Standard Army Retail Supply System-Objective (SARSS-O) Import.**

Comment: Verify Requirement

The SARSS-O import provides a one way data exchange from SARSS-O to TC-AIMS II providing Army retail supply information for active, reserve, and National Guard Army units.

2. **Standard Army Ammunition System (SAAS-MOD)**. The SAAS import provides a one way data exchange from SAAS to TC-AIMS II providing ammunition information on the receipt, storage, and issuing operations at Army-operated TOE/TDA ammunition supply points.

Comment: Verify Requirement

3. **Movement Tracking System (MTS).** The Movement Tracking System Import/Export provides a two way data exchange from MTS to TC-AIMS II providing the capability to track battlefield support vehicles, such as fuel tankers and ammo trucks, by using a worldwide satellite communications network to relay precise position information derived from truck-mounted Global Positioning System (GPS) received to control stations located at battlefield command posts.

1.4 MEASURES OF EFFECTIVENESS AND SUITABILITY

Comment: Section 1.4 will not be ready for review until the CDD is in final draft. This section must come from the CDD which is currently work in progress.

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Measures of effectiveness and suitability are addressed in Section ? of the CDD. The associated Key Performance Parameters (KPP) are identified in Table 1-1. Requirements implemented in Block 3 to be tested during the OT are shown in the CDD extract below (???) para 1.4.1-para 1.4.8).

1.4.1 Mission Performance Objective

1.4.1.1 Issue (Critical)

TC-AIMS II must provide an automated ability for users to process data and information into decisions and execution actions to accomplish appropriate JRSOI tasks.

1) (Critical, KPP). The system must be able to import, store, process, update, and export operational data volume in support of major theater war deployment scenarios and traffic management operations. The threshold establishes that TC-AIMS II provide the ability for users to accomplish job-related tasks efficiently. This parameter assumes that competent and trained users who understand how to prepare required documents are using the system as part of their normal duties.

1.4.2 Logistics Supportability Objective

1.4.2.1 Issue: TC-AIMS II must be logistically supportable

1) TC-AIMS II Block 3 will normally operate in an enterprise environment requiring only browser-based access. As dictated by theater operational limitations (i.e., infrastructure), TC-AIMS II Block 3 may be operated in a expeditionary mode employed on an exception basis until such time as normal operations are available/re-established.

2) TC-AIMS II Block 3 will be operated within existing Service infrastructure to include networks and hardware supported by existing organic Service support programs for Automated Information Systems.

1.4.3 Reliability, Availability and Maintainability Objective

1.4.3.1 Issue: TC-AIMS II must be reliable

TC-AIMS shall have a Mean Time Between Operational Mission Failure (MTBOMF) of 300 hours (threshold) and 500 hours (objective). Mission duration for one crew is 12 hours. MTBOMF is the anticipated length of time a system will be operational between operational mission failures. An operational mission failure is defined as that condition in which the system cannot perform or accomplish the stated mission. Failure can be due to software, hardware or operator error.

1.4.3.2 Issue: TC-AIMS II must be available

1. TC-AIMS II availability will be 0.95 (threshold) and 0.975 (objective).
2. TC-AIMS II non-availability will be correctable 90% of the time by simply rebooting the computer and the reboot will take less than three minutes.
3. When TC-AIMS II non-availability is not correctable by a reboot, the TC-AIMS Help Desk must be able to respond to and correct the problem within two hours 80% of the time.
4. For Help Desk calls that cannot be successfully corrected within two hours, the problem will be corrected within 24 hours 99% of the time.

1.4.3.3 Issue: TC-AIMS II must be maintainable

1. Maintenance will be conducted in accordance with the maintenance concept, the Integrated Logistics Support Plan (ILSP), and the Service annexes to the ILSP.
2. Mean Time to Repair (MTTR) at the organizational level (system operation) will be one hour (threshold) and 30 minutes (objective)..
3. MTTR at the organizational level (lost information) is eight hours (threshold) and one hour (objective).

1.4.4 Mobility, Deployability and Transportation Objective

1. TC-AIMS II must be capable of movement within the Joint or Service Component Area of Operations.
2. All TC-AIMS II deployable equipment must be capable of movement by DoD personnel as a two-person lift with a weight maximum of 70 pounds (threshold) and be as light as technically feasible (objective). All TC-AIMS II deployable equipment must be capable of movement by all standard modes of transport to include Navy shipping, commercial or military aircraft and military tactical vehicles.
3. The deployable system will require no unusual loading/handling equipment.

1.4.5 Organizational Impact Objective

The TC-AIMS II should have no impact on the structure of the unit to which assigned. Fielding of TC-AIMS II to any unit should not require the assignment of additional occupational specialties to the organization.

1.4.6 Personnel Selection and Training Objective

TC-AIMS II can be operated and maintained with minimal additional training for users having the appropriate Military Occupation Specialty (MOS), beyond that currently taught for the legacy systems being replaced.

1.4.7 Human Factors and Safety Objective

1.4.7.1 Issue: TC-AIMS II human factors will support operation, maintenance and support of the system

TC-AIMS II will employ intuitive operating procedures (based on the processes that are being automated) characterized by a consistent graphic user interface across the range of applications.

1. Visual indicators and screens will be easily readable in all ambient light conditions without the need for ancillary equipment.
2. TC-AIMS II shall provide the capability for system data input and control using multiple means (keyboard and mouse or trackball or touchpad).

1.4.7.2 Issue: TC-AIMS II does not present major safety or health hazards while being operated, maintained or supported

TC-AIMS II shall contain no hazards that will cause death, severe occupational illness, or irreversible damage to health.

1.4.8 Electromagnetic Environmental Effects (E3)

Services are required to procure hardware that meets the E3 requirements of DoD Regulation 5000.2R as they pertain to Service procurement of hardware for use with TC-AIMS II.

1.5 CRITICAL TECHNICAL PARAMETERS (CTPS)

The CTPs at Attachment 5 are derived from the CDD critical system characteristics and technical performance measures, and will include the parameters in the Acquisition Program Baseline. The demonstrated values in the matrix will be updated after the Developmental Test (DT) phase is completed. As a minimum, these thresholds must be met before TC-AIMS II can proceed to the Operational Test and Evaluation (OT&E) phase. The CTPs, which support the measures of effectiveness and suitability, are supported by the issues and criteria contained in the System Evaluation Plan (SEP). System compliance will be documented in the Independent Evaluation Report (IER). Although the CTPs outlined in the table are labeled critical, the issues and criteria addressed in the SEP must be evaluated in total to ensure adequate performance of the extensive capabilities required by the CDD.

1.6 INTEROPERABILITY CERTIFICATION (IOPCERT)

TC-AIMS II must satisfactorily meet the criteria established by the Joint Interoperability Test Command (JITC) for Joint Interoperability Certification. IOPCERT will be conducted in accordance with a JITC Interoperability Certification Evaluation Plan (ICEP).

PART II. INTEGRATED TEST PROGRAM SUMMARY

2.1 INTEGRATED TEST PROGRAM SCHEDULE (ITPS)

PM TIS will seek a Full Scale Production Decision Review (FSPDR) to field the TC-AIMS II Block 3 JRSOI in December 2005 for the participating Services.

TC-AIMS II Block 3 is a fully funded program IAW the Joint Cost Position established at Milestone B.

The Operational Test Schedule provided in Figure 2-1 identifies key test activity/events and dates for Test. The Operational Test Activity Matrix in Table 2-1.

TC-AIMS II Block 3
Integrated Test Schedule

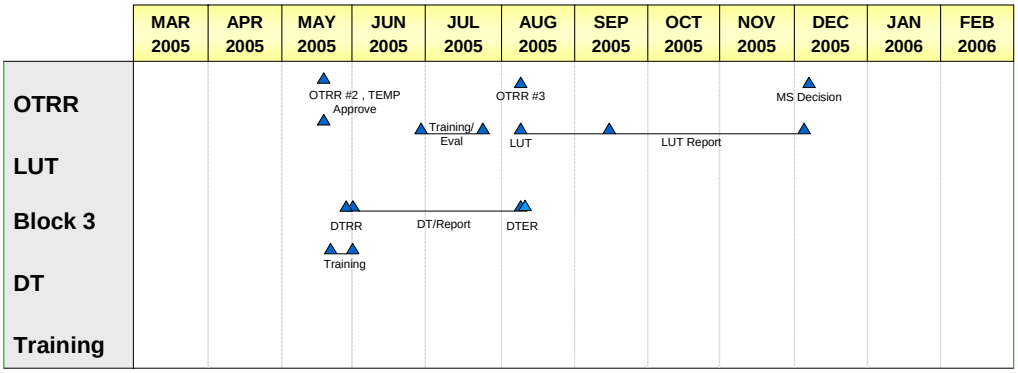

Figure 2-1: Operational Test Schedule
Table 2-2: Operational Activity Matrix

2.2 MANAGEMENT

The Under Secretary of Defense for Acquisition Technology and Logistics (USD(AT&L)) designated the Army as the TC-AIMS II lead Service in Nov 95. Within the Army, the Director of Information G6 serves as agency CIO. The PEO provides acquisition support and oversight. The Army G4 is the TC-AIMS II proponent. PM TIS manages the development, testing, fielding and initial post deployment software support. The Assistant Secretary of Defense for Network Information Integration (ASD(NII)) chairs the TC-AIMS II Information Technology Overarching Integrated Product Team (IT-OIPT) and is the Milestone Decision Authority (MDA). The Deputy Under Secretary of Defense for Logistics and Material Readiness (DUSDL&MR) is the Office of the Secretary of Defense (OSD) Principal Staff Assistant (PSA) for TC-AIMS II. The Assistant Deputy Under Secretary of Defense for Transportation Policy (ADUSD-TP) chairs the Joint Transportation Management Board (JTMB) which provides TC-

AIMS II guidance and vision. U.S. Joint Forces Command serves as the joint user representative and chairs the Joint Requirements Board (JRB) responsible for defining, receiving, reviewing, validating, prioritizing, approving, and tracking functional requirements.

The Transportation Information Systems (TIS) Project Manager reports through the Program Executive Office, Enterprise Information Systems (PEO EIS) to the Army Acquisition Executive (AAE). The TIS project manager chairs Working-level Integrated Product Teams (WIPTs) for testing, technical, security, cost, communications and integrated logistics support. The U.S. Army Test and Evaluation Command (ATEC) is the lead Operational Test Agency (OTA) for TC-AIMS II.

2.2.1 Participants

2.2.1.1 PM TIS

PM TIS manages the design, development, testing, training, software extension and logistics support of the Block 3 product. The PM TIS is staffed by the participating components in accordance with the May 97 Joint Staffing Memorandum of Agreement (MOA) and Army policies for program office staffing. The staff is augmented by matrix support from various Army activities and program support contractors. PM TIS is responsible for the development of the TEMP and chairs the T&E WIPTs. PM TIS is also responsible for the planning and conduct of the Block 3 Developmental Test.

2.2.1.2 PEO EIS

PEO EIS provides management and acquisition oversight of the PM TIS and provides representation to the Joint Requirements Board (JRB), the Configuration Management Board (CMB) and JTMB. PEO EIS forwards the TEMP to OSD for staffing and approval.

2.2.1.3 Department of the Army G4

The Army G4 is the Army staff proponent for TC-AIMS II and is the focal point for Army lead Service responsibilities. G4 represents the Army on the JTMB and CMB. G4 will be the user representative for decisions delegated to the PEO EIS and signs the User Representative Concurrence page for the Army.

2.2.1.4 Deputy Under-Secretary of the Army (Operations Research) (DUSA-OR)

The DUSA-OR signs Lead Service Approval of the TEMP.

2.2.1.5 Office of the Assistant Secretary of Defense (OASD) (NII)

OASD (NII) is the TC-AIMS II MDA and the Principal Director for OSD approval.

2.2.1.6 Office of the Secretary of Defense, Deputy Director, Systems Engineering, (Assessment & Support) OUSD AT&L DS/SE(A&S))

DS/DT&E is responsible for DT&E and engineering oversight within OSD, and for staffing and coordinating the System Engineering Plan and the TEMP within OSD and securing approval from OIPT Chairman.

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2.2.1.7 Director, Operational Test and Evaluation (DOT&E)

DOT&E exercises oversight of all aspects of TC-AIMS II OT&E. DOT&E reviews the System Evaluation Plan (SEP) and approves the Event Design Plan (EDP). After considering the results of OT&E and input provided by the OTAs, DOT&E provides an independent assessment of the operational effectiveness and suitability of the system to the IT-OIPT and to Congress. The DOT&E is an OSD TEMP approval authority.

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2.2.1.8 Army Test and Evaluation Command (ATEC)

ATEC is the lead OTA for TC-AIMS II and exercises overall responsibility to plan and conduct TC-AIMS II OT&E, report results, and provide system-level evaluations of effectiveness, suitability and survivability.

1. United States Army Operational Test Command (OTC): OTC plans, coordinates and conducts TC-AIMS II operational testing.
2. United States Army Evaluation Center (AEC): AEC performs the developmental and operational evaluation of the TC-AIMS II system, and produces the System Evaluation Report (SER) and Bottom-Line Summary (BLS) for DOT&E and the MDA.

2.2.1.9 Joint Interoperability Test Command (JITC)

The JITC recommends certification of system interoperability by assessing interoperability test results. The JITC participates with testing agencies to ensure that duplication is minimized and that data collected is valid and sufficient for Joint Interoperability Certification purposes. As a member of the ATEC Systems Team (AST), JITC works in consultation and coordination with the AST members to provide Joint Interoperability Certification test results and SER input for TC-AIMS II upon the conclusion of testing. Based on the successful demonstration of interoperability requirements, including conformance with the Joint Interoperability and Engineering Organization (JIEO) Standards Profile for TC-AIMS II, the JITC is responsible for Joint Interoperability Certification. The JITC provides the Program Manager (PM) with an interoperability assessment letter.

2.2.1.10 Information Systems Engineering Command (ISEC)

TC-AIMS II undergoes certification and accreditation in accordance with DoD D 5200.40, DITSCAP, Jan 97 and DoD 8510.1-M, DITSCAP Application Manual, Jul 00. The DAA has appointed the Information Systems Engineering Command (ISEC) Information Assurance and Security Engineering Directorate (IASED) as the certification authority. IASED will conduct security surveys and perform the security test and evaluation (ST&E) of TC-AIMS II. IASED will also conduct a comprehensive evaluation of the technical and non-technical security features of TC-AIMS II and other safeguards made in support of the accreditation process. The certification authority provides the DAA with the results of the ST&E and an accreditation recommendation based upon the results of the ST&E.

2.2.1.11 United States Joint Forces Command (USJFCOM)

USJFCOM serves as the joint user representative for TC-AIMS II. They are the arbitrator of requirements and provide decisions and direction to the Program Manager for TC-AIMS II product implementation.

2.2.1.12 United States Air Force (USAF), United States Navy (USN) and United States Marine Corps (USMC)

The USAF, USN and USMC provide representation to the JTMB, CMB, and JRO and are responsible for funding, procuring, and installing necessary hardware for TC-AIMS II. The USAF, USMC and USN provide PM TIS staffing in accordance with the Joint Staffing MOA.

2.2.2 Working-Level Integrated Product Team (WIPTs)

The PM TIS established WIPTs for test and evaluation, cost, integrated logistics support, security, communications, requirements and technical activities as advisory bodies to the PM. WIPT's serve as a direct means of communication between the PM TIS and offices concerned with the oversight and review processes. The WIPT concept calls for empowerment of representatives to speak for their organizations on pertinent matters.

WIPTs are chaired by PM TIS or a designated representative. The Services have representation on each WIPT. OSD staff activities, Joint Staff activities, Defense Information Systems Agency (DISA), and the Component activities may be represented. Other program participants may be represented at one or more of the WIPTs within their organization's area of responsibility or oversight.

2.2.2.1 Test and Evaluation WIPT

The Test and Evaluation WIPT provides a forum to develop the Block 3 test strategy, schedule, and plans. The WIPT also provides a means to review and update the TEMP and resolve or elevate test related issues.

PART III. DEVELOPMENTAL TEST AND EVALUATION OUTLINE

3.1 DEVELOPMENTAL TEST AND EVALUATION (DT&E) METHODOLOGY

DT&E is linked to the TC-AIMS II incremental Acquisition Strategy. Each developmental increment is subject to TIS JPMO Developmental Testing (DT). The scope of DT is based on DA PAM 73-1, "Test and Evaluation Guidelines," dated May 2003. The functional, hardware and communication configurations; test scenarios and events; evaluation scope; test limitations; and DT&E objectives for developmental tests for Block 3 are described in Table 3-1.

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PM TIS will produce and implement a developmental test plan to ensure that all technical and functional requirements for Block 3 have been properly developed in support of the JRSOI mission. Test data, in addition to physical access to the test environment will be made available to the Independent Evaluator. An independent evaluation of test results will be provided to PM TIS by the IDE in support of determining functional software maturity and readiness for system to enter OT.

The focus of TC-AIMS II DT is based on measuring and assessing the system's ability to achieve the Key Performance Parameters (KPP). DT events are conducted in a laboratory environment but closely follow the OT scenario. The primary event driver is the JRSOI functional scenario.

3.1.1 Developmental Test (DT)

DT addresses system performance, technical and functional characteristics (hardware, software, interfaces and communications). The DT effort begins with a Software Qualification Test (SQT) conducted by the contract developer and followed by a government Software Development Test (SDT) to ensure that all capabilities and requirements of the system have been met.

3.1.2 Software Qualification Test (SQT)

The developer executes technical test procedures and functional test scenarios on target hardware to authenticate compliance with all applicable system requirements. In preparation for the SQT, the TC-AIMS II developer conducts the following incremental build tests on the developer's test suite using benchmark test files:

1. **Unit Test (UT).** The unit test validates requirements expressed in the detailed design descriptions and software requirement specifications. In addition, unit testing ensures that all source statements in a unit have been executed.

2. **Integration and Test (I&T).** The objective of this activity is to integrate two or more functional threads from the bottom-up and to test that the composite software works as intended without adverse affects. All integrated functional threads should accept valid inputs and produce correct outputs as specified for the associated sub function(s). This process continues until all units are integrated into a delivered suite of software.

3.1.3 Software Development Test (SDT)

The SDT is a system test conducted by the PM-TIS executed on target hardware using realistic data files supplemented with user prepared data. Objectives of the SDT are to obtain government confirmation that the design meets technical performance and operational requirements. System users participate in the technical and functional aspects of the SDT. Software, interfaces and interoperability requirements comprise the total system to be validated.

3.1.4 Developmental Test Readiness Review (DTRR)

PM TIS conducts a DTRR prior to the start of SDT. The DTRR determines that the following entry criteria have been met:

Comment: confirm we have all entry criteria

1. Evidence of successful completion of the SQT. (define "evidence of successful completion")
2. An approved TEMP updated to reflect the developmental test.
3. The software provided for test has been identified with name and version identifiers and has been QA certified.
4. A safety assessment report has been approved by the TIS JPMO test organization.
5. System documentation is in final draft.

3.1.5 Developmental Test Exit Report (DTER)

The PM-TIS provides a development test exit report at the completion of SDT. The report identifies that the following exit criteria has been met:

Comment: confirm we have all exit criteria

1. No open Priority 1 or 2 (Critical/High) problem reports.
2. Priority 3 (Medium) problems have been documented as applicable.
3. IDE report documenting performance and functional requirements.
4. A base-lined version of software is ready for delivery to the operational test community

3.2 FUTURE DEVELOPMENTAL TEST AND EVALUATION

DT&E is linked to the TC-AIMS II incremental Acquisition Strategy. Each developmental increment receives a government DT. The scope of DT is based on DA PAM 73-1, "Test and Evaluation Guidelines," dated May 03. The functional, hardware and communication configurations; test scenarios and events; evaluation scope; test limitations; and DT&E objectives for developmental tests for Block 3 are described below.

3.2.1 Configuration Description

TC-AIMS II Block 3 is a component of an integrated Transportation Information Management system designed for access through the world-wide web. The Block 3 component does not have any hardware requirements, rather the added functionality will leverage from hardware that has been fielded in support of previous system Blocks.

3.2.2 Developmental Test and Evaluation Objectives

Full system testing is conducted to validate system performance, accuracy and validity, security, functionality, and interoperability. This is accomplished by ensuring that the system capabilities and the functional performance of the system are exercised, verified and validated as well as validating regulatory compliance, Block 3 products, and training. Specific objectives of the SDT include the following:

- Validate Critical Mission Functions (CMF)
- Validate Key Performance Parameters (KPP)
- Evaluate Critical Operational Issues and Criteria (COIC) in Attachment 4
- Validate Critical Technical Parameters (CTPs) in Attachment 5
- Viability to successfully conduct an OT (specific language from PAM)

3.2.3 DT Events, Scope of Testing, and Basic Scenarios

Several events occur during the DT, many of which are sequential by nature. Throughout the DT, results are analyzed, software revised as appropriate, and regression testing executed. All test incidents are recorded in the configuration management change control repository. Final analysis of the test results is provided in a formal test report submitted to the Operation Test Readiness Review Certification Authority

The two major events are SQT followed by SDT. The SQT test results culminate from the contract developer's unit, integration and system test activities. Successful SQT results lead to the conduct of a Developmental Test Readiness Review (DTRR), essential to the decision to begin SDT. A Data Authentication Group (DAG) chaired by the PM-TIS Test Director is conducted on an as-needed basis throughout the SDT. A Developmental Test Exit Report (DTER) is provided at the conclusion of the SDT.

The scope of the Block 3 DT will focus on the validation and verification of required technical parameters and ensures the system provides the functionality needed to support the JRSOI business process. The DT employs a set of test methods for collection of data to include:

1. **Inspection:** Verification by visual examination
2. **Analysis:** Verification by technical, mathematical or analytical evaluation
3. **Demonstration:** Verification of operation of the item under a specific condition
4. **Test:** Verification through systematically exercising the applicable item under appropriate conditions with instrumentation and collection, analysis, and evaluation of quantitative and qualitative metrics.

Technical testing primarily pertains to system security, system interfaces, database performance, interoperability, and regulatory compliance. PM-TIS leverages SQT technical test results as input to the SDT technical verification.

Functional Testing will be conducted with the use of scenarios based on real world JRSOI needs. These scenarios will be developed to demonstrate that applicable requirements defined in the system specification have been built into Block 3, and that it simulates the JRSOI business process. This method ensures that all functional capabilities and requirements are exercised and verified.

3.2.4 Limitations

None.

PART IV. OPERATIONAL TEST AND EVALUATION OUTLINE

PART V. TEST AND EVALUATION RESOURCE SUMMARY

ANNEX A: BIBLIOGRAPHY

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TC-AIMS II Mission Needs Statement (MNS), 07 August 1997
TC-AIMS II System Evaluation Plan

ANNEX B: ACRONYMS

ACRONYM	DEFINITION
0 to n	-Numeric-(zero thru n)
A	**-A-**
A*	Army (*Table 1-1, SER Column)
AAE	Army Acquisition Executive
AALPS	Automated Air Load Planning System (Will replace CALM)
ACA/OCONUS	Air Clearance Authority / Outside the Continental United States
ADM	Acquisition Decision Memorandum
ADNET	Automated Distribution Network (GSA's system)
ADUSD (L/TP)	Assistant Deputy Under Secretary of Defense (Logistics/Transportation Policy)
AE	Army Europe
AEC	Army Evaluation Center
AF	Air Force (*Table 1-1, SER Column)
AI	Additional Issues
AIS	Automated Information System
AIT	Automatic Identification Technology
AMS	Automated Manifesting System
AMSS	Ammunition Management Standard System
ANSI	American National Standards Institute
AO	Action Officer
AOI	Additional Operational Issue
APB	Acquisition Program Baseline
API	Application Programming Interface
ASD (C3I)	Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
ASE	Adaptive Server Enterprise
AST	ATEC Systems Team (formerly OST)
AT&L	Acquisition, Technology, and Logistics
ATAC-AF	Advance Traceability and Control - Air Force
ATEC	Army Test and Evaluation Command
ATLASS-1	Asset Tracking Logistics Automated Supply System
B	**-B-**
BN	Battalion

ACRONYM	DEFINITION
C	**-C-**
C-days	The unnamed day on which a deployment operation commences or is to commence
C/SCS	Cost/Schedule Control System
C2	Command and Control
C2IPS	Command and Control Information Processing System
C4	Command, Control, Communications and Computers
C4I	Command, Control, Communications, Computers and Intelligence
CA	Certification Agent
CAC	Common Access Card
CAEMS	Computer-Aided Embarkation Management System
CALM	Computer-Aided Load Manifesting
CAPS II	Consolidated Aerial Port System II (to be replaced by GATES) (aka: CAPSII/GATES)
CAS-B	Combat Ammunition System Base Level
CBL	Commercial Bill of Lading
CD-ROM	Compact Disk – Read Only Memory
CE	Continuous Evaluation
CEP	Certification Evaluation Plan (JITC)
CFM-ETA	CONUS Freight Management Electronic Transportation Acquisitions
CFM-Host	CONUS Freight Management System - Host
CIM	Corporate Information Management
CJCS	Chairman of the Joint Chiefs of Staff
CM	Configuration Management
CMB	Configuration Management Board
CMF	Critical Mission Functions
CMOS	Cargo Movement Operations System
COI	Critical Operational Issues
COIC	Critical Operational Issues and Criteria
COMPASS	Computerized Movement Planning and Status System
COOP	Continuity of Operations Plan
COTS	Commercial Off The Shelf
CPX	Command Post Exercise
CRIF	Cargo Routing Information File

ACRONYM	DEFINITION
CRS	Component Repair Squadron
CSDT	Computer Software Development Test
CSC	Critical System Characteristics
CSCI	Computer Software Configuration Item
CSSCS	Combat Service Support Control System
CTP	Critical Technical Parameters
CULT	Common User Land Transportation
CWBS	Contract Work Breakdown Schedule
D	**-D-**
DA	Department of the Army
DAA	Designated Approving Authority (formerly: Designated Accreditation Authority)
DALO-	Department of the Army Deputy Chief of Staff for Logistics (office symbol)
DAMMS-R	Department of the Army Movement Management System-Redesign
DA PAM	Department of the Army Pamphlet
DBMS	Data Base Management System
DCSLOG	Deputy Chief of Staff for Logistics (Army Staff)
DD	Defense Department (Form)
DDM	DoD Data Model
DII	Defense Information Infrastructure
DII COE	Defense Information Infrastructure Common Operating Environment
DII COE / JTA	Defense Information Infrastructure, Common Operating Environment/Joint Technical Architecture
DISA	Defense Information Systems Agency
DISN	Defense Information System Network
DIST	Defense Integration Support Tool
DLA	Defense Logistics Agency
DMLSS	Defense Medical Logistics Standard System
DoD	Department of Defense
DOIM	Director of Information Management
DOL	Directorate of Logistics
DOT&E	Director, Operational Testing and Evaluation
DSN	Defense Switched Network

ACRONYM	DEFINITION
DSS	Distribution Standard System
DT	Developmental Testing
DT&E	Developmental Test and Evaluation
DT/OT	Developmental Test/Operational Test
DTR	Defense Transportation Regulation
DTRR	Developmental Test Readiness Review
DTS	Defense Transportation System
DTTS	Defense Transportation Tracking System
DUSA-OR	Deputy Undersecretary of the Army - Operations Research
DUSD (L)	Deputy Undersecretary of Defense (Logistics)
E	**-E-**
EA	Electronic Attack
EDI	Electronic Data Interchange (see also EC/EDI)
EDP	Event Design Plan
EMP	Electromagnetic Pulse
EMS	Electronic Maintenance Squadron
EUCOM	European Command
F	**-F-**
FAB	Field Assistance Branch
FACTS	Financial Air Clearance Transportation System
FAR	Federal Acquisition Regulation
FD	Functional Description
FDSC	Failure Definition and Scoring Criteria
FOC	Full Operational Capability
FQT	Functional Qualification Test (*USAF. Formal testing conducted by developer*)
FRAP	Facilitated Risk Analysis Process
FS	Fighter Squadron
FSS	Fast Sealift Ships
FSSG	Force Service Support Group
FTP	File Transfer Protocol
FUNOPS	Functional Operations (USA ATEC term denotes actual SOP user operation of a new system prior to formal test)
FY	Fiscal Year

ACRONYM	DEFINITION
G	**-G-**
GATES	Global Air Transportation and Execution System
GB	Gigabyte
GBL	Government Bill of Lading
GCCS-A	Global Command and Control System – Army
GCSS-A	Global Combat Support System-Army
GCSS-AF	Global Combat Support System – Air Force
GDSS	Global Decision Support System
GOPAX	Group Operational Passenger System
GOTS	Government Off-The-Shelf
GSA/ADNET	GSA/Depot Transportation System (ADNET)
GTN	Global Transportation Network
H	**-H-**
HCI	Human-Computer Interface
HEROS V	German Convoy Scheduler
HFE	Human Factors Engineering
HHG	Household Goods
HP	Hewlett Packard
HQ	Headquarters
HQDA	Headquarters, Department of the Army
HSIP	Human Systems Integration Plan
I	**-I-**
IAW	In Accordance With
IBS	Integrated Booking System
ICEP	Interoperability Certification Evaluation Plan
ICODES	Integrated Computerized Deployment System
ID	Identification
IDE	Independent Developmental Evaluator
IDP	Incremental Development Package (April 2000 TC-AIMS II development strategy)
IDT	Independent Developmental Test
IEP	Independent Evaluation Plan
IER	Independent Evaluation Report
ILS	Integrated Logistics System/Supportability

ACRONYM	DEFINITION
ILS-S	Integrated Logistics System - Supply
ILSMIS	Integrated Logistics Support Management Information System
ILSP	Integrated Logistics Support Plan
IOC	Initial Operational Capability
IOE	Independent Operational Evaluator
IOPCERT	Interoperability Certification (DISA (JITC) term)
IOT	Initial Operational Test
IOTE	Initial Operational Test & Evaluation
IP	Internet Protocol
IPT	Integrated Product Team
I&RTS	Integrated and Run Time Specification
ISDP	Information Systems Design Plan
ISEC	Information Systems Engineering Command (US Army)
ISEC-TIC	Information Systems Engineering Command – Technology Integration Center
IT	Information Technology
IT-OIPT	Information Technology Overarching Integrated Product Team
ITO	Installation Transportation Office/Officer
ITO / TMO	Installation Transportation Office/ Traffic Management Office
ITPS	Integrated Test Program Schedule
ITV/TAV	In-Transit Visibility / Total Asset Visibility
IV&V	Independent Verification & Validation
IW	Information Warfare
J	**-J-**
J*	Joint (Services) (*Table 1-1, SER Column)
JCS	Joint Chiefs of Staff
JDL	Joint Data Library
JFRG II	Joint Force Requirements Generator II
JIEO	Joint Information and Engineering Organization
JITC	Joint Interoperability Test Command
JOPES	Joint Operational Planning and Execution System
PM TIS	Program Manger, Transportation Information Systems
JRO	Joint Requirements Office (TC-AIMS II)
JROC	Joint Requirements Oversight Council
JRSOI	Joint Reception, Staging, Onward movement and Integration

ACRONYM	DEFINITION
JTA	Joint Technical Architecture (see also/associated with Interoperability, COE)
JTAV	Joint Total Asset Visibility
JTCC	Joint Transportation Corporate Information Management (CIM) Center
JTMB	Joint Transportation Management Board
K	**-K-**
Kb	Kilobytes
KPP	Key Performance Parameters
L	**-L-**
LAN	Local Area Network
LHA	Landing Helicopter Amphibious
LOGMARS	Logistics Application of Automated Marking and Reading Symbols,
LOGMOD	Logistics Module
LSS	Logistics Support Squadron
LUT	Limited User Test
M	**-M-**
MACOM	Major Command (Army)
MAGTF	Marine Air Ground Task Force
MAGTF II	Marine Air Ground Task Force II
MAIS	Major Automated Information System
MAJCOM	Major Command (Air Force)
MANPER-B	Manpower Personnel Readiness Module-Base Level
MANPRINT	Manpower and Personnel Integration
MAOPR	Minimum Acceptable Operational Performance Requirements (obsolete)(now MOES)
MARCORSYSCOM	Marine Corps System Command
MCC	Movement Control Center
MCOTEA	Marine Corps Operational Test and Evaluation Activity
MCT	Mission Critical Tasks
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program
MDSS II	MAGTF Deployment Support System II
MEF	Marine Corps Expeditionary Force
MEP	Mobile Electric Power

ACRONYM	DEFINITION
MEU	Marine Expeditionary Unit
MH	Military Handbook
MMS	Materiel Management System
MMT	Multi-Media Training
MNS	Mission Need Statement
MOA	Memorandum of Agreement
MOBCON	Mobilization Control
MOE	Measure of Effectiveness
MOES	Measures of Effectiveness and Suitability
MOBEX	Mobility Exercise
MOP	Measure of Performance
MOS	Military Occupational Specialty
Movement Planning	Movement Planning
MPMIS	Military Police Management Information System
MRM	Management Reform Mandate
MS	Microsoft
MSL	Military Shipping Label
MTBOMF	Mean Time Between Operational Mission Failure
MTMS	Munitions Traffic Management System
MTS	Military Tracking System
MTTR	Mean Time To Repair
N	**-N-**
N*	Navy (*Table 1-1, SER Column)
NA	Not-Applicable
NAVMC	Navy/Marine Corps
NCFMIS	Navy Construction Force Management Information System
NIMMS	NADEP (Naval Aviation Depot) Inventory Materiel Management System
NSIPS	Navy Standard Integrated Personnel System
NSM	Network and Systems Management
NT	New Technology
O	**-O-**
ODCSLOG	Office of the Deputy Chief of Staff for Logistics (Army)

ACRONYM	DEFINITION
OE	Operational Evaluation
OEL	Organizational Equipment List
OIPT	Overarching Integrated Product Team
OMA	Operation and Maintenance Army
OMC	Optical Memory Cards
OPA	Other Procurement Army
OPR	Organizational Personnel Roster
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
OSS	Operational Support Squadron
OST	OPTEC System Team(OBSOLETE TERM: See AST)
OT	Operational Test
OTA	Operational Test Agency
OTC	Operational Test Command (formerly TEXCOM)
OT&E	Operational Test and Evaluation
OTP	Operational Test Plan
OTRR	Operational Test Readiness Review
P	**-P-**
P3I	Pre-Planned Product Improvement
PC	Personal Computer
PCR	Program Change Request
PDF	Portable Data file (Used with 2d Barcode)
PEO	Program Executive Officer / Office
PEO EIS	Program Executive Office
PM	Project Manager Program Manager
PO	Project Officer
POA	Pattern Of Analysis
POC	Point of Contact
POD	Port of Debarkation
POE	Port of Embarkation
PSA	Principal Staff Assistant
PSTN	Public Switched Telephone Network

ACRONYM	DEFINITION
Q	**-Q-**
	NONE
R	**-R-**
RAM	Reliability, Availability, and Maintainability
RDTE	Research, Development, Test & Evaluation
REPSHIPS	Report of Shipments
RF	Radio Frequency
RFID	Radio Frequency Identification
RFW	Radio Frequency Weapons
ROLMS	Retail Ordnance Logistics Management System
R&M	Reliability and Maintainability
S	**-S-**
SAAM	Special Assignment Airlift Mission
SAAS	Standard Army Ammunition System (to be replaced by GCSS-Army)
SA-DBA	System Administrator – Data Base Administrator
SBSS	Standard Base Supply System (replacing ILS-S) (aka: SBSS/ILS-S)
SBU	Sensitive but Unclassified
SDD	Software Design Descriptions
SDF	Software Development Folders
SDT	Software Development Testing
SEP	System Evaluation Plan Note: Versions: Functional (SEP-F), Technical (SEP-T), Developmental (SEP-D)
SER	System Evaluation Report
SF	Standard Form (Form)
SFOR 6	Stabilization Forces (6th Rotation)
SFS	Security Forces Squadron
SFUG	Security Features Users' Guide
SHADE	Shared Data Environment
SIA	Systems Interface Agreements
SIDPERS 3	Standard Installation/Division Personnel System III
SME	Subject Matter Expert
SMMP	System Manpower and Personnel Integration (MANPRINT) Management Plan

ACRONYM	DEFINITION
SMTP	Simple Mail Transfer Protocol
SOP	Standard Operating Procedure
SQDN	Squadron
SQT	Software Qualification Test
SQTP	Software Qualification Test Plan
SRS	Software Requirements Specification
SSAA	System Security Authorization Agreement
STAMIS	Standard Army Management Information Systems
STANAG	Standard NATO Agreements
STRAP	System Training Plan (Army)
SUN	Shipment Unit Numbers
SUP	Supply Squadron
SUPMIS	Supply-Management Information System
T	**-T-**
T&E	Test and Evaluation
TAMMIS	Theater Army Medical Management Information System
TAV	Total Asset Visibility (see also ITV/TAV)
TBA	To Be Announced
TBD	To Be Determined
TBF	To Be Furnished
TBP	To Be Published
TC-ACCIS	Transportation Coordinator – Automated Command and Control Information System
TC-AIMS	Transportation Coordinators' - Automated Information for Movement System (Marine Corps)
TC-AIMS II	Transportation Coordinators' - Automated Information for Movement System II
TCC	Transportation Component Command
TCMD	Transportation Control & Movement Documents
TCN	Transportation Control Number
TCP-IP	Transmission Control Protocol-Internet Protocol
TDP	Test Design Plan
TDR	Tonnage Distribution Roster
TDY	Temporary Duty

ACRONYM	DEFINITION
TE&C	Test, Evaluation & Certification (PM TIS, TC-AIMS II work group title)
TEMP	Test and Evaluation Master Plan
TEXCOM	US Army Test and Experimentation Command (OBSOLETE TERM: See OTC)
TIC	Technology Integration Center (USA ISEC)
TI&C	Technical Issues and Criteria
TIR	Test Incident Report
TIWG	Test Integration Working Group (obsolete) (now: Test & Evaluation Working-level Integrated Product Team)(See WIPT)
TLDM	Transportation Logistical Data Model
TMO	Transportation Management Office
TPFDD	Time Phased Force Deployment Data
TrAMS	Transportation Automated Measuring System
TRANSCOM	Transportation Command (US)
TRNS	Transportation Squadron
U	**-U-**
UD/MIPS	Unit Diary/Marine Corps Integrated Personnel System
UDAPS(2)	Uniform ADP System
UIC	Unit Identification Codes
ULN	Unit Line Number
UM	Unit Movement
UMO	Unit Movement Officer/Office
UPS	USAREUR Prototype Site
USA	United States Army
USATEC	United States Army Test and Evaluation Command (formerly USAOPTEC)
USAF	United States Air Force
USAISEC	United States Army Information Systems Engineering Command
0	US Army Information Systems Software Development Center –Lee
USAOPTEC	United States Army Operational Test and Evaluation Command (OBSOLETE TERM: See USATEC)
USAOTC	United States Army Operational Test Command
USAREUR	United States Army Europe
USD (A&T)	Under Secretary of Defense (Acquisition and Technology)

ACRONYM	DEFINITION
USMC	United States Marine Corps
USMTF	US Message Text Formats
USN	United States Navy
USTRANSCOM	United States Transportation Command
UTC	Unit Type Code
V	**-V-**
	NONE
W	**-W-**
WIPT	Working-Level Integrated Product Team
WPS	Worldwide Port System
WRS	War Reserve System
X	**-X-**
	NONE
Y-Z	**-Y-Z-**
	NONE

ANNEX C: POINTS OF CONTACT

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