



Department of Defense

INSTRUCTION

NUMBER 4151.19
December 26, 2006

USD(AT&L)

SUBJECT: Serialized Item Management (SIM) for Materiel Maintenance

- References:
- (a) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))," December 9, 2005
 - (b) DoD Directive 4151.18, "Maintenance of Military Materiel," March 31, 2004
 - (c) DoD Instruction 5000.2, "Operation of the Defense Acquisition System," May 12, 2003
 - (d) MIL-STD-130M, "Identification Marking of U.S. Military Property," December 2, 2005¹
 - (e) DoD Directive 4140.1, "Supply Chain Materiel Management Policy," April 22, 2004

1. PURPOSE

Under the authority in Reference (a), this Instruction establishes a serialized item management program where the Military Departments and Defense Agencies:

- 1.1. Identify populations of select items (parts, components, and end items).
- 1.2. Mark all items in each population with a unique item identifier (UII).
- 1.3. Generate, collect, and analyze maintenance, logistics, and usage data about each specific item.

2. APPLICABILITY

This Instruction applies to the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense (hereafter referred to collectively as the "DoD Components").

¹ Available at: <http://www.acq.osd.mil>

3. DEFINITIONS

Pedigree Data. Includes initial manufacturing and delivery data as well as all item historical data resident in various Management Information Systems (MISs). Information generation and data collection is supported, using machine readable markings, where appropriate, so that automatic identification technology (AIT) can be used to populate maintenance automated information systems (AISs). Further, the UII and part identification technology provide common links to relevant maintenance, logistics, and acquisition data to support analysis on specific populations and on each item throughout its life cycle.

4. POLICY

It is DoD policy pursuant to DoD Directive 4151.18 (Reference (b)):

4.1. To develop broad-based SIM programs that make data about specific items and their respective total populations readily available to maintainers, logisticians, and other functional area managers.

4.2. To develop effective SIM programs providing accurate and timely item-related data that is easy to create, capture, and use.

4.3. To ensure the compatibility and interoperability of SIM-related processes across Military Departments and Defense Agencies and among public and private sector sources that support DoD items.

4.4. To improve the effectiveness and efficiency of DoD design, procurement, manufacturing, maintenance, and logistics operations.

4.5. To improve weapon system readiness, reliability, and safety.

4.6. To reduce ownership cost through enhanced and more efficient sustainment operations.

4.7. To ensure the marking and pedigree data capture of each item is accomplished in accordance with Item Unique Identification (IUID) policy.

4.8. To support all tracking requirements of Serial Number Tracking (SNT) efforts and Unique Item Tracking (UIT) programs, as consistent with DoD policy, programming, and management for IUID, in accordance with Reference (b) and DoD Instruction 5000.2, MIL-STD-130M, and DoD Directive 4140.1 (References (c), (d), and (e)).

5. RESPONSIBILITIES

5.1. The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) (DUSD(L&MR)), under the Under Secretary of Defense for Acquisition, Technology, and Logistics, shall:

5.1.1. Establish procedures and provide guidance for SIM programs to ensure effective implementation of SIM procedures throughout the maintenance infrastructure.

5.1.2. Monitor and oversee the overall planning, implementation, and operation of SIM-related capabilities in DoD maintenance operations, as well as address SIM program coordination and technology issues.

5.2. The Assistant Deputy Under Secretary of Defense (Material Readiness and Maintenance Policy)(ADUSD(MR&MP)), under the authority and guidance of the DUSD(L&MR) shall:

5.2.1. Act as the focal point within the Department of Defense to monitor, facilitate, and encourage implementation of SIM capabilities in maintenance operations.

5.2.2. Coordinate with other DoD activities on SIM-related policy, implementation, technology, and integration issues.

5.2.3. Ensure that baseline information requirements and DoD and Component maintenance AIS/AIT (and related supporting technologies) performance capability requirements related to maintenance program execution are identified and supported.

5.2.4. Assess SIM program progress, review DoD Component plans, determine future program direction, and monitor DoD Component projects.

5.2.5. Give priority attention to those DoD-wide applications of SIM-related efforts that support cross-Component or cross-sector operations or that offer the most significant improvements in productivity and readiness.

5.2.6. Ensure the SIM concept is adequately addressed in the early phases of the acquisition life cycle of new weapon systems.

5.2.7. Harmonize and integrate SIM approaches and capabilities with unique identification (UID) initiatives and policies.

5.2.8. Ensure the evaluation of technologies that support SIM concepts and implementation.

5.2.9. Coordinate inter-Service issues and ensure the evaluation of related technology.

5.3. The Heads of Defense Agencies and Secretaries of the Military Departments shall:

5.3.1 Establish SIM programs, where possible, to include identifying appropriate item populations and generally developing the other capabilities necessary to support SIM concepts.

5.3.2. Ensure operational and support activities comply with SIM requirements; designate a focal point for SIM efforts within the DoD Component.

5.3.3. Conduct and participate in SIM tests and studies.

5.3.4. Implement full-scale SIM program operations as they become feasible.

5.3.5. Maintain an overview of SIM systems, plans, programs, and performance, providing periodic updates of SIM program status and performance, when requested.

5.3.6. Coordinate with other Military Departments and Defense Agencies and the private sector on common items, data requirements, and AIS operations.

5.3.7. Ensure that current and future AISs effectively support SIM program requirements, and support SIM program coordination and technology evaluation.

5.3.8. Manage the maintenance and support of the serialized items using the information generated about each unique item, i.e. its pedigree data.

5.3.9. Ensure standardized interface across DoD platforms, where maintenance and supply logistics data change occur, utilizing Defense Logistics Management Standards (DLMS) compliant transactions and processes.

6. PROCEDURES

6.1. SIM programs shall facilitate the effective management of populations of select items throughout their life cycle using data associated to a unique item by its UII. Further, these programs shall focus on providing and using comprehensive, timely data about each uniquely identified item to meet the requirements of this Instruction. SIM programs will build on:

6.1.1. Existing serial number tracking initiatives.

6.1.2. Continuing progress in AIT and related maintenance AISs.

6.1.3. Continuing process and operational improvements, inventory optimization, and the DoD UID program.

6.2. Military Departments and Defense Agencies will identify populations of select uniquely identified items to track and manage within their maintenance SIM programs. Selection of these populations shall be based on the magnitude of potential benefits to DoD maintenance operations. This identification will be based on the benefits of enhancing weapon system operations, management capabilities, and increasing information availability. As a minimum, it is appropriate to select item populations from within the following categories:

6.2.1. Repairable items down to and including sub-component repairable unit level.

6.2.2. High cost, high demand consumable items.

6.2.3. Life-limited, time-controlled, flight/operationally critical items, or items with records (logbooks, aeronautical equipment service records, etc.).

6.2.4. Items that require technical directive tracking at the part number level.

6.3. SIM programs shall be developed and structured to provide data about specific items and item populations including data useful in:

6.3.1. Creating operational and maintenance histories for the life of the items.

6.3.2. Providing information for weapon systems and equipment configuration management.

6.3.3. Ensuring item applicability, e.g., to higher assemblies and end items.

6.3.4. Conducting maintainability, supportability, and reliability assessments.

6.3.5. Performing maintenance planning, engineering, and safety investigations.

6.3.6. Exercising contract warranty provisions associated with newly manufactured materiel and with commercially and organically repaired materiel.

6.3.7. Controlling counterfeit parts.

6.3.8. Demilitarizing condemned items.

6.4. SIM programs will be designed and operated to optimize end item availability while minimizing support costs by:

6.4.1. Providing maintenance technicians and decision makers rapid access to comprehensive and accurate information.

6.4.2. Improving the efficiency of maintenance and related processes, e.g., eliminating manually-supported paperwork, reducing job times, enhancing maintenance task and personnel scheduling, and shrinking inventories.

6.4.3. Reducing maintenance requirements through better configuration management and item/select population life-cycle history information.

6.4.4. Facilitating tracking of specific item performance to support reliability analysis, warranty claims, and repair performance evaluation.

6.5. As resources become available, existing maintenance AISs shall be enhanced or modified to support the tenets of SIM programs. Effective SIM is a result of each service's management practices. Services should utilize SNT/UID technology through AIT for logistics management. Emerging, developing, or planned maintenance AISs shall effectively address SIM program policy, goals, and objectives. Implementing activities shall develop maintenance program performance criteria that drive necessary SIM functionality to be supported within DoD and Component maintenance AISs. These performance criteria define the minimum data required to be captured and reported on assets identified for SIM (mean time between failure and mean time to repair at the item level are examples of such performance criteria).


6.6. AIT is an integral element of SIM programs and of the supporting maintenance AISs. Because it may be infeasible to mark and capture item data using AIT for small populations, these items shall be supported in SIM programs via manual data entry means.

6.7. In establishing SIM programs, special consideration shall be given to items that are used, maintained, or otherwise supported by more than one of the Military Departments and Defense Agencies or in the private sector. DoD Component coordination of SIM applications for each such item should focus on ensuring inter-Component or inter-sector compatibility and commonality. SIM program structure and supporting maintenance AISs shall provide for sharing of appropriate data across Military Departments and Defense Agencies and, when appropriate, across sectors.

6.8. Periodic reviews of SIM programs will be conducted to ensure expectations are being met, SIM operations are cost-effective, and the goals of collecting, sharing as appropriate, and the goal of using data about serialized items is achieved.

7. EFFECTIVE DATE

This Instruction is effective immediately.



Kenneth J. Crag
Under Secretary of Defense
for Acquisition, Technology, and Logistics