IUID Item Unique Identification

Naval Surface Warfare Center, Corona Division: STANDARD Missile Marking and Serialized Item Management

Unique Identification Policy Office Integration Project

To improve the identification, tracking, and management of Department of Defense (DoD) assets, the Office of the Secretary of Defense has funded multiple projects, including the Naval Surface Warfare Center, Corona Division: STANDARD Missile Marking and Serialized Item Management (SIM) Integration Project.

Description

Naval Surface Warfare Center (NSWC), Corona Division implemented an outcome-based pilot project integrating Unique Identification (UID) technology within an advanced maintenance information system. NSWC Corona's existing legacy system, the Surface Missile System Maintenance Data System (SMSMDS), maintains various missile systems for the Navy. Through this project, the population of STANDARD Missiles and related embedded components requiring IUID marking were identified, marking methods were identified or developed, and UID business processes were integrated into the newly developed system: the Advanced Maintenance Information System (AMIS).

The first major component of this project was the application of UID technology to legacy and new production hardware. The second was integrating the UID into an existing reliability-centered, parts-tracking information management system.

The Intermediate Level Maintenance Facilities were identified as the primary location for IUID marking. The UIDs were registered in the DoD's UID Registry and the established comprehensive maintenance tracking system was modified to track hardware based on UID. Once UID integration was completed, the system transitioned to become the AMIS.

Challenges & Obstacles

Challenges for the STANDARD Missile project team included:

♦ Establishing safety-approved UID marking and reading procedures for energetic assets
♦ Incorporating UID marking procedures within the maintenance cycles
♦ Tracking UID marking throughout the movement and deployment cycle
♦ Defining UID requirements across modifications, upgrades, and different vendor requirements
♦ Validating that the UID mark would withstand the STANDARD Missile environmental conditions imposed on it

Lessons Learned

Upon completion of the project, the STANDARD Missile team found valuable lessons to share with future groups implementing UID:

♦ NMCI requires certification for COTS UID software
   ❖ Develop server-side software and web applications where possible to avoid NMCI certification
♦ High quality marks are not necessarily expensive to produce
   ❖ Reading and verifying poor quality marks requires an expensive reader/verifier
♦ The software used to read or verify is the most critical aspect of a quality reader/verifier
♦ Program Office complications can be the most intractable problems to overcome
♦ Costs associated with UID marking vary; while some surfaces require little attention, some require intensive intervention, especially on legacy hardware

Benefits & Achievements

Not only does SIM help Corona to track a missile through its entire lifecycle, it also allows Corona to track all the components that have been associated with that missile at one time or another. The missile block type or components may change over time, but the unique identification number will not change, and therefore, will allow for complete traceability. This gives Corona the added capability to track the histories of all the components and to distinguish among items that may have duplicate serial and part numbers.

Additional benefits of SIM:

♦ Inventory and availability analysis: SIM provides a basis to compute surge capability
♦ Focused recall: SIM allows identification and rework of affected hardware in the event a faulty or bad lot is discovered
♦ Costs are kept low because accurate asset management is maintained
♦ Response time for the fleet is optimized with timely analysis
♦ Reliability analysis: SIM provides data necessary for advanced statistical modeling

In the long term, having the ability to consistently locate, control, and evaluate assets, the DoD will be able to make more informed decisions on the joint strategic and tactical missions. UID will establish a common interface across all organizational boundaries.

Contact

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Whole Missiles

Guidance Warhead Autopilot Rocket Motor Steering

IUID Item Unique Identification

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