Customer: US Army Training Support (Raytheon WarFighter Focus)

What's the problem: *Field enterprise inventory tracking, accountability, checkout.*

Inventory tracking and accountability is required by the U.S. Army for all equipment that is issued to contractors and to soldiers. Current Army enterprise applications used to track inventory specific to training support include TS-MATS (Training Support-Materiel Army-wide Tracking System) and IBM MAXIMO. Raytheon is responsible to the Army for instrumenting hundreds of vehicles in each training rotation through NTC and other training ranges. Each vehicle may have as many as 20 pieces of issued gear. With 2-3 rotations per month, that's tracking issue and return of tens of thousands of pieces of equipment on a rotating basis.

Current manual inventory management solutions are not designed for the high pace of the installation and de-installation processes, nor can normal computer/UID tracking processes work both during initial provisioning (at the starting staging area) and in the field (when training gear fails during an exercise and must be replaced on the training range). To improve tracking and accountability, Raytheon wanted to implement a solution that automated equipment tracking and would integrate into the existing instrumentation process both at staging and in the field.

The Solution: *SWMA tablets provisioned with CAC, UID, and cameras operating as portable, vehicle mounted and in the staging area, GUI user interfaced to the Army's enterprise provisioning systems (T-MATS and MAXIMO).*

Cybernet's earlier success with providing CAC authorized access to work order and inventory to field technicians in remote, down-range activities was lead-in to this activity. This previous effort integrated with Cybernet's SWMA Tablet to provide access to data-rich Army enterprise logistical applications (MAXIMO, Datasplice) in both online (directly connected to the enterprise databases) and offline (databases stored on the tablet and sync'ed to the enterprise database when network connectivity becomes available) environments. SWMA's modular reconfigurable design also allowed inclusion of barcoding and image annotation to provide better accountability and documentation of system configurations.

Program plan executed:

1. Initiated complete review of existing processes and inventory management.
2. Defined system requirements.
3. Wrote the software to integrate to T-MATS; installed support equipment
4. Provided training and process integration
5.

Benefits:

1. Provided real-time tracking of equipment from install to deinstall.
2. Provide inventory tracking and synchronization services for staging area set-up and down-range equipment repair.
3. Integration with MAXIMO and T-MATS

What is the SWMA? *Available under GSA Contract GS-35F-0269U*

Cybernet's Shipboard Wireless Maintenance Assistant (SWMA) is a Phase III SBIR development that has produced a reconfigurable MIL810F tablet solution platform that is in full commercial production. SWMA is a rugged tablet computing platform that provides an intuitive interface to enterprise solutions software optimized for hardware reconfiguration, CAC authentication, and rugged field usage. In both the vehicle mount an portable for it maximizes field personnel efficiency and effectiveness in data capture, tracking, processing and analysis for the logistical and maintenance community.

Cybernet's Shipboard Wireless Maintenance Assistant (SWMA) Platform is one of few selected commercial technologies directed by the Navy to participate in Trident Warrior. Trident Warrior is the Navy's major annual operational FORCEnet Sea Trial event. SWMA is also in the process of trials for integration into the War Fighter Focus (WFF) program to support logistics and maintenance at various Army depots throughout the US. These trials have proven significant cost and time savings for maintenance personnel. The results of these experiments are proving the value of SWMA as a key technology for interfacing with legacy systems in a generic manner and providing tremendous manpower savings and with high efficiency and effectiveness.

Active Program Efforts and Developments

Long-Distance Support Capability (Navy, PEO Carrier) – This development leverages the SWMA Platform to integrate Distance Support capability into the maintenance workflow. When a subject matter expert (SME) is required, the SWMA provides the SWMA with "eyes on" assessment of the situation by integrating the SWMA module capabilities and Defense Connect Online for on-site maintenance assistance.

Remote Calibration (Navy, NSWC Corona) – In order to make HM&E calibrations more efficient, the SWMA Platform is being integrated into a maintenance aid that includes a SWMA Tablet, wireless access points, and keyboard/video/mouse-over-IP to link the calibration workstations to a SWMA Tablet at the point of calibration, thus reducing the manning necessary to calibration on-ship systems.

Work Order/Inventory Maintenance (Army/Raytheon) – Retrieval, entry, and processing of work orders, service requests, and inventory controls have been made available in the field where network connectivity is not available. Using a combination of the SWMA Platform, MAXIMO, and Datasplice, field operators can access and input work order-related information when down range without a network connection and synchronize data updates upon return to base. Prior to SWMA integration, data processing was on the order of hours to days; the SWMA

integration has reduced this to real-time input with a few minutes of synchronization time at the end of a shift.

Instrumentation Equipment Issue and Tracking Support (IITS) System (Army/Raytheon) – This effort is a technology drive to move from paper to fully-electronic forms for tracking vehicle instrumentation that occurs during each training rotation. Using the SWMA Tablet, installers can track the equipment associated with each vehicle from "issue" to "QA." An offline database is also available to provide down-range tracking of instrumentation changes necessary due to failure during training.

Partnerships and Collaboration:

Development supported by PEO SHIPS Science and Technology, providing access to ships, maintenance documents and maintenance personnel.
NAVSEA Carderock – Applications and Database support
NAVSEA Crane – Network connectivity to IT-21 (Ship-based networks), Distance Support (DS)
SPAWAR San Diego – Certifications/Authorizations for secure network based data.

Raytheon Logistics and maintenance development and support for War Fighter Focus (WFF).

Program Contacts:

Merrill Squiers, Cybernet Systems, Ann Arbor MI 48108, msquiers@cybernet.com, 734-668-2567 x105
Tim Schuler, NAVSEA Carderock, Bethesda MD 20817, timothy.d.schuler@navy.mil, 301-227-6063
http://www.cybernet.com/ and http://swma.cybernet.com/

Capabilities

Multiple Source Data and Information Capture:	**Supported Applications:**
Imagery/video	Any Windows-based application
Barcode, RFID, UID	Legacy log/maint applications like SKED, ICAS, and Maximo
Multimeter	Functions under COMPOSE load
Direct equipment interfaces	
Rapid High-Performance Data Processing:	**Flexibility via Form Factor and Hardware Design:**
Hosting of user manuals and procedures documents	High-performance computer in Tablet PC form, designed to be uniquely qualified for field maintenance operation environments
Image annotation	
Collaboration and access to alternative source information	Meets all military and industry standard ruggedized specifications
Schedule and task management	Incorporates water proof specifications (IP65)
Electronic Checklists	Wireless and wired operations

CYBERNET
AMPLIFYING HUMAN PERFORMANCE THROUGH ADVANCED TECHNOLOGY

Specifications

Dimensions: 11.75”x 9”x3.375” 5.5 lbs. MIL-STD 810F Enclosure: Method 512.4 Procedure 1 (Sand/Dust/Salt Fog) Solar Radiation, UVB, IP65 (Equiv.) 10.4” XGA (1024x768) Display: Pen & Finger Touch Dual Mode	Temperature Ratings: MIL-STD 810G Methods 501.4/502.4 -4° to 140° (operational) -60° to 160° (storage) Shock & Vibration Ratings: • MIL-STD 810F • Method 516.5 • Up to 4ft drop (to concrete) • 75g, 11ms Crash Shock	Processor Options: • Intel i7 620UE 1.06 GHz 2.13 GHz Turbo Memory: • 2GB (standard) • 8GB (max) Hard Drive Options: • 320GB Hard Drive (standard) • 80GB Solid State (option)	Wireless: • Bluetooth 2.1 + EDR • 802.11a/b/g/n • FIPS 140-2 •Other wireless methods (optional, available) Battery: • 10 cell (65Whr) battery • Up to 6.5 hour lifetime • Warm swap	Ports and I/O Connections: • 3 USB 2.0 ports • 2 SWMA Module Connectors • RJ-45 Gigabit LAN Ethernet • Serial Port (RS232/422/485) • VGA (option, in place of serial port) • Smartcard Reader (optional) • Headset Jack • Microphone Jack • DC-in Jack • CAC Reader

Products and Selected Accessories

SWMA Tablet (standard config)	**Docking Solutions**	**Modules (Camera, barcode, Fluke, CAC, Oscope, RFID)**	**Accessories**
			Carrying cases (small & large sizes) Shoulder strap Systems
$3,631 (+$400 for xtreme screen)	Varies by application	$160-$790	Varies