Revolutionary Logistics? Automatic Identification Technology

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Subject Area Logistics

REVOLUTIONARY LOGISTICS?

AUTOMATIC IDENTIFICATION TECHNOLOGY

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"In today's global environment, commanders must know exactly where their assets are located and be able to act on this information. Accurate source data capture enables this capability and is critical to the Focused Logistics pillar and Information Superiority strategy of the Chairman's Vision for 2010..."

J. S. Gansler, November 12, 1997

The emerging technology of the 21st century, such as Automatic Identification Technology (AIT) and our direction as a Corps towards Expeditionary Strike Groups (ESG), Operational Maneuver from the Sea (OMFTS), and Seabasing requires the Marine Corps to achieve total, real-time logistical asset visibility in order to increase our forces' effectiveness, readiness, and sustainment for a growing joint force concept.

LACK OF LOGISTICAL VISIBILITY

"The inability of a nation to generate sufficient forces, move them to the front, and support them once engaged invariably leads to deterioration of the forces' material condition, morale, and tactical capability. This deterioration can be slow, as in the European theatre during World War II, or it can occur relatively quickly, as it did in Desert Storm. Both the will and the ability to fight erode, often leading to collapse and defeat."[1] Everyone will agree that logistics is a critical element to prepare, maintain, and sustain deployed forces within a theatre of war. Without effective logistics, battles cannot be won, culminating points are reached, and deployed forces are ineffective. Stockpiled logistics is yesterday's key for a

successful mission. The key element for the 21st century is immediate asset visibility and just in time logistics.

As evidenced during Operation Desert Storm, Marine ground forces had to take an operational pause in order to allow the logistical units to catch up. A culminating point was reached that affected tempo, focus of effort, and even morale. Twelve years later, Operation Iraqi Freedom showed signs of improvement. However, the updated systems, such as logistical software, asset visibility, or the simple task of requisitioning supplies were almost complete failures. Marines did not go hungry or thirsty, but the sustainment requirements of vehicle maintenance, coupled with successful requisitioning and delivering of class IX (repair parts), was virtually non-existent. Forward units on the move could not requisition the parts they needed. When they did get transactions processed, even the Combat Service Support Groups (CSSG) had many problems with the requisitioning process. There was no visibility of real-time unit inventories or location of those supplies. Vehicle cannibalization was the key process to allow units to keep moving forward, ultimately leading to a culminating point. The "so what"[2] from the past two desert wars is the need for a joint logistical requisitioning asset visibility system.

CURRENT SYSTEM OBSOLETE

There are literally hundreds of logistical applications available and used by the military and civilian companies, such as the real-time logistics system of FEDEX. The Marine Corps utilizes the Logistics Automated Information System (LOGAIS). LOGAIS is a family of logistical software that supports all of the Marine Corps logistical needs from MPF to supply/maintenance management. The problem is that LOGAIS is not a joint system.

The current demand for U.S. and NATO Joint Forces highlights LOGAIS as a non-practical or mutually supporting choice of logistical systems. LOGAIS does not interface with other service systems, such as the hi-tech system of the U.S. Army, the Automatic Identification Technology system. In the past, leaders may have stated that no software was available to support forward deployed units in a combat environment. Technology has caught up with requirements, and the military needs to embrace it as a joint force product.

NEW TECHNOLOGY

In 1997, the Defense Logistics Agency (DLA) established the Department of Defense (DoD) Automatic Identification Technology (AIT) office with the mission to "promote, manage, coordinate, and document the application of DoD and joint logistics AIT doctrine, technologies, and processes in support of the warfighters including the CinCs, joint task force (JTF)

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commanders, military services, and DoD activities."[3] The

creation of AIT within the DoD would not only begin the pursuit

for a joint logistical doctrine, but it would also "streamline

the DoD's logistical pipeline, business processes and enhance

its warfighting capability."[4]

HOW DOES AIT WORK?

   Automatic Identification Technology is not a complex system.

AIT is the basic foundation to provide real-time asset

visibility for all logistical

assets and processes.

Emerging technology is the

ultimate factor in the

success of AIT. The ability

to view real-time assets

requires the latest

technological hardware. The Army's Logistical Integration

Agency, now the Logistics Transformation Agency (LTA) began

utilizing identification tags embedded with radio frequency (RF)

technology in 1999.

   The RFID system was installed at military sites around the

world in order to track logistical assets. This system allowed

LTA to achieve real-time visibility of all the contents within

each container. In this process, RFID tags automatically emit a

signal to a scanner; therefore each item does not have to be
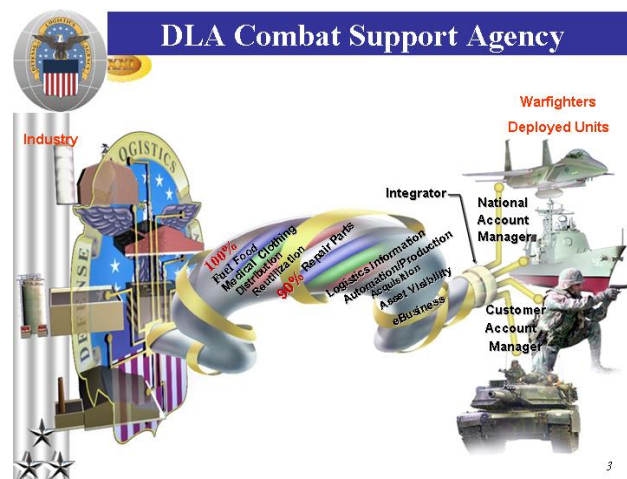
manually scanned. The container merely has to be within

scanning range in order for the RFID scanner to retrieve the

signal, process it, and transmit it to the Identification

Technology Visibility (ITV) server. Once the information is

uploaded in the server, it can be viewed at near real-time. ITV

servers are located in EUCOM (Europe Command), CENTCOM (Central

Command), and PACOM (Pacific Command). These servers provide

the data storage and transmission of AIT data.

RECENT RESULTS

Since 1999, AIT has progressed to be an extremely valuable

asset. The integration of new technology with military

logistical requirements has benefited not only whole units, but

also individual troops. In 2001 during Operation Enduring

Freedom, the combatant commander of USCENTCOM reported a

logistical requirement that could finally be filled, "in-the-

box"[5] visibility of all logistical materials in support of their
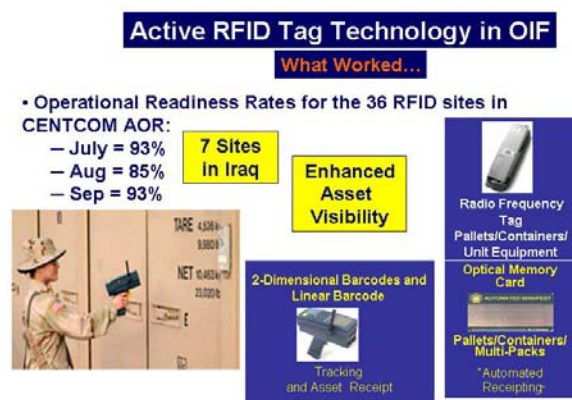
forces. AIT had finally accomplished its 1997 implied inception task and proved its effectiveness during an actual war type situation. Operation Iraqi Freedom (OIF) was no different

except this time no request for asset visibility was required.

RFID tags were mandated for all material entering the theater in

order to track assets in real-time. Although only seven sites in Iraq were utilized, the results far surpassed initial expectations. The results reported at the DoD RFID Industry Summit on December 2, 2003 states "In the CENTCOM AOR, (Area of Responsibility) the average unit readiness rate in the areas AIT was used was 90%. (July 93%, Aug 85%, and Sep 93%)"[6]

HOW WILL AIT BENEFIT THE CORPS?

As the Marine Corps turns toward Expeditionary Strike Groups (ESG), Operational Maneuver from the Sea (OMFTS), and Seabasing, these concepts will rely heavily on the need for immediate sustainment capabilities in order to be effective in the first 10 days of operations. AIT allows the ESG to logistically plan on the go with a smaller footprint, while still maintaining a forward presence.

The use of AIT logistics will achieve the most effective OMFTS possible and complement Seabasing. Waiting for parts or equipment can be deadly in combat.   The use of AIT will allow logisticians to view, in real-time, what assets are available from ships, other units on the ground, and other services. AIT will also allow real time visibility of requisitions and what is shipped into theater. This information is vital in order to prevent a culminating point.

As evidenced in Operation Iraqi Freedom, commercial off the shelf (COTS), small hand-held satellite devices can be utilized

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in times of war. It is only a matter of time before technology will allow a forward unit with a hand-held satellite device, such as the device utilized by FEDEX, to view and requisition logistical assets from organic support units or a sister service.

As AIT advances to the next level, sustaining the force will become more effective and efficient. AIT is not limited to materiel; it can also track personnel. The development of the Common Access Card (CAC) allows all services to easily and efficiently track all personnel and their records in and out of a theatre.

CONCLUSION

The Marine Corps must realize that an AIT transformation will enhance the effectiveness of logistical sustainment of the 21st century expeditionary concepts. As the push for joint participation in combat increases, there has never been a better time for AIT. Automatic Identification Technology has progressed tremendously in the past several years. It provides a solid base to capture, track, and control logistical assets in real-time from one location. The 21st century will demand the immediate sustainment of forces. AIT can provide the support needed to satisfy the combatant commanders' requirements.

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