Supply & Distribution: Bridging the gap between Warehouse and Warfighter

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is ongoing or still in development.

2.3 Describe, in detail, the process used to complete the initiative. (15 Points)

2.4 Identify significant challenges encountered, the process for resolution, and the solutions. Identify any best practices employed or developed. (10 Points)

2.5 Indicate the metrics used to measure progress and success. (5 Points)

2.6 Document and quantify cost and performance benefits, including the projects return on investment and changes in the value of one or more of the SCOR Level 1 metrics (not all metrics must be captured or reported). (15 points)

2.7 Outline how the success of this effort supports the organizational objectives described in Section 1, Item 3. (15 points)

Section 3: Knowledge Transfer (10 Points)

3.1 Describe the efforts to share lessons learned from this effort with other internal organizations. (5 Points)

3.2 Explain how this initiative can be transferred to other organizations, and specify the likely candidates for transference. (5 points)

Summary

Glossary/Acronyms

Foreword

February 1, 2003

This document contains the Supply Management Unit, Combat Service Support Group 15, 1st Force Service Support Group, I Marine Expeditionary Force, Marine Forces Pacific, Camp Pendleton, California submission for the *2005 Supply Chain Council Awards for Excellence in Supply Chain Operations and Management.* Inside are the highlights of the Supply Management Unit's efforts to transform existing processes and organizational structure based upon lessons learned from Operation Iraqi Freedom I when the supply chain was found to be deficient across the "Last Tactical Mile".

Our transformation is consistent with the Marine Corps' Logistics Modernization efforts and initiatives to streamline multiple complex independent logistics processes and systems into a simplified, user-friendly process that is flexible and responsive to the needs of the warfighter. While our transformation may be more accurately described as an integration of existing capabilities under a single process owner, the application of new technology provided the agility necessary to effectively interface legacy systems with state-of-the-art visibility tools that enhanced reliability and generated user confidence. Our efforts were also aligned with Department of Defense doctrine on Joint Service systems inter-operability as we were able to achieve an effective interface between the Marine Corps Supply System and the Army's Supply System at the theater level. Furthermore, we were able to adopt, integrate, and expand the Army's use of Radio Frequency Identification for tracking cargo beyond the Theater and Corps level all the way down to the end user – to include the warfighter isolated at a remote Forward Operating Base near the Iraq and Syrian boarder.

The Global War on Terror and ensuing Operation Iraqi Freedom I clearly illustrated the need to modernize our supply and logistics systems if we plan to effectively support a highly lethal, highly mobile combat force. Through our efforts we are helping shape the future of the Marine Corps supply chain and distribution on the battlefield. We are integrating supply and distribution processes, fostering habitual relationships, and organizing ourselves to transparently link the operational and tactical supply chain of today, and more importantly, making it relevant and effective for tomorrow's battlefield.

Colonel Michael E. Kampsen
Commanding Officer, Combat Service Support Group 15

EXECUTIVE SUMMARY

BACKGROUND

In November 2002, prior to Operation Iraqi Freedom I and after a year of planning, crunching numbers, and developing estimates of supportability based on numerous possible courses of action that might occur if military actions were necessary once again in Southwest Asia, the Supply Management Unit (SMU) task organized several Supply Detachments with appropriate personnel and inventory necessary to support maneuver elements of the I Marine Expeditionary Force as it streaked from Kuwait to Baghdad. The initial inventories, primarily class IX repair parts, necessary to support the first 30 days of combat operations were generated using the Quad Model based on actual usage data for anticipated weapon system density listings using combat consumption rates. The inventories were enhanced based on the extensive review and recommendations of maintenance experts from the operating forces. These inventory blocks were built and distributed to either General Support (GS) or Direct Support (DS) Combat Service Support (CSS) organizations based on equipment density, maintenance concept of support, and the availability of assets. The maintenance concept called for repairs to affected as far forward as possible in order to allow maneuver forces to shoot, move, and communicate as rapidly as possible. To achieve this fast moving, low value repair parts with high density were placed in direct support CSS Companies that followed in trace of maneuver elements. Fast moving, high value repair parts with high density that required greater maintenance efforts to apply were placed in the DS CSS Battalion that followed a little further back. Critical, leveraged, and bottleneck repair parts with lower density as well as replenishments for assets placed in the DS organizations were placed in General Support CSS Battalions at larger Logistic Support Areas (LSAs). Finally, routine, follow-on sustainment and extremely low density repair parts were staged at the GS Marine Logistics Command in the MEF rear area in Kuwait.

Despite the painstaking efforts to determine, quantify, and strategically locate repair parts across the battlefield, supply support to 1st Marine Division was dismal at best. If it wasn't for robust Pre-Expended Bins (PEBs) carried by organizational maintenance sections, selective interchange and pure cannibalization of battle damaged equipment, and the short duration of the war I MEF would have been encountered significant operational pause. How could this happen? Analysis of I MEF requirements revealed that 88% of required Secondary Reparable repairs parts and 72% of consumable repair parts were forecasted and distributed amongst the CSS supply activities. The first problem was the rate at which parts were consumed greatly exceeded modeled consumption rates and more importantly although assets may have been available the inventories at the distributed sites were not visible

for redistribution. To compound matters there was no visibility of supplies in transit so requirements were overstated numerous times and began to overload the distribution pipeline. Lastly, the requisitioning process for end user was too complicated resulting in a 40% error rate and complete lack of confidence in the system. Order management turned into spreadsheet supply and quickly overburdened supporting supply activities.

"Our greatest shortfall during OIF I was the lack of In-Transit Visibility information to incorporate into our command and control effort. The FSSG had large, extended convoys moving hundreds of miles in unsecured terrain supporting Marine forces spread across thousands of square miles in demanding weather conditions. The lack of asset visibility on unit stocks and in-transit visibility on ordered items made it difficult to identify actual shortages, to locate needed items within stocks for reallocation, and to direct and track the movement of ordered items to requesting units. This lack of visibility resulted in delays, shortages, and at times an inability to expedite critical parts".

-- BGen Edward Usher, Commanding General, 1st Force Service Support Group, I Marine Expeditionary Force, Operation Iraqi Freedom

PROCESS REFORM

Based on the analytical review conducted by the SMU subsequent to OIF I it was determined that three aspects of the supply chain, asset visibility (on hand and in-transit), asset availability, and order management, required immediate process reform. Headquarters Marine, Installations and Logistics (I&L) was in the process of a complete Logistics Modernization that would ultimately replace current legacy supply and maintenance systems; however, that operational architecture was still a couple years out. In the interim there were current commercial capabilities available to help resolve ITV issues, improve order management, and increase the availability of critical repair parts.

IN-TRANSIT VISIBILITY

In-Transit Visibility (ITV) was considered the single most critical factor behind the dismal supply support capability during OIF I. Efforts began in earnest in August 2003 to fix the problems of ITV, specifically using Radio Frequency Identification (RFID) tags and satellite tracking devises. At that time, the SMU published a campaign plan, in which it stated that by August 2004, the following end state was desired: All assets managed by the SMU are visible to the supply chain in one location. Items moving in-transit through the supply chain will be visible down to document number detail and the physical location of that materiel as it moves from node to node until final delivery to the supported unit. Visibility from port to port was not enough.

At an RFID summit in September, experts from the commercial sector and from academia were engaged to help in determining a solution. However, the order to deploy to OIF-II forced an adjustment to the plan. The SMU decided to use existing infrastructure to the greatest extent possible capitalizing on the efforts of the Army and the Defense Logistics Agency (DLA) who were already using SAVI RFID tags and had interrogators in place at key logistics and distribution nodes. The SMU would expand that infrastructure to include tactical Forward Operating Bases (FOBs) and Logistic Support Areas with I MEF Area of Operations.

Headquarters, Marine Corps (HQMC) published a directive stating that sustainment cargo in support of Operation Iraqi Freedom-II is, to the greatest extent possible, to be routed through the Consolidation and Containerization Point (CCP) at the Defense Distribution Depot, Susquehanna, PA (DDSP) and the Aerial/Sea Ports of Embarkation (APOE/SPOE) prior to flowing into theater. The intent was that all requisitioned material for a given unit would be packaged together at the CCP and APOE. Furthermore, all United States Marine Corps (USMC) cargo traveling into Central Command (CentCom) Area of Operation (AOR) had SAVI active data-rich RFID tags applied at the CCP or SPOE/APOE at Norfolk and Charleston. SAVI active data-rich RFID tags were affixed to all 20-foot military sea vans and 463L pallets destined for CentCom AOR.

The data written to these tags was sent to the appropriate ITV server, managed by the Program Manager-Automated Information Technology (PM-AIT). PM-AIT falls under the United States Army as the executive service. As these active RFID tags pass interrogators spread throughout the distribution chain, the interrogators collected the tag number (a.k.a. “license plate” information) and transmitted this data to the appropriate ITV server. This allowed USMC units to query the ITV servers to gain “nodal” visibility of the last known distribution node through which USMC sustainment cargo had passed. Units will be able to query the ITV server using document numbers, National Stock Numbers (NSN), Transportation Control Number (TCN), and RFID Tag number.

The SMU also adopted the Joint Deployment Logistics Module (JDLM) from the Army to monitor ITV information. JDLM is the Logistics Common Operating Picture (LCOP) that was used by Commander, Joint Task Force (CJTF)-7 (now Multi-National Corps-Iraq) and Theater Support Command (TSC). Another I MEF innovation to disseminate ITV information, the SMU extracted last known shipment locations from the ITV server to create SASSY AS1 (shipping status) transactions that posted on supported units Due And Status File (DASF) which is part of the Marine Corps’ standard supply system.

RFID technology provided unprecedented levels of In-Transit Visibility (ITV) over the movement of supplies to Marine Forces deployed

for Operation Iraqi Freedom II and has applicability to both deployment of units and movement of sustainment. The visibility of supplies on the shelf and in-transit dispelled fears and generated confidence in the supply chain. The ability to make decisions, prioritize and redirect cargo based on accurate information widely available from Logistics Common Operating Picture (LCOP) resulted in greatly improved supply support less than a year after the humbling experience of OIF I.

ORDER MANAGEMENT

To overcome the order management crisis and the 40% error rates encountered during OIF I the MEF G-4 directed that class I systems (SASSY/MIMMS) would be used to execute supply and maintenance on the battlefield in order to monitor readiness through Marine Corps Logistics Command (LogCom) MERIT program. To enable the units to effectively use the standard systems the SMU replicated the garrison environment by establishing a File Transfer Protocol (FTP) site for units to submit their supply and maintenance transactions and download their subsequent files and reports. The integration of the MISCO into SMU Operations provided synergy and collaboration between the Supply/Maintenance system managers and simplified the process for supported units. The site was implemented in garrison immediately following OIF I that gave units familiarity with the new process – The same FTP site was then used in the deployed environment.

LogCom took on the responsibility to manage SASSY/MIMMS in the deployed domain thereby reducing the burden on deployed personnel, allowing the SMU to focus on specific unit requirements. This became extremely beneficial as the SMU average 36,000 demands per month (1200 demands per days, 7 days a week). That is twice the garrison demand average and the SMU was manned at 50% of its garrison T/O. The consumable inventory exceeded 21,300 line items and was valued in excess of $91M – larger than all other SMU's combined. The deployed process was also "enhanced" in order to take advantage of supplies stocked by the Army's General Support Supply Activity in Kuwait. Coordination directed by CENTCOM J-4 between LogCom, SMU, Army Material Command and the Theater Support Command resulted in a direct automated interface between the Marine Corps SASSY System and the Army's SARSS. As a result approximately 15% of Marine Corps requisitions that would have passed back to CONUS were filled from theater stocks. The interface between Supply Systems was unprecedented.

CRITICAL ASSET AVAILABILITY

When push comes to shove the key to readiness is the availability of Secondary Reparable repair parts. The responsive flexibility to plug and play components allows our forces to maintain their ability to shoot, move, and communicate. A thorough review of SecRep requirements from OIF I revealed that 88% of all SecRep requirements were forecasted and brought to the fight; however, the increased demand quantity, the dispersion of assets on the battlefield combined with the lack of visibility of those assets prevented numerous requirements from being filled in timely manner. Furthermore, SecRep carcasses could not be repaired fast enough to replenish stockage levels.

To overcome these problems in the future and subsequently during OIF II the Reparable Management Company (RMC) was established by combining the 4th Echelon repair capabilities of Electronics Maintenance Company (ElMaCo), General Support Maintenance (GSM) Company, and Ordnance Maintenance Company of 1st Maintenance Battalion with the Reparable Issue Point (RIP) of 1st Supply Battalion. The RMC was established operationally under the SMU creating great synergy between the Supply and Maintenance experts. The RMC's mission was to ensure SecReps were available to the warfighter when they needed them through whatever means necessary – inventory management to buy additional assets, maintenance capability to repair carcasses, or outsourcing either through the Army or Commercial Logistics providers. The RMC also hosted Contracted Logistics Support (CLS) Field Service Reps (FSRs), Warranty Coordinators, and representatives from LogCom that had a direct link to Centralized SecRep Management at LogCom and could provide rapid Corps wide redistributions and greater access to wholesale resources. This gave the RMC great flexibility. The primary SecRep Issue Point and maintenance activity was established at Taqqudum Air Base while secondary issue points were pushed closer to the supported units at Fallujah and Al Asad and managed by the Direct Support CSS Battalions at those locations, CSSB-1 and CSSB-7 respectively.

To counter the carcass retrograde problem the CSSBs placed SecRep carcasses on CSSG-15 convoys that delivered daily supplies. Furthermore, in a cooperative effort with NAVICP the RMC engaged the Advanced Traceability and Control (ATAC) logistics group to capitalize on the rapid and cost-effective transportation solutions the Navy already had in place. A Technical Assistance for Reparables Processing (TARP) representative was brought on board to train the users, as well as setting up and overseeing the mobile processing sites in Iraq and Afghanistan. The inherent flexibility of the systems and the responsiveness of the developers meant that new requirements were rapidly accommodated allowing an innovative repair and return engine support plan

to be put in place between Al Asad, Iraq and Sigonella, Italy; and the first integration of ground Marine retrograde into the Naval supply system, at Al Taqaddum, Iraq. The result has been a supply chain that is lean, fast, and far more reliable than in the past, with items being processed on-site, shipped, and delivered around the world in a matter of days. The average retrograde time from the RMC in Taqqudum, Iraq to LogCom in Albany, Georgia was 4.8 days.

Through innovation, reorganization, and the integration of existing COTS hardware/software the SMU, in concert with numerous commercial and Service experts, was able to quickly implement effective supply chain solutions necessary to overcome previous gaps in their previous supply and distribution process. There is still a lot of work to be done but the foundation for process improvement and change has been firmly established. Equipment readiness rates and inventory fill rates in a deployed environment that meet or exceed garrison standards have been accomplished and must continue to improve.

SECTION 1: General Information and Project Complexity

1.1 Name of the submitting organization (corporation, service, etc).

Combat Service Support Group–15 (CSSG-15)

1.2 Responding organizational unit (site, function, etc).

Supply Management Unit (SMU), Camp Pendleton, California and Camp Al Taqqadum, Iraq.

1.3 Brief mission description of the overall business objectives, product lines, and mission of the organization.

1.3.1 PROMULGATION STATEMENT. This mission statement prescribes the organizational structure, manpower, and equipment requirements for Combat Service Support Group 15 (CSSG-15), FSSG to accomplish its wartime mission.

1.3.2 ORGANIZATION

Supply Battalion
Maintenance Battalion
Medical Battalion
Combat Service Support Company - 133
Combat Service Support Company - 134

1.3.3 MISSION AND TASKS

a. MISSION. Combat Service Support Group 15 provides general supply, distribution, maintenance and Level II health services support to I MEF and direct support combat service support to 3rd MAW airbases in order to sustain operations beyond their organic capability.

b. TASKS

(1) Plan, coordinate and conduct combat service support operations in support of I MEF, across the spectrum of war in any environment.

(2) Plan and coordinate the deployment and employment of the CSSG-15 and its subordinate battalions and companies, including any attached units.

(3) Plan, coordinate and direct unit training to prepare subordinate battalions for tactical deployments and combat operations.

(4) Plan, coordinate and direct the sustainment of the subordinate battalions, including attached units.

(5) Provide communications and communications electronic maintenance support for subordinate units.

(6) Manage intermediate maintenance and supply budgets for I MEF.

1.3.4 CONCEPT OF ORGANIZATION. CSSG-15 consists of a headquarters company, three functional logistics battalions, and two direct support combat service support companies. The logistics battalions are the basic tactical unit with which the Group accomplishes its mission. The combat service support companies are the basic tactical unit with which the regiment accomplishes its direct support mission to the MAW. With attachments and augmentation, the CSSG can support the general supply, distribution, maintenance and health services support requirements of I MEF. Command and staff functions for the regiment are exercised through a command group that consists of the command and executive staff. The staff is capable of integrating the efforts of attached units with those of the supported units. In support of MAGTF operations, the regiment will provide supply, maintenance and Level II health services capability to the DS combat service support elements.

1.3.5 Supply Management Unit (SMU)

Mission Statement:

To provide general supply support, to include supply management and control, to sustain the operations of I Marine Expeditionary Force (I MEF).

Tasks:

1. Provide supply support management and control for the MEF to include the following stock control functions:

   (a) Technical management data research, supported unit services, and assistance to the MEF.
   (b) Management of secondary reparable items through the Reparable Issue Point (RIP).
   (c) Management of special Training Allowance Pool (TAP) items and Initial Issue Provisioning (IIP) assets.
   (d) Submission of required supply status management reports to higher headquarters.
   (e) Interface with financial and maintenance management systems.

(f) Requisitions and direct asset management for MEF war reserves.

2. Provide supply support to the intermediate maintenance activities of Combat Service Support Battalions/Companies.

3. Provide repair capability and/or repair contract management for secondary reparables managed at the RIP.

4. Provide technical control over the mechanized supply support system.

5. Provide technical control over the mechanized maintenance information system.

6. Provide commercial item support procurement for items decentralized by the item manager.

7. Provide accounting and maintain usage history for class II, III (P), IV and IX supplies, IIP, assets and authorized levels of war reserves.

8. Provide warehousing, storage, care-in-storage, and issue support for General Accounting and RIP stocks.

9. Provide Contingency Contracting and cross-servicing functional support for deployed units.

10. Provide continuous sustained supply support to deployed Combat Service Support Elements (CSSEs).

11. Provide mechanized warehousing capability and visibility for deployed CSSEs.

12. Provide supply expediter and an emergency supply operations center capability to elements of the MEF.

13. Provide accompanying supply deployment blocks for CSSEs deploying in support of a MAGTF.

14. Provide technical interface with the deployed elements for the transmission and processing of supply status and mechanized records.

15. Provide accounting and distribution for classes of supply, which are force-fed to the MEF.

16. Provide packing, preservations, and packaging (PP&P) capability for the MEF and deploying MAGTFs.

17. Provide packaging, manifesting, distribution, and in transit visibility of supplies from the warehousing facility to the General Support CSSE, Direct Support CSSE, or supported unit as appropriate.

18. Provide subsistence support to the MEF to include operation of class I subsistence dumps, storage, issue and accounting for subsistence items.

Operational Capabilities of the Task Organization:

1. Capable of providing general supply support, to include supply management, control, architecture, and visibility to sustain the operations of I Marine Expeditionary Force (I MEF) in both garrison and deployed environment simultaneously with limited augmentation from Reserve forces.

2. Capable of performing the general supply support role of the MLC.

3. Capable of task organizing into general or direct supply support units necessary to support operations at levels lower than the MEF.

1.4 Award category of the submission (operations, academic, technology).

Supply Chain Operational Excellence Award

1.5 Brief description of the supply chain and the processes the submission spans (Plan, Source, Make, Deliver, Return, etc). (15 points)

The overall end state or Plan was to provide sustained and uninterrupted, supply support to Marine Corps Forces during operational combat deployments and in preparation for combat operations. Expanding and enhancing the war-fighting capabilities of the Marine Corps Forces by providing accurate, identifiable, and quantifiable support to include In-Transit Visibility (ITV) to the last tactical mile. This support was accomplished through successful implementation and integration of Supply Support, Distribution, In-Transit Visibility, and Improved Order Management, integration of intermediate maintenance activities, and other proven Service initiatives.

We implemented several new pieces of hardware and software. This included the Joint Deployment Logistics Model (JDLM), the Automated Manifesting System – Tactical (AMS-TAC), Early Entry Deployment Support Kits, RFID tags, and STRATIS.

We started providing the last known location of supplies in the distribution chain to the units on the same reports that read everyday to manage their accounts. We planned stock levels based upon OST and ORT. We setup an almost entirely wireless Warehouse Management System which spanned a square mile. This wireless network experienced no significant downtime in comparison to garrison network problems.

Through effective order management, transportation management, and distribution management we were able to respond to our customers needs more rapidly. We were able to anticipate requirements before they became requirements and we were able to do this with little effort.

1.5.1 Supply Support

Consumable Supplies. Consumable repair parts were shipped into the theater from a variety of sources. The Class IX parts flown in as accompanying supplies supported the forces in theater during arrival and assembly operations. Initially, these parts fell under the control of the Landing Force Shore Party (LFSP) and supported the movement of forces into the final Area of Responsibility (AOR). Upon receipt of follow on echelons, SMU FWD and CSSB-7 provided support to their respective Area of Operation (AO).

Secondary Reparable Repair Parts (SecReps). SecReps were maintained at CSSG-15 (SMU FWD), CSSB-1, and CSSB-7. All unserviceable SecReps were turned into the CSS/SMU to affect an exchange. If the unserviceable SECREPs are not available at the time of the exchange, the unserviceable assets, known as carcasses, were recovered for potential repair or new ones were placed on order. Issue Points coordinated with maintenance personnel to expeditiously satisfy all unit demands.

Registration of Requirements. There was a single portal for courier submissions. The primary means the units used to transmit their Supported Activities Supply System (SASSY) and Marine Corps Integrated Maintenance Management System (MIMMS) couriers was via an File Transfer Protocol (FTP) server that was hosted by Black Hole Enterprise.

Requisition Management. Currently, the supply system that is employed by the units within I Marine Expeditionary Force is the Asset Tracking for Logistics and Supply System (ATLASS I). Supported units keypunched their requisitions and other supply related transactions using their deployed Activity Address Code (AAC) via ATLASS I, which are then

submitted into the SASSY update cycle. Order management is the responsibility of the originating unit. It is imperative that the originating unit manages their daily "BREAKREPORTS" ensuring each error and exception are reviewed, corrected, and re-inducted as required. These BREAKREPORTS are the unit's daily SASSY files (edit error listing, daily history, exceptions reports, MVGL, etc) that are compressed into a single file for the unit to download. These BREAKREPORTS are available on the FTP site.

Common Item Support (CIS). CIS was the responsibility of the Army. All demands that are CIS were passed to the Army, if the stocks were available. CIS items that have no available stocks will be passed to the CONUS Source of Supply (SOS). Additional programming was completed with our legacy system in order to allow us to pass requisitions to the Army located in Arifjan.

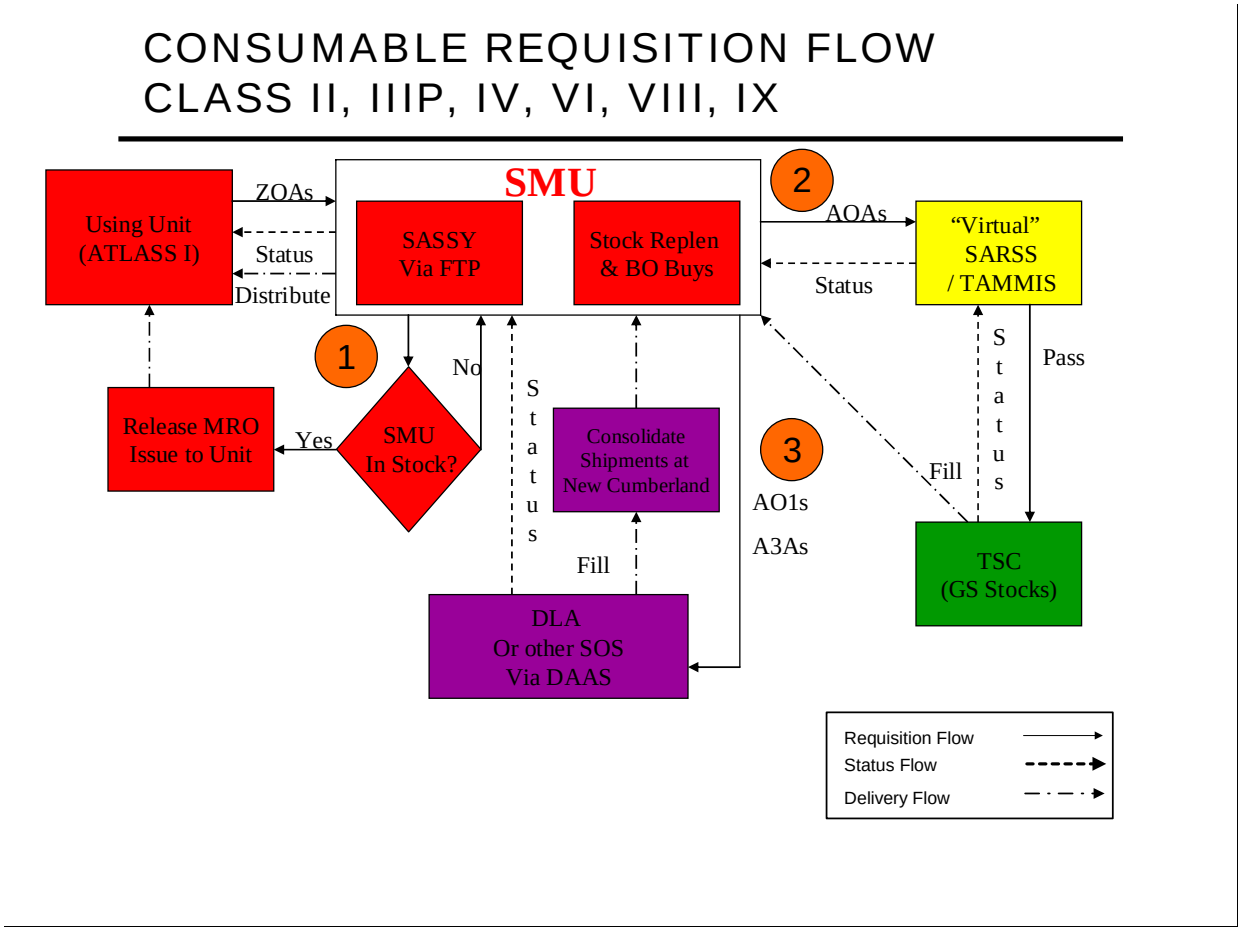

Figure 2: Consumable requisition flow
Class II, IIIP, IV, VI, VIII, IX

1.5.2 Distribution

Strategic Distribution. The Marine Corps coordinated with Defense Distribution Center (DDC) New Cumberland to consolidate cargo and build pure Marine Corps pallets in accordance with CENTCOM directive. The pallets were split by region; East, West, and SMU. Shipments sent via surface will arrive in Kuwait and transshipped by the Army to the CDC. Then the FSSG TMO personnel tied into the operational distribution pipeline at the COSCOM. All shipments from DLA were tagged with the SAVI Radio Frequency identification (RFID). Pallets and containers that arrive at the TDC or CDC without an RF tag were tagged by the SMU DLC.

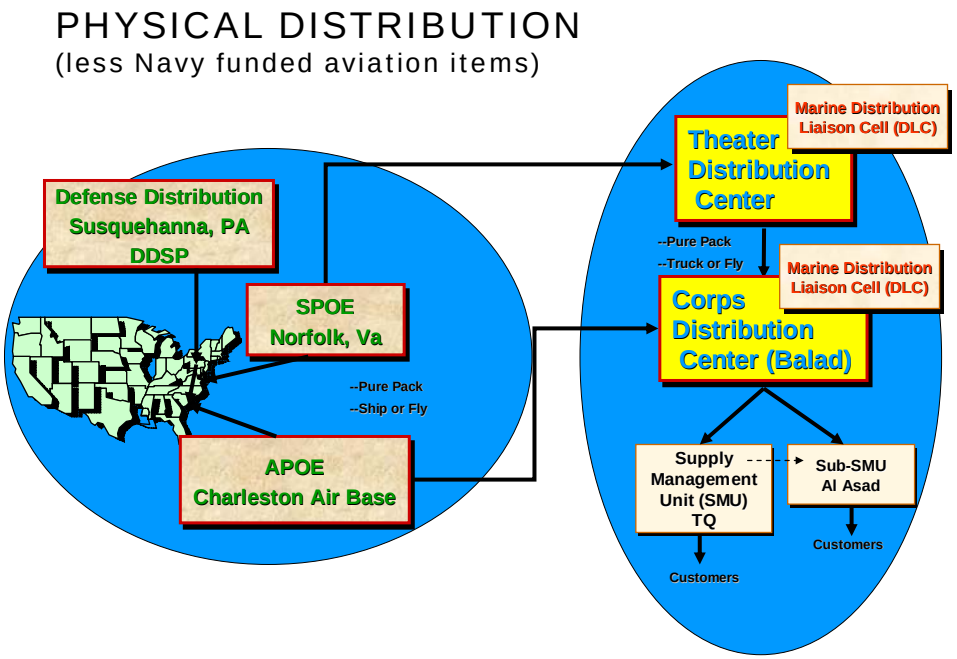

Figure 3: Physical Distribution

Operational Distribution. The FSSG G-3 established a Movement Control Center that acted as the distribution capacity manager for the MEF. The SMU's Shipping and Receiving Platoon established distribution teams at the strategic entry ports (APOD/SPOD), the TDC and CDC for expeditious movement of cargo to the SMU forward and to the ultimate consignees. The distribution cell broke down the unit's shipments by their AAC at the designated break bulk point in Iraq. The shipments were subsequently delivered to the unit at their designated camp. These shipments were tagged with the SAVI Radio Frequency identification (RFID).

Tactical Distribution. The SMU FWD establish Distribution Liaison Cells (DLC) at the strategic entry ports (APOD/SPOD), the Theater Distribution Center (TDC), the Corps Distribution Center (CDC), and major nodes or camps to ensure the expeditious movement of cargo to the SMU forward and to the ultimate consignees.

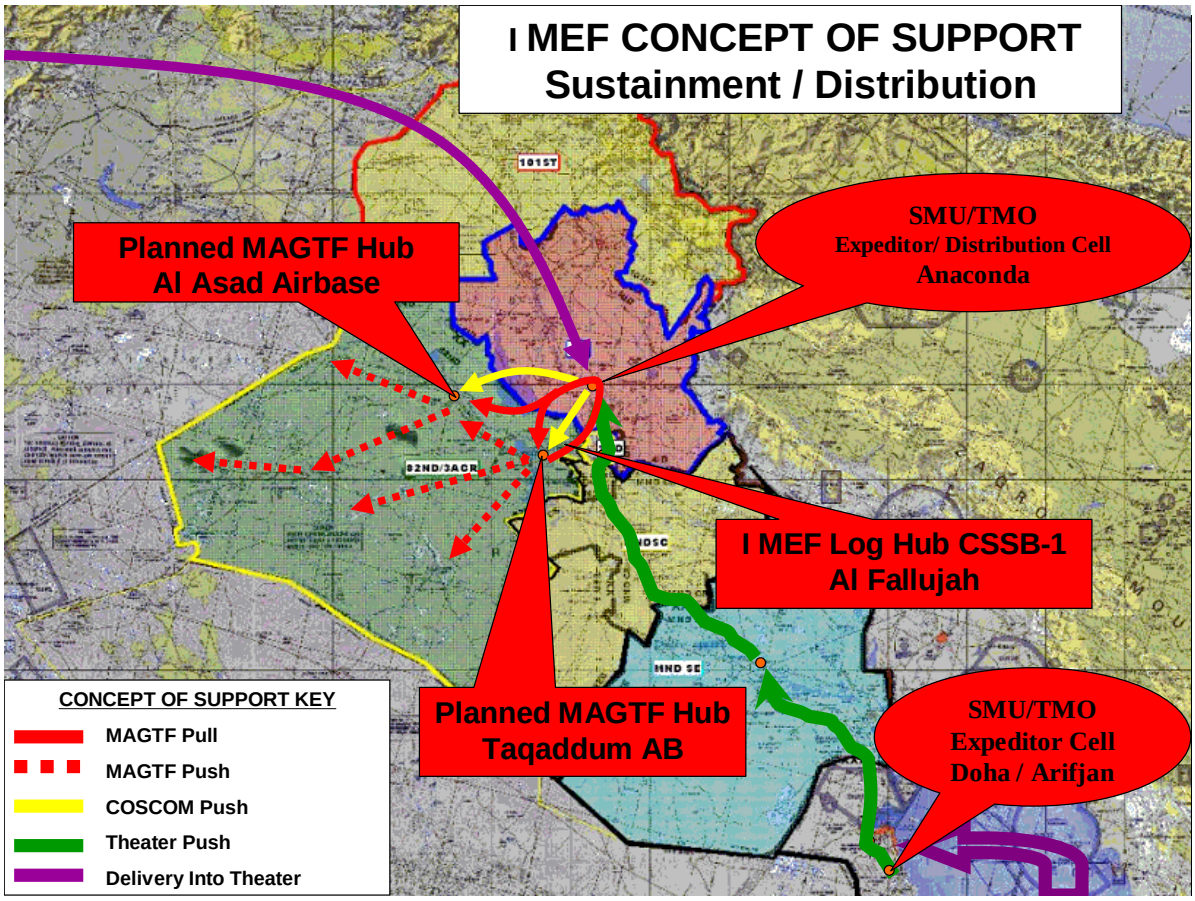

Figure 4: Concept of Sustainment and Distribution Support

1.5.3 In-Transit Visibility

Currently, the Marine Corps In-Transit Visibility system is Automated Manifesting System - Tactical (AMS-TAC). This system is very limited and to date has not been properly introduced to the community that primarily uses it. Data collected in AMS-TAC is isolated to the local PC. The SMU implemented RFID, initially tagging all accompanying supplies embarked from Camp Pendleton. In theater the SMU and CSSB-7 created RF tags using AMS-TAC with manifest data imported from Storage Retrieval Automated Tracking Integrated System (STRATIS). The RF tags were affixed to unit pallets and SecReps. Expeditionary Interrogators (EEDSKs) were setup at key nodes and Forward operating Base (FOB)/ Forward Area Rearming and Refueling Point (FARP) to track shipments along the distribution pipeline. Tag information will be transmitted to the ITV server as convoys (tags) pass the interrogators. The Joint Deployment Logistics Module (JDLM) will be used to query data from the ITV server, GTN, MTS, and VISTAR in order to a graphical depiction of the supply chain. The SMU extracted the data from the ITV server to create AS1 transactions in SASSY that will post to the unit's Due and Status File (DASF). The AS1 transactions will identify the key distribution nodes in the distribution pipeline.

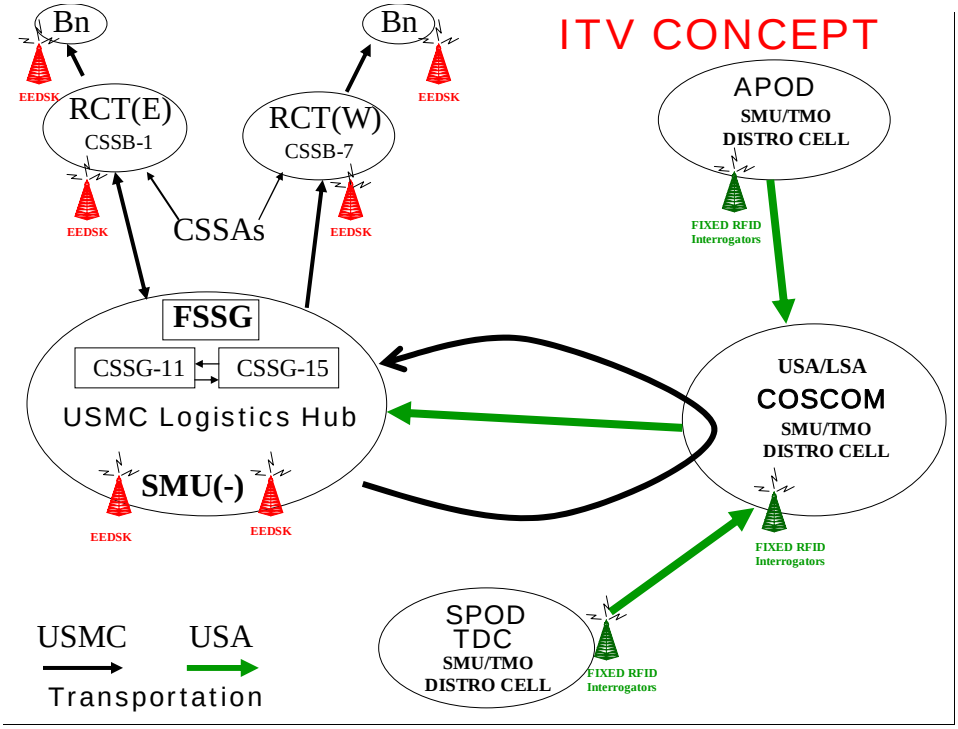

Figure 5: ITV Concept

1.5.4 Last Tactical Mile (LTM)/Warehouse to Warfighter (W2W)

Designed to give the warfighters and maintainers near real time visibility of supply status leaving the SMU, down to the individual document level. The data is captured at each delivery point and posted to independent FTP server. This system gives you visibility and tracking information for where supplies were delivered at a location, who received it, all with an actual grid location.

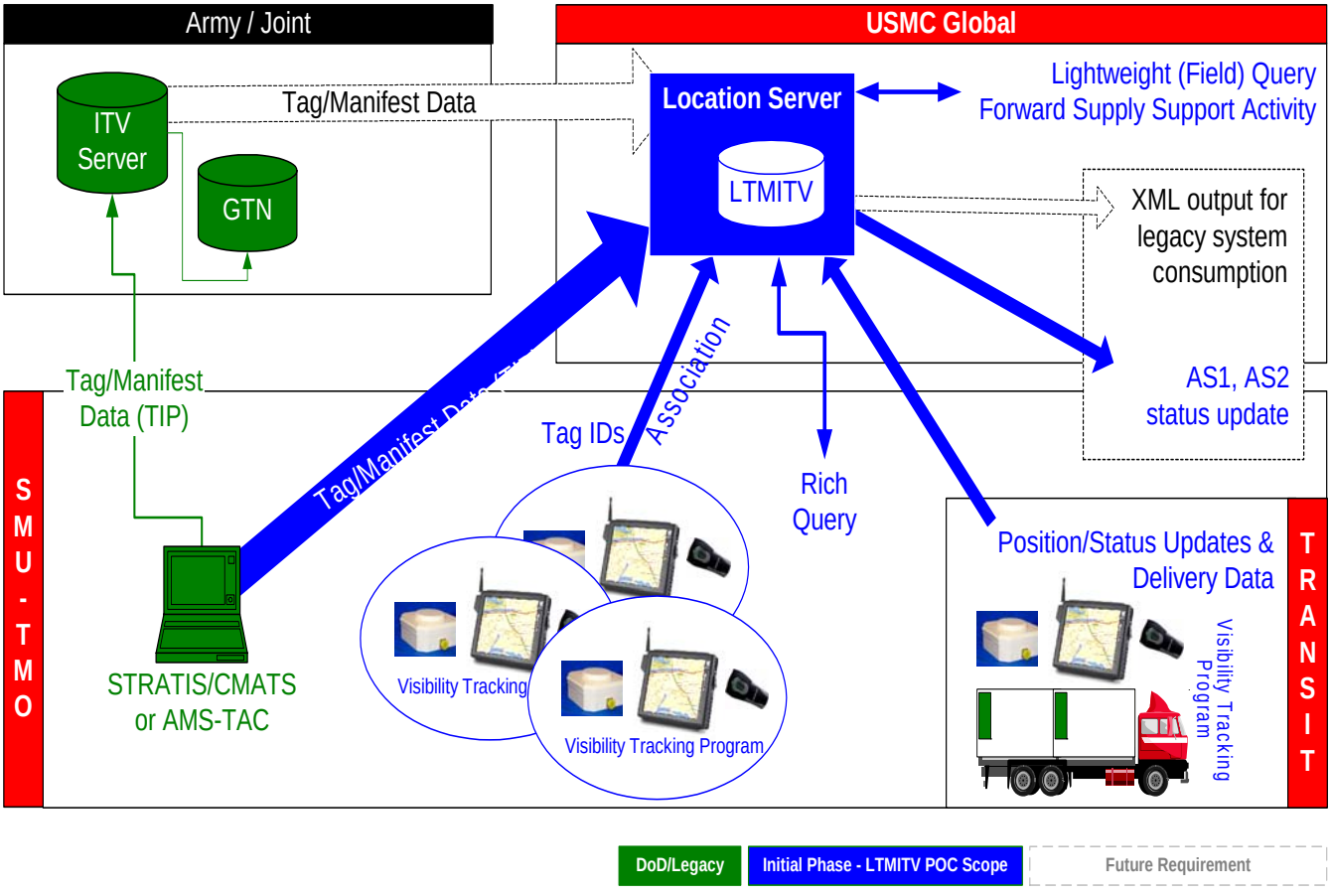

Figure 6: Last Tactical Mile prototype

FEATURES OF W2W TRACKING

- Correlates manifest data and Tag IDs with a field kit that is placed within a delivery/convoy vehicle.

- Provides a means to query location and status of materiel pushed from SMU/TMO forward via a web interface.

- Relies on satellite transceiver and GPS to communicate data to Location Server.

  –Designed to use minimal bandwidth
  –Provides robust seamless satellite data communications to ensure data that is sent up is not ‘lost in the ether’
  –All communications between Field Kit and Satellite are encrypted (same method as Army’s MTS)

- Does not depend on a localized server

• Tablet PC does not use mapping software nor does it provide position data to the user – it is purely an input/filter for data up to the Location Server.

1.6 Names of the supply chain partner organizations (external) involved in the project. (Includes the number of people involved from each partner organization and the functional category of each.)

External Supply Chain Partner Organizations	Number of People	Functional Category
SYTEX	8	Research and Development Integration Systems
UNISYS	5	Hardware Implementation
TAPESTRY SOLUTIONS	6	Software Provider
SAVI	5	Hardware
SRA	3	Hardware
PINKERTON	4	Software Provider Implementation Integration
SYMBOL	4	Hardware
Marine Corps Logistics Base	5	Systems Implementation
Black Hole Enterprise	2	Systems

1.7 Names of the functional organizations (internal) involved in the project. (Includes the number of people involved from each functional organization and the functional category of each.)

Internal Supply Chain Partner Organizations	Number of People (Key)	Functional Category
Combat Service Support Group - 15	4	Headquarters Staff
Supply Management Unit	15	Program Development Program Management Field Operations Systems Analysis
Transportation Management Office	3	Field Operations
Preservation, Packaging, & Packing	3	Field Operations
Reparable Management Company	4	Field Operations
General Support Company	1	Field Operations
Alpha Company	1	Field Operations
Combat Service Support Battalion - 1	2	Field Operations
Combat Service Support Battalion - 7	4	Program Development Program Management Field Operations

1.8 Points of Contact for each supply chain partner (name, mailing address, commercial telephone number, DSN, and e-mail address).

NAME	MAILING ADDRESS	COMM TELEPHONE NUMBER	DSN TELEPHONE NUMBER	E-MAIL
COL MICHAEL KAMPSEN	1ST SUP BN, 1FSSG, BOX 555627 CAMP PENDLETON, CA 92055	760-725-3976	365-3976	KampsenME@1fssg.usmc.mil
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Section 2: Implementation

2.1 Explain why the supply chain initiative was undertaken and how it was selected.

Supply support during OIF terrible at best. The distribution of supplies was the single greatest failure of the supply chain during OEF/OIF. During the execution of OIF I, it was virtually impossible to keep supplies moving along the supply chain. This problem was particularly evident for all classes except for Classes I, III, and V. The primary failures of the distribution chain during execution was lack of apportioned lift, lack of documentation, lack of visibility of locations of supported units, and lack of knowledge by supported units on who their supporting CSS element was. Advertised fill rates, inventory availability, requisitioning objective correlation, and other statistics related to the performance of the supply blocks are rendered completely meaningless when compared to the end result of a supported unit receiving the part they had asked for. The failure of the distribution chain can be linked to the following points:

Documentation Capability: The majority of supplies in the system throughout the execution of major combat operations did not have adequate documentation. Approximately 50% of all items received at the logistics support area were absorbed into the inventory of the supporting CSS because there was no way to determine the final destination.

Lift apportionment: The prioritization of lift was problematic. LOGSTAT Reports, SITREPS, and Intentions messages were almost constantly in conflict with one another. Staff sections from MSCs identified shortages of Class IX as their primary concern, but in LOGSTAT reports, Class IX was reported as "Green."

In-Transit Visibility: This capability did not exist. The AMS system used by TMO could have been used in this capacity to determine locations of items in transit. This capability was neither developed nor tested prior to deployment and was never successfully created during the deployment.

Stopping supplies at distribution nodes: The concept of the distribution node was a fallacy. Once equipment was dropped at an LSA or CSSA, it tended to stay there for a minimum of 10 days. In certain cases, items remained at a node throughout the execution of ground combat operations. Gear that stopped lost its momentum.

Visibility of Supported Units: Throughout execution, it was virtually impossible for the supporting Supply Company to "see" where the majority of supported units were located. This information, or rather lack thereof, in turn, led to a decision on where to ship an item once it hit a distribution node. Without this visibility, vast amounts of supplies were sent to the incorrect node. When combined with the lack of documentation and lift apportionment, poor location identification was the nail in the coffin of distribution.

Awareness of supporting Units: Many supported units did not have a clear concept on where their support was supposed to originate. The concept was published in the FSSG Frag Orders but without specific information on who was supporting whom down to the specific unit level. When support units "echeloned" forward, different relationships were established but not announced to the using units, who had moved to a new location.

These lessons learned from OIF I forced us to find better ways to do business. It was determined that ITV and RFID technology would assist us in better serving our customers and recover the significant loss of Marine Corps property and government money. It was our belief that the cost associated with the development process would easily be recouped through the retrieval of loss shipments and the improved tracking visibility of sustainment stocks and equipment resulting from our products and improved procedures. The ITV initiative enables the War fighter to track all shipments from CONUS to Iraq, all shipments within CONUS, and all shipments across the battlefield. The use of RFID and ITV has significantly reduced the loss of mission critical supplies, while forming the basis to identify potential back-logs and transshipments through the implementation of RFID basis METRICS.

In an effort to gain better visibility of assets in a deployed environment, the Department of Defense mandated the use of Radio Frequency Identification (RFID) to track all cargo movement. When confronted with this mandate, the SMU accepted the challenge and immediately began aggressively analyzing the available commercial software and hardware used by the Army. It was quickly realized that the then current use of RFID fell greatly short of the tracking requirements envisioned by the I MEF SMU supply chain experts. The SMU, utilizing lessons learned from Operation Iraqi Freedom, set the end state of this initiative as the Marine Corps having the ability to track all content level shipments with down to the "Last Tactical Mile." The implementation of an ITV tool would:

Reduce excessive requisitions.
Improves Commander's ability to track critical items.
Optimize asset posture and accountability.
Allow for the recoverability of misdirected shipments.

2.2 Indicate the duration of the project. Note if the project was a pilot that is being rolled out. Note if project is ongoing or still in development.

The SMU's ITV project has been two fold.

1) The implementation of the revolutionary and innovative use of Radio Frequency Identification (RFID) from the Marine Corps Retail Supply Level to Consumer Customer Level (Battalion/Squadron) is ongoing. We have completed the necessary processes to use RFID in daily operations in Garrison and in the Iraq Theater of operation. This process is currently being used daily. This initiative has been in place for a period of 10 months.

2) The implementation of the Warehouse to Warfighter program (W2W) is consider a pilot project and has been under development for the last 18 months. Its development is continuing and has been already implemented at Camp Pendleton. Currently, the W2W is being implemented in Iraq with modifications to suit the tactical environment.

2.3 Describe, in detail, the process used to complete the initiative.

The SMU began ITV process development by critically analyzing the flow of supplies through the transportation pipeline from CONUS to Iraq, while brainstorming on what technological assets would form Global In-transit Visibility with content level detail. We determined greater control over supplies could be achieved through modifications of our legacy supply system, coordination with Army units for common item

support, coordination of pure pallets through DLA, and asset tracking capabilities.

Upon completing the analytical review of the transportation process, the SMU outlined architecture for the implementation of RFID. This architecture was developed around a concept whereby sustainment supplies would be packaged and shipped according the receiving unit's Activity Address Code (AAC). Each shipment would in turn be tagged with an RFID device allowing both the shipper and consignee visibility of the contents and location of their given shipments. This process has become known as "Pure Palleting."

The SMU, Process Reform Center (PRC), immediately realized successful completion of their vision must first begin at the Warehousing Facility. The shipping content level data resided in the SMU's inventory management system Storage Retrieval Automated Tracking Integrated System (STRATIS) and would have to be extracted and placed on the RFID device in the same format as required by multiple systems reading the tag information (ie. ARMY PM_ITV and the Automative Manifesting System (AMS). The initial use of AMS-TAC to manually take manifested data from STRATIS and burn it to RFID tags proved to be grueling and labor intensive procedure causing delays in processing and even hindering the ability to support the costumer in a timely manner. SMU software engineering team, innovatively over came this hurdle by developing an interface that directly pulled the required manifested STRATIS data and placed it into the proper *.TIP and *.TAV. As an added benefit the program incorporated a replacement manifest that listed the RFID number, container number and the receiving unit's AAC in a bar coded format. Additionally, in this one step process the ability to create DD 1149 was added streamlining all shipment considered other than local deliveries. This program that was developed and implemented was the AMS by-pass program.

The tag writing database program was deployed to allow the level six data (content level) to be relayed from the RFID tag to the ARMY In Transit Visibility (ITV) site. From the ITV Server, the SMU formed the basis of tracking shipments via multiple websites. Having this ability at the SMU was just the beginning as the SMU began to spider out and identify critical nodes within the transportation pipeline. At these nodes, the SMU identified critical areas where supplies must be routed in order for RFID Tag data to be captured. Within CONUS, this was not a problem. However, very little architecture existed within Iraq, which was a critical vulnerability for the SMU who was set to redeploy back to Iraq for Operation Iraqi Freedom II.

While in preparation for OIF II, the SMU began to target critical areas within Kuwait and Iraq, which would serve as visibility points for supplies flowing into theater. With an Interrogator in place to capture inbound and outbound RFID Tagged Shipments, coupled by a Distribution

Liaison Cell at each critical node, the SMU aggressively formed the Concept of Supply Support with the nucleus formed around In-transit Visibility. The SMU formed this nucleus by placing an RFID Tag on each container that was to be shipped from CONUS to Iraq. This was absolutely critical as these supplies would later not only form the Supply Management Unit Forward, but also successfully support two major combat operations in Iraq.

After the SMU obtained numerous demos to test different tagging capabilities, the SMU proposed using the RFID infrastructure currently employed by the Army and TRANSCOM, which was SAVI tags and interrogators, to provide nodal visibility of our shipments. The SMU acquired tags from Blount Island Command and the Defense Logistics Agency. Persistent coordination with SYSCOM brought AMS-TAC on line with training in December, just in time to write over RFID tags for over 400 containers filled with sustainment supplies. The SMU coordinated with HQMC to obtain 12 expeditionary interrogators known as Early Entry Deployment Support Kits (EEDSK). The SMU installed interrogators on Camp Pendleton at the Main (Front) Gate and Fallbrook Gate (Rear) to track shipments as they left base. The SMU also had interrogators placed at March Air Base and San Diego Port to track containers as they arrived at those locations. The SMU also had an interrogator placed at 29 Palms to track SMU shipments and practice the newly developed process prior to deploying. These efforts enabled the tracking of sustainment containers from Camp Pendleton all the way to Kuwait and into Iraq.

Upon our arrival into Iraq we immediately began to setup the EEDSKs in key location that would support our flow of supplies. Coordinating their setup on the battlefield proved to be challenging in regards to transportation and coordination with responsible individuals the desired locations. With the EEDSKs we were able to track supplies as far as the Syrian border through nodal visibility.

Warehouse to Warfighter program (W2W) was designed to give the warfighters and maintainers near real time visibility of supply status leaving the SMU, down to the individual document level. W2W gives near real-time visibility (not reliant on nodal interrogators) down to an individual document number while en-route from SMU. The data is captured at each delivery point. The W2W give you visibility and tracking for was dropped at a location, who received it and the grid at which it was dropped. This is truly revolutionary never before has the Marine Corps had this type of capability to track shipments in a tactical environment. Once the deliveries are made the system sends back to the supply automated system an AS1 shipment status for logistic type hub drops and AS2 once a unit has signed for their delivery.

2.4 Identify significant challenges encountered, the process for resolution, and the solutions. Identify any best practices employed or developed.

The single most significant challenge was the compressed timeline due to the deployment order that came out eight months before our projected implementation time. By engaging HQMC and direct liaison with commercial vendors for commercial-off-the-shelf products the procurement cycle was expedited. Extended work hours for product integration and training gave us a corps capability that would mature during implementation. Much of the hardware arrived after equipment had already been shipped into theater so hard charging Marines were carrying equipment as part of their personal load.

The implementation of this project in an austere environment under combat conditions was another significant challenge. Again, diligence, patience, and extended work hours saved the day. The value of the ITV tools was worth the effort.

The capability the SMU developed to transfer sustainment data to an RFID Tags and then to the ITV Server quickly transformed into a requirement to track Principal End Items, also known as Unit Move. In order to accomplish this task, the SMU software engineering team again modified the AMS-TAC by-pass program allowing for the in take of MDSS-II data meeting the I MEF commanders mandate. Another problem encountered was with the data formulation of the *.TIP file required for the ITV server. UNISYS programmer used a HEX SUM calculation at the end of each line of data to ensure correct data reconstruction occurred during satellite transmission. Through the careful analyzing of data, the programmers at the SMU were able to crack the code and incorporated the upload into the one step process. Through the diligent efforts of the SMU programming team a simplistic process was finalized allowing for the accurate tracking of sustainment and unit move assists. This program, AMS-TAC by pass, has saved a great deal of man-hours and minimizing loss of critical stock.

Iridium and Iridium GPS were originally a problem. The older EEDSK's we received came with the Minisats and we got them registered. The new EEDSK's came with the Iridium modems. Apparently were software or driver problems after they were flashed or upgrade them. These items were fielded and the necessary work to correct the Laptops to my knowledge did not and has not occurred. Upon our request, Roger Watson from Unisys helped us get the EEDSK up and running with the Iridium properly loaded to the laptops.

Above all else, our biggest hurdle was regaining the trust and confidence in the supply system. Initially, there were many disbelievers that needed proof that supplies could be tracked and cells could be responsive based on this proof.

Other issues, some as simple as naming conventions created problems. Words have meaning! This ITV project has been interchangeably named Last Tactical Mile and Warehouse to Warfighter. This was due largely to names and acronyms either already in use or over used by the public. Additionally, transactions used by our legacy supply system have had to be changed to compensate for it's deficiencies, programming changes had to be made to allow transaction to process correctly.

2.5 Indicate the metrics used to measure progress and success.

Container Recovery Rate. We were able to locate all lost or mis-routed Class IX sustainment containers that originated from Camp Pendleton, California. This accounted for an 11% recovery rate. One container alone accounted for an increased fill rate of 10%, taking Requisitional Objective (RO) based fills to the 80% range.

Order Receipt Time was used in order to measure performance with regards to tracking shipments from CONUS to Iraq. Over a 12 month period, Order Receipt Time decreased by 50%.

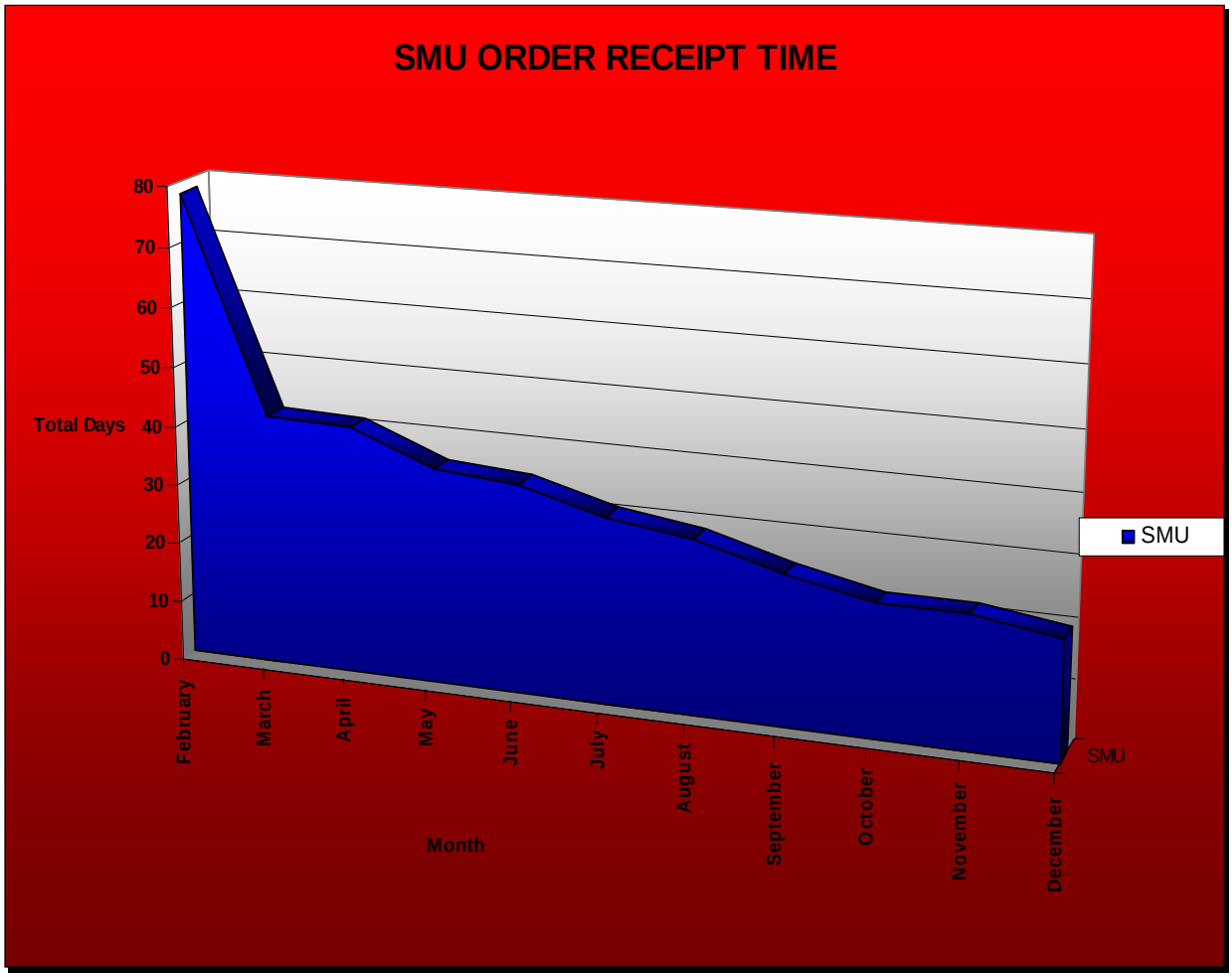


Figure 7: Order Receipt Time

Customer Wait Time was used in order to measure performance with regards to tracking shipments from the SMU to the Customer. Over a 12 month period, Customer Wait Time decreased by 50%.

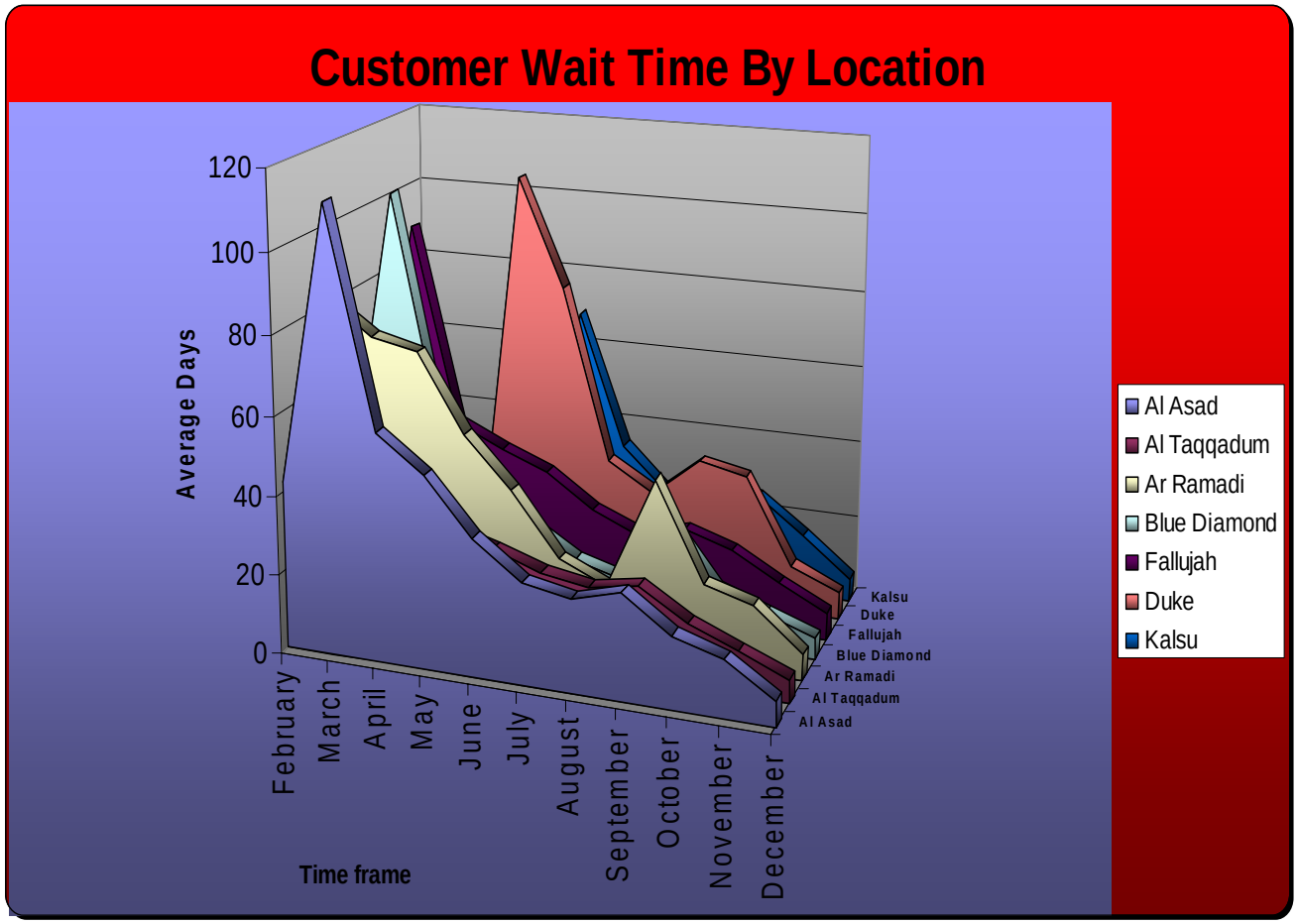
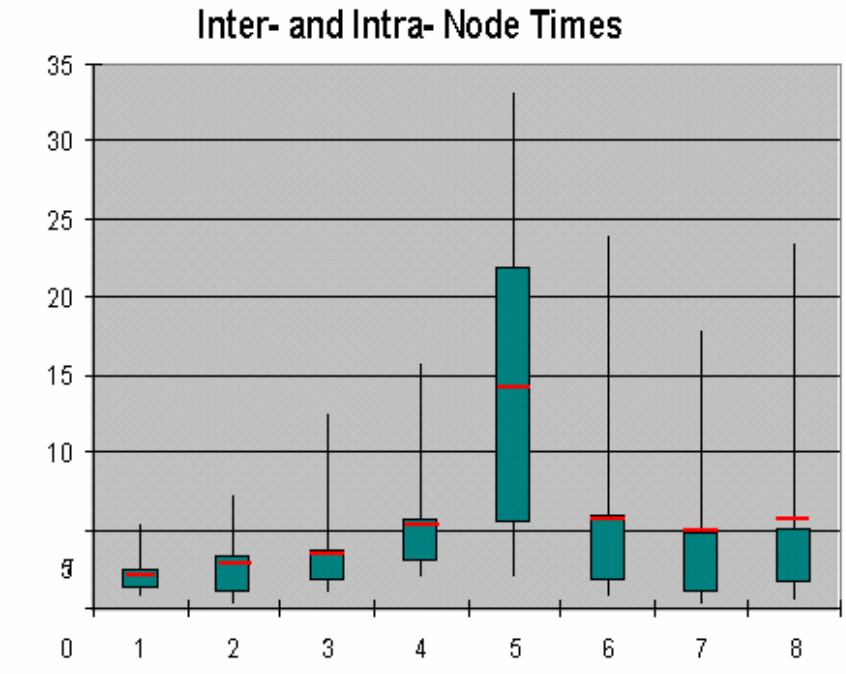


Figure 8: Customer Wait Time

The added visibility provided by this initiative provided flexibility for our stock control section, they could now buy stocks based upon Order Ship Time. The investment allowed us to fill twice as many demands in Iraq than we currently fill in Camp Pendleton with an equally high fill rate as well, for Fiscal Year 2003 Camp Pendleton ranged between 75-85%, it was now possible to maintain those numbers in a deployed environment.

We were better suited to influence convoy operations because we knew exactly where and what we wanted. We produced cargo plans daily that provided content level detail of the items awaiting transportation at each node. Figure 9, below, shows the times measured for a subset of inter- and intra-node legs in the supply chain. On the left you can see the description of the node or leg corresponding to the numbers at the bottom of the chart.

Each of these plots depicts the range of times seen for the shipments that have gone on these legs or through these nodes. The box indicates the middle 50% of all values. The top of the thin line is the 95 percentile and the bottom of the thin line is the 5-percentile. So, 90% of all time-values seen by shipments are within the range bounded by the ends of the thin line. Sample averages are indicated by the red lines. The lengthy time on CDC is due largely to the lapse in theater push during April (3 weeks with no convoys from CDC), and to noted inefficiencies in the Army processes there. CSSG-15 Distribution Liaison Cell Marines worked hard to track down items that were lost within the nodes, getting them through as quickly as possible.



1	New Cumberland
2	APOE
3	APOE Flightline to CDC
4	TDC
5	CDC
6	CDC to SMU
7	SMU to CSSB-7
8	SMU to CSSB-1

Figure 9: Inter and Intra Node Times

Tags lost during shipments were minimal. Based on a batch survey of 672 tags that pinged at Camp Taqqadum, 635 (94.5%) had previously pinged at CDC. Of those that pinged at the FSSG's base camp, 650 (96.7%) had previously pinged at Charleston. In total, 621 (92.4%) pinged at both Charleston and the CDC prior to arriving at the FSSG's base camp. It appears from this that there is less than a 5% loss rate at each node.

2.6 Document and quantify cost and performance benefits, including the projects return on investment and changes in the value of one or more of the SCOR Level 1 metrics (not all metrics must be captured or reported).

At SCOR Level 1 we developed basic strategic objectives such as delivery performance, order fulfillment performance, fill rate, order fulfillment lead time, perfect order fulfillment, supply-chain response time, production flexibility, total supply-chain management cost, value-added productivity, and days of supply to evaluate our success of our initiatives. Improvement can be seen in each of these areas in the graphs above; order receipt time greatly decreased, customer wait time decreased dramatically, supply-chain response time was immediate because data could now be collected to show bottle necks in specific locations and actions were taken to expedite the movement of the items that were slowed down, value-added productivity was evident by the pride the Marines displayed in their work and the confidence level the customers had in the system. We indeed had production flexibility because steps were taken to order items smarter based on the distribution pipeline. Total supply-chain management occurred because units didn't order and reorder the same thing because they saw it moving through the distribution chain.

2.7 Outline how the success of this effort supports the organizational objectives described in Section 1, Item 3.

In February 2004, the SMU's advance party arrived in Kuwait. Immediately, the advance party established interrogators at two critical nodes in Kuwait as well as establishing the Distribution Liaison Cells (DLC). The DLC was armed with the capability of both writing content level data to an RFID Tag and the capability of tracking RFID Tagged shipments. This was essential in later optimizing supply support as the DLC also facilitated In-theatre Common Item Supply Support from the Theater Distribution Center, which significantly reduced Customer Wait Time and Repair Cycle Time. Additionally, when five containers were misdirected during the offload in Kuwait, the SMU easily traced and recovered them, potentially saving over $2 million due to lost shipments.

Upon arrival into Iraq, the SMU established interrogators on Taqqadum Air Base, the primary Logistics Support Area for the 1st FSSG, Camps Fallujah, Blue Diamond, Ar Ramadi, and Al Qaim (at the Syrian boarder) to give units visibility on these primary bases. As an example of the importance of this capability, the SMU had a container with critical class IX in route to Taqqadum Air Base that got misdirected, but the RFID tag enabled the SMU to recover that container at Camp Fallujah. Finding that container with over 3,000 line items valued at just over $1 million resulted in an immediate 10% increase to fill rate.

With the RFID/ITV infrastructure set-in-place, the SMU enhanced this capability by developing a process to pull RFID data from the ITV server, identifying the last known location of unit shipments, which was used to create a new shipping status that was then passed to the units on their Due and Status File (DASF). This initiative provided the using units with visibility of their inbound requisitions, building confidence in the supply system and thereby reducing multiple duplicate requisitions, which was identified as a problem during OIF I.

The SMU coordinated with Tapestry Solutions to acquire the Joint Deployment Logistics Model (JDLM) to gain visibility of theater assets in inventory and in-transit. JDLM fuses available data providing near-real time transportation asset location, movement data and logistical situational awareness. This capability had never been available or used by the Marine Corps, but the SMU successfully integrated this technology to provide ITV and a common logistics operating picture with Corps and Theater Support Agencies.

The SMU became an expert in knowing/understanding the capabilities of JDLM and immediately realized the potential of enhancing combat service support to I MEF. The SMU obtained 30 JDLM systems and training for the SMU Marines as well as representatives from II MEF, III MEF and Hawaii to promote RFID/ITV on a unified front throughout the Marine Corps. The SMU obtained 50 VISTAR (Satellite Tracking Devices) and 60 Iridium Tracking Devices which were placed on CSSG-15 vehicles of Alpha Company, 2d TSB and General Support Company, BSSG-1 in order to track convoys and associated cargo within the theater. Using JDLM, the SMU was also able to track convoys inbound from COSCOM and the TSC. The proximity report feature of JDLM enabled the SMU to send and receive e-mail notification when convoys reached certain locations thereby giving units notice that a convoy was at a certain point and would be at there location at an approximate time. This enabled units to coordinate MHE and prepare to offload or direct the inbound convoy.

In conjunction with the In-transit Visibility/Radio Frequency Identification implementation, the SMU implemented the use of pure packed shipments. The SMU identified the deployed units by geographic location and type for the purpose of placing the customer’s cargo on one of three

pure packed Marine Corps pallets: 1) Using Units East, 2) Using Units West, and 3) SMU Accounts. This configuration allowed Defense Logistics Agency (DLA) and Air Mobility Command (AMC) to build pure service pallets in 72 hours or less, while enabling critical supplies to flow uninterrupted through the distribution pipeline. Pure pallets and ITV/RFID was essential in reducing Customer Wait Time by 50%, while reducing frustrated cargo at the Theater and Corps Distributions Centers. In addition, the SMU implemented the File Transfer Protocol site (FTP) as a capability, which would empower the units across the battlefield with the capability of retrieving critical data, such as In-transit Visibility Reports.

This has proven to be not only a force multiplier, but one of the most viable programs utilized saving the government countless dollars in the tracking and recovery of many shipments which would have been otherwise lost forever. The development of this program has continued to advance during the SMU's tenure in Iraq. It is now being utilized by the Medical Logistic community, Deployed Support Units, Repairable Issue Point (RIP), and the Initial Issue Point (IIP) as a standalone program for tagging and tracking shipments. In an effort to better support the I MEF Headquarters, in the unit move aspect of tracking equipment, the SMU modified the AMS by-pass program to pull in data from the MDSS-II program, which would produce the requisite data for tracking major end items. This capability has been put to task even in the area of supporting the Army's retrograde of their equipment.

CSSG-15 maintained direct communication and coordination with the embedded Marine Corps Logistics Command Liaison Team. This ensured timely identification and notification of distribution requirements and changes throughout the supply chain. The Reparable Issue Point within CSSG-15 has demonstrated the success of the Advanced Traceability and Control (ATAC) process that MarCorLogCom implemented through expedient Secondary Reparable retrograde and replenishment. The ATAC process has continually returned unserviceable Secondary Reparables to CONUS for induction into the maintenance cycle as well as delivery of replenishment and redistributed SecReps to the battlefield within 6 days of shipment. This proved a successful integration of strategic logistics and tactical distribution throughout the supply chain from beginning to end.

Section 3: Knowledge Transfer

3.1 Describe the efforts to share lessons learned from this effort with other internal organizations.

The SMU, from day one we have shared our trials and tribulations associated with our failure during OIF I with our counterparts at 2d Supply Battalion, 3rd Material Readiness Battalion, Combat Service Support Group 1 and 3, as well as LogCom and Marine Corps Systems Command. We provide training sessions, inviting representatives from the aforementioned organizations in order to enhance the overall capability of the Marine Corps' logistics capability. The assistance and training greatly enhanced the I MEF embarkation capabilities until LOGAIS program was modified to burn RFID tags. Most of all the capabilities and lessons learned have been passed to our sister SMU at II FSSG to ensure their success in the deployed arena as they conduct a relief in place of the deployed SMU in Iraq for OIF III. They will fall in on our equipment and infrastructure established during OIF II.

3.2 Explain how this initiative can be transferred to other organizations, and specify the likely candidates for transference.

During the entire process of implementing this initiative, we took into consideration the need for it to be transferable to other units and agencies. We made every effort to provide equipment, training, and assistance to other units that would benefit. Additionally, software used was strictly restricted to meet the standards of system that we may in the future need to communicate with, an example of this is seen in our anticipation that the data we use on the LTM server will be used on the ITV server in the future, so additional plan took place to ensure that the data was in the same format requirements.

A true test of the success we've had and it's transferability came when we were replaced by our follow on rotation of Marines. This happened flawlessly and they were able to pick exactly where we left off and maintain or exceed our results. II MEF is scheduled to replace them early this year and we expect to encounter little or no impact as they take operational command in Iraq and fall right on top of the same process and equipment we used.

Supply & Distribution: Bridging the gap between Warehouse and Warfighter

Summary

Pictures can best express the improvements made between OIF II and I for supply chain management.

OIF I

OIF II

Glossary/Acronyms

Force Service Support Group (FSSG). Multi-functional logistical organization.

Combat Service Support Group (CSSG). An organization that has command and control of each CSS element in its charge.

Supply Management Unit (SMU). Intermediate supply support for all Marine forces in theater.

Maintenance Information Systems Coordination Office Forward (MISCO FWD). Maintenance management system support for all Marine forces in theater

Consumable. A Class IX repair part that is not repairable. These stocks are generally held by the Material Management Center (MMC) within the SMU.

Secondary Reparable (SECREP). A Class IX repair part that is repairable. The Reparable Issue Point (RIP) and its sub-floats hold these stocks.

Combat Service Support Battalion (CSSB). An organization that provides logistics support across all functional areas to a supported unit.

Using Unit. A unit that orders supplies and conducts maintenance utilizing ATLASS I and PCMIMMS. The using unit maintains a Unit Identification Code (UIC) for maintenance and an Address Activity Code (AAC) for supply transactions that are the same.

Unit Identification Codes (UIC). Unit Identification Codes are established by HQMC and managed by the MISCO for maintenance. Deployed UICs will be used in conjunction with the deployed AACs for each unit. These will be activated once the new MIMMS/SASSY RAC has been activated. Appendix F will list all using units deployed UICs

Supported Activities Supply System (SASSY). The class I system used for supply management: requisitioning, inventory management, and accounting for T/E assets.

MIMMS-AIS. Marine Corps Integrated Maintenance Management System. MIMMS-AIS functions as a class 1 system that interfaces with existing Marine Corps systems and programs. The Class I system is used to process maintenance transactions for requisitioning parts and reporting readiness for ground equipment in the mainframe.

ATLASS I (A1). The software program primarily used by I MEF units to order supplies and manage T/E assets.

PCMIMMS. Independent program that can run on a personal computer. This program is used to enter MIMMS transactions for equipment that needs maintenance and MCGERRS transactions to track overall combat readiness of principal end items within a using unit.

Automated Manifest System – Tactical (AMS-TAC). PC based program used to track shipments.

Storage Retrieval Automated Tracking Integrated System (STRATIS). Warehouse Management System (WMS) for the SMU.

File Transfer Protocol (FTP). Primary source of transferring data to and receiving data from SUPPLY/MISCO.

Early Entry Deployment Support Kit (EEDSK). Various pieces of equipment Unisys determined were needed based on past installation to quickly setup interrogation at a location.

Joint Deployment Logistics Model (JDLM). A system which interfaces with the ITV server to provide a graphical depiction of logistics.

Logistic Common Operating Picture (LCOP). A tool used by Commanders and Planner to assess the battlefield and logistical support.

Activity Address Code (AAC). Alpha Numeric codes used to track supply accounts.

Common Item Support (CIS). Items that are supported by more than one branch of service.

Radio Frequency Identification (RFID). A method of identifying items via RF signal instead of traditional barcodes.

Aerial Port of Debarkation (APOD).

Surface Port of Debarkation (SPOD).

Distribution Liaison Cell (DLC). Team setup to expedite and evaluate the distribution chain.

Global Transportation Network (GTN). System used to query transportation data.

Logistics Status Report (LOGSTAT). Detailed report of logistic posture.

Situation Report (SITREP). Detailed report of current significant happenings or events.