The purpose of Amendment #2 is to change the due date for full proposals and post the first section of the Industry Day presentation materials:

1) Section I, paragraph 4 is revised to read as follows:

“4. Response Date

Full Proposals: 22 JAN 2008”

2) The dates in Section IV, paragraph 1 are revised as shown in bold below:

“1. Application and Submission Process

Industry Day Briefing – ONR will conduct an Industry Day Briefing for potential offerors. It is scheduled for 27 November 2007 at the Alfred M. Gray Research Center located in Quantico, Virginia. The purpose of the briefing is to provide potential offerors with a better understanding of the program.

Registration: Interested offerors MUST register for the Industry Day Briefing at the ONR event website; http://www.onr.navy.mil/about/events/regdetail.asp?cid=373&code=4. The deadline to register is two days PRIOR to the event. No substitutions in the attendee list are allowed after the registration deadline.

Not Able to Attend: Those not able to attend this briefing should consult the ONR website (www.onr.navy.mil) to see briefing slides and answers to written questions submitted during the event.

Full Proposals - The due date for receipt of Full Proposals is 2 p.m. (Eastern Time) on 22 January 2008. It is anticipated that final selections will be made by 28 February 2008. Proposals received after the published due date and time will not be considered. As soon as the final proposal evaluation process is completed, each offeror will be notified via email of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated.”

3) The first paragraph of the section entitled “VOLUME 2: Cost proposal:” (page 11 of the original BAA) is revised to read as follows:

“NOTE: Potential offerors only need to submit a Phase I cost proposal by 22 JAN 2008; if selected for award then offerors will submit cost proposals for Phase II upon completion of Phase I. If selected for a Phase II award, then offerors will submit a cost proposal for Phase III upon completion of Phase II.”
4) The paragraph entitled “Significant Dates and Times” (pages 12-13 of original BAA), is revised to read as follows:

2. Significant Dates and Times -

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*These dates are estimates as of the date of this announcement.

5) Attached to this amendment is the first part of the presentation materials from the Industry Day held on 27 NOV 2007. The rest of the presentation materials will be posted in a subsequent amendment.
Sense and Respond Logistics (SR&L)
Future Naval Capabilities Program

BAS-FY08-03 - Sense and Respond Logistics FNC

Sense & Respond Logistics

EC Designator : BAS-FY08-03P
Sea Basing Focused FNC

GAP - Capability to rapidly close, assemble, employ and indefinitely sustain and repetitively reconstitute ground forces ashore without reliance on land bases

**METRICS**

- **Close:** A Marine Expeditionary Brigade-sized force within 10-14 days
- **Assemble:** A Marine Expeditionary Brigade-sized force within 24-72 Hours
- **Employ:** One battalion vertically and one battalion via surface within 8-10 hours
- **Sustain:** Selected joint forces and up to two brigades operating up to 150 nm inland with minimal logistics footprint ashore
- **Reconstitute:** Forces for future operations within 30 days

**Enabling Capability: Logistics to Operations Ashore**

Anticipated “demands” from forces ashore are dynamically supported from a sea based Log/C2 system that is paced with the heartbeat of operations.

The Sea Based Log/C2 center assimilates, prioritizes, synchronizes and de-conflicts to achieve a focused and tailored logistics response to tactical forces.

_The Sea Base is much more than an automated, floating, forward supply point_

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Marine Air Ground Task Force (MAGTF)

- Integrated combined arms fighting unit.
- Tailor made to respond to any crisis. Organized to meet the threat/tasking order.
- The elements of a MAGTF can be any size. A MAGTF may range from 1,000 to over 50,000 Marines.
- Self Supporting

Marine Expeditionary Force (MEF)
Marine Expeditionary Brigade (MEB)
Marine Expeditionary Unit (MEU)

- All are “MAGTFs”
Approaches to Logistics

Mass-Based

“More is better”
- Massive inventory measured in days of supply
- Hedges against uncertainty in demand and supply
- Mass begets mass and slows everything down

Prime Metric: Days of Supply

Distribution-Based

“On-time is better”
- Inventory reduced to a minimum and kept moving
- Transportation flexibility and robust IT to handle uncertainty
- Works great, except when it doesn’t

Prime Metric: Customer Wait Time

Sense & Respond

“Adaptive - better still”
- Inventory is dynamically positioned throughout
- Uses demand forecasting and static optimization to purge uncertainty
- Supports distributed, adaptive ops

Prime Metric: Speed/Quality of Effects

Prediction-Based

“Preemptive is best”
- Log, Intel & Operational C2 Fusion
- Unified Cognitive System
- Self-organizing
- Anticipates and Preempts Demand

Prime Metric: Preempted Requirements
SR&L General Information Architecture

Knowledge Centric Decision Support
- Predictive Planning
- Adaptive Response
- Effects Based Results

Netcentric Warfare

Community of Interest Situational Views
- Parsed Information
- Real Time/Dynamic Updates
- Commanders Intent

Intelligent Agent Generated Awareness

Distributed Total Situational Picture
- Information Aggregation
- Information Fusion
- Context
- Universal Availability

Networked Information Distribution

Information
- Data Fusion
- Real Time

Collection -> Processing -> Storage -> Transmission

Sensor Data
- Accuracy
- Frequency

Collection -> Processing -> Storage -> Transmission
USMC Autonomic Logistics (AL) Program CONOPs

BAS-FY08-03 - Sense and Respond Logistics FNC

1. Monitor
2. Collect
3. Store
4. Process
5. Store
6. Transmit
7. Display

AL Brain
On Vehicle

Platform SW Operating System & Applications

Sensor Controller And Export Interface

• Platform IDE
• On-board processing
• Embedded eData
• Remote diagnostics
• Platform level eBook
• Configuration data
• HUMS
• Database/Router

Operator Interface

Operator Interface

On Vehicle

Sensor Fuel

Sensor

Vehicle Health

On-Board Cargo Sensor

Ammo Sensor

Fuel Sensor

Wiring Harness

AL Service

AL Client

Comm Network

GCCS/GCSS

EMSS

Comm Network

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USMC Autonomic Logistics (AL) Program
Logistics Information at the Vehicle Level

Vehicle Sensing and Monitoring System
- Covers Multiple Vehicles
  - AAV
  - LAV
  - MTVR
  - HMMWV
- Covers Defined Areas for Monitoring
  - Ammunition
  - Fuel
  - Vehicle Health
  - Mobile Loads

Knowledge Centric Decision Support
- Predictive Planning
- Adaptive Response
- Effects Based Results

Community of Interest Situational Views
- Parsed Information
- Real Time/Dynamic Updates
- Commanders Intent

Distributed Total Situational Picture
- Information Aggregation
- Information Fusion
- Context
- Universal Availability

Information
- Data Fusion
- Real Time

Sensor Data
- Accuracy
- Frequency
- Security

Collection -> Processing -> Storage -> Transmission
Knowledge Centric Decision Support
- Predictive Planning
- Adaptive Response
- Effects Based Results

Community of Interest Situational Views
- Parsed Information
- Real Time/Dynamic Updates
- Commanders Intent

Distributed Total Situational Picture
- Information Aggregation
- Information Fusion
- Context
- Universal Availability

Information
- Data Fusion
- Real Time

Sensor Data
- Accuracy
- Frequency

Vehicle Health Management
- Tools to Improve Vehicles

Ammunition Management
- Tools to Improve Ammunition Management for USMC Operations

Mobile Load Management
- Tools to Improve Mobile Load Management for USMC Operations

Fuel Management
- Tools to Improve Fuel Management for USMC Operations

Decision Support Tools For Demand Options Generation
- Capture and Visualize Commander’s Intent and Range of OPS / LOG options

Intelligent Agent Technologies
Provides capability to collect and integrate disparate information into functional views. Equipment level, system level, platform level, and enterprise level models that function in an open, distributed environment.

Vehicle Health Information
Ammunition Information
Mobile Load Information
Battlefield Fuel Information

Intelligent Sensor Systems
- Complex data, sensors operating on scavenged power, IP addressable. Part of a Infrastructure monitoring equipment, health, status, location, and state to LRU level.
The Way Ahead

**Subject Matter Experts**

**Use Cases**
- Ammo
- Fuel
- Mobile Loads
- Vehicle Health

**Narratives**
- Context
- Actors
- Events
- Decisions
- Action

---

**System Design**

S&T Integration Plan

---

**Requirements**

- Functions
- Objectives
- Thresholds
- Weighting

**S&T Identification**
What S&T needs to be done to fill in the gaps?

**Gap Analysis**

- AL
- LogOA
- GCCS/GCSS
- ?

**Use Architecture**
from
- FCS
- CLOE

---

The *What*, not the *How*

Does *Not* specify Technology

---

Anthony J Seman III ~ ONR 331 ~ semana@onr.navy.mil ~ 703-696-5992
## FY08 SR&L Program Plan

### BAS-FY08-03 - Sense and Respond Logistics FNC

<table>
<thead>
<tr>
<th>Year</th>
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<td>Jan-Mar</td>
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<td>ONR/ARL - S&amp;T Gap Identification/Investment Strategy</td>
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<td>ONR – BAA Evaluations/Selection</td>
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<tr>
<td>2008</td>
<td>Jul-Sep</td>
<td>Integrator Design Development</td>
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### Key Activities:

- **DoDAF Documents**: Functional and Performance Rqts
- **S&T Investments Identified**
- **Set Up Contracts/Performers**
- **Systems Integrator selected**
- **Systems Infrastructure Design selected**

---

**Notes:**
- DoDAF Documents completed 9/13.
- Systems Integrator selected.
Autonomic Logistics

Gene Morin
MARCORSYSCOM
PM/TMDE
AL Project Lead
PURPOSE: To provide background and information regarding MCSC Autonomic Logistics, associated efforts and transition opportunities.

OUTLINE:

• General Background

• Autonomic Logistics (AL)

• Associated Programs
  - Embedded Platform Logistics System (EPLS)
  - Electronic Maintenance Support System (EMSS)

• Transition
Evolution in Logistics

Mass-Based
- More is better
- Mountains of stuff measured in days of supply
- Uses massive inventory to hedge against uncertainty in demand and supply
- Mass begets mass and slows everything down

Prime Metric: Days of Supply

Just-in-Time
- On-time is better
- Inventory is reduced to a minimum and kept moving
- Uses precise demand prediction and static optimization to purge uncertainty
- Works great, except when it doesn’t

Prime Metric: Flow Time

Sense and Respond
- Adaptive is better
- Inventory is dynamically positioned throughout
- Uses transportation flexibility and robust IT to handle uncertainty
- Predictive capabilities
- Supports distributed, adaptive ops

Prime Metric: Speed/Quality of Effects
Logistics Transformation

- **Strategic Planning Guidance (SPG) – FY06**
  - Directs USD(ATL) to reconcile Focused Logistics, emerging advanced concepts, and recent lessons learned into a **coherent logistics transformation strategy that supports distributed, adaptive operations**, and to initiate a joint effort to **integrate logistics from point-of-effect to source of supply/services**, across Services and Defense Agencies.

- **DOD Logistics Transformation Strategy – 10 Dec 04**
  - **Strategy to achieve** knowledge-enabled logistics -- **integrated joint logistics that fuses information, logistics processes, and platform** embedded sensor-based technologies to support tactical, operational and strategic sustainment levels operating in a joint integrated logistics environment.

- **Force-centric Logistics Enterprise (FLE)**
  - Accelerate logistics improvement, enhance support to the warfighter, and align logistics processes with the operational demands of the 21st Century -- includes information technologies needed to implement new logistics business practices and CBM+

- **Focused Logistics Joint Functional Concept**
  - **A comprehensive, integrated approach for transforming DOD logistics capabilities and for dramatically improving the quality of logistics support**
  - **Provide a high degree of certainty to the supported joint force commander that** forces, equipment, sustainment, and support will arrive where needed and on time.

- **Focused Logistics Roadmap**
  - **The fusion of logistics information and transportation technologies; the ability to** track and shift units, equipment and supplies even while en route and the delivery of tailored logistics packages and sustainment directly to the warfighter.

**AL Driven by Logistics Transformation**
3 Major Logistics Initiatives

- Joint Visibility, S&RL and CBM+ provide sustained logistics readiness so that
  - Joint warfighters have what they need to accomplish their mission
  - Joint commanders can better apportion resources and prioritize effort
  - Services can better support Joint force outcomes
- These initiatives to support more informed decision-making rely on a foundation of
  - timely and accurate data collection
  - sharing of actionable information
- AL supports the mandate for more Joint Visibility, the S&RL concept and the CBM+ initiative
  - Provides the functionality to autonomously monitor and report asset condition
  - Enables ground tactical equipment with the capability to collect and share relevant logistics information
Joint Visibility - Logistics

• Joint Logisticians must
  – Match resources against anticipated requirements to provide supportability assessments to the Joint Force Commander
  – Fully understand logistics support requirements and resources available arrayed in time and space to meet those requirements
  – Monitor joint logistics performance to plan and execute the support mission effectively and efficiently
  – Have access to logistics processes, resources, and requirements to provide the insight necessary to make effective decisions

• Systems, processes and tools are required to provide logistics visibility to meet these user requirements
• AL delivers logistics visibility by enabling ground tactical equipment with the capability to provide current and historical data to system operators, support and maintenance personnel, logistics planners, C2 elements, and life-cycle managers in a time relevant manner

“The Joint Force Commander’s ability to effectively execute their directive authority for logistics is completely dependent upon visibility.” – DJ4
Sense and Respond Logistics

• S&RL initiative goal is adaptive, responsive demand and support for force capability sustainment
  – A critical enabler to deliver improved materiel readiness to the warfighter and enhance asset visibility, connectivity, and interoperability.
  – Enables operations-driven control of theater logistics, strategic connectivity, and integration of logistics and operations to eliminate stovepipe sub-optimization
    • COCOM’s tactical logistics requirements start with an ability to implement a “sense and respond” type of logistics support
    • Success depends on the speed of pattern recognition and speed of response
• AL enables the “sense” part of S&RL
DUSD(L&MR) policy mandating Condition Based Maintenance – Plus (CBM+) -- Nov 02

- “The Military Services shall pursue the…implementation of CBM+ enabling technologies…”
- Improve maintenance agility and responsiveness, increase operational availability and reduce costs

AL enables fulfillment of CBM+ Tenets:

- *Need-driven* maintenance
- *Improved maintenance and analytical technologies*
- *Automated maintenance information* generation
- Integrated information systems providing *logistics system response based on equipment maintenance conditions*, etc.
Common Objectives

• Increase speed of command,

• Accommodate dispersed, distributed forces,

• Manage high rates of change,

• Respond to closely couple events,

• Reduce and/or eliminate process lines, emphasize achievement of commander’s intent,

• Cognitive decision support, prediction, and anticipation to support preemptive operations,

• Global awareness, local optimization
Relationship of Autonomic Logistics to S&R,L

- AL is currently the Marine Corps implementation of a S&R,L capability.
- Cuts across MCSC Product Groups.
- Requires a concerted, integrated, and coordinated effort to bring capabilities together in a smooth and orderly fashion.
- Leverages product responsibilities inherent in each PG.
- AL will operate in conjunction with other in-service and future Joint logistic and sustainment systems to provide relevant data to the Joint logistics enterprise.
- Easy to say, hard to do….
AL automatically integrates the functions of maneuver and logistics to MAGTF C2.
AL the Program
AL Objectives

Enables Condition Based Maintenance (CBM+)

- Autonomically collects and reports platform health data to operators and maintainers
- Reduces manual analysis and provides more accuracy to diagnostics
- Supports development of prognostics
- Improves life-cycle affordability
- Enables establishment of responsive demand and support networks that bring speed and quality to the logistics process in the operating environment

Enhances Visibility for the Joint Logistician

- Communicates logistics requirements data in a time relevant manner
- Supports matching of resources against anticipated logistics requirements
- Enhances monitoring of joint logistics performance
- Reduces maintenance cost and down time, and increases operational readiness

Supports Quicker, Better Informed C2 Decisions

- Communicates platform operational health/readiness and logistics information
- Accelerates information to decision-makers
- Informs supportability assessments to the Joint Force Commander
- Allows commanders to leverage resources to maximize warfighting
AL Operational Concept Graphic (OV-1)

**GIG**
- Platoon HQ/Convoy Cdr uses TALC information to facilitate Convoy control

**Company HQ**
- Sustainment Base

**GCE**
- Uses TALC information to facilitate C2 and Situational Awareness

**LCE**
- Uses TALC information to facilitate real-time delivery of Logistics Requirements

**Maintenance Facility**
- TALC provides routine maintenance information for E-Record at end of mission

**PLI, Platform Health, Fuel Status, Ammo Status, Mobile Load Status, Crew Status**

**GPS**
- TALC Enabled Platform

**Platoon HQ/Convoy**
- Uses TALC information to facilitate Convoy control
AL System Diagram

**AL On-Board**
- Embedded Sensors
- Raw Data
- J1939 CAN Bus
- Existing Platform Sensors
- Data Types:
  - Fuel
  - Ammo
  - Health
  - Mobile-Load
  - Crew
- Individual Level Analyses
- Electric Motor
- Vibration
- Engine Performance
- Oil Analysis
- OBC:
  - Data Processing
  - Business Rules
  - Alerts
  - E-Book:
    - Record Jacket
    - Mod Instructions
    - SL-3
    - Forms
    - Service Requests
- Individual Analysis

**Enterprise Applications**
- Operational C2 Orgs
- Platform Operational Status
- Logistics Master Data
- MAGTF C2
- JTDI, GCSS-MC
- Technical Data Repository
- Log Enterprise Systems

**Communication Interfaces**
- FBCB2
- AN/PRC-150
- EPLRS
- DAGR
- SINCGARS
- EMSS
- M-DACT
- Wi-Fi

**Tactical Data Network**
- Tactical Data Interface Manager
- OBC
- Interface Manager

**AL Off-Board**
- Health Management System
  - Unit & Fleet Level Analyses
  - Cumulative Fault Data
  - IUID Performance
  - (Operational & Life Cycle)
- System Health Database
  - Data Manager
  - Expert System
  - Predictive Analysis
- Decision Support Algorithms
- Status & Advisories Algorithms

*New algorithms will be developed and installed onto the OBC in spirals.
AL Functions

1. Monitor
2. Collect
3. Store
4. Process
5. Store
6. Transmit
7. Display

Platform IDE
- On-board processing
- Embedded eData
- Remote diagnostics
- Platform level eBook
- Configuration data
- HUMS
- Database/Router

AL On-Board Computer (OBC)

Platform SW Operating System & Applications

Sensor Controller and Export Interface

GCCS/GCSS

TALC off-board Service (server)

Comm Network

TALC OBC

Operator Interface

EMSS
Interrelationships, Dependencies and Synchronization with Complementary Systems

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PM DAES Rating:

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I = Integration.
Color denotes Synchronization of effort with this program
Number denotes degree of dependency:
1 - Critical, 2 - Significant, 3 - Enabler

Solid denotes current system
Dash denotes future system
Arrow to AL denotes supports AL
Arrow from AL denotes AL supports
No known platform or system issues
Monitoring potential interoperability issues
AL Milestone Status

• Current status:
  – MS A granted in Oct 03
  – ACAT IV (T) (Information Technology)

• MS A Exit Criteria
  – CDD
    • Completed Marine Corps Staffing
    • CID direction to enter CDD into KMDS
    • Depending on JCIDS review potential MROC decision
  – LCCE
    • Under contract / Managed by AC Prog
    • Working EA and CARD
    • Preliminary drafts of the Lifecycle Cost Estimate (LCCE) show may breach ACAT I cost thresholds
  – AoA
    • In review by AoA IPT
  – MCSAMP
    • Being worked by program office

• Currently proceeding to MS B as ACAT III
Planned AL Enabled Platforms

- Light Armored Vehicle (LAV)
- Medium Tactical Vehicle Replacement (MTVR)
- Amphibious Assault Vehicle (AAV)
- Logistics Vehicle System Replacement (LVSR)
## AL Program Schedule

### Milestone Events
- **FY07**: EPLS Statement of Need
- **FY08**: Contract Award
- **FY09**: IOC LAV/AAV/MTVR 2Q09
- **FY10**: IOC LAV/AAV 4Q10
- **FY11**: IOC LVSR 2Q11
- **FY12**: AL Block 2 CPD
- **FY13**: AL Block 3 CPD
- **FY14**: AL Block 3 CPD
- **FY15**: AL Block 3 CPD
- **FY16**: AL Block 3 CPD

### Capability Sets by Block
- **Block 1**: EPLS Transition to AL FY11
- **Block 2**: Integration with GCSS-MC
- **Block 3**: Integration with C2

### Rapid Acquisition
- **FY06**: EPLS SON 4Q06
- **FY08**: Contract Award 1Q08
- **FY09**: MSB 1Q09
- **FY10**: Block 2 MSC 1Q10
- **FY11**: Block 3 MSB 1Q14
- **FY14**: Block 3 MSC 3Q15

### Requirement Documents
- **FY07**: Omnibus AL CDD
- **FY08**: AL Block 2 CPD
- **FY11**: AL Block 3 CPD
AL Summary

• AL addresses critical warfighting gaps:
  – Flexible and adaptive logistic support
  – Logistics command and control
  – Joint Logistics Distribution and Visibility

• AL mitigates gaps associated with
  – Ability to track supplies
  – Plan and manage battlefield distribution
  – Diagnose equipment faults
  – Assess and repair battle damaged equipment
  – Life-cycle support and sustainment planning

• AL delivers capabilities to current platforms:
  – LAV, AAV, MTVR and LVSR
  – AL hardware and software technologies will leverage existing and future networks to transfer relevant data

• CDD in Staffing
  – Will support a Milestone B in FY08, 4th Qtr
Associated Programs
EPLS and EMSS

- **EPLS**
  - EPLS Statement of Need - Signed 11 Sept 06 by MGen Johnson
    - FY-06 Supplemental Funds ( $109M)
    - Provides Hardware Infrastructure for AL
    - Rapid Acquisition Team (AC PROG Chair) – Oversaw RFP release and EPLS Contract was signed on 12 Sept 07
      - EPLS will be integrated into AL at MS B
  
- **EMSS**
  - Using NAVAIR JTDI as bridge
  - Preparing for Fielding
Embedded Platform Logistics System

- eRecords
- eTechData
- ePMCS
- HUMS Data
- ePacking List
- Operator/Maintainer Display
- Ammo Level/Usage
- Access to 100% Existing Diagnostic T=0
- Standard Ports for data extraction
- Accurate Fuel Able to forecast consumption rates
- Enhanced Diagnostics

- ePLS
- MMI
EPLS Modular Platform Architecture (Notional)

- Vehicle Input Device
- Vehicle Display
- eBook
- OBSC Control and Management
- Platform Health Sensor Module
- Platform Fuel Sensor Module
- Platform Ammo Sensor Module
- Mobile Load Sensor Module
- Time Synchronization
- Analog Sensors
- ICE-CAN Adapter
- J1939 J1708 Bus
- AIT Readers
- CAC Readers
- GPS Signal
- Data Aggregator
- Data Disseminator
- External Interfaces
- Administration and Maintenance
- Controls and manages execution of all major components
- Wireless LAN
- Tactical Comms
- Wired LAN
- USB
- Serial
EPLS System Overview

**ON-BOARD**

- **Driver**
  - Accurate vehicle status
  - Proactive alerts
  - Automated checklists and forms

- **Vehicle Commander**
  - Improved diagnostics
  - Vehicle awareness
  - Track mobile loads
  - Access to vehicle records & IETMS

**OFF-BOARD**

- **Enterprise - Main (Redstone Arsenal)**
  - OBSA Applications
  - EMSS Architecture
  - Database Replication
  - API
  - Asset Database

**Commanders & Logisticians**

- Situational awareness of vehicle readiness
- Access to accurate vehicle fault information and diagnostics
- Ability to anticipate logistics needs
- GCSS Request for Service
- Reporting and data mining
- $$$ savings

**Common HW/SW**

**Flexible Solution**

Battalion / Mid-Tier
EPLS/EMSS Interdependencies

Off-Board
Main – Redstone Arsenal

OBSA Applications
Authenticate and Parse
Asset Database

Off-Board
CONUS and OCONUS

API

Authenticate and Parse
Asset Database

OBSA Applications

EMSS

MTVR with EPLS Sensoring

LAV with EPLS Sensoring

AAV with EPLS Sensoring

Wired

802.11 Wireless
TRANSITION
Developing a Strategy for Transition

• Transition starts when the project starts

• Don’t forget importance of operational suitability issues:
  - Manning
  - Training
  - Equipping
  - Maintaining

• Early user involvement

• Understand totality of Requirements, think through DOTMLPF issues

• Caution – The user doesn’t care about the science behind the technology, it either works or it doesn’t work…
What are Potential S&R,L Transition Products?

- Hardware
- Software
- Architectures
- Processes
- Design/Performance attributes:
  - Functional requirements/standards
  - Interface requirements/standards
  - Performance requirements/standards
  - Environmental requirements/standards
  - Etc.
Supporting Documentation
(No Documentation = No Transition)

Design Data

Performance Data

Test Data

Human Factors/Human Integration Data

Supportability Data

Reliability Data

Safety Data

Configuration Data

Electromagnetic Environmental Effects Data

Producibility Data