Net Centric Operations Logistics – FCS

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Soo Yoon
Associate Technical Fellow
Boeing – Lead Systems Integrator

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Today
Iraq

Tomorrow
Persistent Conflict
- Information Empowered
- Expeditionary
- Versatile
- Campaign Capability

Yesterday
1993 – Somalia

Common View
At Decisive Point

3 Views of the Battlefield
FCS Net Centric Operation Logistics

- Plan, synchronize, monitor and execute sustainment operations
  - Materiel Management
    - Monitor/Control on-hand stocks
    - Ensure quality control
    - Determine Requirements
    - Local purchase
    - Retrograde
  - Distribution Management
    - Physical Distribution
  - Field Level Maintenance
    - Diagnostics, Prognostics
- Track Fleet Readiness
  - Operational Availability
FCS Networked Supportability

• Logistics Concept
  – Network Enabled
  – Performance Based (PBL)
  – Distribution Based
  – Common Operating Picture
  – Anticipatory / Predictive / Reduced Footprint

• Maintenance
  – Substantially Increased Reliability and Availability
  – Maximum Commonality of Components
  – Common Electrical Connectors
  – Prognostic / Diagnostic Sensors Integral to Platforms and Soldiers
  – Immediate Access to Remove / Replace Modular Components
  – Interactive Electronic Technical Manuals Embedded on Platforms
FCS Supportability Objectives

• Increase Operational Availability (Ao)
  – Superior reliability and maintainability
    • 95% Ao
    • 80% of field maint by crew w/Max Time to Repair = 30 min (pit stop engineering)
  – Embedded mission readiness system
    • Network centric sustainment, battle command integration
    • PS-MRS, LDSS, LDMS, interface with EAB (GCSS-A)
    • Total asset visibility of Class IX Repair parts and repair resources

• Reduce Logistics Footprint
  – Component commonality
  – 10 tools at platform, 20 tools at CRT
  – Embedded diagnostics/prognostics/IETMs
  – Total asset visibility within BCT and into EAB

• Reduce Life Cycle Costs (Areas of significant O&S savings)
  – Personnel - 10% reduction compared to heavy brigade task force
  – Reliability - improvement compared to current Platforms
  – Commonality - reduce spares requirements approx 50% over Current Force
  – Embedded training - reduces O&S costs per BCT
  – Integrated Supply Chain Management reduces required spares
The Integrated - Interoperable FCS BCT
Network Centric Operation Logistics

[Diagram of Integrated - Interoperable FCS BCT network]

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FCS Net Centric Architecture
FCS Logistics Products Deployment

Upper Echelon/Outside Elements

- Echelon Level Roll Up
- Maintenance & Logistics Status to Higher Echelon
- Logistics Planning & Sustainment
- Information to FCS BCT

FCS BCT Elements

- Echelon Level Readiness
- Logistics Planning/Collaboration
- Log Execution Monitoring

SOSCOE Services (ICS)

ACE Services (DPD)

Logistics Status to Higher Echelon

- Log Data
- Log Data Validation
- Maintenance & Configuration

FPSIM Generator

- Log Data
- Decision Accuracy
- Evaluator

IETMS

PDAVS Services

- Logistics Planning & Sustainment
- MC4 Report Generation
- Decis on
- Information to FCS BCT

- Log Data
- Evaluation
- Distribution & Reachback
- IETMS

LDM Services

- Log Data
- Consolidation
- Analysis & Report Generation
- Dissemination & Reachback
- Data Xch & Config Mgmt

ACE Services (ICS)

- Current Maintenance Needs
- Forecasts Maintenance Needs
- Embedded Training/IETMS
- Current Consumption Needs
- Crew Alert
- Forecasted Consumption Needs
- Platform / Soldier Readiness

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FCS Logistics Software Applications

• **Platform Soldier Mission Readiness System (PSMRS)** is a single software application that provides condition based diagnostics, prognostics, and readiness status for all FCS Systems.

• **Logistics Decision Support Services (LDSS)** provides services to plan and monitor sustainment activities as well as to aggregate and report readiness and a logistics common operating picture via the FCS Battle Command network.

• **Logistics Data Management Services (LDMS)** creates a software portal used by logisticians/supply teams to access and manage FCS logistics data (enabling Performance Based Logistics)
FCS Logistics Products on the Battlefield

Prognostics

Failure Reports

System Aborts Essl Fn Failures Faults

Diagnostics

Battle Damage

Parts ordered and replaced prior to mission

Battlefield Logistics

Situational Awareness

Resupply / Parts Order

Reduce Administrative Logistics Delay Time

Logistics Planning

Distribution Efficiencies

Operations Planning

Performance Based Logistics

PS/MRS
LDSS
LDMS

Increased Ao
Reduced Footprint
PS-MRS – Objectives

• Provide vehicle level functionality to enable the FCS sustainment vision
• Integrate logistics into the network centric battlefield model
  – Functional availability
  – Physical availability
• Enable 2 level maintenance concept
• Enable the “Crew Chief – Maintainer” concept
• Provide a uniform sustainment view of all FCS Platforms
• Provide for the continuous improvement of Diagnostic and Prognostic Algorithms at all levels

Sustainment Incorporated as a Integral Function
Not added as an Afterthought

Primary User of Vehicle Embedded PS-MRS is the Operator/Crew Chief
LDSS Objectives

• Provide real-time logistics planning and management for the FCS BCT:
  – Intelligent planning tools for automated logistics planning
  – Plan monitoring with embedded plan course changes

• Real-time in-transit visibility of supplies intra-FCS BCT

• Logistics Common Operating Picture (COP) generated in real-time and at greater depth and precision through direct interfaces with manned and unmanned vehicles (PS-MRS)
  – Comprehensive and accurate logistics picture through connectivity and data sharing with Single Army Logistics Enterprise/GCSS-A

LDSS Primary Users are the Commanders and Sustainment Officers
LDMS Objectives

• **Logistics Data Manager (LDM)**
  – **Configuration Management (CM):** tracks as-designed, as-delivered and as-maintained data.
  – **Logistics Data Analysis:** Business intelligence to optimize availability and lifecycle costs.
  – **Forecasting and Planning:** Analytic tools for FCS platform sustainment and supportability.
  – **Status and Location of National Level Assets:** FCS Spares and Repair Parts from DoD, Army and OTP Systems
  – **Report Generation:** Flexible and intuitive standard reports

• **Logistics Data Agent (LDA)**
  – Autonomous component of the Battle Command Suite of Software.
  – Collect and Disseminate information from LDSS and PS-MRS

Primary LDMS Users are the Product Support Integrators, OTP Systems Engineers, Sustainment Engineers and Logistics Engineers
Supportability End State

- Increase Operational Availability
- Reduce Demand for Maintenance and Supply
- Significantly Reduce Logistics Footprint
- Integrated Network Logistics
- Reduce Life Cycle Costs

Maximize available combat power
# Acronyms

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACE</td>
<td>Advance Collaboration Environment</td>
</tr>
<tr>
<td>Ao</td>
<td>Operational Availability</td>
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<tr>
<td>BCT</td>
<td>Brigade Combat Team</td>
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<tr>
<td>CRT</td>
<td>Combat Repair Team</td>
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<tr>
<td>EAB</td>
<td>Echelon Above Brigade</td>
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<tr>
<td>GCSS-A</td>
<td>Global Command and Control System-Army</td>
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<tr>
<td>ICS</td>
<td>Integrated Computing System</td>
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<tr>
<td>IETM</td>
<td>Interactive Electronic Technical Manuals</td>
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<tr>
<td>LDMS</td>
<td>Logistics Data Management Service</td>
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<td>LDSS</td>
<td>Logistics Decision Support System</td>
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<tr>
<td>O&amp;S</td>
<td>Operations and Support</td>
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<td>OTP</td>
<td>One Team Partner</td>
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<td>PBL</td>
<td>Performance Based Logistics</td>
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<tr>
<td>PS-MRS</td>
<td>Platform Soldier - Mission Rediness System</td>
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<tr>
<td>SoSCOE</td>
<td>System of System Comon Operating Environment</td>
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