Weapon System Support Center (WSMC)

USMC Operational Guidebook for Weapon System Management (OGWSM) v1.2 (15 JUL 2013)
Foreword
As the Weapon Systems Management Center (WSMC) embarks upon the challenging task of providing seamless, integrated logistics solutions to its customers, it is imperative that the lead element in that effort – the Weapon System Management Team (WSMT) – is armed with the knowledge, resources, and support they need to carry out their mission.

This guidebook provides an essential knowledge tool kit that will aid the WSMT in their important efforts to lead and integrate the experience and expertise of Marine Corps Logistics Command. In addition to gathering and interpreting scores of relevant DoD documents and briefs, the authors of this guidebook conducted comprehensive interviews with Logistics Command’s customers, directors, internal and external subject matter experts and stakeholders, and perhaps most importantly, the functioning team leaders, the Weapon System Support Managers (WSSM) themselves. These efforts resulted in the timely documentation of a single-source baseline for:

- organizational relationship awareness,
- minimum knowledge requirements for a logistics chain integrator, and
- critical interpretation of the WSSM role in support of the Marine Corps’ successful utilization of the Defense Acquisition Management System (DAMS).

The WSSM and WSMT stands facing the Program Management Teams of the Marine Corps Systems Command, the Program Executive Office Land Systems, and other Joint Programs, on behalf of the vast knowledge resources of the Marine Corps Logistics Command. To that end, their ambitious creed might be distilled down to the following statement:

"Further the ideal of a united and fully integrated Logistics Command to influence and support the warfighter-enabling mission of the Program Management Team."

The WSMC Leadership Staff endorse this noteworthy aspiration, and will continue to advocate tirelessly for its successful realization. In that spirit, I invite all stakeholders to assist in shaping the WSSM/WSMT role and openly encourage recommendations to enhance the usefulness of this guidebook as a valued resource for the entire Marine Corps Life Cycle Logistics Community.

Lyndia Sue Wright
Director, Weapon Systems Management Center
Marine Corps Logistics Command
Objective of this Guidebook
The intent of this guidebook is to provide a single source reference point to enable the Weapon System Management Team (WSMT) members to function effectively and efficiently while carrying out their respective roles and responsibilities. This document is intended to be both a starting orientation point for new WSMT members and an ongoing reference and knowledge source to accompany the members through all facets of their daily responsibilities.

The universe of information supporting the Department of Defense (DoD) acquisition system is vast and ever changing. As supporting strategies, processes, and procedures mature and evolve to become more efficient and effective in support of warfighter needs, so follow the updates to documentation and guidance. This document initiative is not an attempt to rewrite well authored, prevailing guidance, rather it borrows heavily from existing authorized and approved DoD sources, with the singularly focused goal of highlighting the practices relevant and applicable to the daily responsibilities of a highly successful Marine Corps Logistics Command WSMT. In many cases, information appropriate to the WSMT’s overall knowledge arsenal will fall outside the scope of this guidebook; in such cases links or references will be provided to assist and enable the WSMT to pursue such information methodically and efficiently.

This document is broken into five main sections:

Organization Alignment – An introduction to the mission, scope and organization of the Marine Corps Combat Development Command, the Marine Corps Systems Command, the Program Executive Officer Land Systems, the Marine Corps Logistics Command, and the Weapon Systems Management Center.

Stakeholders – A detailed orientation and profiling of the Weapon Systems Management Center (WSMC) customers and matrix engaged resources, as well as a detailed review of the Weapon System Management Team (WSMT) concept and how it’s employed.

Baseline Knowledge Competencies – A detailed discussion of the major logistics concepts and requirements that permeate the entire acquisition life cycle and are critical to the effectiveness and success of the WSMT.

Specific Roles and Responsibilities – A detailed role and responsibility overview to guide the WSSM through the five phases of logistics life cycle management, inclusive of milestone activity requirements, ‘Best Practice Tips,’ and ‘Watch Out Fors’.

General Roles and Responsibilities – A detailed accounting of the WSMT’s administrative accountabilities. [To be added in Phase 2 of OGWSM development.]

Additionally, as appropriate, appendices and enclosures will provide relevant glossaries, further reading and supporting guidance references, customer and resource profiles, and links to WSMC prepared topical knowledge briefs.

Finally, every effort will be made to keep this document relevant and useful by providing regularly scheduled annual updates to accommodate changes in guidance and resource links.

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1. Organization Alignment

Proud of its heritage and mission as a “force-in-readiness,” the fleet-footed, highly adaptable Marine Corps is divided into three broad categories which are organized to support a wide range of military requirements:

- Headquarters, United States Marine Corps (HQMC)
- Marine Operating Forces (MARFORS)
- Marine Reserves (MARFORRES)

The Commandant of the Marine Corps (CMC), who reports to the Secretary of the Navy and is a member of the Joint Chiefs of Staff, has the ultimate responsibility to organize, train, and equip the Marine Corps. While the CMC does not serve as a direct battlefield commander, he is the Marine’s symbolic and functional head who, from his command at HQMC, prepares the MARFORS and MARFORRES for operation under the command of the Unified Combatant Commanders (UCC).

Supporting Establishments (SE)

Toward this functional end, HQMC is set up as a group of ‘supporting establishments’ staffed with active duty Marines, civilian Marines (government employees working under Marine Corps Commands), and defense industry contractors, all of whom collaborate to provide the doctrine, equipment, and training required to support the mission and welfare of the MARFORS/MARFORRES warfighters.

While the HQMC organization has many functions, the scope of this document will guide us to highlight the five primary functions (Figure 1.1) directly responsible for influencing and facilitating the Corps’ utilization of the Defense Acquisition Management System (DAMS).

![Figure 1.1](image)

**Figure 1.1 – Five organizational functions influencing and facilitating acquisition and sustainment.**

These functions are set up with the intention of providing an integrated “cradle-to-grave” process for supplying the warfighter with the essential tools and equipment needed to conduct both present and future operations. Understanding this organizational chain of responsibility will allow the WSSM to accurately correlate activities with results and develop effective interfaces to influence those results. In presentation style brevity, the roles of these enormously challenging and detailed functions might be distilled as follows:
The scope of this document focuses on the role of the WSSM in their capacity as a key conduit to the integration of the MCSC/PEO LS and LOGCOM missions. Accordingly, the following Subsections 1.1 through 1.4 of this document will be limited to an organizational overview of those Commands only, as well as an overview of the WSMC, which is a subordinate unit of LOGCOM. [More about MCWL and CDD can be found in Subsection 3.1.4.]

NOTE: Each section summarizes contextual and relevant information by Command, however the disparities of uniform and readily available information has dictated unique coverage for each Command. In all cases, readers are encouraged to further their awareness of these Commands through continued research and peer discussion.

1.1 Marine Corps Systems Command (MCSC)

From a day-to-day functional perspective, MCSC is one of two primary customers for the WSMC. As such, this subsection represents a brief overview of MCSC and more detail on how this Command is configured in the capacity of a customer can be found in Subsection 2.1 of this document.

Background

Formed with its current charter in January of 1992, MCSC of today originated from the Marine Corps Equipment Board of 1933, which had been established for the purpose of evaluating industrial equipment for use in amphibious operations. Later, that Board was combined with the Tactics and Techniques Board, and together these two organizations formed what was known as the Landing Force Development Center. In November 1987, that organization changed names again and became the Marine Corps Research, Development and Acquisition Command, this time incorporating elements of HQMC and elements of the former Marine Corps Development and Education Command.

As an administrative Component of the Department of the Navy (DoN), the Marine Corps shares a variety of core support competencies, resources, and policies with the United States Navy (USN), notably the disciplines of acquisition, logistics, and technology research management. With developments brought about by the Packard Commission, the Goldwater Nichols Act, and the publication and implementation of the DoD 5000 series instructions, the realignment of this unit in 1992 as a DoN ‘Systems Command’ function was a natural evolution. As such, while MCSC reports to the Assistant Commandant of the Marine Corps (ACMC) for service chain responsibilities, the unit also maintains dotted line acquisition chain accountabilities to the Assistant Secretary of the Navy, Research, Development and Acquisition (ASN(RDA)), as a peer unit to the four other DoN Systems Commands.

Mission
MCSC is the CMC’s principle agent for acquisition and sustainment of (non-aviation) systems and equipment used by the Operating Forces to accomplish their warfighting mission. MCSC’s team of professional civilians and active duty Marines equips the warfighter to win. Their focus is the Marine in harm’s way, protecting him or her, and providing these warfighters with everything he or she needs to execute their mission.

**Vision**
- To be recognized within the Department of Defense as the leader in equipping the warfighter to win.
- Timely and consistent in providing quality systems and equipment to the Operating Forces.
- Expertly manage systems and equipment during their entire lifecycle.
- A proud, high performance, team-based, learning organization working in a professional environment.
- Employ highly effective, streamlined, and innovative business processes.

**MCSC Organization**

Refer to the MCSC web page for the most up-to-date information as to mission, systems, and organizational structure. [MCSC Web Link](http://www.marcorsyscom.marines.mil)

MCSC organization is comprised of:

- **A Command Staff** with the normal Command support functions, as well as several unique to MCSC functions, namely: Strategic Change Management Center (SCMC), Counter Improvised Explosive Devices (CIED), International Programs (IP), and Office of Small Business Programs (OSBP). [More information on MCSC Command Staff functions can be found on the MCSC website.]
- **Commodity-type** Product Group Directorates (PGDs, or PGs) which are further subdivided into Program Manager (PM) offices which are designated by a Program Manager Marine (PMM) number, e.g., “PMM 162”. Program Managers are typically responsible for several "projects" within their PMM, each of which is assigned to a project officer under the PM. [See Subsection 2.1 of this document for more details on the PGs, and Appendix C of this document for links to the PG projects and personnel.]
- **Independent Programs**, so designated for their unique dedication to specific systems, equipment, or support initiatives. [See Subsection 2.1 of this document for more details on the Independent Programs.]
- **Professional Staff** functions, each of which has a corresponding Competency Domain with a Director who oversees a Competency Lead embedded in each PGD. The Professional Staff functions and a description of their associated responsibilities and Support Group Manager (SGM) units follow in Table 1.1.

<table>
<thead>
<tr>
<th>Prof Staff Function</th>
<th>Responsibilities</th>
<th>Function Components</th>
</tr>
</thead>
</table>
| Contracts (AC-CT)   | AC-CT provides timely, cost-effective and value-added procurement contract solutions to Marine Corps acquisition initiatives. Components are imbedded as necessary with active contract Programs (e.g., TRASYS, MCTSSA). | • Policy Group SGM 021  
• Other Contracting Group SGM 022  
• Orlando Group SGM 023 |
<table>
<thead>
<tr>
<th>Prof Staff Function</th>
<th>Responsibilities</th>
<th>Function Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition Logistics Product Support</td>
<td>ALPS provides acquisition logistics technical support to the program management offices throughout MCSC, inclusive of technical documentation and IPS guidance. AC-ALPS also provides TLCM linkage between acquisition, operations and sustainment planning entities.</td>
<td>• Packaging, Handling, Storage &amp; Transportation, Facilities, Performance Based Logistics, Independent Logistics Assessment (PHS&amp;T, Facilities, PBL &amp; ILA) SGM 041</td>
</tr>
<tr>
<td>(ALPS)</td>
<td></td>
<td>• Manpower &amp; Personnel Training SGM 042</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Support Equipment &amp; External Focal Point SGM 043</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Technical Pubs SGM 044</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MCSC readiness, operations, and sustainment focal point for OPFORS, MCLC, and DC I&amp;L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Readiness Group SGM 045</td>
</tr>
<tr>
<td>Programs (AC-PROG)</td>
<td>AC-PROGRAMS serves as a primary staff advisor to the Command's senior leadership and key external customers in matters of strategic, operational, and tactical importance.</td>
<td>• Operations SGM 031</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Analysis SGM 032</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Program Objective Memorandum (POM) Development SGM 033</td>
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<tr>
<td></td>
<td></td>
<td>• Assessment SGM 034</td>
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<tr>
<td></td>
<td></td>
<td>• Requirements Transition SGM 035</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Acquisition Center for Support Services SGM 036</td>
</tr>
<tr>
<td>Resource Management (RM)</td>
<td>RM provides Comptroller and Workforce Management and Development (WMD) functions. The Comptroller provides financial policy, advice, and services to ensure the Command’s budgets are</td>
<td>• Financial Management SGM 011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• C4 Commodity Team SGM 0111</td>
</tr>
</tbody>
</table>
Prof Staff | Function | Responsibilities | Function Components
--- | --- | --- | ---
 |  | defensible and program resources are properly and efficiently executed. WMD is responsible for manpower and personnel management in direct support of the MCSC acquisition mission. | • Ground Equipment Commodity Team SGM 0112
• Formulation Coordination Team SGM 0113
• Bankers Team SGM 0114
• Workforce Management Development SGM012
• Workforce Management & Analysis Team SGM 0121
• Workforce Develop SGM 0122
 | Systems Engineering, Interoperability, Architecture & Technology (SIAT) | SIAT ensures delivery and sustainment of a superior integrated enterprise C4I Surveillance/Recon capability to the operating forces and supporting establishments. | • Systems Eng & Interoperability (SE&I) SGM 061
• Research & Engineering (R&E)
• MCTSSA SGM 063
• Information Assurance SGM 062

Table 1.1 – Summary of MCSC Professional Staff functions.

1.2 Program Executive Officer Land Systems (PEO LS)
From a day-to-day functional perspective, PEO LS is one of two primary customers for the WSMC and therefore the WSMT. As such, this subsection represents a brief overview of PEO LS; more detail on how this Command is configured in the capacity of a customer can be found in Subsection 2.1 of this document.

Background
A Program Executive Officer (PEO) is required to manage expensive and complex acquisition programs that are designated Acquisition Category (ACAT) I or IA. The role itself is usually assigned to a general/flag officer or Senior Executive Service (SES) civilian, reporting into their respective DoD Component Acquisition Executive (CAE) who, in the case of PEO LS, is the ASN(RDA). The ASN(RDA) has responsibility for a dozen or so additional Navy PEOs (Space Systems, Submarines, Ships, Aircraft Carriers, etc.), and the Army and Air Force have approximately ten and five PEOs respectively for their major programs. There are also numerous Joint PEOs (JPEO), formed for major multi-service programs (or groups of related programs) to improve interoperability and standardization while reducing duplication across the DoD. A JPEO will typically be led by one Component with the resources and participation of others. A PEO or JPEO has no other Command or staff responsibilities within their Component, and only reports to and receives guidance and direction from their CAE. While generally small in terms of staff, PEOs usually handle a reasonable number (6 to 8) of similar ACAT I or IA programs, however
they could have more, and it would also be normal for a PEO to pick up lower ACAT programs related to the same mission area or complexity as ACAT I/IA programs already in the PEO.

Established in October of 2007, PEO LS is the first (and only) PEO assigned to the Marine Corps. Headquartered at Marine Corps Base Quantico, VA, PEO LS leverages the infrastructure, competencies, and technical authority of MCSC; however it is a separate Command, reporting directly to the ASN(RDA).

PEO LS manages a diverse program portfolio, inclusive of the following ground weapon systems:

- Common Aviation Command and Control System (CAC2S)
- Ground-Air Task Oriented Radar (G/ATOR)
- Logistics Vehicle System Replacement (LVSR)
- Tanks and Lightweight 155mm Towed Howitzer (LW 155)
- Medium Tactical Vehicle Replacement (MTVR)
- Joint Light Tactical Vehicle (JLTV)
- Marine Personnel Carrier (MPC).
- Amphibious Combat Vehicle (ACV)

**Mission**

For all assigned programs, PEO LS will aggressively enhance and sustain the warfighter’s capabilities by partnering with Marine Corps Systems and Logistics Commands to deliver world-class weapon systems acquisition and total life cycle systems management.

**Vision**

To serve as the preeminent focal point and standard bearer for excellence and innovation in major land program acquisition management.

**PEO LS Organization**

Refer to the PEO LS web page for the most up-to-date information as to mission, systems, and organizational structure. [PEO LS Web Link](http://www.marcorsyscom.marines.mil/UnitHome/PEOLS.aspx)

**1.3 Marine Corps Logistics Command (LOGCOM)**

Effective June of 2006, the Marine Corps Logistics Command (LOGCOM) realigned its principal logistical functions to present a more comprehensive, value optimized logistical solution to the warfighter community; an organization that is integrated, enterprise-wide, and customer-focused. Refer to the LOGCOM web page for the most up-to-date information as to mission, systems, and organizational structure. [MARCORLOGCOM Web Link](http://www.logcom.usmc.mil)

**Mission**

To provide worldwide, integrated logistics/supply chain and distribution management; maintenance management; and strategic prepositioning capability in support of the Operating Forces and other supported units to maximize their readiness and sustainability and to support enterprise and program level Total Life Cycle Management (TLCM).

**Scope**

- Support the Marine Corps’ Operating Forces with products and services that maximize both readiness and their ability to sustain operations.
- Assist Program Managers with the planning and execution of their weapon system TLCM responsibilities.
- Commit to being an organization capable of global reach with integrated logistics chain support to customers within the core competencies of supply, maintenance and distribution.
**Customer Alignment**

- **Main Effort:** Customer focus and proper alignment to: (1) the warfighter through Marine Expeditionary Force (MEF) Support Teams (MSTs) acting as Operational Logistics Support Integrators and (2) the PM through Weapon System Management Teams (WSMTs) acting as Logistics Chain Integrators (LCIs).

- **Supporting Effort:** Directly contributing to the success of the MSTs and WSMTs is the integrated cross-functional support matrix fed from all LOGCOM Centers and Staff Departments, as well as the network of organic DoD and commercial support integrators and providers through which solutions are executed.

**Process Integration**

The success of LOGCOM’s product and service offerings lies in the integrated relationships created within LOGCOM’s High Impact Core Value Streams (HICVS) of Equipment Sourcing, Acquisition Support, Logistics Services, and Prepositioning Support. HICVS integrate the processes between core competencies (Supply, Maintenance, and Distribution), enabling capabilities as a logistics information broker and center of logistics contracting excellence, and the Staff support (Programs & Resources, Legal, Manpower, Organizational Development, Small Business, Installation Support, C4, etc.) necessary to provide comprehensive logistics solutions.

![High Impact Core Value Streams](image)

**Figure 1.4 – LOGCOM Process Integration**

With this LOGCOM Process Integration Model (depicted in Figure 1.4), each core competency is not an end unto itself, but rather part of a set of competencies, enabling capabilities and Staff support that must be integrated to form holistic solutions to the warfighter’s logistics issues.

**Core Competencies**

LOGCOM’s support power is exponentially increased when all three core competencies (distribution, maintenance, and supply) come together on a given logistical problem set. This integration of logistics chain functions creates a high impact “value added” contribution to both the warfighter and PM.

**High Value Core Impact Streams (HICVS)**
The key set of end-to-end processes that define what Logistics Command is as an organization from the customer’s perspective. Table 1.2 provides a summary of products and services by HICVS.

- **Equipment Sourcing:** All processes that occur across the organization and with external organizations that result in the delivery of an end item to the warfighter.
- **Acquisition Support:** All processes that are provided to a PM in support of a weapon system program of record.
- **Logistics Services:** All processes that result in a solution to a specific customer or warfighting need.
- **Prepositioning Support:** All processes that support the Marine Corps strategic prepositioning programs for Maritime Prepositioning Force (MPF) and Marine Corps Prepositioning Program-Norway (MCPN).

<table>
<thead>
<tr>
<th>Logistics Command Summary Products and Services by HICVS</th>
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<tbody>
<tr>
<td><strong>Equipment Sourcing</strong></td>
</tr>
<tr>
<td>• Planning</td>
</tr>
<tr>
<td>• Inventory</td>
</tr>
<tr>
<td>• Maintenance Management Planning and Execution</td>
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<tr>
<td>• Budgeting and Funding</td>
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<tr>
<td>• Contracting alternative sources of repair</td>
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<tr>
<td>• Storage and Transportation</td>
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Table 1.2 – LOGCOM Summary Products and Services by HICVS

Enabling Capabilities

Two enabling capabilities are foundational elements key to LOGCOM’s success.
Logistics Information Broker: Based on legacy systems access, core competencies and Corps-wide view, LOGCOM is uniquely positioned to collect data, analyze it, and then extract and disseminate logistics decision support information.

Logistics Contract Management: To provide or source best of breed contracts, robust contracting capabilities must exist within LOGCOM to facilitate the market of available support providers able to meet the warfighter's logistics needs.

Staff Support

Critical support functions within LOGCOM Staff Departments provide a solid base for efficient and effective running of the organization, to include:

- Manpower
- Training and Employee Development
- Budgeting and Execution Tracking
- Legal Advice
- Information Technology Infrastructure and Information Services Support
- Administrative Support
- Payroll
- Travel Services
To support this realignment, the Logistics Command established five Centers with complementary missions capable of working together to provide end-to-end logistics integration. In keeping with the Commanding General’s Vision and Intent, the Ops Directorate and five integrated Centers facilitate an efficient and customer-focused methodology for innovatively delivering LOGCOM’s core competencies of supply, maintenance, and distribution. Subsection 2.2 of this document provides more information on the key functions of each Center, as well as a detailed graphic depicting “The LOGCOM System,” while Appendix C provides links to key contact information. Following are brief descriptions of the six Centers:

**Operations Directorate (OpsDir):** opportunity manager and primary communications link between the Logistics Support Teams embedded with the MEFs and the reach-back Logistics Response Teams within OpsDir.

**Logistics Support Management Center (LSMC):** provider of retail level logistics and supply chain solutions on the sub-system, component, or commodity level that support multiple weapon systems or multiple MEFs.

**Weapon Systems Management Center (WSMC):** provider of dedicated program-level teams to manage and integrate product and wholesale logistics support focused on ground weapon systems, proactively influencing support strategies from early stages of acquisition throughout the remainder of the product life cycle.

**Maintenance Management Center (MMC):** focal point for planning and executing Marine Corps maintenance management in support of all ground weapon systems and future opportunities.

**Distribution Management Center (DMC):** focal point for planning, integrating, and managing Marine Corps distribution and storage.

**Logistics Capabilities Center (LCC):** principal advisor to the TLCM Corporate Board for enterprise logistics issues and provider of a centralized capability to identify, analyze, develop and facilitate the implementation and sustainment of integrated logistics capabilities.
**LOGCOM Integration**

Figure 1.6 graphically depicts the integration of the LOGCOM organization from the perspective of the customer. Interfacing on the left of the graphic at the Operating Forces (OPFORS) level, through the LOC, are HQMC, MARFORS, and MEFs, and on the right interfacing through the WSMC at the program level are MCSC and PEOs. As such, the LOC and the WSMC are LOGCOM’s customer-facing entities responsible for marshaling the deep resources and experience inherent in LOGCOM’s core competencies and high impact core value streams on behalf of their respective customers.

**1.4 Weapon Systems Management Center (WSMC)**

**Mission**

LOGCOM focal point for logistics support integration management focused on program level TLCM in support of ground weapons and future opportunities.

**Scope**

- Provide dedicated logistics customer support to PEOs and MCSC PMs
- Perform logistics chain integration for the PEO and PM, balancing the goals of program and enterprise level TLCM, including:
  - Product Support Strategy (PSS) assistance
  - Integration of LOGCOM core competencies and HICVS (Figure 1.4)
  - Identification of sustainment concerns leading to logistics solutions
- Perform acquisition support management, including:
  - Acquisition Planning, Configuration Management, and Technical Data Management
- Perform Performance Based Logistics (PBL) and/or traditional logistics approach functions, as appropriate.

**Customer Alignment**

- **Main Effort:** (1) Through Weapon System Support Managers (WSSMs) facilitating Weapon Systems Management Teams (WSMTs), provide direct program support to PEOs and PMs, acting as Logistic Chain Integrators between LOGCOM and MCSC, and (2) Develop logistics processes, tools, and strategies in concert with MCSC Competency Domains.
- **Supporting Effort:** Participate in and contribute to the integrated cross-functional support matrix fed from all LOGCOM Centers and Staff Departments, as well as the network of organic DoD and commercial support integrators and providers through which LOGCOM solutions are executed.
The WSMC is configured to address customer needs in three ways:

1. **Liaison Services** – providing dedicated, embedded logistics liaison services to designated PEO, MCSC, and other Joint services programs, educating the acquisition community on LOGCOM capabilities.

2. **Enterprise-Level Services** – collaborating with MCSC Competency Domains to facilitate end-to-end acquisition integration projects (process, tools, strategy, and training) while providing technical data management, acquisition planning, contract, and configuration management support services.

3. **Program-Level Services** – providing dedicated LCI and sustainment support services to Program Group commodity products through WSSMs facilitating WSMTs.

**WSMC Organization Chart**

This structure allows for focused Program Group alignment in the distribution of logistics support services. Specifically, the **Enterprise Integration Division (EID)** considers an enterprise perspective on behalf of the WSMC commodity groups and aligns with the following MCSC Program and Competency Domains:

- Systems Engineering, Interoperability, Architecture, and Technology (DC-SIAT)
- Programs – AC-PROGRAMS

The **Commodity Program Support Groups (CPSG)**, or program focused groups, are organized along the following MCSC commodity product lines:

**Command, Control, Computers, Communications, and Intelligence (C4I) Division**

- Information Systems and Infrastructure (ISI)
- MAGTF, Weapons & Sensors Development & Integration (MC2I)
- Communications, Intelligence & Networking Systems (CINS)
- PEO-LS Programs – G/ATOR and CAC2S
Combat Systems Division (CSD)
- Infantry Weapons Systems (IWS), OPTICS and ICE
- Armor & Fire Support Systems (AFSS)
- PEO-LS Programs – LW155, MPC, AAV, and ACV
- LAV
- TANKS

Ground Transportation & Engineer Systems (GTES) Division
- Ground Transportation & Engineer Systems (GTES)
- PEO-LS Programs – JLTV, LVSR, and MTVR

Consolidated Storage/Combat Equipment & Support Systems Division
- Combat Equipment & Support Systems (CESS)

These relationship assignments can be further understood by a review of the WSMC Support Map, as represented in Figure 1.8.

<table>
<thead>
<tr>
<th>WSMC Commodity Division</th>
<th>Teams Designation</th>
<th>Weapon Systems Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comm-Electric/Support Equip (CESE)</td>
<td>100</td>
<td>Networking/SATCOM/COMSEC (PMM-23)</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>Radar/Command &amp; Control (PMM-23/PEO-LS)</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>Comms/Radios/Intel (PMM-23/PM-INTEL)</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>CSE/TMDE/AL (PMM-31)</td>
</tr>
<tr>
<td>Combat Systems (CS)</td>
<td>500</td>
<td>LAV/TRASYS/RAR (PMM-13)</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>IWS/OPTICS/Non-Lethal/ICE (PMM-13)</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>FSS/AAS/LW155 (PMM-13/14)</td>
</tr>
<tr>
<td></td>
<td>800</td>
<td>AAUS/TANKS/MPC/APC (PEO-LS/PMM-14)</td>
</tr>
<tr>
<td>Ground Transport/Eng Systems (GTES)</td>
<td>900</td>
<td>CE-MHE/MCM/RZC (PMM-31)</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>EPS/ESE (PMM-31)</td>
</tr>
<tr>
<td></td>
<td>1100</td>
<td>MHTV/MTV/LVSR/MTVR (PEO-LS)</td>
</tr>
<tr>
<td></td>
<td>1200</td>
<td>MRAPs (Cougar/Buffalo/M-ATV)/JLTV/Husky (JMRAP/PEO-LS)</td>
</tr>
</tbody>
</table>

Table 1.3 – WSMC Support Table

The center circle and satellite spheres depict the WSMC support divisions and offices “facing” the MCSC, PEO LS, and Joint Services customers (represented by the perimeter rectangles and logos). The EID function (the large center circle) has the unique role of aligning to the acquisition and sustainment competency domains of MCSC while providing core process, tools, and strategies to the customer facing WSMC divisions and offices. The Liaison office is imbedded directly with the customer, while the Enterprise Integration and CPSG divisions operate from LOGCOM headquarters in Albany, GA.

2. Stakeholders
This section establishes the various constituencies that the WSSM will support, rely upon, or consider during their daily activities. Specifically:

- Subsection 2.1 summarily profiles the Customers – those stakeholders who are the recipients (direct or indirect) of WSMC Services.
- Subsection 2.2 provides background on Resources – useful organization and mission information on the Component units inside of LOGCOM that the WSSM relies upon for serving the customer’s Program Management Teams.
Subsection 2.3 clarifies the **Weapon System Management Team** concept, with details on why the team is needed, how it is applied, and how to set one up.

Collectively, these three subsections will provide the perspective to support the graphic in Figure 2.1.

**Figure 2.1 – Weapon System Management Team connecting to the Program Management Team through the WSSM.**

### 2.1 Customers

The WSMC has at least five notional customers. The term customer, in this context, can be defined as those groups that benefit directly from the WSMC’s delivery of logistics support and integration services. The five customers can be informally categorized as follows:

**Functional Customers**

From a day-to-day activities perspective, there are two primary functional customers – MCSC and PEO LS – one or both of which the WSMT through the WSSM will interface with for direct Program support. Acting in similar capacities, these separate Commands share infrastructure, methodologies, and competency resources to accomplish their respective missions. This subsection will focus exclusively on the functional makeup of these two customers [*also see Subsections 1.1 and 1.2 of this document for organizational overviews of MCSC and PEO LS*].

**Affiliate Customers**

The affiliate customers are those **LOGCOM units** who rely upon the WSMC to provide timely interface to the functional customer on their behalf. With the WSMC and the WSSM representing the strengths, capabilities, and interests of the LOGCOM service centers (namely LSMC, MMC, and DMC) directly to the functional customers, the service centers take on a dependent relationship with the WSMC that is customer-like in orientation. Somewhat paradoxically however, the affiliate customers are also the WSMC’s number one Resource [*as presented in Subsection 2.2 of this document*] for service provision to the functional customer. This important inverse relationship means that that WSSM must always regard the LOGCOM community as both a customer and a service resource.

**Ultimate Customers**
The **warfighter**. The warfighters of MARFORS, MARFORRES, and (through Joint initiatives) the UCC, are the ultimate customers of all LOGCOM activities. Few daily WSSM activities will require direct interface to the warfighter community, however as is the case with all Marine Corps SE activities, all efforts are ultimately expended in support of this customer, and every decision should be motivated by how it impacts their resultant success and safety.

The **American taxpayer**. In the same manner that we relentlessly consider the downstream mission and interests of the warfighter, it is imperative that we are ever mindful of the upstream trust bestowed upon us by the American taxpayer, our benefactor. This implicit trust should guide all DoD acquisition and sustainment initiatives to seek the highest value efforts and outcomes, without exception.

Since the ultimate customers are emblematic and require no further understanding, and the affiliate customers are covered from the perspective of their Resources “alter ego” in Subsection 2.2 of this document, the remainder of this subsection will focus exclusively on demystifying the functional customers (MCSC and PEO LS).

Subsequent text will create (or reinforce) awareness of:

- PM Offices (inside PGDs, Independent PMs, PEO LS, an Joint Programs),
- the makeup of Project Management Teams (PMTs), Core Competency Teams (CCTs) and Project Teams (PTs), and
- the utilization of Integrated Product and Process Development (IPPD), and Integrated Product Teams (IPTs), specifically the Logistics or Supportability IPTs.

**Functional Customers – MCSC and PEO LS**

While separate Commands, MCSC and PEO LS share a common support infrastructure and approach to program management. For simplicity, and to eliminate redundant documentation, the pertinent organizational structure of the customer will be described as that currently deployed by MCSC; however it should be assumed for the purposes of this subsection that, by and large, the supporting infrastructure that applies to the PM of a MCSC PGD or Independent Program also applies to PMs in PEO LS.

The core of MCSC is made up of seven PGDs and five Independent Programs (Tables 2.1 and 2.2 respectively). Each PGD has a Product Group Director (also abbreviated as PGD), typically 0-6 grade Colonels or SES civilians, who are responsible to the CG, MCSC for the execution of their assigned acquisition programs. PGDs are further subdivided into PM offices which are typically assigned a PMM number.

<table>
<thead>
<tr>
<th>PGD</th>
<th>Responsibilities</th>
<th>PM Offices</th>
</tr>
</thead>
</table>
| (IS&I) Information Systems & Infrastructure | Provides for timely delivery and sustainment of interoperable and integrated systems and infrastructure technology to meet the broad needs of the USMC. | - Marine Corps Network & Infrastructure Services (MCNIS) PMM 102  
- Computing Platforms and Services (CPS)  
- Total Force Information Technology Systems (TFITS) |
<table>
<thead>
<tr>
<th>PGD</th>
<th>Responsibilities</th>
<th>PM Offices</th>
</tr>
</thead>
</table>
| (MC2I) MAGTF C2, Weapons & Sensors Development & Integration | Responsible for the USMC portfolio of air and ground command and control (C2) systems, supporting operations centers, radar systems, and air-defense weapons systems.                                    | • Radar Systems (RS) PMM 112  
• MAGTF Command and Control Systems (MC2S)  
• Air Defense Weapon Systems / Unmanned Systems (ADWS/US)  
• MC2I Coordination Team (MCT) |
| (CINS) Communications, Intelligence, & Networking Systems | Delivers world-class communications, intelligence and networking systems and equipment to the OPFORS.                                                                                                           | • Communication & Networking Systems (CNS) PMM 122  
• Counter Radio (Radio Controlled Improvised Explosive Device (RCIED)) Electronic Warfare (CREW)  
• Intel Systems (INTEL) PMM 123 |
| (IWS) Infantry Weapons Systems | Equips the OPFORS with the infantry weapons and systems necessary to accomplish infantry, anti-armor, amphibious raids, reconnaissance, target acquisition, force protection, and non-lethal systems missions. IWS is responsible for the process by which the USMC addresses the rifle squad as an integrated system and defines the Marine Expeditionary Rifle Squad of the future. | • Recon & Amphibious Raids (RAR) PMM 131  
• Infantry Weapons (IW) PMM 132  
• Anti-Armor Systems (AAS) PMM 133  
• Marine Expeditionary Rifle Squad (MERS) PMM 134  
• Optics and Non-Lethal Systems (ONLS) |
• Tank Systems (TANKS) PMM 142  
• Assault Amphibious Vehicle Systems (AAVS) PMM 143  
• Expeditionary Fire Support Systems (EFSS) PMM 144  
• High Mobility Artillery Rocket System (HIMARS) PMM 145 |
<table>
<thead>
<tr>
<th>PGD</th>
<th>Responsibilities</th>
<th>PM Offices</th>
</tr>
</thead>
</table>
| (GTES) Ground Transportation & Engineer Systems | Equips the OPFORS with superior tactical ground transportation, power generation and stored power, and engineer systems. | • Motor Transport (MT) PMM 151
• Engineer Systems (ES) PMM 152
• Expeditionary Power Systems (EPS) PMM 153 |
| (CESS) Combat Equipment & Support Systems | Equips the OPFORS with infantry combat equipment and unit support systems that maximize individual mobility, survivability, and sustainability necessary to accomplish the unit mission. | • Test, Measurement, & Diagnostic Equipment (TMDE) PMM 161
• Infantry Combat Equipment (ICE) PMM 162
• Chemical, Biological, Radiological & Nuclear Defense Systems (CBRN) PMM 163 |
| (PEO LS) Program Executive Officer Land Systems | PEO LS is responsible for the USMC portfolio of ACAT I and II land weapon systems programs. | • Ground/Air Task Oriented Radar System (G/ATOR)
• Tanks and Lightweight 155mm Towed Howitzer (LW 155) (Joint)
• Medium Tactical Vehicle Replacement (MTVR)
• Marine Personnel Carrier (MPC)
• Joint Light Tactical Vehicle (JLTV)
• Logistics Vehicle System Replacement (LVSR)
• Common Aviation Command and Control System (CAC2S)
• Amphibious Combat Vehicle (ACV) |

Table 2.1 – Summary of MCSC Product Group Directorates and the PEO LS.

<table>
<thead>
<tr>
<th>Other PM Office</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>(PM AMMO)</td>
<td>PM AMMO conducts research, development, and acquisition activities and executes post-production total</td>
</tr>
</tbody>
</table>
### Other PM Office | Responsibilities
---|---
Ammunition | life cycle management support for all conventional ground ammunition required by Marine forces to train for and successfully conduct Expeditionary Maneuver Warfare.

(PM LAV) Light Armored Vehicle | PM LAV provides technologically superior weapons systems while supplying focused life cycle management to customers.

(Joint MRAP) Joint Mine Resistant Ambush Protected Vehicle | Joint MRAP supports three categories of the high priority Mine Resistant Ambush Protected family of mission critical vehicles:
- Cat I: Urban Combat – supports operations in restricted and confined spaces including mounted patrols, reconnaissance, communications and command and control.
- Cat II: Multi-Mission - supporting multi-mission operations such as convoy lead, troop transport, EOD, ambulance and combat engineering.
- Cat III: Mine/EOD Clearance – supports mine/IED clearance, provides EOD/Combat Engineer teams survivable ground mobility platforms.

(JEAP) Joint Equipment Assessment Program | JEAP is chartered by Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) and serves as the lead organization for integrated technical and business processes supporting the surveillance, assessment, and proper reutilization or disposal of CBD equipment. Its CBD mission is to provide assistance to the JPEO and Joint Project Managers (JPMs), Components, and other Federal agencies in their TLCM responsibilities (excluding CBD medical products).

(PM TRASYS) Training Systems | PM TRASYS serves as the Marine Corps’ center of excellence in providing training solutions for Marines in a way that enables them to effectively accomplish their mission.

(PM RS) Robotic Systems | PM RS fields reliable, relevant robotic systems quickly and safely while building trust and credibility with the warfighter and Department of Defense by delivering safe, affordable, and capable products and by using best business practices for acquisition excellence and life cycle management.

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Table 2.2 – Summary of MCSC/Joint Independent Program Managers.

Program Managers are often responsible for more than one program and several “projects” within each program in their PMM, each of which is assigned to a project officer under the PM. A group of acquisition professionals collectively supporting a specific PMM may also be referred to as a Program Management Team (PMT) which may or may not be synonymous with a Project Team (PT), depending on the size and makeup of the specific program. Generally speaking however, a
PT (described in Table 2.4, and depicted graphically as part of a PMT in Figure 2.1) is a subset of a PMT.

KEY POINT: The PM is the customer; the PM’s Logisticians are the point of interface.

The PM is the linch pin in this customer organization, and the appropriate focal point for all WSMC services. The DoDI 5000.1 defines the PM as “…the designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user’s operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting to the Milestone Decision Authority (MDA).” Appropriately then, most of LOGCOM’s emphasis on supporting MCSC is directed squarely on the PM, however in reality most of the WSSM’s day-to-day activities will be targeted at the Life Cycle Logisticians (LCLs) who work for the PM, specifically the PT LCLs and the PMT Lead LCLs. See Appendix E of this document for responsibility lists of both Acquisition-Focused and Sustainment-Focused MCSC LCLs.

Each PGD maintains a single Core Competency Team (CCT), a PM for each program, and PTs within the programs to carry out appropriate projects and tasks. “Independent” PMs perform the same functions as the PGDs, however usually for a smaller number of programs, and therefore may maintain certain key competencies (e.g., systems engineering) on the PM’s support staff, in lieu of a dedicated PMT. Independent PMs will still utilize PTs as necessary. Tables 2.3 and 2.4 identify the roles and responsibilities in CCTs and PTs, respectively.

Core Competency Teams (CCT)

The CCT is tasked with providing strategic planning assistance, business, engineering and logistics advice, and direct technical support to the PG Director, the PMs, and the acquisition professionals of the PGD. Its focus is to support the efficient management of programs, within affordability constraints, in order to effectively procure high quality, responsive weapons systems for the OPFORS.

Each PMT is composed of a cadre of highly skilled, knowledgeable, and experienced Subject Matter Experts (SMEs) who individually and collectively provide the PMTs with responsive, risk-free counsel on trends and methodologies, as well as problem or issue resolution. The PMT’s primary customer is the PT member, and their primary role is providing consultation and mentoring to PMTs.

<table>
<thead>
<tr>
<th>Roles</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Support Manager (PSM)</td>
<td>The PSM plays a pivotal role in the CCT. Because of their background the PSM is expected to be an expert in and able to perform in two or more disciplines. The PSM must be Level III certified in Program Management, which in and of itself requires a level of expertise and familiarity in all areas of acquisition (i.e., financial management, systems engineering, logistics, etc.) such that they are capable of providing backup support to most of the other team members where appropriate). Since the PSM’s duties include integrating and recommending product group goals and objectives for the PGD, in many instances this person may act as the team focal point as well as represent the entire team to other internal Command and external groups.</td>
</tr>
<tr>
<td>Roles</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Financial Manager (FM)</td>
<td>The FM is the Senior Financial Advisor within his/her Product Group. This individual is responsible for leading the CCT on all strategic financial issues by conducting continual analysis for existing and potential programmatic problem areas. In carrying out this analysis, the LFM, in concert with the PGD and other CCT members, will evaluate the full range of implications for all alternatives considered and their effect on existing policy decisions.</td>
</tr>
<tr>
<td>Engineer (Eng)</td>
<td>The Eng is the senior engineer on the Product Group’s CCT, and will facilitate the efforts of Systems Engineering (SE) in the PGD and ensure that SE is implemented consistently for all programs. The LEng also has a role as a member of the engineering functional integration team, and will be involved in establishing technical criteria during material solution determination and program initiation, and will lead the technical effort of programs during the milestone team assessment. The Eng will function in a support and mentoring role to program engineers during later stages of a program’s development.</td>
</tr>
<tr>
<td>Life Cycle Logistician (LCL)</td>
<td>The LCL provides guidance and direction to the logistics managers to ensure that plans will meet the cost, schedule, performance and integration aspects of supportability for weapons systems and equipment.</td>
</tr>
<tr>
<td>Contracting Officer (CO)</td>
<td>The CO serves as the PG’s senior Contracting Officer with authority for executing all types of contracts, grants, other transactions, amendments, change orders and related actions.</td>
</tr>
<tr>
<td>Technologist (Tech)</td>
<td>The Tech:</td>
</tr>
<tr>
<td></td>
<td>• Maintains PG map of MCWL, ONR and other service technology research programs for potential “customer” programs on PM Teams.</td>
</tr>
<tr>
<td></td>
<td>• Facilitates and integrates PM team’s use of Small Business Innovation Research (SBIR), Foreign Comparative Test (FCT), Commercial Operational and Support Savings Initiative (COSSI), etc.</td>
</tr>
<tr>
<td></td>
<td>• Facilitates global technology search for PM Teams (via interface with International Programs’ Foreign Military Sales (FMS) Program).</td>
</tr>
<tr>
<td></td>
<td>• Serves as a member of the Engineering Functional Integration Team (EN FIT) to provide collaborative solutions to program management and general business issues and improve competencies, skills, and abilities of workforce members.</td>
</tr>
</tbody>
</table>
Project Teams

A PT is generally comprised of a Project Team Leader (PTL) and a SME from each of four critical competency areas applicable to all programs, namely: budgeting, engineering, logistics, and contracting. Just as a PM may be responsible for more than one program, a PT member may belong to other PTs (in the same PMM) consisting of different PT members.

<table>
<thead>
<tr>
<th>PT Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Team Leader (PTL)</td>
<td>The PTL is responsible for the day-to-day management and operations of the assigned acquisition program(s). The PTL supports the PM with system development, security issues, certifications, program costs, schedule assessments, preparing POM submissions, and developing system documentation. He or she interacts with the CCT prior to major decision events and keeps the PM informed of the project’s overall progress.</td>
</tr>
<tr>
<td>Budget Analyst</td>
<td>The Budget Analyst maintains accurate accounting of budget controls, and assists the PTL in preparation of budget exhibits, funding documents, and tracking of financial execution. The analyst also assists the PTL in the preparation of POM initiative documentation.</td>
</tr>
<tr>
<td>Systems Engineer</td>
<td>The Systems Engineer develops, oversees and monitors the employment of systems engineering and technical management disciplines within the PT. The engineer ensures the team’s readiness for technical, safety, and risk management reviews.</td>
</tr>
<tr>
<td>Life Cycle Logistician (LCL)</td>
<td>The LCL develops, oversees, and monitors the implementation of the ten logistics elements throughout the program life cycle, ensuring the team’s readiness for logistics reviews, milestone and fielding decisions, and ILAs. The CCT LCL can assist with updates on Command ILA processes and current guidance regarding application of PBL.</td>
</tr>
<tr>
<td>Contracting Officer</td>
<td>The Contracting Officer assists and advises the PT on all phases of the contracting process. The contract planning and award processes are a team effort and the PMT is responsible for preparing significant portions of the procurement package related to their assigned programs. The Contracting Officer is the only government official who is authorized to award a contract and make contract changes.</td>
</tr>
</tbody>
</table>

NOTE: Support Contractors can be members of a project team and may serve in any capacity as an acquisition professional. A point to remember is that contractors can only recommend and advise and cannot make decisions on the Government’s behalf.

Integrated Product and Process Development (IPPD)

IPPD is a management process that integrates all activities from product concept through production/field support. It uses a multi-functional team to optimize the product and its
manufacturing and sustainment processes simultaneously to meet cost and performance objectives. IPPD evolved from concurrent engineering and the philosophies of quality management. It is a system engineering process integrated with sound business practices and common sense decision making.

The basic principles of IPPD are customer focus, concurrent development of products and processes, early and continuous life cycle planning, maximum flexibility to optimize contractor approaches, robust design and improved process capability, event-driven scheduling, multi-disciplinary teamwork, and empowerment.

**Integrated Product Teams (IPTs)**

IPTs are the means through which IPPD is implemented. They are its fundamental building blocks. These cross-functional teams are formed for the specific purpose of delivering a product for an external or internal customer.

IPT members should have complementary skills. They are committed to a common purpose, common performance objectives, and a common approach for which they hold themselves mutually accountable. Members of an integrated product team represent the technical, manufacturing, business, and support organizations that are critical to developing, procuring, and supporting the product. Each individual should offer his or her expertise to the team and, equally important, understand and respect the expertise of the other members of the team. Team members work together to achieve the team’s objectives.

In the context of the acquisition process, each program has at least two basic types of IPTs: the Overarching IPT (OIPT), which provides senior staff assistance and oversight across the program, and the Working-Level IPT (WIPT), which is formed as necessary and typically focuses on a particular discipline or functional area such as logistics, testing, cost/performance, or contracting. For small projects, one WIPT may be formed to focus on all of these disciplines across the program. On large, complicated projects an “integrating” IPT may be formed with membership from each of the functional WIPTs to ensure appropriate alignment across all efforts.

**Logistics WIPT (LOG-IPT)**

Of particular interest to the WSSM is the LOG-IPT. PMs will generally require the establishment of a LOG-IPT very early in the program’s life cycle, and the WSSM should pursue membership immediately upon assignment to a program.

The importance of the WSSM’s role in the LOG-IPT cannot be understated, and understanding and participating in the activities and decisions of a LOG-IPT are paramount to successful product supportability. For example, with few exceptions, most of the cost of a program is in the cost of ownership (i.e., the support of the system throughout its operational life), however many members of the acquisition community are primarily focused on addressing short term problems that will arise within the first few years of a program’s life. The WSSM, on the other hand, while also dealing with short term problems, must give considerable thought to the problems that will arise in the distant future and set about influencing the design of the system (if it is a development program) and the design of the support structure. For example, assisting in the development of supportability performance requirements that are quantifiable and testable so that the decision-makers can gain insight into the operational suitability of the product and the logistics planners can plan for the support of the item.

**2.2 Resources**

The WSMC is one of six solution Centers that make up the core service delivery enablers of the LOGCOM System. Each Center represents a vertical logistics competency that is fed into the notional System, thereby contributing both uniquely and collectively toward the Command goal of providing seamless LCI to the warfighter community. Table 2.5 provides a summary of the mission and key functions of the six solution centers, supplementing a more detailed overview of the WSMC in Subsection 1.4 of this document, and rounding out a presentation of the six Center functions.
<table>
<thead>
<tr>
<th>LOGCOM Center</th>
<th>Stated Mission</th>
<th>Key Functions</th>
</tr>
</thead>
</table>
| Operation Directorate (OpsDir) | Staff, develop, coordinate, and monitor LOGCOM operational matters pertaining to strategic and contingency planning, MSTs, war reserve materiel requirement, and logistics customer services. Manage opportunities with potential alignment to existing/future Command-managed programs. | • Chief Operations Officer  
• Member TLCM Corporate Board  
• Perform contingency, exercise & war planning  
• Develop strategic/operation plans  
• Perform opportunity management for expanding logistics capabilities  
• Call Center: 877-564-8762/800-952-3352  
• MSTs forward and rear  
• Provide customer liaisons (Defense Logistics Agency (DLA), National Capital Region (NCR), others as necessary)  
• USMC Secretariat Action Officer to the Joint Logistics Commanders (JLC) |
| Logistics Capabilities Center (LCC) | Identify, analyze, develop, and facilitate the implementation and sustainment of integrated logistics solutions that optimize logistics chain management. | • Chief Knowledge Officer (CKO)  
• FAM/FDM/FNC EA support for logistics systems  
• Principal advisor to the TLCM Corporate Board for enterprise logistics issues  
• Analyze and advise USMC decision makers regarding enterprise logistics  
• USMC screening/action point for Product Quality Deficiency Reports (PQDRs), beneficial suggestions, and Supply Discrepancy Reports (SDRs)  
• Explore and develop competitive, comprehensive, and integrated logistics capabilities for the USMC  
• Command Quality Officer  
• Internal and external performance management and |
<table>
<thead>
<tr>
<th>LOGCOM Center</th>
<th>Stated Mission</th>
<th>Key Functions</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>independent assessment (i.e., LOGMOD/operational architecture metrics, quality management support, supply chain, PQDRs/SDRs, etc.)</td>
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<tr>
<td></td>
<td></td>
<td>• Develop and execute marketing communications plans</td>
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<tr>
<td></td>
<td></td>
<td>• Facilitate continuous process improvement of logistics capabilities</td>
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<tr>
<td></td>
<td></td>
<td>• Public/Private Partnership development</td>
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<td></td>
<td></td>
<td>• Bid proposal process owner</td>
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<tr>
<td></td>
<td></td>
<td>• PBL business manager for LOGCOM</td>
</tr>
<tr>
<td>Logistics Services Management Center</td>
<td>Plan, manage, execute, oversee, integrate, and improve the ground equipment supply chain, ensuring effective and efficient support to the warfighter.</td>
<td>• E2E supply chain manager for the USMC</td>
</tr>
<tr>
<td>(LSMC)</td>
<td></td>
<td>• Sustainment support management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- strategic equipment planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- requirements coordination</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- reporting/stats/funds management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Voice of the customer for supply matters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Perform wholesale inventory management functions (MPB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Perform Centralized Retail Supply Management (RIPs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Manage the distribution and redistribution of USMC Principle End Items (PEIs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Perform supplier relationship management for all classes of supply</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Warranty Administrator for the USMC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Integrate Third Party Logistics (3PL)/Original Equipment</td>
</tr>
<tr>
<td>LOGCOM Center</td>
<td>Stated Mission</td>
<td>Key Functions</td>
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<tr>
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</tbody>
</table>
| Maintenance Management Center (MMC) | Monitor depot operations and performance data and manage available resources to meet maintenance demands. Provide the USMC a focal point for depot maintenance issues, technical direction, and staff cognizance for Maintenance Centers Albany and Barstow and other sources of repair. Plan, schedule, coordinate, and source all depot-level workload including commercial sources of repair to meet customer requirements and maintain essential depot maintenance capability. | Manufacturer (OEM) suppliers into the USMC supply chain  
• Perform Radiological Control (RADCON) Management  
• Perform asset visibility and returns management  
• Manage GFE/GFM/CFM/Loan programs  
• Operational Maintenance Management Officer (MMO) integration for the USMC  
• Logistics Element Manager (LEM) for Depot-Level Service or Repair (DLSOR)  
• Provide staff cognizance for Maintenance Centers Albany and Barstow  
• Provide maintenance management support to the Principal Advisor to the TLCM Corporate Board (i.e., DLSOR)  
• Make and monitor sourcing decisions to ensure sustainment maintenance capabilities (intermediate and depot) are optimized  
• Depot-Level Maintenance Program (DLMP) execution management  
• Joint Depot Maintenance Activity Group (JDMAG) functions  
• Industrial Forecasting Support Groups (IFSG) management  
• Monitor and report on Title 10 compliance (i.e., Core, 50-50, etc.)  
• Develop depot strategic plan(s)  
• Maintenance Interservice Support Management Officer (MISMO) |
<table>
<thead>
<tr>
<th>LOGCOM Center</th>
<th>Stated Mission</th>
<th>Key Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Management Center (DMC)</td>
<td>Plan, integrate, and manage USMC distribution and storage.</td>
<td>• Maintenance manager for all levels of maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• E2E Distribution Manager for the USMC</td>
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<tr>
<td></td>
<td></td>
<td>• Perform distribution capacity management</td>
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<td></td>
<td></td>
<td>• Air Clearance Authority (ACA) for the USMC</td>
</tr>
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<td></td>
<td></td>
<td>• Single process manager and LEM for USMC PHS&amp;T</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Executes technical direction and staff cognizance through policy and procedures to accomplish unity of effort for storage operations and enterprise distribution management for LOGCOM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Focal point for resolution of enterprise distribution management related issues for the CMC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Plan, manage, control, and provide oversight for DLA distribution services provided to the USMC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Coordinate the assignment of missions, objectives, and procedures relative to the stores distribution system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Exercise operational control over the Fleet Support Divisions (FSDs), direct their activities and assign workload</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provide publications management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Perform requirements determination and sourcing of collateral and SL-3 equipment in support of PEI distribution</td>
</tr>
<tr>
<td>Weapon Systems Management Center (WSMC)</td>
<td>LOGCOM focal point for logistics support integration management focused on program level TLCM in</td>
<td>• Provide dedicated PEO and PG/PM customer service support</td>
</tr>
<tr>
<td>LOGCOM Center</td>
<td>Stated Mission</td>
<td>Key Functions</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
</tbody>
</table>
|               | support of ground weapons and future opportunities. | • Embedded Liaisons with key programs in PEO LS and PGDs  
• Facilitate LCI, balancing the goals of program and enterprise level TLCM  
  - Integration of supply, maintenance, distribution, prepositioning and information  
  - Product Support Provider (PSP) performance assessment  
  - PSS development assistance  
• Act as Product Support Integrator (PSI), when selected  
  - Integration of all IPS elements  
• Identify sustainment concerns and provide integrated logistics solutions  
• Perform Acquisition Support Management  
  - Acquisition Planning Support  
  - Configuration Status Accounting  
  - Data Management  
• PBL process owner for LOGCOM |

Table 2.5 – Summary of the six solution centers in the LOGCOM System.

Complementing the solution centers under the services umbrella of LOGCOM are the two Maintenance Centers (Albany and Barstow, MC(A) and MC(B) respectively), and the Maritime Prepositioning Force (MPF) of the Blount Island Command (BIC) in Jacksonville, FL.

Collectively these LOGCOM Components are the service delivery resources that the WSSM will interface with as necessary to provide integrated logistics services (on behalf of all of LOGCOM) to the WSMC’s functional customers, MCSC and PEO LS. Broken down further, each Component represents a source of vertical competency SMEs that, when marshaled by the WSSM, will make up the Weapon System Management Team (WSMT). In this high value capacity, the WSSM is a “face and facilitator” of LOGCOM’s vast capabilities dedicated to enabling TLCM of warfighting tools and equipment.
Figure 2.2 informally categorizes these resources into logical pockets of support that enable the WSSM to effectively “face” the customer. More detail on this support can be found in Subsection 2.3 of this document.
Figure 2.3 – The LOGCOM System
2.3 Weapon Systems Management Team (WSMT)

John Mosher, noted author of the Integrated Logistics Systems Handbook, observes that logistics is a broad field of endeavor consisting of many interdisciplinary activities; but to be characterized as logistics, these and other related functions/activities must be performed, managed, and organized as integrated systems and subsystems. Further, he notes that the depth of knowledge implied for the professional personnel involved (in logistics) is considerable. He states that it is certainly more than one could reasonably expect to find within a single individual and that the necessary systems viewpoint (with proper attention to details) suggests a team composed of experts.

Hence the concept of the WSMT, providing dedicated LCI to the PM community, as facilitated by the WSSM.

Figure 2.1 is shown again here, reemphasizing the relationship of the experts in the WSMT and the PMT.

Figure 2.1 – Weapon Systems Management Team connecting to the Program Management Team through the WSSM.

Complementary to Figure 2.1, Table 2.6 (below) provides more detail on the strengths of the WSMC and LOGCOM SMEs, while also acknowledging the concentrated knowledge and experience resources available to the WSMT through ad hoc support requests. The availability of these ad hoc resources to the WSSM’s Weapon System Management Team, when combined with the core capabilities represented by the SMEs of the six LOGCOM centers, underscores the true depth of capacity and proficiency that a WSMT can bring to bear for a PMT. It is the WSSM’s responsibility to identify the SME requirements essential to the success of their WSMT, and then look across this spectrum of experience and solution-providing talent to add the best and brightest available to their team.

<table>
<thead>
<tr>
<th>Weapon System Management Team (WSMT)</th>
<th>Program Management Team (PMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSMC SMEs</td>
<td>Project Team(s)</td>
</tr>
<tr>
<td>Tech Data Mgmt</td>
<td>PM Manager</td>
</tr>
<tr>
<td>Configuration Mgmt</td>
<td>Project Team Leader</td>
</tr>
<tr>
<td>Acquisition Planning</td>
<td>Budget Analyst</td>
</tr>
<tr>
<td>WSMC Core Support</td>
<td>Systems Engineer</td>
</tr>
<tr>
<td>Item Mgmt</td>
<td>Life Cycle Logistician</td>
</tr>
<tr>
<td>LOGCOM SMEs</td>
<td>Equipment Specialist</td>
</tr>
<tr>
<td>Retail Supply (LSMC)</td>
<td>Contracting Officer</td>
</tr>
<tr>
<td>Maintenance (MMC)</td>
<td></td>
</tr>
<tr>
<td>Distribution (DMC)</td>
<td></td>
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<tr>
<td>Capabilities (LCC)</td>
<td></td>
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<tr>
<td>Operations (OpsDir)</td>
<td></td>
</tr>
<tr>
<td>Prepositioning (BIC)</td>
<td></td>
</tr>
<tr>
<td>Maintenance Execution (MDMC)</td>
<td></td>
</tr>
<tr>
<td>LOGCOM FWD (OFC)</td>
<td>GPO Dir</td>
</tr>
<tr>
<td></td>
<td>SBT</td>
</tr>
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<td></td>
<td>AC Staff</td>
</tr>
</tbody>
</table>

Weapon System Management Team Benefiting from LOGCOM’s Exceptional, Flexible Resource Pool

<table>
<thead>
<tr>
<th>WSMC Competencies</th>
<th>LOGCOM Center Competencies</th>
<th>Ad Hoc Support Competencies</th>
</tr>
</thead>
</table>
Table 2.6 – WSMT Exceptional Resource Pool.

**WSMT Setup**

Upon being assigned to a new or existing program, one of the first tasks the WSSM will undertake is the creation of a WSMT to support the assignment. The following four steps will help guide the setup of a new WSMT.

1. **Prepare a Program Profile, inclusive of:**
   
   a. a brief program description (include DAMS status and ACAT designation)
   b. a list of MCSC/PEO participants (PM, PTL, LCL, Equipment Specialist, etc)
   c. an assessment of program requirements (summarize briefly what will be required of LOGCOM)
   d. similar acquisition programs (current and/or historical)
   e. a summary list of available program documentation (i.e., ICD, AoA, etc.)

2. **Using the Program Profile, identify WSMC and LOGCOM SME requirements.**
a. by SME unit, document a brief description of the skill requirement and monthly time commitment estimate
b. assign names where known, collaborate with peers or CPSG Director where unknown

3. Solicit WSMT membership.
   a. submit formal request through the LOGCOM Tasker System
   b. attach Program Profile (see #1 above), WSMT Charter summary, events calendar with meeting schedule for current Quarter (if possible)
   c. under separate cover, forward invitees electronic copies of available program documentation (i.e., ICD, AoA, etc.)

4. Maintain a roster of all WSMT members.
   a. provide your CPSG Director with a consolidated list of WSMT members for each relevant WSMT

While the aforementioned four steps do provide some essential structure, the process for preparing for and implementing a WSMT is largely informal - by design – in order to allow the WSSM and the SMEs as much latitude, flexibility, and discretion as possible to customize the most effective WSMT for a given program. Having said this, it is imperative that the WSSM understand the important role that well-structured information flow, sound leadership, and effective time management play in a well run WSMT. The conscientious and productive WSSM recognizes the many competing commitments that SMEs have and prepares for an efficient use of their time while fostering an appropriate, reciprocal expectation for high quality SME preparation and participation.

WSMT Charter and Policies
[This will be completed in Phase 2 of the OGWSSM development.]

3. WSSM/WSMT - Baseline Competencies

The term “baseline,” as used here, can be defined as "a minimum or starting point." Within that context, Section 3 attempts to establish a baseline for topical awareness and information competence that a WSSM/WSMT member should have while carrying out their daily responsibilities. Toward that end, three simple goals are attempted in Section 3:

1. Establish an organizationally approved representation of key topics that the WSSM can use and reference with certainty and consistency.
2. Establish a minimum awareness requirement by key topic that the WSSM can use as a springboard to broadening their personal and professional knowledge.
3. Establish an educational reference tool for individuals and entities in support of and supported by the WSSM.

Specifically:

- Subsection 3.1 sets forth Baseline Knowledge Requirements – eleven key acquisition and sustainment topics/concepts that lay an essential foundation for professionals providing logistics chain integration.
- Subsection 3.2 establishes Category and Product Competency – the minimum knowledge and desktop information that a WSSM should gather and maintain regarding their Product Group Category and each product that they support. [This subsection will be completed in Phase 2 of the OGWSSM development.]
- Subsection 3.3 reemphasizes Security Awareness – reminders and clarifications related to information security and the protection of national defense interests. [This subsection will be completed in Phase 2 of the OGWSSM development.]

The information in Section 3 is expected to evolve, as the WSMC and greater LOGCOM community of Centers and SMEs deliberate on and refine knowledge standards and requirements.
3.1 Baseline Knowledge Requirements (BKR)
For the WSSM, BKR covers key topics or concepts that the WSSM should endeavor to maintain proficiency in, such that comprehensive awareness thereof presents a strong and credible knowledge foundation. Demonstrating command of BKR (in addition to category, product, and core LOGCOM competencies) will result in critical respect, confidence, and buy-in of all participants along the logistics integration chain.

Eleven topics are emphasized in Subsection 3.1, to varying degrees of detail. In all cases the topical information provided is intended to be an overview and starting point. The conscientious WSSM will advance their knowledge in each topic by pursuing further study and peer discussion. The subsections herein can be considered in the context of four loosely presented categories, as follows:

**Overarching Success Concepts**
- 3.1.1 Total Life Cycle Management (TLCM), Total Life Cycle Systems Management (TLCSM)
- 3.1.2 System Operational Effectiveness (SOE)

**Upstream Program Influences**
- 3.1.3 DoD Decision Support System (PPBE, JCIDS, DAS)
- 3.1.4 Marine Corps Combat Development Command (MCCDC)

**Critical Decision-Making Tools**
- 3.1.5 Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF)
- 3.1.6 Integrated Product Support (IPS)
- 3.1.7 Performance Based Logistics (PBL)
- 3.1.8 Core, 50-50

**WSMC Competencies**
- 3.1.9 Acquisition Planning
- 3.1.10 Configuration Management (CM)
- 3.1.11 Technical Data Management (TDM)

Each subsection contains references to one or more sources of information on the respective topic. These references are by no means comprehensive, as it is widely understood that DoD acquisition management knowledge is vast and nearly limitless, however like Section 3 itself, the references represent an ideal jumping off point for intelligence refinement.

3.1.1 Total Life Cycle Management (TLCM), Total Life Cycle Systems Management (TLCSM)

![Figure 3.1 – TLCM continuum.](image)
TLCM is accomplished by *integrating* the **enterprise-level** activities (Figure 3.1) and interests of all stakeholders participating in the total life cycle of weapon systems and equipment. The criticality of efficient and effective TLCM is underscored by the many challenges intrinsic to melding inherently vertical processes across numerous, disparate organizations. Misaligned goals will always result in substandard outcomes. Successful integration of life cycle activities and processes, or, effective TLCM, leads to:

- Effective program planning for procurement, operation, sustainment, and disposal;
- Unfettered total ownership cost (TOC) visibility for budgeting and execution;
- Enhanced asset management and sustainment capability across the enterprise;
- Enhanced supply chain management (SCM) across the enterprise;
- Enhanced policy effectiveness and system performance assessments;
- The highest probability that warfighting equipment will be reliable, maintainable, supportable, and ultimately available, for use when and where needed at minimal expense and effort.

The eight phases that guide TLCM in parallel with the DAMS are depicted below. More information on the activities of these phases can be found in **MCO 4000.57A Marine Corps Total Life Cycle Management** (23 Dec 2009).

1. Planning & Analysis
2. Materiel Solutions Determination
3. Technology Development
4. Engineering & Manufacturing Development
5. Production and Deployment
6. Fielding
7. Operation & Support
8. Disposal

**Total Life Cycle Systems Management (TLCSM)**

TLCSM takes a perspective similar to TLCM, however its focus is at the program-level rather than enterprise. Section 11.7 of the Defense Acquisition Guidebook provides that the TLCSM approach to major systems decision making is a way to account for some of the total ownership categories that are difficult to address. The TLCSM approach, which is principally a PM responsibility, requires programs to base major decisions on system-wide analyses and the life cycle consequences of those decisions on system performance and affordability [see Subsection 3.1.2 of this document]. Examples of these analyses are the business cases and cost estimates that support the acquisition (i.e., affordability assessments, analyses of alternatives, cost-performance trades, and iterative establishment of program cost goals). The refined, detailed, and discrete life cycle cost estimates used within the program office should support internal, program office decision making such as the evaluation of engineering changes or in competitive source selections.

**3.1.2 System Operational Effectiveness (SOE)**

SOE, as an applied concept, is manifested in the PMT’s composite consideration of performance, availability, process efficiency, and total ownership cost - across the entire system/product life cycle. In appropriate lockstep with the responsibilities of the WSSM, the objectives of the SOE concept can best be achieved through influencing early design and architecture, and by focusing on sustainment output. Indeed, reliability, reduced logistics footprint, and reduced system life cycle cost are most effectively achieved through inclusion of SOE from the very beginning of a program - starting with the definition of required capabilities.
**Design for Support, Support the Design**

Designing for optimal SOE provides the balance that is critical to the success of any program. The emphasis is not only on the reliability and maintainability of the system capability (‘Design for Support’), but also on the cost-effective responsiveness and relevance of the support infrastructure (‘Support the Design’). Put another way, SOE provides a working model that PMTs use to balance system capabilities against system sustainment. This overarching perspective provides a context for the “trade space” available to a PM while he/she endeavors to maximize operational effectiveness. To be sure however, SOE requires proactive, coordinated involvement of stakeholders from the requirements, acquisition, logistics, warfighter, and industry constituencies. This applies in the same manner to new weapon systems as it does to modifications/upgrades of existing, fielded systems. In all cases, full stakeholder participation is required when ‘designing for support,’ then ‘designing the support,’ and finally ‘supporting the design.’ Figure 3.2 introduces (a variation of) a factors hierarchy leading to affordable SOE.

![System Operational Effectiveness factors hierarchy.](image)

The conscientious WSSM can ensure comprehensive understanding and applicability of this model by thoroughly absorbing Sections 5.2 and 5.2 of the *Defense Acquisition Guidebook*, and all of the Office of the Secretary of Defense’s (OSD) *Supportability Guide* (24 OCT 03), where the SOE concept is afforded detailed explanation.

**3.1.3 DoD Decision Support System (PPBE, JCIDS, DAS)**

The DoD has three interdependent decision-making support systems that are intended to efficiently guide all Components through a thorough process (termed Big “A”) of strategic planning, resource allocation, capabilities development, systems acquisition, and systems sustainment. Figure 3.3 provides a common, simplified graphical representation of the three overlapping systems and their respective guidance series; a brief summary of each support system follows.
Planning, Programming, Budgeting and Execution (PPBE) Process

The PPBE process is used to craft strategic plans, develop programs, and determine resources that will satisfy the demands of the National Security Strategy within resource constraints. In the PPBE process, the Secretary of Defense establishes policies, strategy, and prioritized goals for the DoD, which are subsequently used to guide resource allocation decisions that balance the guidance with fiscal constraints.

As the title suggests, the PPBE process itself consists of four distinct but overlapping phases:

Planning

In the planning phase, the Office of the Secretary of Defense and the Joint Staff articulate national defense policies and military strategy, known as Strategic Planning Guidance (SPG). SPG is further refined into a set of fiscally constrained guidance and priorities (e.g., modernization, readiness and sustainability, supporting business processes, infrastructure activities, etc.) for program development in a document known as the Joint Programming Guidance (JPG). Using this guidance, DoD Components develop a POM in the planning and programming phases.

Programming

In the programming phase, each DoD Component develops a POM with a goal of constructing a balanced set of programs that respond to the JPG. The POM provides a fairly detailed and comprehensive description of the proposed programs, including a time-phased allocation of resources (forces, funding, and manpower) by program projected six years into the future. In addition, the DoD Component may describe important programs not fully funded (or not funded at all) in the POM, and assess risks associated with the shortfalls. Senior leadership and the Joint Staff review each POM to help integrate the DoD Component POMs into an overall coherent defense program.

Budgeting

The budgeting phase occurs concurrently with the programming phase. Each DoD Component submits its proposed budget estimate simultaneously with its POM. The budget converts the programmatic view into the format of the Congressional appropriation structure, along with associated budget justification documents. Budget estimates are reviewed by the office of the Under Secretary of Defense and the Office of Management and Budget to ensure programs are funded in accordance with current financial policies, and are properly and reasonably priced.
all reviews have been completed, the overall DoD budget is provided as part of the President’s Budget request to the Congress. In 2003, the PPBE moved to a biennial cycle that results in two-year budgets, beginning in even numbered (“on”) years, and use the odd numbered (“off”) year to focus on budget execution and program performance. The revised process is described in Management Initiative Decision (MID) 913

Execution
The execution phase occurs simultaneously with the program and budget phases and results in feedback to senior leadership concerning the effectiveness of current and prior resource allocations. To the extent performance goals of an existing program are not being met, the execution review may lead to recommendations to adjust resources and/or restructure programs to achieve desired performance goals.

The following sources provide more detailed information on the PPBE process:

- DAU Planning, Programming, Budgeting, and Execution (PPBE) Process (JAN 08)
- DoD MID 913 Implementation of a 2-Year Planning, Programming, Budgeting, and Execution Process (5 MAY 03)
- Acquisition, Technology and Logistics (AT&L) Knowledge Sharing System (AKSS) Defense Acquisition Guidebook (Feb 2011 – this document is updated monthly)
- DAU Acquisition System Chart (FRONT v5.4, JUN 2010)
- DAU Acquisition System Chart (BACK v5.4, JUN 2010)

Joint Capabilities Integration and Development System (JCIDS)
JCIDS guidance was developed in close coordination with the 2003 revision to the acquisition regulations (DoD 5000 series), to ensure effective integration of the capabilities identification and acquisition processes.

JCIDS is a joint-concepts-centric capabilities identification process based on a series of top-down analyses ultimately derived from formal strategic-level guidance (including the National Security Strategy, National Military Strategy, Joint Vision 2020, and the report of the Quadrennial Defense Review). These analyses assess existing and proposed capabilities in terms of their contribution to emerging joint warfighting concepts. Rather than focusing on the capabilities of individual weapon systems in isolation, the analyses assess capabilities in the context of integrated architectures of multiple interoperable systems. In considering these overarching concepts, the JCIDS analysis process identifies capability gaps or shortcomings, and assesses the risks associated with these gaps. These gaps may be addressed by a combination of materiel and/or non-materiel solutions (non-materiel solutions would be changes to doctrine, organization, training, leadership and education, personnel, and facilities). Recommended materiel solutions, once approved, typically lead to acquisition programs. For such programs, at each acquisition milestone, JCIDS documents are provided that will guide the subsequent development, production and testing of the program. The following documents represent an excellent baseline for understanding the JCIDS:

- CJCSI 3170.01G Joint Capabilities Integration and Development System (1 MAR 09)
- CJCSM 3170.01C Operation of the Joint Capabilities Integration and Development System (1 MAY 07)
- CJCSI 6212.01E Interoperability and Supportability of Information Technology and National Security Systems (15 DEC 08)
- The Joint Staff Joint Logistics (Distribution) Joint Integrating Concept, V1.0 (7 FEB 06)
- DAU Acquisition System Chart (FRONT v5.4, JUN 2010)
- DAU Acquisition System Chart (BACK v5.4, JUN 2010)

Defense Acquisition System (DAS)
The DAS (termed Little “a”) provides the policies and principles that govern all DoD acquisition programs. A key component of the DAS is the Defense Acquisition Management System (DAMS), an event-based process where acquisition programs move through a series of milestones associated with significant program phases. Acquisition program categories are outlined in the DAMS, with programs of increasing dollar value and management interest subject to more stringent oversight throughout the phases. The most expensive programs are known as Major Defense Acquisition Programs (MDAP) or Major Automated Information Systems (MAIS). These major programs have the most extensive statutory and regulatory reporting requirements and are generally subject to review by specific senior officials in the Office of the Secretary of Defense. For ground weapons systems, major programs would likely become the domain of PEO LS.

Additional details on the DAS and the DAMS (including information on milestones, program phases, and acquisition categories) can be found in:

- **DoDD 5000.01** The Defense Acquisition System (20 NOV 07)
- **DoDI 5000.02** Operation of the Defense Acquisition System (2 DEC 08)
- **AKSS Defense Acquisition Guidebook** (FEB 2011, updated monthly)
- **DAU Acquisition System Chart** (FRONT v5.4, JUN 2010)
- **DAU Acquisition System Chart** (BACK v5.4, JUN 2010)

### 3.1.4 Marine Corps Combat Development Command (MCCDC)

The three star Commanding General (CG) of MCCDC has the following Command responsibilities and respective missions:

- **CG, MCCDC** - Direct the continuous adaptation of Marine forces by determining and developing wholly integrated warfighting capabilities in order to provide a Corps of Marines that is fully prepared for employment as a Marine Air-Ground Task Force (MAGTF) across the spectrum of conflict. This Command may also be represented as Marine Corps Combat Development & Integration Command.

- **Deputy Commandant, Combat Development & Integration (DC, CD&I)** - Determine and integrate warfighting capabilities; Produce solutions for capability gaps; Assist MAGTF Commanders in meeting future challenges; Assess strategic landscape; Translate vision into capability; Integrate processes to organize, train and equip; Serve as joint integrator for combat development.

- **Commanding General, Marine Corps Installations National Capital Region (CG, MCINCR)** - Implement policies, develop regional strategies and plans, prioritize resources and provisions of services; Provide direction and oversight through designated Marine Corps installations to support the Operating Forces, tenant Commands and activities in the National Capital Region.

- **Commander, Marine Forces Strategic Command (COMMARFORSTRAT)** - Marine Corps service Component to United States Strategic Command (USSTRATCOM), includes participation in development of global strike capabilities, space operations, Department of Defense Information Operations (DoD IO), missile defense, global Command Control Communications Computers Intelligence Surveillance and Reconnaissance (C4ISR), Weapons of Mass Destruction (WMD) deterrence, and specialized support as required.

- **Command Element Advocate** - Responsible to the CMC for ensuring that all MAGTF capabilities are synchronized and coordinated, including development and continuous capabilities adaptation to ensure unified support of the needs of the MAGTF Commander.

Alignment of these responsibilities under one commander serves many purposes, however the one that most impacts the acquisition and sustainment communities is that of integrating the experienced resources required to design and develop concepts and capabilities to support the
mission of the Marine Corps today, tomorrow, and in the future. This integration under one CG may blur functional reporting lines (e.g., one division reports under DC, CD&I, and one reports under MCCDC, but they are often presented as reporting under the same Command), so for the purpose of this guidebook all units or divisions of the aforementioned unique Commands (listed in this subsection, above) will be considered under the umbrella of MCCDC.

MCCDC is organized around three major, integrated functions that essentially shape the skills and abilities of every Marine, and ultimately the warfighting capabilities used by every MAGTF. Following are details of those three major functions, as well as a list of other MCCDC staff units, each of which play a critical role in support of the primary functions.

**Marine Corps Warfighting Laboratory (MCWL)**

The MCWL conducts concept-based experimentation to develop and evaluate tactics, techniques, procedures, and technologies in order to enhance current and future Marine Corps warfighting capabilities. This group tries to imagine both the challenges and the opportunities that the expeditions of the future may bring, and then forms ideas and concepts about how to meet those challenges - or exploit the opportunities. They also begin to identify the specific Marine capabilities that those ideas and concepts suggest are needed. As the Corps’ lead access point to advanced science and technology (S&T) communities like the Office of Naval Research (ONR) and Defense Advanced Research Projects Agency (DARPA), the MCWL is ideally positioned to consider the impact of S&T advancements on the future capabilities of the MAGTF.

**Capabilities Development Directorate (CDD)**

First and foremost, the CDD is the custodian of the *Expeditionary Force Development System (EFDS, MCO 3900.15B)*. This order guides the Marine Corps through a systematic approach to developing and delivering warfighting capability resulting in the MAGTF Capabilities List (MCL). The MCL and other inputs (called Universal Needs Statements (UNS), or Urgent UNS (UUNS)) from Advocates, MARFORS, and the SE follow a comprehensive path through the DoD Decision Support System [see Subsection 3.1.3 of this document]. In addition to overseeing the effectiveness of that system, the CDD has a critical early role in the process, developing the capability inputs into high level documented solutions that have been considered and integrated across the seven pillars of combat development: Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) [see Subsection 3.1.7 of this document]. In this capacity, the CDD is also responsible for managing the start, history, and status of U/UNS.

**Training and Education Command (TECOM)**

TECOM’s stated mission is to develop, coordinate, resource, execute, and evaluate training and education concepts, policies, plans, and programs to ensure Marines are prepared to meet the challenges of present and future operational environments. Essentially, through oversight and coordination of all Marine Corps training Commands, TECOM makes sure human capabilities align with force mission capabilities and requirements.

**Other MCCDC Staff Units**

- **Operations Analysis Division (OAD)** – Provide oversight and coordination for the Marine Corps on all matters pertaining to studies and operations analysis, assisting the MARFORS and other Marine Corps agencies with operations analysis support, and conducting a continuing program of studies and analyses to assist the Marine Corps in making combat development, programmatic (Joint, Naval, and Marine Corps), and warfighting decisions.

- **Strategic Visions Group (SVG)** – Analyze the future security environments; Identify future operational threats, challenges, opportunities, and risks; Recommend requirements, concepts and capabilities; Identify associated DOTMLPF implications in order to assist CMC to posture the Marine Corps for success well into the 21st Century.
• **G3/G5** – Develop the conceptual and operational view of how the Marine Corps contributes to the Joint Force; Develop Marine Corps concepts and selected concepts of operations (CONOPS) to guide force development.

• **Center for Irregular Warfare (CIW)** – The central Marine Corps organization for identifying, coordinating, and implementing irregular warfare capability development initiatives across all elements of DOTMLPF in order to increase, improve, and enhance Marine Corps capabilities and capacities to conduct operations across the spectrum of war against irregular threats.

**Integration**

Figure 3.4 provides a simplified graphic depiction of the activities facilitated by MCCDC preceding Program Initiation and transition to MCSC or PEO LS for program development and acquisition, and LOGCOM for fielding and sustainment. [More information on MCCDC functions can be found on the MCCDC website.]

![Diagram of MCCDC capabilities development activities](image)

**Figure 3.4** – Concept to Fielding image representing MCCDC capabilities development activities.

3.1.5 **Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF)**

DOTMLPF is an acronym used by the DoD, which serves as a mnemonic, to remind planners and project managers of the seven pillars to be considered whenever proposing solutions to a problem. DOTMLPF Analysis is a key component of the Capabilities-Based Assessment (CBA), during which possible solutions (both materiel and non-materiel) to a stated problem are proposed and documented. The CBA and DOTMLPF Analysis lead up to the capability needs deliverable preceding Milestone A.
**Capability-Based Assessment (CBA)**

The CBA is an organized approach through which issues are identified, current and projected abilities are estimated and actions and solutions are recommended. The CBA is broken into three major elements: the Functional Area Analysis (FAA), the Functional Needs Analysis (FNA) and the Functional Solutions Analysis (FSA).

At a high level, the FAA synthesizes existing guidance to specify the military problems to be studied. The FNA then examines that problem, assesses how well the DoD can address the problem given its current program, and recommends needs the DoD should address. The FSA takes this assessment as input, and generates recommendations for solutions to the needs.

The DOTMLPF Analysis happens after the FNA and as a central process in the FSA. Below is a simplified diagram of the CBA:

![Diagram of CBA](image)

**Figure 3.5 – Simplified diagram of major CBA inputs, analyses, and outputs.**

**Functional Area Analysis (FAA)**

FAA identifies the mission area or military problem to be assessed, the concepts to be examined, the timeframe in which the problem is being assessed, and the scope of the assessment. The FAA describes the relevant objectives and CONOPS or concepts, and lists the relevant effects to be generated.

**Functional Needs Analysis (FNA)**

FNA assesses the capabilities of the current and programmed force to meet the relevant military objectives of the scenarios chosen in the FAA using doctrinal approaches. Using the standards and evaluation criteria described in the FAA, the FNA assesses whether or not an inability to achieve a desired effect (a capability gap) exists.

**Functional Solution Analysis (FSA)**

FSA a joint assessment of potential DOTMLPF and policy approaches to solving, or at least mitigating, one or more of the capability gaps identified in the FNA. The approaches identified should include the broadest possible range of joint possibilities for addressing the capability gaps. For each approach, the range of potential sustainment alternatives must be identified and evaluated as part of determining which approaches are viable.

**Summary of the CBA**

Below is a more complex visual of the CBA analysis flow:
**Figure 3.6 – JCIDS analysis process**

**DOTMLPF Analysis – Descriptions and Considerations**

<table>
<thead>
<tr>
<th><strong>D Doctrine</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fundamental principles that guide the employment of military forces in coordinated action toward a common objective. Though neither policy nor strategy, doctrine serves to make policy and strategy effective in the application of military power. Doctrine is authoritative guidance and will be followed except when exceptional circumstances dictate otherwise.</td>
</tr>
</tbody>
</table>

**Considerations**

- Is there existing doctrine that addresses the issue or relates to the issue? Joint? Service? Multiservice? Multinational? Agency?
- Is existing doctrine current?
- Are there procedures in place that are being followed that contribute to the issue? If followed, could they, at least in part, correct or lessen the impact?
- Can new doctrine or procedures be developed that will provide a partial or full solution to the gap? If yes, identify and document updates/changes required.
<table>
<thead>
<tr>
<th>O</th>
<th>Organization</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A unit or element with varied functions enabled by a structure through which individuals cooperate systematically to accomplish a mission and directly provide or support warfighting capabilities. Subordinate units/elements coordinate with other units/elements and, as a whole, enable the higher-level unit/element to accomplish its mission. This includes the manpower (military, civilian, and contractor support) required to operate, sustain, and reconstitute warfighting capabilities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Considerations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Where is the gap occurring?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Does the organization have the resources (people, equipment, and procedures) available and in place to deal with the issue?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Who is impacted by the gap?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Will organizational changes at any level eliminate the gap?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T</th>
<th>Training</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Training, including mission rehearsals, of individuals, units, and staffs using doctrine or tactics, techniques, and procedures to prepare forces or staffs to respond to strategic, operational, or tactical requirements considered necessary by the combatant commanders to execute their assigned or anticipated missions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Considerations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Is the gap caused, at least in part, by a lack of training or inadequate training?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Is the training being delivered effectively or with the correct method?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How are training results being measured and monitored?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Do the personnel affected by the gap have access to training?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Is the Command supporting/enforcing the training effort?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Are the trainers properly staffed and funded?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What changes to training will either eliminate the capability gap or lead to a partial solution?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Would new training programs for newly recruited personnel mitigate or eliminate the gap?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M</th>
<th>Materiel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>All items (including ships, tanks, self-propelled weapons, aircraft, etc., and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities without distinction as to its application for administrative or combat purposes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Considerations</td>
</tr>
</tbody>
</table>
The Analysis of Materiel/Non-materiel Approaches (AMA) is a key component of the DOTMLPF analysis, and is described in further detail in its own section. Generally, consideration should be given to non-materiel approaches where a change to one (or more) of the DOTMLPF pillars can sufficiently solve the problem being examined.

<table>
<thead>
<tr>
<th>L</th>
<th>Leadership &amp; Education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>The role of Professional Military Education is to provide the education needed to complement training, experience, education, and self-improvement to produce the most professionally competent individual possible.</td>
</tr>
</tbody>
</table>
| **Considerations** | • Is the issue caused, at least in part, by inability to cooperate/coordinate/communicate with external organizations?  
• Do senior officers understand the scope of the problem?  
• Does the Command have the resources to correct the issue?  
• Is the leadership being educated on effective change management principles?  
• Is senior leadership aware of the drivers and barriers to resolving the issue within his/her own organization?  
• Will updates and/or changes to the leadership and education process help resolve issues identified? If yes, identify and document updates/changes required. |

<table>
<thead>
<tr>
<th>P</th>
<th>Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>The personnel component primarily ensures that qualified personnel exist to support capabilities. This is accomplished through synchronized efforts of joint force commanders and Service components to optimize personnel support to the joint force to ensure success of ongoing peacetime, contingency, and wartime operations.</td>
</tr>
</tbody>
</table>
| **Considerations** | • Is the issue caused, at least in part, by the inability or decreased ability to place qualified and trained personnel in required occupational specialties?  
• If the capability gap is to be closed with new materiel, systems, or equipment, will different occupational specialty codes be needed to identify the primary users or meet maintenance requirements?  
• Will updates and/or changes to the current manning situation help resolve issues identified? If yes, identify and document updates/changes required. |

<table>
<thead>
<tr>
<th>F</th>
<th>Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Real property consisting of one or more of the following: a building, a structure, a utility system, pavement, and underlying land. Key facilities are selected</td>
</tr>
</tbody>
</table>
Command installations and industrial facilities of primary importance to the support of military operations or military production programs.

<table>
<thead>
<tr>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is the issue caused, at least in part, by inadequate infrastructure? If yes, is the issue a result of:</td>
</tr>
<tr>
<td>(1) Aging or wear?</td>
</tr>
<tr>
<td>(2) New engineering that did not meet needs?</td>
</tr>
<tr>
<td>(3) Battle Damage/Threat?</td>
</tr>
<tr>
<td>• Was the issue caused by a lack of proper environmental controls?</td>
</tr>
<tr>
<td>• Was issue caused, at least in part, by inadequate:</td>
</tr>
<tr>
<td>(1) Facilities operation/maintenance?</td>
</tr>
<tr>
<td>(2) Roads/Trails?</td>
</tr>
<tr>
<td>(3) Main supply routes?</td>
</tr>
<tr>
<td>(4) Force bed down?</td>
</tr>
<tr>
<td>(5) Hardening?</td>
</tr>
<tr>
<td>(6) Field fortification support?</td>
</tr>
<tr>
<td>• Review and assess the current facilities situation with key stakeholders. Will updates and/or changes to existing facilities help resolve issues identified? If yes, identify and document updates/changes required.</td>
</tr>
</tbody>
</table>

Table 3.1 – DOTMLPF acronym explanation.

Analysis of Materiel/Non-Materiel Approaches (AMA)

Throughout the DOTMLPF analysis, consideration must be given to materiel and non-materiel solutions. AMA will determine which approach or combination of approaches may provide desired capability or capabilities.

A materiel solution is one that results in the development, acquisition, procurement, or fielding of a new item (including ships, tanks, self-propelled weapons, aircraft, etc., and related software, spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities without disruption as to its application for administrative or combat purposes.

A non-materiel solution is one through which changes in doctrine, organization, training, materiel, leadership and education, personnel, facilities, or policy (including all human systems integration domains) is effected to satisfy identified functional capabilities. The materiel portion is restricted to commercial or non-developmental items, which may be purchased commercially, or by purchasing more systems from an existing materiel program.

DOTMLPF References

- CJCSI 3170.01G Joint Capabilities Integration and Development System (1 MAR 09)
- CJCSM 3170.01C Operation of the Joint Capabilities Integration and Development System (1 MAY 07)
- CJCSI 6212.01E Interoperability and Supportability of Information Technology and National Security Systems (15 DEC 08)
- The Joint Staff Joint Logistics (Distribution) Joint Integrating Concept, V1.0 (7 FEB 06)
3.1.6 Integrated Product Support (IPS) (formerly Integrated Logistics Support (ILS)) Elements

A key life cycle management enabler, IPS is the package of support functions required to deploy and maintain the readiness and operational capability of major weapon systems, subsystems, and components, including all functions related to weapon systems readiness. The package of product support functions related to weapon system readiness, which can be performed by both public and private entities, includes the tasks that are associated with the Integrated Product Support (IPS) Elements which scope product support.

Life-cycle sustainment planning and execution seamlessly span a system’s entire life cycle. It translates force provider capability and performance requirements into tailored product support to achieve specified and evolving life-cycle product support availability, reliability, and affordability parameters.

The Performance Based Life Cycle Product Support approach to DoD sustainment relies on understanding and integrating all the functional components which are available to make up the required product support infrastructure. These functional components are grouped into twelve categories called the Integrated Product Support (IPS) Elements. These elements include:

1. Product Support Management (PSM)
2. Design Interface
3. Sustaining Engineering
4. Supply Support
5. Maintenance Planning and Management
6. Packaging, Handling, Storage and Transportation (PHS&T)
7. Technical Data
8. Support Equipment
9. Training and Training Support
10. Manpower and Personnel
11. Facilities and Infrastructure
12. Computer Resources

Each of these twelve functional elements is then further broken down into their respective constituent parts as described in this Guidebook. It is the responsibility of the Product Support Management and Life Cycle Logisticians to ensure all elements are considered, included in the infrastructure, and fully integrated to achieve the maximum availability and reliability while optimizing life cycle cost.

The Product Support Elements total scope covers all aspects of life-cycle sustainment. They have been recently updated from 10 technically focused areas to 12 areas. Several of the Product Support Elements have also been updated to reflect today’s practices and requirements. Below is a summary of the changes:

- **Product Support Management** has been introduced as a stand-alone element to include contract development and management, budget planning, IPT management, and other business, financial, contract and operational responsibilities. Per DoDI 5000.02, the PM/PSM shall work with the user to document performance and sustainment requirements in performance agreements specifying objective outcomes, measures, resource commitments, and stakeholder responsibilities. The PM shall employ effective Performance-Based Life-Cycle Product Support (PBL) planning, development, implementation, and management;

- The second new Product Support Element is **Sustaining Engineering**, which focuses on engineering activities specifically related to ensuring no degradation of the technical performance of the system over its life cycle. Sustaining engineering activities also
include opportunities to improve or modify the performance of fielded systems based on technological opportunities or evolving threat scenarios;

- The **Maintenance Planning and Management** Product Support Element has been expanded to include all activities and events associated with transitioning the early initial maintenance concept into a detailed plan that is executed during fielding and continue through the Operations & Sustainment (O&S) phase. Figure P1, Product Support Element Migration, summarizes these changes;

- Training and Training Devices is now **Training and Training Support**. The whole concept now spans the overall spectrum of training solutions, to include, but not limited to classroom training, special devices, simulators, and distance learning. The result is the use of training solutions that provide a continuous, yet realistic training experience;

- The Facilities element has been expanded to **Facilities and Infrastructure**. Due to trends such as globalization and reliance on information technologies, product support operations are no longer just “brick and mortar” facilities and include new technologies related to physical security, utilities, and operation of sites.

- Finally, Computer resources support has become simply **Computer Resources** to account for the significant role that information technology and the necessary computer infrastructure for both weapon system support operations as well as supporting the support operations.

All elements of IPS must be developed in coordination with the system engineering effort and with each other. Tradeoffs may be required between elements in order to acquire a system that is affordable (lowest life cycle cost), operable, supportable, sustainable, transportable, and environmentally sound within the resources available. IPS planning activities coincide with development of the system acquisition strategy, and the program will be tailored accordingly.

This section provides the objectives and descriptions of each of the 12 IPS elements.

### 1. Product Support Management

**Objective:** Plan and manage cost and performance across the product support value chain, from design through disposal

**Description:** Plan, manage, and fund weapon system product support across all Integrated Product Support (IPS) Elements

Product Support Management is an IPS Element recently added to the "traditional ten" ILS Elements. It was introduced to include contract development and management, budget planning, IPT management, and other business, financial, contract and operational responsibilities under the purview of the Product Support Manager (PSM).

Life-cycle sustainment planning and execution seamlessly span a system's entire life cycle, from Materiel Solution Analysis to disposal. It translates force provider capability and performance requirements into tailored product support to achieve specified and evolving life-cycle product support availability, reliability, and affordability parameters. Common activities encompassed by Product Support Management include:

1. Logistics Policy Implementation
2. Product Support Package
3. Life Cycle Logistics Oversight
4. Warfighter and Maintainer Requirements Capture
5. Supportability / Sustainment Reporting
6. Product Support Budgeting and Funding
7. Life Cycle Cost
8. Cost As An Independent Variable (CAIV)
9. Total Ownership Cost (TOC) Management
2. Design Interface

Objective: Participate in the systems engineering process to impact the design from its inception throughout the life-cycle, facilitating supportability to maximize the availability, effectiveness and capability of the system at the lowest TOC.

Description: Design interface is the integration of the quantitative design characteristics of systems engineering (reliability, maintainability, etc) with the functional logistics elements (i.e., integrated product support elements). Design interface reflects the driving relationship of system design parameters to product support resource requirements. These design parameters are expressed in operational terms rather than as inherent values and specifically relate to system requirements. Thus, product support requirements are derived to ensure the system meets its availability goals and design costs and support costs of the system are effectively balanced. The basic items that need to be considered as part of design interface include:

1. Reliability
2. Maintainability
3. Supportability
4. IPS Elements
5. Affordability
6. Configuration Management
7. Safety Requirements
8. Environmental and HAZMAT Requirements
9. Human Systems Integration
10. Anti-Tamper
11. Habitability
12. Disposal
13. Legal Requirements

Some common activities and focus areas encompassed by the Design Interface element include:

1. Net-Centric (Interoperability) Capability Management
2. Reliability, Availability and Maintainability (RAM) Design
3. Human Systems Integration (HSI)
   - Human Factors Engineering
   - Personnel
   - Force Protection KPP
   - Habitability
   - Manpower
   - Training
4. Environmental, Safety and Occupational Health (ESOH) Plan Development and Management
   1. Programmatic ESOH Evaluation (PESHE)
   2. National Environmental Policy Act (NEPA)
   3. Mishap Investigation Support
   4. Survivability and Survivability KPP
   5. Warfighter / Machine Interface Management
   5. Supportability versus Sustainability
   6. Affordability
   7. Modularity and Open Systems Architecture (MOSA)
   8. Nondestructive Inspection
   9. Hazardous Material Management
  10. Energy Management and KPP
  11. Standardization to include Parts Management
  12. Supportability in Test and Evaluation
  13. Logistics Trade Studies

3. Sustaining Engineering

Objective: Support in-service systems in their operational environments.

Description: Sustaining Engineering spans those technical tasks (engineering and logistics investigations and analyses) to ensure continued operation and maintenance of a system with managed (i.e., known) risk. This includes:

1. Collection and triage of all service use and maintenance data
2. Analysis of safety hazards, failure causes and effects, reliability and maintainability trends, and operational usage profiles changes
3. Root cause analysis of in-service problems (including operational hazards, deficiency reports, parts obsolescence, corrosion effects, and reliability degradation)
4. The development of required design changes to resolve operational issues
5. Other activities necessary to ensure cost-effective support to achieve peacetime and wartime readiness and performance requirements over a system's life-cycle

Sustaining engineering includes activities such as:

1. Post deployment ongoing operational data analyses
2. Producibility
3. Analyses of safety hazards, failure causes and effects, reliability and maintainability trends, and operational usage profiles changes
4. Root cause analysis of in-service problems such as operational hazards, deficiency reports, parts obsolescence, corrosion effects, and reliability degradation
5. Development of required design changes to resolve operational issues
6. Materiel Improvement Plan (MIP) review boards
7. Technology insertion
8. Engineering dispositions
9. Technical manual and technical order updates
10. Repair or upgrade vs. disposal or retirement
11. Maintenance evaluation automation

Additional common sustaining engineering activities and focus areas include:

1. Producibility
2. Analysis
   - Baseline the System
4. Supply Support

Objective: Identify, plan for, resource, and implement management actions to acquire repair parts, spares, and all classes of supply to ensure the best equipment / capability is available to support the Warfighter or maintainer when it is needed at the lowest possible Total Ownership Cost (TOC).

Description: Supply support consists of all management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue and dispose of spares, repair parts, and supplies. This means having the right spares, repair parts, and all classes of supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories.

The primary objective of DoD Supply Support is to provide effective and efficient end-to-end customer service to meet operational requirements for all classes of supply. To supply materiel to DoD units throughout the world, the DoD Components and Agencies maintain a supply chain consisting of weapon system support contractors, retail supply activities, distribution depots, transportation channels including contracted carriers, wholesale integrated materiel managers (IMMs), weapon system product support integrators, commercial distributors and suppliers including manufacturers, commercial and organic maintenance facilities, and other logistics activities (e.g., engineering support activities, testing facilities, reutilization and marketing offices).

The activities occurring within the scope of this area should be integrated with other product support element areas in keeping with KPP and KSA optimization goals and constraints.

1. Initial Provisioning
2. Routine Replenishment Management, including Buffer and Safety Stock Management
3. Demand Forecasting and Readiness Based Sparing (RBS)
4. Bill of Material (BOM) Management and Maintenance
5. Support Equipment Initial Provisioning
6. Support Equipment Routine Replenishment Provisioning
7. Reparable, Repair Part, and Consumable Procurement
8. Cataloging
9. Receiving
10. Storage
11. Inventory Management
12. Transfer
13. Issuance
14. Redistribution
15. Disposal
16. Material Pricing
17. Total Asset Visibility - Automatic Identification Technology (AIT)
   - Serialized Item Management (SIM)
   - Item Unique Identification (IUID)
     - Bar Coding
     - Radio Frequency Identification (RFID)
18. Shelf Life Management
19. Buffer Management
20. Warranty Management
21. Supply Chain Assurance
22. Counterfeit Material Prevention
23. Malicious Hardware and Software Prevention
24. Product Support Data

5. Maintenance Planning and Management

**Objective:** Identify, plan, resource, and implement maintenance concepts and requirements to ensure the best possible equipment/capability is available when the Warfighter needs it at the lowest possible TOC.

**Description:** Maintenance Planning and Management establishes maintenance concepts and requirements for the life of the system for both hardware and software. It includes, but is not limited to:

1. Levels of Repair
2. Repair Times
3. Testability Requirements
4. Support Equipment Needs
5. Training and Training Aids Devices Simulators and Simulations (TADSS)
6. Manpower Skills
7. Facilities
8. Inter-Service, Organic and Contractor Mix of Repair Responsibility
9. Deployment Planning/Site Activation
Activities and focus areas commonly associated with Maintenance Planning and Management include:

1. Maintenance Planning and Management
   - Depot Source of Repair
2. Core Capability Management
   - CORE Logistics Capability
3. Title X and 50/50 Management
   - Definition of Depot Level Maintenance
   - Depot Level Maintenance Limitations
4. $3M Rule (Competition)
5. Public-Private Partnerships
   - Centers of Industrial and Technical Excellence
   - Direct Sales / Depot Subcontracting
6. Level of Repair Analysis
7. FMECA Required Repair Times Determination
8. OPTEMPO Variance Management
9. Routine versus Battle-Damage Repair Management
10. Inter-Service, Organic and Contractor Mix of Repair Responsibilities
11. Condition Based Maintenance Plus (CBM+)
12. Diagnostics, Prognostics and Health Management
13. Reliability-Centered Maintenance (RCM)
14. Maintenance Concept Design
15. Depot Workload Allocation, Planning, Activation, and Execution
16. Maintenance Plan
17. Corrosion Prevention and Control
18. Maintenance Task Analysis

6. Packaging, Handling, Storage and Transportation (PHS&T)

**Objective:** Identify, plan, resource, and acquire packaging / preservation, handling, storage and transportation (PHST) requirements to maximize availability and usability of the materiel to include support items whenever they are needed for training or mission.

**Description:** PHS&T is the combination of resources, processes, procedures, design, considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation for the short and long storage, and transportability. Some items require special environmentally controlled, shock isolated containers for transport to and from repair and storage facilities via all modes of transportation (land, rail, air, and sea).

PHS&T is defined by its functional areas:

1. Packaging: Provides for product security, transportability, storability, with the added utility of serving as a medium of communication from the producer to the user. The nature of an item determines the type and extent of protection needed to prevent its deterioration. Shipping and handling, as well as the length and type of storage considerations, dictate materials selected for preservation and packing (P&P).
2. Handling: Involves the moving of items from one place to another within a limited range and is normally confined to a single area, such as between warehouses, storage areas, or operational locations, or movement from storage to the mode of transportation.
3. Storage: Infers the short- or long-term storing of items. Storage can be accomplished in either temporary or permanent facilities.
4. Transportation: The movement of equipment and supplies using standard modes of transportation for shipment by land, air and sea. Modes of transportation include cargo, vehicle, rail, ship and aircraft.

Packaging, Handling, Storage, and Transportation (PHS&T) focuses on the unique requirements involved with packaging, handling, storing, and transporting; not only the major end items of the weapon system but also spare parts, other classes of supply, infrastructure items, and even personnel. The requirements and constraints that a military environment imposes on these activities can significantly impact availability, reliability, and life cycle costs of the weapon system.

7. Technical Data

Objective: Identify, plan, resource and implement management actions to develop and acquire information to:
1. Operate, maintain, and train on the equipment to maximize its effectiveness and availability;
2. Effectively catalog and acquire spare/repair parts, support equipment, and all classes of supply; and
3. Define the configuration baseline of the system (hardware and software) to effectively support the Warfighter with the best capability at the time it is needed.

Description: Technical Data represents recorded information of scientific or technical nature, regardless of form or character (such as equipment technical manuals and engineering drawings), engineering data, specifications, standards and Data Item Descriptions (DID). Technical manuals (TMs) including Interactive Electronic Technical Manuals (IETMs) and engineering drawings are the most expensive and probably the most important data acquisitions made in support of a system. TMs and IETMs provide the instructions for operation and maintenance of a system. IETMs also provide integrated training and diagnostic fault isolation procedures. Address data rights and data delivery as well as use of any proprietary data as part of this element. Also includes as maintained bills of material and system configuration by individual system identification code or “tail number.”

The technical data product support element also includes the processes of applying policies, systems and procedures for identification and control of data requirements; for the timely and economical acquisition of such data; for assuring the adequacy of data for its intended use; for the distribution or communication of the data to the point of use; and for use analysis.

Technical data management documents and maintains the database reflecting system life cycle decisions, methods, feedback, metrics, and configuration control. It directly supports the configuration status accounting process. Technical data processes govern and control the selection, generation, preparation, acquisition, and use of data imposed on contractors.

Technical data is the “knowledge products” of the acquisition process, as well as the sustainment process. It is the basis for most, if not all acquisition, design, development, production, operation, support, and maintenance decision-making.

Common activities and focus areas associated with technical data management include:
1. Engineering Data Maintenance
2. Specifications
3. Standards Management
4. Data Item Descriptions (DID) Management
5. Technical Manuals including IETM Management
6. S1000D Implementation
8. Support Equipment

**Objective:** Identify, plan, resource, and implement management actions to acquire and support the equipment (mobile or fixed) required to sustain the operation and maintenance of the system to ensure that the system is available to the Warfighter when it is needed at the lowest TOC.

**Description:** Support equipment consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes but is not limited to ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

Support Equipment can be mobile or fixed but is not an integral part of the system. Support equipment categories include:

1. Ground support equipment
2. Materials handling equipment
3. Tool kits and tool sets
4. Metrology and calibration devices
5. Automated test systems (includes TMDE, ATE, TPS, General Purpose Electronic Test Equipment, Special Purpose Electronic Test Equipment)
6. Support equipment for on-equipment maintenance and off-equipment maintenance
7. Special inspection equipment and depot maintenance plant equipment

Support and test equipment can be segmented into "common" and "peculiar" categories. Common Support Equipment (CSE) includes items that are currently in the DoD inventory and are applicable to multiple systems. Because CSE is already in the DoD inventory, its technical documentation, support requirements, provisioning records and maintenance requirements are cataloged as part of the federal logistics information system.

Activities and focus areas commonly associated with support and test equipment include:

1. Automatic Test Equipment Management
2. Equipment Design
3. Equipment Commonality Management
4. Maintenance Concept Integration
5. Ground Handling and Maintenance Equipment Management
6. Equipment Capacity Determination
7. Power Equipment Requirement Determination and Management
8. Tools Requirement Determination and Management
9. METCAL Equipment Requirement Determination and Management
10. Support Equipment Integrated Product Support

9. Training and Training Support

**Objective:** Plan, resource, and implement a cohesive integrated strategy to train military and civilian personnel to maximize the effectiveness of the doctrine, manpower and personnel, to fight, operate, and maintain the equipment throughout the life-cycle.
As part of the strategy, plan, resource, and implement management actions to identify, develop, and acquire Training Aids Devices Simulators and Simulations (TADSS) to maximize the effectiveness of the manpower and personnel to fight, operate, and sustain equipment at the lowest Total Ownership Cost (TOC).

**Description:** Consists of the policy, processes, procedures, techniques, Training Aids Devices Simulators and Simulations (TADSS), planning and provisioning for the training base including equipment used to train civilian and military personnel to acquire, operate, maintain, and support a system. This includes New Equipment Training (NET), institutional, sustainment training and Displaced Equipment Training (DET) for the individual, crew, unit, collective, and maintenance through initial, formal, informal, on the job training (OJT), and sustainment proficiency training. Significant efforts are focused on NET which in conjunction with the overall training strategy shall be validated during system evaluation and test at the individual, crew, and unit level.

Training is the learning process by which personnel individually or collectively acquire or enhance pre-determined job-relevant knowledge, skills, and abilities by developing their cognitive, physical, sensory, and team dynamic abilities. The “training/instructional system” integrates training concepts and strategies and elements of logistic support to satisfy personnel performance levels required to operate, maintain, and support the systems. It includes the “tools” used to provide learning experiences such as computer-based interactive courseware, simulators, and actual equipment (including embedded training capabilities on actual equipment), job performance aids, and Interactive Electronic Technical Manuals.

Activities and focus areas associated with training and training support include:

1. Initial, Formal, Informal, and On the Job (OJT) individual, crew, and unit New Equipment Training (NET)
2. Initial, Formal, Informal, and OJT Individual, Crew, and Unit Institutional Training
3. Initial, Formal, Informal, and OJT Individual, Crew, and Unit Sustainment Training
4. Initial, Formal, Informal, and OJT Individual, Crew, and Unit Displaced Equipment Training (DET)
5. Embedded Training
6. Computer Based Training (CBT)
7. Distance Learning
8. Training Equipment
9. Training Simulation

**10. Manpower and Personnel**

**Objective:** Identify, plan, resource and acquire personnel, civilian and military, with the grades and skills required: a) to operate equipment, to complete the missions, to effectively fight or support the fight, to win our nation’s wars; b) to effectively support the Soldier, and to ensure the best capability is available for the Warfighter when needed.

**Description:** Involves the identification and acquisition of personnel (military and civilian) with the skills and grades required to operate, maintain, and support systems over their lifetime. Early identification is essential. If the needed manpower is an additive requirement to existing manpower levels of an organization, a formalized process of identification and justification must be made to higher authority.

The terms "Manpower" and "Personnel" are not interchangeable terms.

"Manpower" represents the number of personnel or positions required to perform a specific task. This task can be as simple as performing a routine administrative function, or as complex as operating a large repair depot. Manpower analysts determine the number of people required, authorized, and available to operate, maintain, support, and provide training for the system. Manpower requirements are based on the range of operations during peacetime, low intensity conflict, and wartime. Requirements should consider continuous, sustained operations and required surge capability.
"Personnel" indicates those human aptitudes (i.e., cognitive, physical, and sensory capabilities), knowledge, skills, abilities, and experience levels that are needed to properly perform job tasks. Personnel factors are used to develop the military occupational specialties (or equivalent DoD Component personnel system classifications) and civilian job series of system operators, maintainers, trainers, and support personnel. Personnel officials contribute to the Defense acquisition process by ensuring that the program manager pursues engineering designs that minimize personnel requirements, and keep the human aptitudes necessary for operation and maintenance of the equipment at levels consistent with what will be available in the user population at the time the system is fielded.

Activities and focus areas associated with manpower and personnel are:

1. Identification and acquisition of active and reserve military personnel as well as civilian personnel with the skills and grades required for system life cycle product support.
2. Wartime versus peacetime personnel requirements determination and management for system life cycle product support.

11. Facilities

**Objective:** Identify, plan, resource, and acquire facilities to enable training, maintenance and storage to maximize effectiveness of system operation and the logistic support system at the lowest TOC. Identify and prepare plans for the acquisition of facilities to enable responsive support for the Warfighter.

**Description:** Consists of the permanent and semi-permanent real property assets required to support a system, including studies to define types of facilities or facility improvements, location, space needs, environmental and security requirements, and equipment. It includes facilities for training, equipment storage, maintenance, supply storage, ammunition storage, and so forth.

Facilities and Infrastructure is a key element of the DoD acquisition process. This discipline encompasses a variety of functions that focus on the life cycle design, construction, resourcing and maintenance of military installations, facilities, civil works projects, test ranges, airfields, roadways, maintenance depots and ocean facilities. Due to the potential long lead times in funding, acquisition or construction, and resourcing, planning must start as early in the acquisition process as possible with frequent validation to ensure requirements are aligned to facilities planning objectives.

Activities and focus areas associated with facilities and infrastructure include:

1. Facilities Plan and Materiel Fielding Plans
2. Facilities and facility improvement studies, design and execution for every Product Support Element
3. Location Selection
4. Space Requirements Determination
5. Environmental Requirements Determination
6. Security Requirements Determination
7. Utilities Requirements Determination
8. Storage Requirements Determination
9. Equipment Requirements Determination
10. Existing versus New Facilities Determination
11. Site Activation

12. Computer Resources Support

**Objective:** Identify, plan, resource, and acquire facilities, hardware, software, documentation, manpower and personnel necessary for planning and management of mission critical computer hardware and software systems.

**Description:** Computer Resources encompasses the facilities, hardware, software, documentation, manpower, and personnel needed to operate and support mission critical computer hardware/software systems. As the primary end item, support equipment, and training devices
increase in complexity, more and more software is being used. The expense associated with the design and maintenance of software programs is so high that one cannot afford not to manage this process effectively. It is standard practice to establish a computer resource working group to accomplish the necessary planning and management of computer resources support.

Computer programs and software are often part of the technical data that defines the current and future configuration baseline of the system necessary to develop safe and effective procedures for operation and maintenance of the system. Software technical data comes in many forms to include, but not limited to, specifications, flow/logic diagrams, Computer Software Configuration Item (CSCI) definitions, test descriptions, operating environments, user/maintainer manuals, and computer code.

Most weapon systems today have a significant investment in embedded and external software with its related hardware. The challenges to the PSM occur because software and computer hardware support does not necessarily follow the traditional life cycle product support processes and tenets. Additionally, the field of software is advancing rapidly with new development, production and supportability technologies appearing every year, offering new capabilities, creating new requirements, but driving obsolescence problems even before a system can be fielded.

Activities and focus areas associated with computer resources include:

1. Computer Resources Support
2. Commercial Items
   • Commercial Off-the-Shelf (COTS)
   • Non-Developmental Items
3. Mission Critical Computer Hardware / Software Operation and Support
4. Management Reports Development and Maintenance
5. Disaster Recovery Planning and Execution
6. Computer Resource Working Group
7. Computer Programs and Software Baselines Management
8. Computer Programs and Software Modifications Management
9. Software Licenses Management
10. Software and Computer Hardware Obsolescence Management
11. Defense Information Switch Network (DISN) or other Network Connectivity Requirements Determination and Management
12. Specifications Determination
13. Flow / Logic Diagrams Determination
14. Computer Software Configuration Item (CSCI)
15. Service Level Agreements (SLA’s) or Software as a Service (SaaS) Management
16. Spectrum Supportability
   • Environmental Stress Screening and Compatibility
   • Electromagnetic and Environmental Effects
   • System Security / Information Assurance
     o Certification and Accreditation
     o Net-Ready KPP
     o Anti-Tamper
17. Computer Resources Support Equipment
18. Computer Resources Manpower & Personnel Support

3.1.7 Performance Based Logistics (PBL)

PBL is the preferred DoD product support strategy to improve weapons system readiness by procuring performance, which capitalizes on integrated logistics chains and public/private partnerships. The cornerstone of PBL is the purchase of weapons system sustainment as an affordable, integrated package based on output measures such as weapons system availability, rather than input measures, such as parts and technical services. PBL delineates outcome
performance goals of systems, ensures that responsibilities are assigned, provides incentives for attaining these goals, and facilitates the overall life cycle management of system reliability, supportability, and total ownership costs. In simple terms, PBL transitions DoD support strategies from DoD transaction-based purchases of specified levels of spares, repairs, tools, and data, to the purchase of capabilities, such as system availability.

Source of support decisions for PBL do not favor organic (Government) or commercial providers. Decisions are based upon a best value determination, evidenced through a Business Case Analysis (BCA), assessing the best mix of public and private capabilities, infrastructure, skills base, past performance, and proven capabilities to meet set performance objectives.

**Product Support Integrator (PSI)**

The PM’s responsibilities for oversight and management of the product support function are typically delegated to a Project Team Leader (PTL), who leads the development and implementation of the product support and PBL strategies and ensures achievement of desired support outcomes during sustainment (Note: this role is described as a “Product Support Manager” in the DAU PBL Guide, but has been adjusted here to more accurately reflect MCSC roles as well as avoid confusion with the target audience of this guidebook). The PTL employs one or more PSIs to achieve those outcomes. The PSI is a formally bound agent charged with integrating all sources of support, public and private, defined within the scope of the PBL agreements to achieve the documented outcomes. The PTL, while remaining accountable for system performance, effectively delegates responsibility for delivering warfighter outcomes to the PSI. The PSI is given considerable flexibility and latitude in how the necessary support is provided, so long as the outcomes are accomplished.

While product support execution is accomplished by numerous organizational entities, the PSI is the single point of accountability for integrating all sources of support necessary to meet the agreed to support/performance metrics. The most likely candidates for the PSI role are:

1. an organic agency, product, or logistics command (i.e., LOGCOM for the Marine Corps)
2. the system’s OEM or prime contractor;
3. a third-party logistics integrator from the private sector.

A Product Support Provider (PSP) is anyone who provides products or services in the sustainment of a system. The primary role of the PSI is to integrate the activities of all PSPs to a system, as is appropriate.

**PBL Metrics**

The purpose of PBL is buying performance, therefore metrics must be established that can be used to track, measure, and assess performance. Identification of top-level metrics is critical to achieving this objective. The PM works with the sponsor/warfighter to establish system performance requirements and then works with the PSI/PSPs to fulfill those needs through documentation of the requirements (including appropriate metrics) in Performance Based Agreements (PBAs).

Given that PBL strategies may delineate metrics at levels lower than the warfighter top-level measures (e.g., system availability), it is important that the initial identification of performance outcomes be consistent with four key top-level metric areas:

- Materiel Availability – Key Performance Parameter (KPP)
- Materiel Reliability – Key System Attribute (KSA)
- Ownership Costs – KSA
- Mean Down Time (MDT)

**Materiel Availability** is a measure of the percentage of the total inventory of a system operationally capable (ready for tasking) of performing an assigned mission at a given time, based on materiel condition.
Materiel Reliability is a measure of the probability that the system will perform without failure over a specific interval. Reliability must be sufficient to support the warfighting capability needed. Materiel Reliability is generally expressed in terms of a mean time between failure(s) (MTBF), and once operational can be measured by dividing actual operating hours by the number of failures experienced during a specific interval.

Ownership Costs provides balance to the sustainment solution by ensuring that the Operations and Support (O&S) costs associated with materiel readiness are considered in making decisions. For consistency and to capitalize on existing efforts in this area, the Cost Analysis Improvement Group’s (CAIG) O&S cost estimating structure will be used in support of this KSA.

Mean Down Time is the average total down time required to restore an asset to its full operational capabilities. MDT includes the time from reporting of an asset being down to the asset being given back to operations for redeployment.

The PBL Implementation Model

It is important to understand that all PBL implementations are unique, and it is highly unlikely that two different programs will implement PBL in exactly the same way. In an actual PBL implementation, the order in which steps are taken is flexible and not necessarily sequential. Some steps may be carried out in parallel, omitted, or reordered as appropriate to the system and its corresponding operational environment. The implementation model should be tailored on a case-by-case basis. DAU has established a PBL Center of Excellence (CoE), which is available to advise and/or assist the PM in all facets of PBAs and PBL. Following is a summation of the 12 steps of the PBL implementation model.

STEP 1: Integrate Requirements and Support

Understanding warfighter needs in terms of performance is an essential initial step in developing a meaningful support strategy. The PMT consults with the operational commands and organizations that support the warfighting combatant commanders. Capability needs will be translated into performance and support metrics that will: (a) be documented in PBAs, and (b) serve as the primary measures of PSP performance. Supportability needs should, as appropriate, also be a KPP consideration and/or a testable performance metric.

Understanding warfighter requirements is not a one-time event. As scenarios change and the operational environment evolves, performance requirements may also evolve, leading to changes in the supportability strategy and PBL methodology. Thus, meeting warfighter needs and remaining in close alignment with warfighter requirements and logistics personnel are essential and continuous processes for the PM.

To achieve this needed flexibility, PBL strategies should be implemented via agreements that specify a range of performance outcomes and corresponding metrics sufficient to accommodate changes to resources, Operating Tempo (OPTEMPO), or other usage requirements. Ideally, the PBL strategy would be aligned across various tiers of support, from peacetime training to wartime surge levels, to the extent that they can be defined, with minimal contract exclusions, mitigating the need to amend or redevelop the PBL agreements.

STEP 2: Form the PBL Team

A critical early step in any PBL effort is establishing a team to develop and manage the implementation. The foundation of PBL strategies relies on ensuring the participation and consensus of all stakeholders, especially the customer, in developing the optimum sustainment strategy. The team, led by the PM or the PTL, may consist of Government and private-sector functional experts and should include all appropriate stakeholders, including warfighter representatives. Teambuilding to support PBL is similar to traditional integrated logistics support management, except the focus on individual support elements is diminished and replaced by a system orientation focused on performance outcomes.

Before a team can be established, the PM must establish the achievable goals. By knowing what must be accomplished, the PM can best choose who should be on the team to do the work,
keeping resource impacts to the minimum. The wrong approach is for a PM to establish a team, and then look to the team to establish goals: this is known as 'having a solution that is looking for a problem,' and provides no initial team focus. By having the goals known up front, the PM can take a competency-based approach to team building (eliminating the stovepipes of function-based organizations), achieve system orientation, and build a management infrastructure.

**STEP 3: Baseline the System**

To develop an effective support strategy, a PM needs to identify the difference between existing and desired performance requirements. Accordingly, the PM identifies and documents the current performance and cost baseline. The life cycle stage of a program determines the scope of a baselining effort. For new programs with no existing logistics structure, the baseline should include an examination of the cost to support the replaced system(s). If there is no replaced system, Life Cycle Cost (LCC) estimates should be used. For new systems, the business model for supporting the product demonstrates its risks and benefits as part of the systems engineering process. Once identified, the baseline can be used to assess the necessary establishment of, or revisions to, the support concept to achieve the desired level of support.

For existing systems, the baseline assessments form the basis for BCA of PBL approaches being considered. Determination of the sustainment and readiness performance history and associated operations and support cost is essential. Therefore actual data, when available, should be used for fielded systems.

**STEP 4: Develop Performance Outcomes**

Performance outcomes and corresponding metrics should focus on the warfighter’s needs: a system that is operationally available, reliable, and effective, with minimal logistics footprint and a reasonable cost.

The formal performance agreement with the warfighter states the objectives that form the basis of the PBL effort. The PBL team should focus on a few outcomes, such as weapons system availability, mission reliability, logistics footprint, and/or overall system readiness levels. Measures of readiness and supportability performance are balanced against costs and schedules. Linking these metrics to existing warfighter measures of performance and reporting systems is preferable. Many existing logistics and financial metrics can be related to top-level warfighter performance outcomes.

**STEP 5: Select the PSI(s)**

A fundamental tenet of PBL is single-point accountability for support. That role is encompassed by a PTL and/or one or more PSIs, who are responsible for integrating all sources of support, public and private, to meet the identified performance outcomes.

**STEP 6: Develop Workload Allocation Strategy**

An effective support strategy considers best competencies and partnering opportunities. Building on the previously developed system baseline, the PM and PBL team must address each discrete workload and assess where, how, and by whom it can best be accomplished, while considering statutory guidance. In general, support workloads will include both system-unique and common subsystems, commodities, and components.

The development of an effective support strategy will consider a range of factors in arriving at best value decisions, using decisions tools, including BCAs, to develop the optimum support sourcing decisions.

**STEP 7: Develop the Supply Chain Management (SCM) Strategy**

A SCM strategy is critical to the success of any PBL effort. Materiel support is a critical link in weapons systems supportability. All the skilled labor, advanced technology, and performance mean little without the 'right part, in the right place, at the right time.’ The supply chain is also a primary target for utilizing industry flexibility, capability, and proprietary spares support.

DoD Materiel Management usually addresses four categories of supply support items:
Unique Repairable Items: These are repairable (subject to repair) parts that are unique to the system (not common with other DoD systems). They are usually sourced by the Prime Vendor/OEM of the system. Strong consideration should be given to allocating responsibility for wholesale support of these items to the Prime Vendor, who has readily available technical data and identified sources.

Common Repairable Items: These parts are common with other systems and may have a variety of sources. They are usually managed organically within the DoD materiel management process but are also candidates for corporate PBL contracts.

Unique Consumable Items: These are consumable (discarded after use) items that are used only on the target system and are usually sourced by the Prime Vendor/OEM of the system. Strong consideration should be given to allocating responsibility for acquisition of these items to the Prime Vendor, which may elect to use the DLA as the preferred source of supply.

Common Consumable Items: These are consumable items used across more than a single system and are generally managed and provided by DLA. It may be viable to allow the Prime Vendor to procure these items, as appropriate, should DLA be unable to meet time, cost, or quantity requirements. If needed, the PM should encourage establishing a PBA between DLA and the vendor when total private support is chosen.

Transfer of ownership of spares and equipment, when necessary to support a contract during Low Rate Initial Production (LRIP) or Interim Contract Support (ICS), needs to be managed appropriately to ensure equivalency of capitalization and credit issues.

SCM includes the distribution, asset visibility, and obsolescence mitigation of the spare parts. From a warfighter’s perspective, transportation and asset visibility have a substantial impact on high-level metrics and should be emphasized in the PBL strategy.

STEP 8: Establish PBAs

The intent of the PBA is to ensure that all stakeholders (the sponsor/warfighter, the PM, and support provider) enter into a formal relationship for levels of support.

This differs from the usual ‘best effort’ approach typical of DoD organic support processes. With a clear delineation of performance outcomes, corresponding support requirements, and the resources required to achieve both, the PBA creates a clear understanding of the outcomes and the commitments required to achieve those outcomes among all stakeholder parties.

Documentation of a completed, approved, and funded product support/sustainment agreement is a critical step in any PBL implementation. A documented PBA between the PM, PSI, and force provider that defines the system operational requirements (e.g., readiness, availability, response times, etc.) is essential.

STEP 9: Conduct a PBL BCA

A formal decision to adopt a PBL product support strategy should include completion of a BCA. The BCA provides a best-value analysis, considering not only cost, but other quantifiable and non-quantifiable factors supporting an investment decision. This can include, but is not limited to, performance, producibility, reliability, maintainability, and supportability enhancements.

The BCA is an expanded cost/benefit analysis created with the intent of determining a best-value solution for product support. Alternatives weigh total cost against total benefits to arrive at the optimum solution. The BCA process goes beyond cost/benefit or traditional economic analyses by linking each alternative to how it fulfills strategic objectives of the program; how it complies with product support performance measures; and the resulting impact on stakeholders. Ideally, the BCA will independently and without prejudice identify which alternative provides optimum mission performance given cost and other constraints, including qualitative or subjective factors.

STEP 10: Award Contracts

One of the key characteristics of PBL contracts is that they are based on a private sector business model - paying for performance. As is often done in commercial contracts, incentives are included
to motivate contractor behavior. It is not uncommon for contractors engaged in PBL contracts to have the majority - or even all - of their profit tied to performance based metrics and dependent on earning the contractual incentives included in the contract. Incentives for organic PBL providers, such as depots, are also important. Properly defining what is expected of the organic provider and incentivizing them to achieve PBL goals are critical to shifting processes away from traditional support methods to PBL.

The preferred PBL contracting approach is the use of long-term contracts (Note: DoD limit on contracts is currently 5 years, with one-year options thereafter) with incentives tied to performance. Award-term contracts should be used where possible to incentivize optimal industry support. Incentives should be tied to specific metrics.

Wherever possible, PBL contracts should be fixed-price (e.g., fixed price per operating or system operating hour). However, the inherent risk of entering into fixed price contracts prior to establishing firm cost, resource, and materiel baselines necessitates the frequent use of cost plus contracting approaches early in the product support life. As a general rule, until price risk is minimized to a level of confidence for both DoD and the contractor, fixed price contracts should be avoided. Consequently, PBL strategies will generally have a phased contracting approach, initiated by cost plus cost reimbursement type contracts to cost plus incentive contracts to fixed price incentive contracts, over time.

PBL contracts should be competitively sourced wherever possible and should make maximum use of small and disadvantaged businesses as subcontractors, and may be incentivized to do so through PBL contractual incentives tied to small and disadvantaged business subcontracting goals.

**KEY POINT:** PBL contracts should include adequate exit criteria or ‘off-ramps’ should worst-case scenarios arise regarding contractor inability to (or loss of interest in) continuing to provide support.

In general, these exit criteria should be included as negotiated options for the acquisition, transfer, or use of necessary technical data, support tooling/equipment, and the appropriate conversion training required for reconstitution or recompetition of the support workload.

**STEP 11: Employ Financial Enablers**

In executing performance agreements, the PM must implement a financial process strategy that is an enabler. The PM must estimate annual costs based on operational requirements and review funding streams for applicability. Once the funds have been appropriated, the customer must ensure that the funds are made available as needed to fund the support as defined in the PBA and (if present) subsequent implementing support contract. The force provider (customer) advocates for the required funding. Although this process does not provide the PM direct control of the funds for support, it does put them in a clear management and oversight role of the funds used for sustainment.

As the DoD heads towards full implementation of PBL, new financial mechanisms will enable a true focus on buying performance output rather than separate contractual line item transactions. Warfighter logistics improvement is the primary outcome of this approach, and performance measures will be the chief tool to ensure that improvement happens.

The Defense Business Practice Implementation Board has identified PBL as a ‘best business practice’ and recommends a more aggressive approach to implementing PBL across the Services. In February 2004, the Deputy Secretary of Defense directed the USD(AT&L) and the USD(Comptroller) to issue clear guidance on purchasing using performance criteria, which led to the Acting USD(AT&L) Memorandum, August 16, 2004, *Performance Based Logistics: Purchasing Using Performance Based Criteria*. The Services were directed to provide a plan to aggressively implement PBL, including transfer of appropriate funding, on current and planned weapons system platforms for FYs ‘06–’09.

PMs face a significant challenge in identifying and budgeting for costs of meeting performance capabilities. First they must work with users to develop cost estimates used to advocate funding during the budget process. A thorough PBL BCA should precede this step in the process. Out of
this effort comes the identification of the specific appropriation elements necessary to fund the planned product support strategies. Ultimately, this approach will result in clear lines of visibility and accountability, which will in turn support improved readiness and resource management.

**STEP 12: Implement and Assess**

The PM’s oversight role includes developing the performance assessment plan, monitoring performance, and revising the PSS and PBAs as necessary. The PM also acts as the agent for the warfighter, certifying PSI performance and approving incentive payments. The PM must take a hands-on approach and not assume that the contracts and/or agreements will be self-regulating.

**KEY POINT:** **DoD Components are required to conduct periodic assessments of system support strategies vis-à-vis actual versus expected levels of performance and support.**

These reviews occur nominally every 3 to 5 years after IOC or when precipitated by changes in requirements/design or by performance problems, and should at minimum include:

- PSI/PSP performance;
- product improvements incorporated;
- configuration control;
- modification of PBL agreements as needed based on changing warfighter requirements or system design changes.

The PM should perform reviews of PSI/PSP performance against the PBA on at least a quarterly basis and use that data to prepare for the service-level assessments.

**PBAs**

One of the most significant aspects of PBL is the concept of a negotiated agreement between the major stakeholders (e.g., the PM, the force provider(s), PSI, and/or PSP(s)) that formally documents the performance and support expectations and commensurate resources to achieve the desired PBL outcomes. In PBL implementation guidance, the PBA is used to ensure clarity and consistency. In some instances, the PBA will also be the contract.

PBAs are one of the key components of an effective product support strategy, as they establish the negotiated baseline of performance, and corresponding support necessary to achieve that performance, whether provided by commercial or organic support providers. The PM, using the performance objectives required by the warfighter, negotiates the required level of support to achieve the desired performance at a cost consistent with available support funding. Once the performance, support, and cost are accepted by the stakeholders, the PM enters into PBAs with users, which specify the level of operational support and performance required by the users; and into PBAs with the support providers, which specify the performance parameters that will meet the requirements of the warfighter. It is important to note that a PSP (organic or commercial) in a PBL arrangement cannot be held accountable for functions they do not directly perform or manage. Accordingly, the PM may need to select the next echelon of metrics for which the PSP can be held accountable and which most directly contributes to the warfighter performance metrics.

There are generally two categories of PBAs: user agreements (PBAs with force providers, regarding availability) and support provider agreements (PBAs for source, a contract with industry or a Memorandum of Agreement (MoA)/Memorandum of Understanding (MoU) with an organic support provider).

**PBA – User Agreements**

A written PBA between the PM and the user is the centerpiece of the PM’s overall PBL support strategy. Typically, the agreement identifies ranges of outcome performance with thresholds and objectives, and the target price (cost to the user) for each level of PBL capability. The agreement also delineates any constraints or boundary conditions and will reflect normal operations. The execution performance level will be dictated by the allocation of funds to a weapons system during
the execution year. It must include specific terms and conditions related to surge and warfighting operations that will be considered ‘over-and-above’ activity.

User PBAs provide the objectives that form the basis of the PBL effort. Generally, a focus on a few performance based outcome metrics - such as weapons system availability, mission reliability, logistics footprint, and/or overall system readiness levels - will lead to more effective solutions. However, in developing the actual PBL support arrangements, it may not be possible to directly state the warfighter performance objectives as support metrics because of lack of support provider control of all support activities necessary to produce the warfighter performance (e.g., availability). Most Component logistics policies and/or guidance mandate a preference for Component-performed organizational level maintenance and retail supply functions.

PBL agreements should be flexible enough to address a range of support requirements, so as to accommodate changes in OPTEMPO or execution year funding, including surge or contingency requirements to the extent that they can be defined. PBL agreements should clearly articulate cost versus price considerations, attendant risks associated with requirements definition, performance failure, etc., and should capture alternatives.

PBA – Support Provider Agreements

The PMs enter into PBAs with organic sources and contracts with commercial sources. The agreements should be written to maintain flexibility to spend year-of-execution funding and/or accept priority revisions. PBAs should also reflect a range of support levels to allow revisions in support requirements without the need to prepare a new PBA. In most cases, PBL PBAs should be structured to include both training and contingency OPTEMPOs.

For support provided by commercial organizations, the contract is, in most cases, the PBA. Accordingly, the contract contains the agreed-to performance and/or support metrics that have been identified as meeting the requirements of the warfighter. In most cases, the ultimate performance requirements (e.g., availability) may be precluded as contract metrics because the contractor may not have total influence or authority over all of the support functions that produce system availability - some support functions may continue to be performed by organic organizations or other support providers. Accordingly, the contract should include the highest level metric(s) critical to producing the desired performance outcome(s). In order to motivate the contractor to achieve the desired metrics, appropriate contract incentives include award fee, award term, and share in savings.

For support provided by organic organizations, a PBA may be used in lieu of a contract to represent and document the terms of the PBA for organic support. One important distinction, however, between PBAs and other non-PBA type agreements is that PBAs contain the agreed-to performance and/or support metrics that have been identified as meeting the warfighter requirements and to which the warfighter has agreed to commit funding. The intent of agreements with organic support providers is to formally document the agreed-to level of support and associated funding necessary to meet performance requirements. Organic providers, like commercial providers, will have a set of performance metrics that will be monitored, assessed, incentivized, and focused on the target weapons system.

Legislative and Statutory Considerations

Congress has enacted a number of statutes that place controls on what actions DoD can take in using commercial sector maintenance capabilities. This legislative and statutory guidance must be considered as an integral and evolving aspect of product support acquisition decisions. The PBL approach must ensure compliance with all statutory and regulatory requirements, and in particular, the statutory limitations of Title 10 of the United States Code (U.S.C.). In its entirety, Title 10 provides the legal basis for the roles, missions and organization of each of the Services as well as the DoD. Germane PBL, we find specific guidance under Title 10 (Armed Forces), Subtitle A (General Military Law), Part IV (Service, Supply, and Procurement), Chapter 146 (Contracting for Performance of Civilian Commercial or Industrial Type Functions), Sections 2460, 2464, 2466, 2469, and 2474. Following are brief descriptions on each of these sections:
§ 2460 (Definition of depot-level maintenance and repair).

§ 2464 (Core logistics capabilities) - directs DoD to maintain a core logistics capability in order to maintain and support mission essential equipment.

§ 2466 (Limitations on the performance of depot-level maintenance of materiel) - requires that not more than 50 percent of funds available to a Military Department or Defense Agency in a FY for depot-level maintenance and repair workload be used to contract for the performance of this workload by non-Federal Government personnel.

§ 2469 (Contracts to perform workloads previously performed by depot-level activities of the Department of Defense: requirement of competition) - stipulates that existing depot-level maintenance or repair workload valued at $3 million or more must not be contracted out or moved to another depot-level activity without using public/private competition procedures or DoD depot merit-based selection procedures. This requirement may be waived for workloads performed on public depots designated Centers of Industrial and Technical Excellence (CITE) that are pursuant to a public private partnership under Section 2474(b).

§ 2474 (Centers of Industrial and Technical Excellence: designation; public-private partnerships) - requires the Components to designate CITE, authorizes and encourages public-private partnerships, permits performance of work related to core competencies, permits use of facilities and equipment, and permits sale proceeds from public-private partnerships to be credited to depot accounts. Section 2474 also includes an exemption for work performed by non-Federal personnel at designated CITE (certain maintenance depots) from the 50 percent limitation on contracting for depot maintenance.

These statutory and regulatory requirements are not roadblocks to PMs in implementing successful PBL strategies that meet the needs of the warfighter. Teaming and partnerships between the PM, the PSI, and the performance providers, whether organic or commercial, benefit the user by optimizing the skills available in both the DoD and the Defense industrial base.

**Federal Acquisition Regulation (FAR) Part 12**

The PM teams implementing PBL should seek to use the FAR Part 12, Acquisition of Commercial Items for procurement of total weapons system support under the PBL concept.

In order to execute a FAR Part 12 contract, a determination of commerciality must be made. Justification for commerciality does not have to be made at the item level; it can be made at the repair process level or at the support concept level. So if a specific weapons system cannot be determined to be a commercial item, the commercial nature of the program supporting such system can be demonstrated to be the commercial item.

A key aspect of PBL is the inclusion of a pricing arrangement to incentivize the contractor to reduce costs through increased reliability. One such arrangement that has been in widespread use in the commercial sector is the 'Power by the Hour' (PBH) concept. Under PBH, an hourly rate is negotiated and the contractor is paid in advance based on the forecasted operational hours for the system. Actual hours are reconciled with projected hours, and overages and shortfalls are either added to or credited from the next period’s forecasted amounts. Since the contractor receives funding independent of failures it is then incentivized to overhaul the asset the first time it fails so that it stays in operation as long as possible. Bottom line: under the PBH concept, the fewer times the contractor touches a unit, the more money it makes. Since usage of the PBH concept in a PBL support concept can mirror the use of PBH in the private sector, this use of PBH could be classified as a commercial item.

The spirit and intent of the FAR Part 12 is to encourage the Government to evolve toward commercial practices and processes. The improvements and savings achieved will be more likely to accrue if the contractor, under Government oversight, is allowed to implement the efficient practices already in place in the private sector. These efficiencies and cost savings will ultimately yield improved readiness, which is DoD’s primary objective.

**PBL References and Training**
The preceding information is intended to provide an overview only. A single source reference point to cover the range and depth of PBL is not viable. Minimally, WSSMs are encouraged to pursue study of the following PBL source documents and briefs:

- DAU Performance Based Logistics: A Program Managers Product Support Guide (MAR 05)
- AKSS Defense Acquisition Guidebook (FEB 2011, update monthly)
- OSD Designing and Assessing Supportability in DoD Weapons Systems: A Guide to Increased Reliability and Reduced Logistics Footprint (24 OCT 03)
- USD AT&L policy memorandum Implementation of Life Cycle Sustainment Outcome Metrics Data Reporting of (11 DEC 08)
- USD AT&L policy memorandum Product Support Boundaries of (23 SEP 04)
- AKSS, Acquisition Community Connection (ACC) on Life Cycle Logistics, Performance Based Logistics Toolkit
- MCO 4081.2 Marine Corps Performance Based Logistics with guidebook and process flow chart
- Army Regulation 700-127 Integrated Logistics Support (17 JUL 08)
- FAR Part 12 Acquisition of Commercial Items
- U.S.C. Title 10 § 2460 (Depot-level maintenance and repair)
- U.S.C. Title 10 § 2464 (Core)
- U.S.C. Title 10 § 2466 (50-50)
- U.S.C. Title 10 § 2474 (CITE)
- MCSC PBL Overview and PBL Process Key Takeaways training briefs
- LOGCOM PBL policy memo (under development)

WSSMs are also encouraged to pursue the following PBL training opportunities:

- Institute for Defense and Government Advancement (IDGA) PBL Conference during the March/April timeframe
- DAU LOG 235 – Performance Based Logistics Part A
- DAU LOG 236 – Performance Based Logistics Part B
- DAU continuous learning module CLL011 Performance Based Logistics

3.1.8 Core, 50-50

The terms Core and 50-50 are shorthand references to the governance of depot-level maintenance (DLM), as stipulated in Title 10 of the U.S.C. Germane to the topics of Core and 50-50, we find guidance under Title 10 (Armed Forces), Subtitle A (General Military Law), Part IV (Service, Supply, and Procurement), Chapter 146 (Contracting for Performance of Civilian Commercial or Industrial Type Functions), Sections 2464 (Core logistics capabilities), and 2466 (Limitations on the performance of depot-level maintenance of materiel).

Core Logistics Capabilities ("Core")

Core logistics capabilities are those maintenance capabilities within the Marine Corps depots that meet the readiness and sustainability requirements of the Joint Chiefs of Staff (JCS) contingency scenarios and risk mitigation, while retaining only the minimum facilities, equipment, and skilled personnel necessary to ensure a ready and controlled source of required technical expertise.

Section 2464 outlines the Marine Corps’ requirement to establish and report the minimum Core logistics capabilities required to ensure that contingency operations are not compromised due to a lack of essential depot maintenance support.

Limitations on the Performance of DLM of Materiel ("50-50")

Section 2466 states that “no more than 50 percent of the funds made available in a fiscal year to a military department or a Defense Agency for depot-level maintenance and repair workload may be used to contract for the performance by non-Federal Government personnel of such workload for the military department or the Defense Agency. Any such funds that are not used for such a
contract shall be used for the performance of depot-level maintenance and repair workload by employees of the Department of Defense."

Essentially, this Title 10 mandate limits the depot-level maintenance and repair workload performed by a contractor to no more than 50 percent of the funds made available in a fiscal year to the Marine Corps. As such, the Corps is directed to submit to Congress a report identifying the percentage of depot maintenance workload performed by a contractor and by organic depots.

The following four point outline provides LOGCOM sourced guidance on the flow and impact of Core and 50-50 analysis.

1. A BCA should be conducted to assess risks and the following:
   b. Contractor Logistic Support (CLS) provided by the Original Equipment Manufacturer (OEM) or other Commercial agencies.
   c. Hybrid approach to maintenance support to include possible partnering.

This BCA documentation can be used to support/validate a Core requirement Depot Source of Repair (DSOR) recommendation.

2. A Core determination is formulated. Whether organic or CLS, a contingency maintenance support plan should be developed. In determining whether a Principle End Item (PEI) and its associated components (Depot-Level Reparables (DLR), formerly Secondary Items) are considered Core, several factors need to be considered:
   a. Is the PEI used to support JCS scenarios?
   b. Does the PEI/DLR require some form of depot-level repair?

If the response is confirmed, this PEI/DLR should be considered a Core asset. This requires that a portion of the depot maintenance workload be completed organically.

3. The PMT will compile this information and organize a package to be submitted to the Enterprise TLCM Corporate Board. This package must include the following:
   a. An executive summary of the overall recommendation of the specific source of repair desired.
   b. Supporting arguments for the recommendation.
   c. Estimated cost to provide maintenance support.
   d. The maintenance contingency plan.
   e. Completed Joint Logistics Commanders (JLC) forms 27, 28, and 44 (assistance can be provided by Joint Services Branch (JSB) within the MMC of LOGCOM).

After the Enterprise Board reviews this package with concurrence/non-concurrence, it is forwarded to the JSB.

4. Once JSB has the complete package, appropriate documentation is forwarded to the Joint Depot Maintenance Activity Group (JDMAG). In addition, JSB submits a request to JDMAG for a review (four types – Directed, Service Workload Competition, Maintenance Interservice Support Management Office (MISMO) Review, and Depot Maintenance Interservice (DMI) Study) by the other Services. This effort is intended to gain concurrence from the Joint community on the depot maintenance support recommendation. Based on the maintenance support recommendation and other Service responses, the JDMAG issues an official DSOR decision.

Core, 50-50 References

The following publications may be used as guidance to assist in understanding and influencing the aforementioned work flow. This will help to ensure that a robust/valid maintenance plan and recommended DSOR have been developed:
3.1.9 Acquisition Planning

Acquisition Planning is the term used to describe the comprehensive process of identifying and procuring the correct support items and equipment in the quantities required to sustain fielded systems. Calculating and facilitating the acquisition of all necessary components ensures the supportability of fielded systems throughout their entire life cycle - from initial procurement through supply chain management (including maintenance) through reutilization and/or disposal.

Representing a core competency of the Enterprise Integration Division (EID) of the WSMC, Acquisition Support Competency Managers participate as members of appropriate WSMTs, providing subject matter expertise for the activities noted below. Additionally, this EID function is staffed to provide subject matter expertise to Independent Logistics Assessments (ILAs), and should be called upon by WSSMs to ensure participation on all ILA teams.

Provisioning

A key concept of Acquisition Planning is provisioning, the bridge between Pre-Systems Acquisition and Sustainment. Provisioning ensures that minimum initial stocks of support items and associated technical documentation are available at using organizations and at maintenance and supply activities, and that logistics data are updated with field experience to assure sustainment throughout the acquisition process. The initial stocks are required to sustain the programmed operation of systems and equipment items until normal replenishment can be accomplished. Equipment will be provided to support the stated system availability or System Readiness Objectives (SRO). Support is to be provided at the least initial investment cost. Provisioning is also the procurement of spares and repair parts that occurs when a weapon system is initially procured and before the supply system can provide the support required. Provisioning activity occurs between the Engineering and Manufacturing Development and the Production and Deployment Phases, and typically ends at the Operations and Support Phase.

The main goal of provisioning is to prepare for the first deployment of a system – Initial Issue Provisioning (IIP). To accomplish this, the range and quantity of items (i.e., spares and repair parts, special tools, test equipment, and support equipment) required to support and maintain an item for an initial period of service are identified. Once the initial issue has been successfully fielded and accepted, efforts transition to sustainment.

Provisioning Parts List (PPL)

Early in the Provisioning stage, a PPL is documented. The PPL is a thorough documentation of an end item, component, or assembly, inclusive of all support items which can be disassembled, reassembled, or replaced, and which, when combined, constitute the end item, component, or assembly. The PPL shall include items such as attaching hardware, parts, materials, connecting cabling, piping, and fittings required for the operation and maintenance of the end item, component, or assembly. The PPL includes all repairable and non-repairable commercial off-the-shelf (COTS) items unless excluded by the provisioning requirements.

Provisioning Conferences

Provisioning Conferences are a joint effort between LOGCOM and MCSC. The conference is required when a PPL is acquired. The purpose is to verify all information on the PPL, including part cataloging information, hardware configuration and maintenance plans.

Engineering Data for Provisioning
Engineering Data for Provisioning (EDFP) is the technical data used to describe the parts/equipment that will need to be procured and readily available once the system is fielded. These data may consist of specifications, standards, drawings, photographs, sketches and descriptions and necessary assembly, interface, and general arrangement drawings, schematic diagrams, wiring and cable diagrams necessary to indicate the physical characteristics, location, and/or function of an item.

Data from the PPL and EDFP will be leveraged in Configuration Management and Technical Data Management. The data may or may not be in the form of Technical Data Packages.

**Provisioning – Five Phases**

Provisioning can be broken into five phases. MCSC has responsibility for the first three Phases, LOGCOM is responsible for the final two Phases; however, the two organizations will need to work in concert throughout the entire process.

- **Phase I** – Review of all draft provisioning guidance documentation and establish a schedule to track provisioning actions. Phase I is complete upon contract award and receipt of all provisioning guidance documents.
- **Phase II** – Obtain the EDFP from commercial or government sources. These data will be entered into legacy systems to facilitate identification and reorder of repair parts.
- **Phase III** – Identify, select, and acquire initial support items required for maintenance. The provisioning process ensures that all support items are available and in a protected status within the stores system in conjunction with or prior to the Principal End Item (PEI) Ready For Issue (RFI) date.
- **Phase IV** – Obtain National Stock Numbers (NSNs) and develop procurement documents to acquire IIP assets and monitor their attainment. A recommendation for an RFI statement is sent to the PM during this Phase.
- **Phase V** – Receive the final RFI statement from the PM authorizing release of the Initial Issue. Phase V continues until the in-service date has been received from all recipients of the Initial Issue and loaded into the legacy information systems/files.

**3.1.10 Configuration Management (CM)**

The term ‘Configuration,’ as defined in the DAU’s Glossary of Defense Acquisition Acronyms & Terms, is “a collection of an item’s descriptive and governing characteristics, which can be expressed in functional terms, i.e., what performance the item is expected to achieve; and in physical terms, i.e., what the item should look like and consist of when it is built.”

The item referenced in the definition is formally known as a Configuration Item (CI), and is defined as “an aggregation of hardware, firmware, computer software (or any discrete portions thereof) which satisfies an end use function and is designated by the government for separate management.” CIs may vary widely in complexity, size, and type, from an aircraft, electronic, or ship system to a test meter or round of ammunition. Any item required for logistics support and designated for separate procurement is a CI.

Configuration Management (CM), then, according to the DAU, is “the technical and administrative direction and surveillance actions taken to identify and document the functional and physical characteristics of a CI, to control changes to a CI and its characteristics, and to record and report change processing and implementation status. CM provides a complete audit trail of decisions and design modifications.”

CM encompasses, to varying degrees, every item of hardware and software down to the lowest bolt, nut, and screw, or lowest software unit. CM begins during development and, when properly implemented, will continue until disposal of the weapon system. Spanning the system life cycle are two notable and primary CM goals: risk mitigation and cost avoidance.

Managing CM in a program can be complex, as multiple entities play key roles in the process. Military Handbook *Configuration Management Guidance* (MIL-HDBK-61B) provides this general guidance:
Since the Government has ultimate responsibility for the performance and configuration of the systems and equipment it acquires and operates, the Government is always the configuration control authority for the top-level performance attributes, and for selected lower level performance and design attributes that it specifies and contracts for. A significant degree of authority for configuration control may be exercised by contractors during any or all phases of the life cycle, depending on such factors as type of acquisition, contractual requirements, and ownership of the data.

Interaction among government and contractor program functions such as systems engineering, design engineering, logistics, contracting, and manufacturing is essential, requiring that each program’s CM effort be coordinated and synergized with IPT-like communication and efficiency. This heightens the importance of program management involvement with specific regard to risk mitigation. In fact, the increased program risks inherent in having less direct control have created the need for the PMTs to plan for and understand the CM process from end to end to ensure supportability and interoperability of all equipment and software. DoDI 5000.02 (Enclosure 12, Systems Engineering) establishes the following guidance regarding CM for each program:

The PM shall use a configuration management approach to establish and control product attributes and the technical baseline across the total system life cycle. This approach shall identify, document, audit, and control the functional physical characteristics of the system design; track any changes; provide an audit trail of program design decisions and design modifications; and be integrated with the SEP and technical planning. At completion of the system level Critical Design Review, the PM shall assume control of the initial product baseline for all Class 1 configuration changes.

Further, with regard to cost avoidance, DoDD 5000.1 offers the following CM guidance:

When using performance-based strategies, contract requirements shall be stated in performance terms, limiting the use of military specifications and standards to Government-unique requirements only. Acquisition managers shall base configuration management decisions on factors that best support implementing performance-based strategies throughout the product life cycle.

Performance-Based Logistics in CM

The aforementioned guidance underscores the need for WSSMs to be well-versed on the impact of PBL on the support and sustainment of weapon systems. In PBL support strategies, it is not uncommon to delegate broad Class II (no change in form, fit, function, or testability of an item) CM to the commercial PSI/PSP (i.e., the system’s OEM, the Prime Vendor, or a 3PL integrator). Whereas the PSP is generally provided broad flexibility in how they deliver on performance, it is to the benefit of all parties that they’re also afforded commensurate flexibility to implement transparent configurations changes. This practice motivates the PSP to invest in reliability, availability, and maintainability (RAM) improvements as a profit enhancer while providing the program with welcome sustainment improvements.

KEY POINT: The term transparent implies that the PMT/WSMT have full awareness of any PSP initiated configuration changes. Understanding and fully documenting configuration changes is a critical component of CM.

Technical Data in CM

Technical Data is also a critical component of CM. To protect the program in the event that the PSP is unable to meet its contractual requirements, the PM must ensure that the PBL agreement enables unfettered DoD access to (and control of) the Technical Data Package (TDP) required to successfully sustain the weapon system for its entire life cycle. This requirement will vary from program to program and is often considered down to the component or part level within a system. Diminishing Manufacturing Sources and Material Shortages (DMSMS) may necessitate that a part or entire system is subject to re-compete. Planning for this possibility, including having the appropriate control of the TDP, ensures the DoD and any newly contracted PSP will have the data necessary to duplicate the existing configuration with minimal interruption to sustainment support.

CM and the WSSM
The WSSM’s advocacy of effective CM is vital to the supportability of a weapon system throughout its life cycle. Each phase of the life cycle brings configuration factors that must be considered. To assist in the identification and assessment of these factors the WSSM will have the support of Configuration Management Specialists (CMS) who are assigned to each CPSG. The CMS will have subject matter expertise on CM Life Cycle Management and Planning as well as four major CM functions. The WSSM should identify and add a CMS to their WSMT as early as possible to ensure effective CM of their program CIs.

**CM Life Cycle Management and Planning**

The key output here is a documented CM process, wherein the allocation of CM functional activities to the Government CM and the Contractor CM are outlined. The CM Plan is a living document and should be updated to incorporate changes in the CM process throughout the life cycle of a program.

**CMS support to the WSMT**

- Participate in the development or review of program CM Plans
- Provide technical direction and input on CM related requirements
- Participate in the review of logistics and acquisition documents for CM related issues

1. **Configuration Identification:**

   This CM function produces documentation for CIs. Products are selected and defined, unique identifiers are assigned to each CI, and baseline product attributes are documented. This activity establishes the foundation for all subsequent CM functional activities. Product configuration identification should be established to a level of detail commensurate with the operational, support and re-procurement strategies for a given program.

2. **Configuration Control:**

   In this ongoing CM function, changes to the established configuration baseline are identified, recorded, evaluated, approved or disapproved, and incorporated and verified, as appropriate. The Configuration Control process for a given program should be detailed in the CM Plan.

**CMS support to the WSMT**

- Support *non-automated* review of change control documents
  - Review and provide input to the Configuration Management Plan
  - Record data in CMIS
- Support *automated* review of change control documents, serving as a member of the Configuration Control Board (CCB)
  - Assist the PMT in setting up the program in the Multi-User Engineering Change Proposal (ECP) Automated Review System (MEARS)
  - Serve as the primary point of contact for Marine Corps MEARS

3. **Configuration Status Accounting (CSA):**

   CSA is the CM activity guiding capture and storage of the configuration information needed to manage CI information effectively. The CSA process for a given program should be detailed in the CM Plan.

**CMS support to the WSSM**

- The CMS uses the Joint Configuration Management Information System (JCMIS) to enter and maintain CI data, inclusive of:
  - Baseline and platform configuration
  - Modification installation by USMC platform number
  - The status of ECPs and Requests for Deviation
- Perform CSA SME functions

4. **Configuration Verification and Audit:**
This function validates that the performance and functional requirements defined in the product documentation has been achieved by the design and that the design has been accurately documented in the product definition information. The audits are detailed in the CM Plan or in individual audit plans.

- **Functional Configuration Audit (FCA)** – The formal examination of functional characteristics of a CI (or system) to verify that the item has achieved the requirements specified in its functional and/or allocated configuration documentation. A successful FCA results in the establishment of the functional baseline.
- **Physical Configuration Audit (PCA)** – The formal examination of the "as-built" configuration of a CI against its technical documentation to establish or verify the CI's product baseline. A successful PCA results in the establishment of the product baseline.

**CMS support to the WSSM**

- FCA/PCA team member - providing planning, scheduling, in and out briefs, meeting minutes, resolve discrepancies and prepare FCA/PCA recommendation(s) for PMT.

Additional information on CM can be found in the following document:

- **MIL-HDBK-61A** Configuration Management Guidance (FEB 01)

### 3.1.11 Technical Data Management (TDM)

PMs must assess the long-term technical data needs of their systems and reflect that assessment in a Data Management Strategy (DMS). The DMS should apply policies and procedures to assess the data required to design, manufacture, and sustain the system, as well as to support re-competition for production, sustainment or upgrades. Technical Data is a composite of engineering, procurement, and support type information used to specify descriptive and performance characteristics or features of items, materiel, methods, practices, processes and services for development, production, use and support of end items.

TDM plays an important role in the systems engineering process. In the program office, data management consists of the disciplined processes and systems used to plan for, acquire, access, manage, protect, and use data of a technical nature to support the total life cycle of the system. Under the TLCSM concept, the PM is responsible for TDM. The PM should develop a plan for managing defense system data during each phase of the acquired system’s life cycle.

**Data Acquisition**

Defense system data are acquired when needed to support the acquisition, operations, maintenance, or disposal of the system and to evaluate contractor performance. The applied systems engineering process requires access to data to facilitate decision making, but does not necessarily require acquisition of all data.

The application of TDM principles identifies the proper data to be acquired or accessed. The decision to purchase data should be made when access to required data is not sufficient to provide for life-cycle planning and system maintenance. The cost of data delivery should be a primary consideration. Additionally, the PM must address the merits of including a priced contract option for the future delivery of technical data and intellectual property rights not acquired upon initial contract award, and shall consider if the contractor’s responsibility to verify any assertion of restricted use and release of data.

**Procurement Data Packages**

Data are typically delivered in procurement data packages, which include documentation prepared expressly for the identification, description and verification of items, materials, supplies, and services that are to be purchased, inspected, packaged, and packed and supplied or delivered to users. A procurement data package provides data necessary to control design, engineering, performance, and quality of an item sufficient to ensure functional and physical adequacy of the item for its intended application.
A standard data package is generally referred to as the Technical Data Package (TDP). As indicated in the Configuration Management subsection of this guidebook, PMs must decide early in the process whether or not the TDP will need to be purchased from a contractor. The TDP includes data used for identification and quantity determination(s) of spare and repair parts necessary to support and maintain end items of material for specified periods. These data are also used in the cataloging process and contractual formalization of item quantities. In addition to specific elements of cataloging, engineering, maintenance and supply support data, the TDP contains provisioning information such as piece part relationship to next higher components and assemblies, prices of parts, parts population, and replacement and overhaul factors.

**Item Unique Identifier (IUID)**

Serialized Item Management (SIM) is a requirement for DoD weapons procurement programs. Effective SIM programs provide accurate and timely item-related data that are easy to create and use. This is accomplished by marking populations of select items (parts, components, and end items) with an IUID, enabling collection and analysis of maintenance data about the items.

To enhance life cycle management of assets in systems acquisition and sustainment, and to provide more accurate asset valuation, all PMs shall plan for and implement IUID to identify and track applicable major end items, configuration-controlled items, and government-furnished property. IUID planning and implementation shall be documented in an IUID Implementation Plan and summarized in the program's Systems Engineering Plan.

**Data Storage**

All mission-critical data associated with a given program, from Procurement Data Packages through IUIDs, should be maintained in an industry-standardized repository. In some cases, leaving government acquired data in the physical possession of the contractor and having access to the contractor's data system may be the ideal solution. In addition to data access, the requirement for government use, reproduction, manipulation, altering or transfer of possession of data should be part of the data acquisition and management strategy. Each PM tailors the data strategy to the unique needs of the program. Acquired TDPs will always be stored at LOGCOM in Albany, GA.

The ideal solution for government access to manufacturing, repair, and maintenance records is the establishment of an industry-standard process for the storage, access, and analysis of such data. Such process should provide the PM and the warfighter with immediate access to original, unaltered system data, including all records related to the manufacture, maintenance, and repair of the weapon system during its life cycle.

The DMS should be supported by an integrated data system that meets the needs of both the warfighter and the support community. Data systems supporting acquisition and sustainment should be connected, real-time or near real-time, to allow logisticians to address the overall effectiveness of the logistics process in contributing to weapon system availability and life cycle cost factors. Melding acquisition and sustainment data systems into a true total life cycle integrated data environment provides the capability needed to reduce the logistics footprint and plan effectively for sustainment, while also insuring that acquisition planners have accurate information about total life cycle costs.

**Data Protection**

The PM is responsible for protecting system data, whether the data are stored and managed by the government or by contractors. Data containing information subject to restrictions are required to be protected in accordance with the appropriate guidance, contract, or agreement. When digital data are used, the data should display applicable restriction markings, legends, and distribution statements clearly visible when the data are first opened or accessed. These safeguards not only assure government compliance with use of data, they also guarantee and safeguard contractor data that are delivered to the government, and extend responsibilities of data handling and use to parties who subsequently use the data.

**Parts Management Program**
Parts Management Programs can contribute to reducing life-cycle costs through parts standardization and minimizing future parts proliferation. Successful Parts Management Programs address DMSMS in the proposal, design, and maintenance phases of a product throughout the product’s life cycle.

The PM benefits greatly from taking a proactive approach to Parts Management, as this provides the PM with an opportunity to resolve obsolescence problems before they have an adverse impact on TOC, reliability, and availability of the weapon system.

**Interactive Electronic Technical Manuals**

An additional benefit of capturing and documenting all relevant data is the ability to create Interactive Electronic Technical Manuals (IETMs). IETMs are a training tool/forum that can significantly reduce schoolhouse training and may require lower skill levels for maintenance personnel while actually improving their capability to maintain an operational system.

DoDI 5000.02 *Operation of the Defense Acquisition System* (2 DEC 08) provides current (albeit brief) guidance on the criticality of the DMS, technical data rights, and IUID. The aforementioned instruction and inquiries to the EID TDM specialists represent excellent starting points for the WSSM to pursue further study of this important logistics topic.

### 4. WSSM – Duties and Responsibilities (Specific)

This section considers the core duties and responsibilities that the WSSM carries out in their customer-facing capacity as a key member of LOGCOM’s LCI team. Sections 1, 2, and 3 of this document established the organizational alignment, stakeholders, and baseline knowledge requirements, respectively, with the intent of level setting the WSSM’s work environment and success enabling knowledge tools. With the aforementioned sections providing a backdrop, Section 4 lays out the “playing field” for the WSSM by introducing a summary of how their activities align to the DoD’s Defense Acquisition System (DAS).

At the core of the DAS is the five phases of the Defense Acquisition Management System (DAMS). Central to the WSSM’s workflow perspective, the DAMS is the evolutionary acquisition process designed to pave the way for a PMT to develop, produce, deploy, and sustain an operational capability for the warfighter. As presented in the DoDI 5000.02, each increment of this disciplined evolutionary process is intended to provide product improvement and increased capability, with success ultimately dependent upon the positive and effective collaboration between the various contributors within the acquisition community. Simply put, the WSSM’s responsibility in this vast collaboration is to support the PMT with intelligent logistics guidance, on the way to ensuring that all USMC specific and Joint interest programs meet the most demanding criteria for System Operational Effectiveness (SOE).

![Figure 4.1 – The five phases of the DAMS aligned with the MCSC Equipping Process](image-url)
Synergistically aligned with the DAMS is the MCSC Equipping Process Roadmap (EPR). The EPR defines a course of action for PMTs that, among other things, attempts to ensure that commercial and government materiel used by the USMC meet DoD equipment standards, as well as the challenge of affordable SOE.

The five phases guide the PMT down a defined pathway of milestones, reviews, and assessments through Pre-System Acquisition, System Acquisition, and Sustainment. In concert, the EPR specifies the activities and areas of consideration along that pathway, which the PMT and WSMT must be mindful of from materiel solution determination through final disposition. The EPR is, effectively, the USMC interpretation of what activities are required to meet the comprehensive demands of the DAMS.

The complementary processes are triggered and adjusted based on point of program entry. The entire process occurs under the watchful eye of a program-specific Milestone Decision Authority (MDA), who may authorize entry into the DAMS at any point (pre-milestone A, B, or C) consistent with phase-specific entrance criteria and statutory requirements. Each phase has defined entrance criteria that are based on the definition and validation of needed capabilities, technology maturity, system design maturation, and funding. Major decision points mark the entrance into succeeding phases, with specific decision points tailored on a program-by-program basis.

**KEY POINT:** Regardless of the MDA-directed entry point into the DAMS, all requirements of the previous phases in the DAMS and activities in the EPR must be addressed and documented as warranted by the specific program.

Generally speaking, the more advanced the phase of entry for a program, the more robust the audit and gap analysis requirement will be. In all cases, successful progression through the DAMS will always be predicated on demonstrating sufficient, standardized knowledge and data to continue to the next acquisition phase.

The following Subsections 4.1 through 4.5 correspond respectively to each of the five phases in the DAMS. Each subsection will summarily review the requirements of the phase and provide general guidance on the requisite WSSM activities, best practices, and ‘watch out for’ alerts.

In advance of that, this opening to Section 4 presents an ideal opportunity to highlight the formal description of the WSSM role. Six responsibility elements govern the position, as follows:

- Sustainment Logistics Expert and Acquisition Advisor
- Logistics Chain Integrator
- IPS (formerly ILS) Elements Integrator
- Logistics Policies Expert
- Project Management and Analysis
- Customer Relationship Management

Using these responsibility elements as a framework, the following two pages provide the **formal** position description for the WSSM.

**Formal WSSM Position Description**

1. **SUSTAINMENT LOGISTICS EXPERT AND ACQUISITION ADVISOR** - Serve as the Weapon System Support Manager (WSSM) for managing Weapon System Management Teams (WSMTs) by creating detailed plans, many long-range and without precedent, for the support of requirements identified by weapon system Program Managers through integrated traditional legacy and Performance Based Logistics (PBL) product support strategies or as otherwise documented. Functions as an enterprise and program-level sustainment expert and acquisition advisor to Product Group Directors and Program Managers for the development of Integrated Logistics/Product Support solutions for major, highly complex weapons systems of high monetary value used within a context of new or innovative logistics strategies and unusual and often complex fielding requirements. Develops new logistics support concepts to integrate organic DoD and commercial logistics products and services in an effort to meet customer’s current performance expectations and to further anticipate future performance requirements.
Serves on and/or leads IPS management integrated product teams and working groups (IPTs). Defines problems, identifies potential courses of action and develops recommended resolutions for issues to be addressed in IPS plans and program execution/sustainment.

The incumbent of this position will independently, plan, schedule, and carry out major duties and projects. This requires that the incumbent prescribe plans or courses of action, decide on plans, and obtain a result by the adoption of plans or courses of action. Since the incumbent is frequently deployed in the field it is necessary that s/he make independent decisions without any immediate meaningful review. **The incumbent's actions and decisions are considered authoritative and can and do influence Command decisions.**

2. **LOGISTICS CHAIN INTEGRATOR** - Focused vertically on specific Marine Corps weapon systems, be responsible for enhancing integrated logistics readiness and product support effectiveness by resolving highly complex logistics problems affecting numerous component/agency/command or commercial activities and units spread over large geographical areas. Develops, initiates and oversees the implementation of innovative IPS plans and programs, significant corrective actions, major program enhancements and important policy changes in an effort to fully integrate LOGCOM’s horizontal logistics solutions and capabilities for supply, maintenance, distribution, pre-positioning with vertically focused product support strategies in order to meet Program Manager and Warfighter performance requirements with the highest quality and best value products and services. Ensures actions, programs, support plans and policies consider major mobilization, contingency and emergency performance requirements on the logistics/product support of the weapon system. Identifies key issues and problems in the development of these actions, plans and policies and is instrumental in establishing regulatory policy, procedure, and systematic guidance that will become the cornerstone for overall implementation and integration of logistics/product support planning and program execution.

3. **INTEGRATED PRODUCT SUPPORT (PLS) ELEMENTS INTEGRATOR** - Manages, monitors, evaluates and coordinates the execution of comprehensive integrated product support strategies for program level total life cycle management sustainment of complex major weapon systems that encompass new/emerging technologies and/or complicated legacy requirements. Integrate the separate functions and product support providers for the supportability elements of design interface, maintenance planning, supply support, equipment support, technical data, training, computer resources support, facilities, packaging, handling, storage, transportation, pre-positioning and procurement. Employee evaluates progress in attaining IPS performance objectives. Monitors sustainment expenditures and projects cost changes. Ensures program management performance objectives for robust sustainment and readiness are achieved through quality assurance of logistics activities and assessment of support providers. Leads evaluation, inspection and audit teams, and major studies. Develops and assures implementation of new, integrated and comprehensive logistics concepts, corrective actions and changes to reflect new requirements, technologies, and safety concerns. Conducts extensive coordination with representatives from diverse Components within the DoD, other federal agencies, and private industry.

4. **LOGISTICS POLICIES EXPERT** - Analyzes, evaluates, reviews, and provides expert opinions and conclusions on the intended and unintended consequences of proposed and existing logistics policies and related issues that are highly visible, critical, and applicable to one or more DoD Components. Coordinates with representatives of other Components and organizations concerning precedent-setting, controversial, sensitive and/or complex issues and their impact or potential impact on military requirements, various and different functions, Congressional concerns, and private sector organizations. Directs or conducts comprehensive management studies and business case analyses.

5. **PROJECT MANAGEMENT AND ANALYSIS** - Manages the efforts of the WSMT in developing detailed projects for supporting the requirements identified by the customer through tailored program execution plans, statements of work, statements of objectives, performance based agreements, performance assessment reviews and strategic planning. Analyzes and evaluates
the proposed and on-going procurements and attendant programmatic issues for highly complex, high monetary value, long-term acquisition of major weapons systems with great visibility and criticality to the DoD and Component services.

6. CUSTOMER RELATIONSHIP MANAGEMENT (CRM) - Oversees WSMT execution of CRM by collaborating and facilitating interactions with LOGCOM customers, primarily MCSC and PEO LS Product Group Directors and Program Managers through a myriad of sound business methods and techniques. Translates customer performance requirements and conducts expert logistics solutions planning to deliver best value/optimal results. Employee directs the development mechanisms to ensure appropriate customer acquisition, retention, prioritization and divestiture as required.

4.1 Phase I – Materiel Solution Analysis

**Figure 4.2 – DAMS Phase I - Materiel Solution Analysis.**

**Entry Information**
- An approved Initial Capabilities Document (ICD)
- Study Guidance for conducting the Analysis of Alternatives (AoA)
- Relevant Acquisition Decision Memorandum (ADM) for phase/review

**Phase I Program Reviews/Assessments/Audits**
- Initial Technical Review (ITR)
- Alternative System Review (ASR)
- Independent Logistics Assessment (ILA)

**Entry Overview**

The Materiel Solution Analysis (MSA) phase (formerly referred to as Concept Refinement) is preceded by capabilities development activities outlined in the JCIDS (typically precipitated by an U/UNS, and conducted by the lead Component capabilities development unit, e.g., MCCDC for the USMC). The result is a formal requirements analysis of User Needs and Technology Opportunities that is documented in an ICD, which generally makes the case for a materiel solution by detailing the preliminary concept of operations, a description of the needed capability, the operational risk, and the basis for determining that non-materiel approaches will not sufficiently mitigate the capability gap. The first formal step toward entry into the DAMS begins when the ICD is presented to the MDA (and other interested and advisory parties) for a Materiel Development Decision (MDD). The MDD is the formal review activity for determination of entry point into the DAMS; the MDD is mandatory for all programs.

Should the MDA find that a materiel solution is warranted, then he/she will approve the advised AoA study guidance; determine the acquisition phase of entry; identify the initial review milestone;
and, in the case of a Joint initiative, designate the lead DoD Component. As with all MDA decisions, these decisions coming out of the MDD will be documented in an ADM.

Following approval of the study guidance, the lead Component will prepare an AoA study plan to assess preliminary materiel solutions, identify key technologies, and estimate life-cycle costs. The purpose of the AoA is to assess the potential materiel solutions to satisfy the capability need documented in the approved ICD. The ICD and the AoA study guidance will guide the AoA and MSA Phase activity. The AoA will focus on identification and analysis of alternatives, measures of effectiveness, cost, schedule, concepts of operations, and overall risk. The AoA will also assess the critical technology elements (CTEs) associated with each proposed materiel solution, including technology maturity, integration risk, manufacturing feasibility, and, where necessary, technology maturation and demonstration needs. To achieve the best possible system solution, emphasis must be placed on innovation and competition. Existing commercial-off-the-shelf (COTS) functionality and solutions drawn from a diversified range of large and small businesses must be considered.

**KEY POINT: The MDA’s decision to begin MSA DOES NOT mean that a new acquisition program has been initiated.**

In spite of being in advance of program initiation, MSA is the ideal time for the WSSM – and by extension the LOGCOM community – to become engaged in a new product concept. This is the earliest point in the DAMS where the WSSM can begin to provide critical input to supportability and sustainment planning.

**Exit Information/Milestone A Activities**

The Milestone A decision follows completion of MSA with MDA approval of:

- a materiel solution
- Technology Development Strategy (TDS)
- Exit criteria for the next phase
- Milestone A Certification (10 USC 2366a)
- Relevant ADM for phase/review

All requisite statutory and regulatory requirements provided for in the DoDI 5000.02 must be fulfilled for the Milestone A decision.

**Exit Overview**

While participating in the activities associated with the MSA Phase, the WSSM should be mindful of the Milestone A, the ILA, and statutory and regulatory requirements. During the transition from Phase I to Phase II, through Milestone A, some of the required activities and documents listed above will have been completed in Phase I and others will carry over into Phase II, per design of the DAMS.

The MSA Phase ends when the AoA has been completed, materiel solution options for the capability need identified in the approved ICD have been recommended by the lead DoD Component conducting the AoA, and the phase-specific entrance criteria for the initial review milestone have been satisfied.

**Phase I - WSSM Activities**
The MSA Phase presents an excellent early opportunity for the WSSM to marshal the knowledge and experience resources of LOGCOM toward influencing the future successful supportability and sustainment of the selected concept. Upon designation of responsibility for a current concept/future program by the CPSG Director, the WSSM should take the following steps to prepare for engagement in MSA activities:

1. Identify and liaise with the LCL assigned to the concept or program. The appropriate individual may be identified through the CPSG Director supporting the associated PG or PEO. Pursue the following through the LCL:
   - Obtain and thoroughly review copies of the MSA Phase entry information.
   - Identify the status of the LOG-IPT activities. Ideally a LOG-IPT has been formed at this point. If it has, seek team and information distribution inclusion and obtain schedule for forthcoming meetings and concept reviews.
   - Instances will exist where a LOG-IPT has not yet been formed. If that is the case, work with the LCL (or the (acting) PM if no LCL is assigned) to identify opportunities to participate in MSA meetings and reviews.
2. Establish a WSMT based on the unique needs of this concept/program, using the guidelines established in Subsection 2.3 of this guidebook.
3. Utilizing the aforementioned MSA Phase entry information, the remaining guidance in this Subsection 4.1, and the resources of the WSMT, determine and facilitate the necessary IPS activities for this concept/program in this Phase, enabling full integration/execution of LOGCOM’s core competencies.

Table 4.1 – DAMS Phase I WSSM activities.

**Phase I - Questions/Considerations**

*During MSA, the following questions and/or considerations are relevant when assessing the logistics ‘health’ of the Program up to this point:*

1. DOTMLPF analysis.
2. Have service life extension, product improvement, non-developmental item, system development been considered?
3. What efforts and strategies are being considered relative to logistics sustainment?
   - PBL, CLS, Organic, Hybrid
4. What elements of IPS need to be considered?

**Phase I - Best Practices**

*Minimally, the WSSM should benefit their assigned Programs by demonstrating knowledge, awareness, and participation in the following critical logistics activities during this Phase:*

**WSSM Guidance**

1. Review of current/legacy system lessons learned, and related improvement targets.
2. Review Systems Engineering Plan (SEP); emerging design and design changes.
3. Identify logistics SMEs for project specific IPTs (i.e., SMEs outside of the WSMT).
4. Explore all support concepts.
5. Consider alternative acquisition logistics strategies.
6. Participate in initial supportability planning and Life Cycle Cost (LCC) and Logistics Requirements Funding Summary (LRFS) estimates.
7. Consider logistics implications on contract discussions (inclusive of Request For Information (RFI), Request For Proposal (RFP), Statement Of Work (SOW), etc.).
8. Emphasize standardization and interoperability of equipment/weapons systems.
9. Participate in all formal reviews for this phase (ITR, ASR, ILA).
10. Consider Life Cycle Sustainment needs and requirements.

**EPR Activities (conducted in/by MCSC)**

1. Requirements Analysis (occurs at all phases):
   - Analyze requirements documentation for supportability requirements, risks, & cost drivers
   - Identification of support alternatives
   - Provide input for initial POM build
   - LOG-IPT participation/review
   - Prepare for and participate in relevant reviews

2. Support Planning (occurs at all phases):
   - Analyze support alternatives
   - Plan to mitigate supportability risks
   - Develop supportability requirements
   - Reconcile budget documents
   - Input for ILA Policy Letter
   - Input for ILA process

**Phase I - Watch Out For**

The following list represents common logistical problems, issues, and process breakdowns for Programs during this phase, which the WSSM should set about influencing for avoidance.

1. Related to supportability analysis:
   - Equipment redesign causes unexpected or unaccounted for delays in development of technical documentation, personnel training, and/or special test equipment
   - Total ownership cost analysis not updated when factors that affect support changes occur
   - Reset and reconstitution not considered

2. “Organic/Depot support will *not* be required.”

**4.2 Phase II - Technology Development**
Entry Information

- Completed AoA
- Proposed materiel solution
- Draft Technology Development Strategy (TDS), inclusive of full funding for planned Technology Development activities
- Draft System Engineering Plan (SEP)
- Relevant ADM for phase/review

Phase II Program Reviews/Assessments/Audits

- System Requirements Review (SRR)
- System Functional Review (SFR)
- Preliminary Design Review (PDR) (if conducted before Milestone B)
- Technology Readiness Assessment (TRA)
- Independent Logistics Assessment (ILA)

Entry Overview

The Technology Development Phase begins during Milestone A, but follows the completion of the MSA phase. At Milestone A, the MDA reviews the proposed materiel solution as well as the draft TDS. The Technology Development Phase begins after the MDA has approved a materiel solution and TDS, and had documented his/her decision in an ADM.

Technology Development is an iterative and incremental phase designed to assess the viability of a technology and its subsystems, while simultaneously incorporating and refining the user(s) requirements. Successive Technology Development phases may be necessary to fully mature a materiel solution. If carried out effectively, this phase will reduce technology risk, determine and mature the appropriate technologies to be integrated into the full system, and will demonstrate the technology capabilities utilizing prototypes. Technology Development requires close collaboration between the S&T communities, the system developer, and the user.

The TDS document developed in support of the Technology Development Phase will include a preliminary description of how the materiel solution will be divided into acquisition elements based on technology maturity and number of prototype units being used. The TDS, along with the ICD and systems engineering plan, will guide the technology development effort. And, as eluded to above, multiple technology demonstrations may be necessary before a decision is made that a proposed materiel solution is affordable, militarily useful, and based on mature, demonstrated technology, and/or engineering development models.

Also during Technology Development, the Capability Development Document (CDD) is developed to support initiation of the acquisition program or evolutionary increment, refine the integrated architecture, and clarify how the program will lead to a joint warfighting capability. The CDD builds on the ICD and provides the detailed operational performance parameters necessary to complete design of the proposed system. Additionally, life cycle sustainment planning for proposed technologies is initiated. The WSSM will ensure that any life cycle sustainment planning initiated in MSA is reviewed and matured into the Life Cycle Sustainment Plan (LCSP). The LCSP shall be part of the Acquisition Strategy and integrated into other program planning documents.

KEY POINTS:

1) The MDA can rescind the Milestone A decision to proceed with Technology Development if it is determined that the level of resources required to develop and procure the material solution is inconsistent (e.g. >25% increase in original cost estimate) with the priority level assigned by the Joint Requirements Oversight Council (JROC).
2) **MDA approval to begin Technology Development DOES NOT mean that a new acquisition program has been initiated.**

**Exit Information/Milestone B Activities**

The Milestone B decision follows completion of the Technology Development Phase with MDA approval of:

- Program Initiation (for most programs)
- Acquisition Strategy
- Acquisition Program Baseline (APB)
- Low Rate Initial Production (LRIP) quantities
- Exit criteria for the Engineering & Manufacturing Development (EMD) Phase
- Type of contract
- Milestone B Certification (10 USC 2366b)
- Relevant ADM for phase/review

All requisite statutory and regulatory requirements provided for in the DoDI 5000.02 must be fulfilled for a Milestone B decision.

**Exit Overview**

Throughout Technology Development, the WSSM should be mindful of the comprehensive Milestone B requirements, inclusive of the ILA, applicable phase reviews, and statutory and regulatory requirements. During the transition from Phase II to Phase III, through Milestone B, some of the required activities and documents listed above will have been completed in Phase II while others will carry over into Phase III, per design of the DAMS. The transition process is guided by the MDA’s determination, after initial review, as to whether the MDD is consistent with the maturity of the preferred materiel solution. Even at Milestone B, the MDA has the right to designate an alternate milestone based on data presented during the ILA.

The Technology Development Phase ends when an affordable program or increment of militarily useful capability has been identified; technology has been demonstrated in a relevant environment; manufacturing risks have been identified; Preliminary Design Review (PDR) has been conducted for candidate solutions; a system or increment can be developed for production within a short timeframe (normally less than 5 years for weapon systems); or, when the MDA decides to terminate the effort.

**Phase II - WSSM Activities**
The Technology Development Phase presents an excellent early opportunity for the WSSM to marshal the knowledge and experience resources of LOGCOM toward influencing the future successful supportability and sustainment of the selected materiel solution.

**ACTIVITIES OPTION 1: (WSSM involved in prior Phase)**

The WSSM is entering this Phase after having materially participated in the prior Phase (per the guidance in the preceding subsection of this document). Pursue the following step:

1. Utilizing Technology Development Phase entry information, the remaining guidance in this Subsection 4.2, and the resources of the WSMT, **determine and facilitate the necessary IPS activities for this materiel solution, enabling full integration/execution of LOGCOM’s core competencies.**

**ACTIVITIES OPTION 2: (WSSM is new to concept/program)**

The WSSM is entering this Phase with no prior involvement in the assigned concept/program. Upon designation of responsibility for a current concept/future program by the CPSG Director, the WSSM should take the following steps to prepare for engagement in Technology Development activities:

1. Identify and liaise with the LCL assigned to the concept or program. The appropriate individual may be identified through the CPSG Director supporting the associated PG or PEO. Pursue the following through the LCL:
   - Obtain and thoroughly review copies of the MSA entry and exit information.
   - Identify the status of the LOG-IPT activities. A LOG-IPT should have been formed by this point. If it has, seek team and information distribution inclusion and obtain schedule for forthcoming meetings and concept reviews.
   - Instances will exist where a LOG-IPT has not yet been formed. If that is the case, work with the LCL (or the (acting) PM if no LCL is assigned) to identify opportunities to participate in Technology Development meetings and reviews.

2. Establish a WSMT based on the unique needs of this concept/program, using the guidelines established in Subsection 2.3 of this guidebook.

3. Utilizing the aforementioned Technology Development Phase entry information, the remaining guidance in this Subsection 4.2, and the resources of the WSMT, **determine and facilitate the necessary IPS activities for this materiel solution, enabling full integration/execution of LOGCOM’s core competencies.**

**Table 4.2 – DAMS Phase II WSSM activities.**

**Phase II - Questions/Considerations**

During Technology Development, the following questions and/or considerations are relevant when assessing the logistics ‘health’ of the Program up to this point:

1. Preliminary assessment of TDP/CM, inclusive of hardware and software.
   - Are we buying data or are we buying “rights” to data?
   - CMIS/JEDMICS engagement
   - Depot Maintenance Float Allowance (DMFA)
   - War Reserve
   - Maritime Prepositioning Force (MPF)
   - OPFORS
   - MARFORRES, Reserve In-Stores
   - Spares
3. What is the state of the program?
   - ACAT designation?
   - Program of Record (POR)?
   - Funding level (full or partial)?
   - UUNS/Rapid procurement?
   - Profiles of Prime Vendors under consideration?
   - IOC, FOC dates?

4. Preliminary analysis of JDMAG review.
   - Core, 50-50
   - Depot-Level Source of Repair (DLSOR/DSOR)
   - Assignment of Primary Inventory Control Activity (PICA), or Secondary Inventory Control Activity (SICA)

5. Assess implication of proposed software configuration items, to include maintenance analysis.


7. Are LOGCOM core competencies being addressed?
   - Maintenance, Supply, Distribution, and Prepositioning

8. Ensure logistics considerations in RFI, RFP, SOW, etc. (e.g. public/private partnerships, Item Unique Identifier (IUID), Radio Frequency Identification (RFID), etc.).

9. Have the Business BCA criteria been established?
   - How can LOGCOM assist with this?

**Phase II - Best Practices**

Minimally, the WSSM should benefit their assigned Programs by demonstrating knowledge, awareness, and participation in the following critical logistics activities during this Phase:

**WSSM Guidance**

1. Review all documentation developed prior to entering Phase II and perform gap analysis against current program data and requirements.
2. Review of current/legacy system lessons learned, and related improvement targets.
3. Consider relevant process/policy unique to current program.
5. Participate in development of RAM/SOE strategy; address logistics support constraints.
6. Perform iterative review of emerging design changes.
7. Participate in all formal reviews and assessments for this phase (SRR, SFR, PDR, TRA, and ILA).
8. Consider past performance data for Prime Vendor options.
9. Consider logistics related contract discussions for upcoming phases.
10. Provide timely response up and down the chain of responsibility.
11. Assist in LCSP maturation.

**EPR Activities (conducted in/by MCSC)**

1. Requirements Analysis (occurs at all phases):
   - Analyze requirements documentation for supportability requirements, risks, & cost drivers
   - Identification of support alternatives
   - Provide input for initial POM build
   - LOG-IPT participation/review
2. **Support Planning (occurs at all phases):**
   - Analyze support alternatives
   - Plan to mitigate supportability risks
   - Develop supportability requirements
   - Reconcile budget documents
   - Input for ILA Policy Letter
   - Input for ILA process

**Phase II - Watch Out For**

The following list represents common logistical problems, issues, and process breakdowns for Programs during this phase, which the WSSM should set about influencing for avoidance.

1. **Related to Design Interface:**
   - Use of new technologies without conducting trade-studies to identify supportability risks.
   - Conducting supportability analysis after Critical Design Review (CDR). Supportability analysis performed after the fact merely documents design shortcomings, as opposed to supportability influencing the design.
   - Emphasis on testing to assess compliance to reliability, availability and maintainability, and availability requirements, rather than for growth and verification.
   - Failure analysis required only when repetitive failures occur.
   - Complex integrated circuits/chips without self-test capabilities.
   - System review schedules that are based on planned milestone dates.
   - Designs using part technologies whose remaining life cycle will not support production and postproduction uses.
   - COTS item design that is not compatible with program life cycle.
   - Maintenance requirement for use of special tools and test equipment.

2. **Related to Supply Support:**
   - Spares requirements determined without proper failure/usage data on parts and/or system.
   - Lack of interim support plan for systems, subsystems, assemblies, and subassemblies with unstable designs.

3. **Related to Support Equipment:**
   - Support equipment being designed without consideration of maintenance requirement.
   - Maximizing rather than optimizing the use of built-in test equipment in the product design. Note: Maximizing test equipment may not be cost effective or necessary to meet support requirements when considering other automatic and general-purpose test equipment.
   - Designing support equipment that cannot be calibrated in remote locations.
   - Beware of Proprietary software and parts.
   - Consider implications of foreign-sourced equipment.

**4.3 Phase III – Engineering & Manufacturing Development**
The Engineering and Manufacturing Development (EMD) Phase (formerly referred to as System Development and Demonstration Phase) begins during Milestone B. Entrance into this phase depends on technology maturity (including software), approved requirements, and full funding. It is during EMD that initiation of a program normally occurs. The purpose of the EMD phase is to develop a system or increment of capability, develop an affordable manufacturing process, complete full system integration, and minimize the logistics footprint. EMD has two major efforts: 1) Integrated System Design, and 2) System Capability and Manufacturing Process Demonstration.

During **Integrated System Design**, the system and system-of-systems functionality and interfaces are defined, hardware and software detailed design is completed, and system-level risk is reduced. Integrated System Design shall include the establishment of the product baseline for all configuration items. If a PDR was not performed prior to MS B, the PM will perform the review in this part of EMD, and as soon as is feasible after program initiation. Following completion of the
PDR, the MDA will conduct a Post-PDRA to determine effects to cost, schedule, and performance risk. Results of the MDA’s Post-PDRA are documented in an ADM.

Also performed during the Integrated System Design portion of EMD is the Critical Design Review (CDR) and Post-CDRA for the purposes of assessing design maturity. Percentage of specifications and drawings completed and placed under configuration management, planned corrective actions to deficiencies, adequate developmental testing, and maturity of critical manufacturing processes are a few of the measures reviewed to determine design maturity. Successful completion of the Post-CDRA, with results documented in an ADM, triggers the end to Integrated System Design and continues the EMD Phase into System Capability and Manufacturing Process Demonstration.

The purpose of the **System Capability and Manufacturing Process Demonstration** is to demonstrate the ability of the system to operate in a useful way consistent with the approved Key Performance Parameters (KPPs) contained in the CDD, and to demonstrate that system production can be supported by demonstrated manufacturing processes. This effort continues until the system meets the approved requirements and is demonstrated in its intended environment, manufacturing processes have been effectively demonstrated in a pilot environment, and availability of industrial capabilities has been determined. Development of a comprehensive test and evaluation plan (incorporated in the Test and Evaluation Master Plan (TEMP)) to assess technical progress against KPPs and to demonstrate successful systems integration is critical to this portion of EMD.

**KEY POINTS:**

1) *Each increment of an evolutionary acquisition will have its own Milestone B unless the MDA determines that a particular increment will be initiated at Milestone C.*
2) *EMD is guided by the CDD, Acquisition Strategy, SEP, and TEMP.*

**Exit Information/Milestone C Activities**

The Milestone C decision follows completion of EMD with MDA approval of:

- Updated Acquisition Strategy
- Updated APB
- Entry into LRIP for systems that require an LRIP, into production or procurement for systems that do not require LRIP, or into limited deployment for MAIS programs or software intensive systems with no production components
- Exit criteria for LRIP if appropriate
- Capability Production Document (CPD)
- Relevant ADM for phase/review

All requisite statutory and regulatory requirements provided for in the DoDI 5000.02 must be fulfilled for a Milestone C decision.

**Exit Overview**

Throughout EMD, the WSSM should be mindful of the comprehensive Milestone C requirements inclusive of the ILA, applicable phase reviews, and statutory and regulatory requirements. During the transition from Phase III to Phase IV, through Milestone C, some of the required activities and documents listed above will have been completed in Phase III while others will carry over into phase IV, per design of the DAMS. The transition process is guided by the determination that the system meets or exceeds exit criteria and Milestone C entrance requirements. The completion of this phase is dependent on a decision by the MDA to commit to the program at Milestone C or terminate the effort.

**Phase III - WSSM Activities**
ACTIVITIES OPTION 1: (WSSM involved in prior Phase)

The WSSM is entering this Phase after having materially participated in the prior Phase (per the guidance in the preceding subsections of this document). Pursue the following step:

1. Utilizing EMD Phase entry information, the remaining guidance in this Subsection 4.3, and the resources of the WSMT, determine and facilitate the necessary IPS activities for this program in this Phase, enabling full integration/execution of LOGCOM's core competencies.

ACTIVITIES OPTION 2: (WSSM is new to the program)

The WSSM is entering this Phase with no prior involvement in the assigned program. Upon designation of responsibility for the program by the CPSG Director, the WSSM should take the following steps to prepare for engagement in EMD activities:

1. Identify and liaise with the LCL assigned to the program. The appropriate individual may be identified through the CPSG Director supporting the associated PG or PEO. Pursue the following through the LCL:
   - Obtain and thoroughly review copies of the Technology Development Phase entry and exit information. As necessary, supplement this information with any/all documented history for this program.
   - Identify the status of the LOG-IPT activities. A LOG-IPT will have been formed by this point. Seek team and information distribution inclusion and obtain schedule for forthcoming meetings and program reviews.

2. Establish a WSMT based on the unique needs of this program, using the guidelines established in Subsection 2.3 of this guidebook.

3. Utilizing the aforementioned EMD Phase entry information, the remaining guidance in this Subsection 4.3, and the resources of the WSMT, determine and facilitate the necessary IPS activities for this program in this Phase, enabling full integration/execution of LOGCOM's core competencies.

Table 4.3 – DAMS Phase III WSSM activities.

Phase III - Questions/Considerations

During Engineering & Manufacturing Development, the following questions and/or considerations are relevant when assessing the logistics ‘health’ of the Program up to this point:

1. Participate in development of a BCA in support of PBL alternative(s); assess logistic solutions proposed in the BCA.

2. Participate in development/review of Technical Data/Configuration Management:
   - Influence “rights” to data
   - Drawing package review
   - Technical Publications validation/verification (manuals, SL-3, SL-4, Modification Instructions (MI), etc.)
   - Utilization of CMIS/JEDMICS
   - Configuration audits (Functional, Physical)

3. Participate in development/review of fielding plan and “phase-in/phase-out” document review:
   - DMFA
   - War Reserve
   - MPF, Norway
   - OPFORS
   - MARFORRES, Reserve In-Stores

4. Participate in maintenance planning activities:
- DLSOR/DSOR
- PICA/SICA
- Core
- Levels of maintenance
- Facilities requirements
- Level/type of training
- Support equipment and related maintenance
- Depot Maintenance Interservice Support Agreement (DMISA)
- Warranty

5. Participate in development of Initial Issue Provisioning (IIP) process:
   - Review and refine Logistics Management Information (LMI) data
   - Guidance/Provisioning conferences (Provisioning Technical Documentation (PTD))
   - Funding (POM)
   - Spares/Repair parts
   - Item management coding
   - Cataloging
   - Project code
   - Parts forecasting

6. Enterprise Requirements:
   - IUID/RFID
   - Autonomic Logistics (AL) (Embedded Platform Logistic System (EPLS), Electronic Maintenance Support System (EMSS), etc.)
   - Navy Marine Corps Intranet (NMCI) (Software Security Assessment, Tech Refresh, Marine Corps Common Hardware Suite (MCCHS))
   - Radiological Control (RADCON)

7. Review Supportability Strategy (see MC-SAMP Chapter 7).

8. Program Funding:
   - Full or partial funding
   - Cost schedule performance data
   - Storage cost
   - Transportation costs
   - Disposal costs
   - Is the LRFS complete?

9. Is there a Diminishing Manufacturing Sources and Material Shortages (DMSMS) strategy in place or in draft?

**Phase III - Best Practices**

*Minimally, the WSSM should benefit their assigned Programs by demonstrating knowledge, awareness, and participation in the following critical logistics activities during this Phase:*

**WSSM Guidance**

1. Review all documentation developed prior to entering Phase III and perform gap analysis against current program data and requirements.
2. Review of current/legacy system lessons learned, and related improvement targets.
3. Participate in IPTs (other than LOG-IPT) to gain understanding of support requirements and objectives.
5. Consider relevant process/policy unique to program.
6. Assess logistics performance metrics and performance standards (see PBAs/contracts).
7. Assess system performance metrics and performance standards (see SEP).
8. Participate in development of RAM/SOE strategy; address logistics support constraints.
9. Perform iterative review of emerging design changes.
10. Participate in all formal reviews and assessments for this phase (PDR and/or Post-PDRA, CDR, Post-CDRA, TRR, SVR, FCA, PRR, TRA, ILA).
11. Consider past performance data for Prime Vendor options.
12. Consider logistics related contract discussions for upcoming phases.
13. Provide timely response up and down the chain of responsibility.
14. Consider maintenance program management needs/requirements.

**EPR Activities (conducted in/by MCSC)**

1. Requirements Analysis (occurs at all phases):
   - Analyze requirements documentation for supportability requirements, risks, & cost drivers
   - Identification of support alternatives
   - Provide input for initial POM build
   - LOG-IPT participation/review
2. Support Planning (occurs at all phases):
   - Analyze support alternatives
   - Plan to mitigate supportability risks
   - Develop supportability requirements
   - Reconcile budget documents
   - Input for ILA Policy Letter
   - Input for ILA process
3. Design for PEI Supportability:
   - Provide input for SFR and PDR
   - Influence design for supportability
   - Provide input to Supportability Demonstration Plan
   - Review preliminary LMI
   - Reassess Supportability Strategy (see MC-SAMP Chapter 7)
   - Work with LOG-IPT to obtain Table of Allowance Materiel Control Number (TAMCN), PEI National Stock Number (NSN), IUID, and system nomenclature (DD Form 61 process)
4. Design/Develop Support Subsystem:
   - Analyze Failure Modes, Effects, and Criticality Analysis (FMECA)
   - Analyze Level of Repair Analysis (LORA)
   - Maintenance Task Analysis (MTA)
   - Conduct Critical Design Review (CDR)
   - Identify requirements for sustainment support and PHS&T
   - Provide input for draft fielding plan
   - Provide input for non-validated system support package
   - Apply Quad model to maintenance significant items

**Phase III - Watch Out For**

The following list represents common logistical problems, issues, and process breakdowns for Programs during this phase, which the WSSM should set about influencing for avoidance.

1. “Organic/Depot support will not be required.”
2. Inadequate IIP development (e.g., no DLA participation, failure to attain NSNs).
3. Reduction/increase of program requirements.
4. Supportability Strategy fails to mature toward requirements.
5. Inappropriate “tailoring” of acquisition process.
4.4 Phase IV - Production & Deployment

Figure 4.5 – DAMS Phase IV – Production & Deployment.

**Entry Information**

- Approved ICD (if MS C is program initiation)
- Approved CPD
- Updated AoA
- Updated Acquisition Strategy
- Updated APB
- Exit criteria for LRIP, if appropriate
- Updated SEP
- Updated TEMP
- Relevant ADM for phase/review

**Phase IV Program Reviews/Assessments/Audits**

- Physical Configuration Audit (PCA)

**Entry Overview**

During Milestone C, the MDA will make the decision whether or not to commit the DoD to move forward with production of a materiel solution. A favorable decision to enter the Production and Deployment (P&D) Phase is dependent on many factors including, but not limited to, acceptable performance in developmental testing and evaluation, an acceptable operational assessment, mature software capability, control of manufacturing processes with reduced manufacturing risk, acceptable interoperability and operational supportability, and full funding. The MDA will document the decision to proceed with the P&D Phase in an ADM, which authorizes either 1) entry into LRIP for MDAP and major systems, or 2) entry into limited deployment in support of operational testing for software intensive systems with no production components.

The purpose of the P&D Phase is to achieve an operational capability that satisfies mission needs. Operational test and evaluation shall determine the effectiveness and suitability of the system. This phase has two primary efforts for MDAPs and other programs on the OSD Test & Evaluation (T&E) Oversight List. They are: LRIP and Full-Rate Production (FRP) and Deployment.

The intended result of LRIP is completion of manufacturing development in order to ensure adequate and efficient manufacturing capability. It is also intended to produce the minimum quantity necessary to provide production or production-representative articles for Initial Operational T&E (IOT&E), establish an initial production base for the system; and permit an orderly increase in the production rate for the system. The production rate should be sufficient enough to lead to full-
rate production upon successful completion of operational testing. The CPD and the TEMP shall guide the LRIP effort.

**KEY POINT: LRIP is not applicable to software-intensive systems with no developmental hardware.**

Continuation into FRP and Deployment requires a successful FRP (or Full Deployment) Decision Review (FRPDR) by the MDA. Information to be considered for the decision includes a demonstrated control of the manufacturing process and proven reliability of manufacturing processes, process control data, as well as demonstrated control and capability of other critical processes. The decision to proceed into FRP will be documented in an ADM. This effort delivers the fully funded quantity of systems and supporting materiel and services for the program or increment to the users. During this effort Initial Operational Capability (IOC) will typically be obtained. The Acquisition Strategy and the Life Cycle Sustainment Plan shall guide the FRP and Deployment effort.

**Exit Information/FRPDR Activities**

Continuation into the next phase, Operations & Support, requires a successful FRPDR by the MDA and the MDA approval of:

- FRP
- Updated Acquisition Strategy
- Updated APB
- Exit criteria, if appropriate
- Provisions for evaluation for post-deployment performance
- Updated SEP
- Updated LCSP
- Relevant ADM for phase/review

All requisite statutory and regulatory requirements provided for in the DoDI 5000.02 must be fulfilled for a FRPDR.

**Exit Overview**

Unlike prior phases, the transition from Phase IV to Phase V, does not include a Milestone review but rather a FRPDR. The transition here is guided by the process required to resolve the deficiencies identified during testing. Any noted deficiencies must be resolved prior to proceeding beyond LRIP and into FRP and Deployment.

---

**Phase IV - WSSM Activities**
ACTIVITIES OPTION 1: (WSSM involved in prior Phase)
The WSSM is entering this Phase after having materially participated in the prior Phase (per the guidance in the preceding subsections of this document). Pursue the following step:

1. Utilizing P&D Phase entry information, the remaining guidance in this Subsection 4.4, and the resources of the WSMT, **determine and facilitate the necessary IPS activities for this program in this Phase**, enabling full integration/execution of LOGCOM’s core competencies.

ACTIVITIES OPTION 2: (WSSM is new to the program)
The WSSM is entering this Phase with no prior involvement in the assigned program. Upon designation of responsibility for the program by the CPSG Director, the WSSM should take the following steps to prepare for engagement in P&D activities:

1. Identify and liaise with the LCL assigned to the program. The appropriate individual may be identified through the CPSG Director supporting the associated PG or PEO. Pursue the following through the LCL:
   - **Obtain and thoroughly review copies of the EMD Phase entry and exit information.** As necessary, supplement this information with any/all documented history for this program.
   - Identify the status of the LOG-IPT activities. Seek team and information distribution inclusion and obtain schedule for forthcoming meetings and program reviews.

2. Establish a WSMT based on the unique needs of this program, using the guidelines established in Subsection 2.3 of this guidebook.

3. Utilizing the aforementioned P&D Phase entry information, the remaining guidance in this Subsection 4.4, and the resources of the WSMT, **determine and facilitate the necessary IPS activities for this program in this Phase**, enabling full integration/execution of LOGCOM’s core competencies.

Table 4.4 – DAMS Phase IV WSSM activities.

**Phase IV - Questions/Considerations**
During Production & Deployment, the following questions and/or considerations are relevant when assessing the logistics ‘health’ of the Program up to this point:

1. Assess logistic solutions proposed in BCAs (as required).
2. Assess maturity of Technical Data/Configuration Management:
   - Drawing package review
   - Technical Publications validation/verification (manuals, SL-3, SL-4, MI, etc.)
   - Utilization of CMIS/JEDMICS
   - Configuration audits (Functional, Physical)
   - Engineering Change Proposals (ECPs)
   - Configuration Control Board (CCB)
3. Assess maturity of fielding plan and “phase-in/phase-out” document review:
   - DMFA
   - War Reserve
   - MPF, Norway
   - OPFORS
   - MARFORRES, Reserve In-Stores
4. Assess maturity of maintenance planning activities:
5. Monitor IIP process:
   • Review and refine LMI; evaluate data changes occurring as a result of Developmental Testing/Operational Testing
   • Post-Award Conference (PAC); review PTD
   • Funding (POM)
   • Spares/Repair parts
   • Item management coding
   • Cataloging
   • Parts forecasting
6. Assess maturity of Enterprise Requirements:
   • IUID/RFID
   • AL (EPLS, EMSS, etc.)
   • NMCI (Software Security Assessment, Tech Refresh, MCCHS)
   • RADCON
7. Review Supportability Strategy (see MC-SAMP Chapter 7).
8. Monitor Program Funding:
   • Full or partial funding
   • Cost schedule performance data
   • Storage cost
   • Transportation costs
   • Disposal costs
   • Is the LRFS complete?
10. Transportation assessment update.
11. Input to Post-Production Support Plan.
12. Input for In-Service Management Plan (ISMP).
13. Provide input to system stock assessment.
**Phase IV - Best Practices**

Minimally, the WSSM should benefit their assigned Programs by demonstrating knowledge, awareness, and participation in the following critical logistics activities during this Phase:

**WSSM Guidance**

1. Review all documentation developed prior to entering Phase IV and perform gap analysis against current program data and requirements.
2. Review of current/legacy system lessons learned, and related improvement targets.
3. Participate in IPTs (other than LOG-IPT) to gain understanding of support requirements and objectives.
5. Consider relevant process/policy unique to program.
6. Assess logistics performance metrics and performance standards (see PBAs/contracts).
7. Assess system performance metrics and performance standards (see SEP).
8. Stay abreast of RAM/SOE strategy changes; address logistics support constraints.
9. Perform iterative review of emerging design changes.
10. Participate in PCA.
11. Provide timely response up and down the chain of responsibility.

**EPR Activities (conducted in/by MCSC)**

1. Requirements Analysis (occurs at all phases):
   - Analyze requirements documentation for supportability requirements, risks, & cost drivers
   - Identification of support alternatives
   - Provide input for initial POM build
   - LOG-IPT participation/review
2. Support Planning (occurs at all phases):
   - Analyze support alternatives
   - Plan to mitigate supportability risks
   - Develop supportability requirements
   - Reconcile budget documents
   - Develop draft disposal plan
3. Acquire Support Subsystem:
   - Assist in conducting supportability demonstration
   - Provide input to final fielding plan
   - Prepare ISMP
   - Begin PBA preparation, where required
   - Attend and participate in the Provisioning Guidance Conference
   - Attend and participate in Requirements, Validation and Sourcing (RVS) meeting
   - Assist with validation of system support package
   - Monitor stock number attainment activities
   - Ensure procurement of IIP spares

**Phase IV - Watch Out For**

The following list represents common logistical problems, issues, and process breakdowns for Programs during this phase, which the WSSM should set about influencing for avoidance.
1. LOGCOM not a voting member of the CCB.
2. Reduction/increase of program requirements.
3. IIP breakdowns.
4. Untimely release and tracking of fielded items and associated parts.
5. Supply system not postured to support fielding.
6. Inadequate Interim CLS support.

4.5 Phase V - Operations & Support

**Figure 4.6 – DAMS Phase V – Operations & Support.**

**Entry Information**
- Successful FRP Decision
- Approved CPD
- Approved LCSP
- Updated SEP
- Relevant ADM for phase/review

**Phase V Program Reviews/Assessments/Audits**
- In-Service Review (ISR)

**Entry Overview**
While the acquisition activities leading up to Phase V are critical to designing and implementing a successful and affordable sustainment strategy, the ultimate measure of success is application of that strategy after the system has been deployed for operational use. The purpose of this phase, Operations & Support (O&S), is to execute a support program that meets materiel readiness and operational support performance requirements, and to sustain the system in the most cost-effective manner over its total life cycle. The two major efforts of this Phase are 1) Life Cycle Sustainment, and 2) Disposal.

**Life Cycle Sustainment** planning ideally begins in Phase I, MSA, and continues to develop throughout the phases. When actuated effectively, it provides tailored product support to achieve specified and evolving life cycle product support parameters for affordability, availability, and reliability. As the materiel solution matures and changes, updates should be made iteratively to the LCSP. In O&S, the LCSP is reviewed to ensure all updates/changes have been incorporated, and then the LCSP is executed. Ongoing support planning is also an activity in life cycle sustainment. Sources of support may be organic, commercial, or a combination of the two. The primary focus should be on optimizing customer support, weapons system availability, and reduced ownership costs with the ultimate goal of ensuring integrated combat support.
Every materiel solution must have a plan for the ultimate demilitarization and **Disposal** of the system (and its by-products) once it is no longer militarily useful. It is the PMT's responsibility to develop the plan during the design phase with specific consideration for items such as hazardous materials components contained in the system, conventional ammunition including items with explosive properties, information technology, and items with the potential to cause occupational health issues. The system must be disposed of in a manner that is in accordance with all legal, regulatory, and policy requirements relating to safety, security, and the environment. The PMT must also coordinate with appropriate agencies to identify and apply applicable demilitarization requirements necessary to eliminate the functional or military capabilities of assets.

**Program Sustainment**

The PMT, in conjunction with input from the WSMT and OPFORS, shall conduct continuing reviews of sustainment strategies comparing performance expectation, as defined in performance agreements, to actual performance results. PMs shall continuously identify deficiencies in these strategies, and adjust the LCSP as necessary to meet performance requirements.

**Exit Overview**

In this final phase of the DAMS, programs are generally subject to one of two significant options over time: 1) Disposal, as described above, or 2) Re-entry into the DAMS, triggered by an MDA approved ECP warranting enhanced technology and/or engineering and manufacturing development.

<table>
<thead>
<tr>
<th>Phase V - WSSM Activities</th>
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<tbody>
<tr>
<td><strong>ACTIVITIES OPTION 1:</strong> (WSSM involved in prior Phase)</td>
</tr>
<tr>
<td>The WSSM is entering this Phase after having materially participated in the prior Phase (per the guidance in the preceding subsections of this document). Pursue the following step:</td>
</tr>
<tr>
<td>1. Utilizing O&amp;S Phase <em>entry</em> information, the remaining guidance in this Subsection 4.5, and the resources of the WSMT, <strong>determine and facilitate the necessary IPS activities for this program in this Phase, enabling full integration/execution of LOGCOM’s core competencies.</strong></td>
</tr>
<tr>
<td><strong>ACTIVITIES OPTION 2:</strong> (WSSM is new to the program)</td>
</tr>
<tr>
<td>The WSSM is entering this Phase with no prior involvement in the assigned program. Upon designation of responsibility for the program by the CPSG Director, the WSSM should take the following steps to prepare for engagement in O&amp;S activities:</td>
</tr>
<tr>
<td>1. Identify and liaise with the LCL assigned to the program. The appropriate individual may be identified through the CPSG Director supporting the associated PG or PEO. Pursue the following through the LCL:</td>
</tr>
<tr>
<td>▪ Obtain and thoroughly review copies of the P&amp;D Phase <em>entry</em> and <em>exit</em> information. As necessary, supplement this information with any/all documented history for this program.</td>
</tr>
<tr>
<td>▪ Identify the status of the LOG-IPT activities. Seek team and information distribution inclusion and obtain schedule for forthcoming meetings.</td>
</tr>
<tr>
<td>2. Establish a WSMT based on the unique needs of this program, using the guidelines established in Subsection 2.3 of this guidebook.</td>
</tr>
<tr>
<td>3. Utilizing the aforementioned O&amp;S Phase <em>entry</em> information, the remaining guidance in this Subsection 4.5, and the resources of the WSMT, <strong>determine and facilitate the necessary IPS activities for this program in this Phase, enabling full integration/execution of LOGCOM’s core competencies.</strong></td>
</tr>
</tbody>
</table>

**Table 4.5 – DAMS Phase V WSSM activities.**
Phase V - Questions/Considerations

During Operations & Support, the following questions and/or considerations are relevant when assessing the logistics ‘health’ of the Program up to this point:

1. Monitor updates to Technical Publications (Manuals, SL-3, SL-4, MI, etc.).
2. Monitor changes to Technical Data/Configuration Management:
   - Drawing package
   - Technical Manuals (NAVMC 10772)
   - Inputs into CMIS/JEDMICS
   - ECPs
3. CCB membership.
4. Monitor Product Quality Deficiency Reports (PQDRs).
5. Monitor Supply Discrepancy Reports (SDRs).
7. Monitor obsolescence management (DD Form 339).
8. Reset/reconstitution efforts/plan.
10. Monitor supply support.
11. Monitor distribution management.
13. Monitor fielding process.
15. Monitor program funding.

Phase V - Best Practices

Minimally, the WSSM should benefit their assigned Programs by demonstrating knowledge, awareness, and participation in the following critical logistics activities during this Phase:

WSSM Guidance

1. Participate in DLMP/ELMP conference.
2. Analyze cost, schedule, and performance of depot maintenance programs.
3. Address ongoing programmatic Taskers.
4. Continue WSMT program reviews.
5. Participate in ISR.
6. Participate in program IPT/PSR.
7. Review requirements for updates to the warranty program.

EPR Activities (conducted in/by MCSC)
1. Requirements Analysis (occurs at all phases):
   - Analyze requirements documentation for supportability requirements, risks, & cost drivers
   - Identification of support alternatives
   - Provide input to POM process
   - LOG-IPT participation/review
2. Support Planning (occurs at all phases):
   - Analyze support alternatives
   - Risk Management
   - Reconcile budget documents
   - Perform post-fielding evaluation
   - Develop sustainment plan for spares
   - Conduct Follow-on Test & Evaluation (FOT&E)
   - Report/Document system failures
   - Conduct root cause analysis of failed systems/equipment
   - Create and execute phase-out plan
   - Finalize and execute the disposal plan

**Phase V - Watch Out For**

The following list represents common logistical problems, issues, and process breakdowns for Programs during this phase, which the WSSM should set about influencing for avoidance.

1. Escalating costs for the depot maintenance program.
2. Reduction/increase of program requirements.
3. Activities outside the scope of the SOW/MOA/contracts.
4. Surge requirements.
5. Unplanned technology insertions.
6. Increase/decrease in force size.
7. Service life extensions.
8. Lack of organizational integration.
9. Unidentified DMSMS.

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3.6 JCIDS analysis process
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1.3 WSMC Support Table
2.1 Summary of MCSC/PEO Product Group Directorates
2.2 Summary of MCSC/Joint Independent Program Managers
2.3 Summary of MCSC Core Competency Team roles and responsibilities
2.4 Summary of MCSC Project Team roles and responsibilities
2.5 Summary of six LOGCOM solution centers
2.6 WSMT Exceptional Resource Pool
3.1 DOTMLPF acronym explanation
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4.2 DAMS Phase II – WSSM Activities
4.3 DAMS Phase III – WSSM Activities
4.4 DAMS Phase IV – WSSM Activities
4.5 DAMS Phase V – WSSM Activities

Appendix A: Glossary of Acronyms and Terms

ACRONYMS

3PL Third Party Logistics
Ao Operational Availability
AAS Anti-Armor Systems (MCSC)
AAVS Assault Amphibious Vehicle Systems (MCSC)
AC Assistant Commander
ACA Air Clearance Authority
ACC Acquisition Community Connection
ACMC Assistant Commandant of the Marine Corps
ACAT Acquisition Category
ACTD Advanced Concept Technology Demonstration
AFSS Armor & Fire Support Systems
AKSS AT&L Knowledge Sharing System
AL Autonomic Logistics
AoA Analysis of Alternatives
AMA Analysis of Materiel/Non-Materiel Approaches
APB Acquisition Program Baseline
ASN(RDA) Assistant Secretary of the Navy, Research, Development, and Acquisition
ASR Alternative Systems Review
AT&L Acquisition, Technology and Logistics
ATD Advanced Technology Demonstration
BCA Business Case Analysis
BIC Blount Island Command, Jacksonville, FL
BITE Built-In Test Equipment
C2 Command and Control
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>C4</td>
<td>Command, Control, Computers, and Communications</td>
</tr>
<tr>
<td>C4I</td>
<td>Command, Control, Computers, Communications, and Intelligence</td>
</tr>
<tr>
<td>C4ISR</td>
<td>Command, Control, Computers, Communications, Intelligence, Surveillance, and Reconnaissance</td>
</tr>
<tr>
<td>CAC2S</td>
<td>Common Aviation Command and Control System (PEO LS)</td>
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<tr>
<td>CAE</td>
<td>Component Acquisition Executive</td>
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<tr>
<td>CAF</td>
<td>Contractors Accompanying the Force</td>
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<tr>
<td>CAIG</td>
<td>Cost Analysis Improvement Group</td>
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<tr>
<td>CAIV</td>
<td>Cost As an Independent Variable</td>
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<tr>
<td>CBA</td>
<td>Capabilities-Based Assessment</td>
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<tr>
<td>CBRN</td>
<td>Chemical, Biological, Radiological, &amp; Nuclear (MCSC)</td>
</tr>
<tr>
<td>CB</td>
<td>Configuration Control Board</td>
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<tr>
<td>CCT</td>
<td>Core Competency Team</td>
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<tr>
<td>CD&amp;I</td>
<td>Combat Development and Integration</td>
</tr>
</tbody>
</table>
| CDRL    | Contract Data Requirements List-----------------------------------------------------------------
<p>| CDD     | Capabilities Development Directorate (MCCDC)                                                   |
| CDD     | Capability Development Document                                                                 |
| CDR     | Critical Design Review                                                                         |
| CESS    | Combat Equipment &amp; Support Systems                                                              |
| CFM     | Contractor-Furnished Material (LOGCOM SMC)                                                     |
| CG      | Commanding General                                                                             |
| CI      | Configuration Item                                                                             |
| CIIE    | Counter Improvised Explosive Devices (MCSC)                                                    |
| CIINS   | Communications, Intelligence, &amp; Networking Systems                                             |
| CIITE   | Centers of Industrial and Technical Excellence                                                |
| CIW     | Center for Irregular Warfare (MCCDC)                                                           |
| CJCS    | Chairman of the Joint Chiefs of Staff                                                          |
| CKO     | Chief Knowledge Officer (LOGCOM)                                                               |
| CLS     | Contractor Logistic Support                                                                     |
| CM      | Configuration Management                                                                       |
| CMC     | Commandant of the Marine Corps                                                                 |
| CMIS    | Configuration Management Information System                                                     |
| CMS     | Configuration Management Specialist (LOGCOM WSMC)                                              |
| CNS     | Communication &amp; Networking Systems (MCSC)                                                       |
| CoE     | Center of Excellence                                                                           |
| COMMARFORSTRAT | Commander, Marine Forces Strategic Command                                                      |
| CONOPS  | Concept of Operations                                                                           |
| COSSI   | Commercial Operations and Support Savings Initiative                                           |
| COTS    | Commercial-Off-The-Shelf                                                                       |
| CPD     | Capabilities Production Document                                                               |
| CPS     | Computing Platforms and Services (MCSC)                                                        |
| CPSG    | Commodity Program Support Group (LOGCOM WSMC)                                                  |
| CR-IPT  | Computer Resources Integrated Product Team                                                     |
| CREW    | Counter Radio Electronic Warfare (MCSC)                                                        |
| CRLCMP  | Computer Resources Life-Cycle Management Plan                                                 |
| CRM     | Customer Relationship Management                                                               |
| CRWG    | Computer Resources Working Group                                                                |
| CSA     | Configuration Status Accounting                                                                 |
| CSD     | Combat Systems Division (LOGCOM WSMC)                                                          |
| CTE     | Critical Technology Element                                                                    |
| DAMIR   | Defense Acquisition Management Information Retrieval                                           |
| DAMS    | Defense Acquisition Management System                                                          |
| DAS     | Defense Acquisition System                                                                     |
| DARPA   | Defense Advanced Research Projects Agency                                                       |
| DAU     | Defense Acquisition University                                                                 |
| DC CD&amp;I | Deputy Commandant, Combat Development and Integration                                         |</p>
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>GFM</td>
<td>Government-Furnished Material (LOGCOM SMC)</td>
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<tr>
<td>GTES</td>
<td>Ground Transportation &amp; Engineer Systems</td>
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<td>HAZMAT</td>
<td>Hazardous Materials</td>
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<tr>
<td>HFE</td>
<td>Human Factors Engineering</td>
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<td>HICVS</td>
<td>High Impact Core Value Stream</td>
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<td>HQMC</td>
<td>Headquarters Marine Corps</td>
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<tr>
<td>ICD</td>
<td>Initial Capabilities Document</td>
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<tr>
<td>ICE</td>
<td>Infantry Combat Equipment (MCSC)</td>
</tr>
<tr>
<td>ICS</td>
<td>Interim Contract Support</td>
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<tr>
<td>IDGA</td>
<td>Institute of Defense and Government Advancement</td>
</tr>
<tr>
<td>IETM</td>
<td>Interactive Electronic Technical Manuals</td>
</tr>
<tr>
<td>IFSG</td>
<td>Industrial Forecasting Support Groups</td>
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<td>ILA</td>
<td>Independent Logistics Assessment</td>
</tr>
<tr>
<td>IIP</td>
<td>Initial Issue Provisioning</td>
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<tr>
<td>IPS</td>
<td>Integrated Logistics Support</td>
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<tr>
<td>INTEL</td>
<td>Intelligence Systems (MCSC)</td>
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<tr>
<td>IOC</td>
<td>Initial Operational Capability</td>
</tr>
<tr>
<td>IOT&amp;E</td>
<td>Initial Operational Test &amp; Evaluation</td>
</tr>
<tr>
<td>IP</td>
<td>Intellectual Property</td>
</tr>
<tr>
<td>IP</td>
<td>International Programs (MCSC)</td>
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<tr>
<td>IPPD</td>
<td>Integrated Product and Process Development</td>
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<tr>
<td>IPR</td>
<td>In-Process Review</td>
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<tr>
<td>IPS</td>
<td>Integrated Product Support</td>
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<tr>
<td>IPT</td>
<td>Integrated Product Team</td>
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<td>ISI</td>
<td>Information Systems &amp; Infrastructure</td>
</tr>
<tr>
<td>ISMP</td>
<td>In-Service Management Plan</td>
</tr>
<tr>
<td>IUID</td>
<td>Item Unique Identification</td>
</tr>
<tr>
<td>IW</td>
<td>Infantry Weapons (MCSC)</td>
</tr>
<tr>
<td>IWS</td>
<td>Infantry Weapons Systems</td>
</tr>
<tr>
<td>JCIDS</td>
<td>Joint Capabilities Integration and Development System</td>
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<tr>
<td>JCMIS</td>
<td>Joint Configuration Management Information System</td>
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<tr>
<td>JCD</td>
<td>Joint Capabilities Document</td>
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<td>JCS</td>
<td>Joint Chiefs of Staff</td>
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<td>JDMAG</td>
<td>Joint Depot Maintenance Activities Group</td>
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<td>JEAP</td>
<td>Joint Equipment Assessment Program</td>
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<td>JEDMICS</td>
<td>Joint Engineering Data Management Information Control System</td>
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<td>JLC</td>
<td>Joint Logistics Commanders</td>
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<tr>
<td>JLTV</td>
<td>Joint Light Tactical Vehicle (Joint/PEO LS – Army led)</td>
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<tr>
<td>JPEO</td>
<td>Joint Program Executive Office</td>
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<tr>
<td>JPEO-CBD</td>
<td>Joint Program Executive Office – Chemical and Biological Defense</td>
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<td>JPG</td>
<td>Joint Programming Guidance</td>
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<td>Joint Project Manager</td>
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<td>Joint Requirements Oversight Council</td>
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<td>JSB</td>
<td>Joint Services Branch (LOGCOM MMC)</td>
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<td>KPP</td>
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<td>Key System Attribute</td>
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<td>Lead Business Manager (MCSC)</td>
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<td>Life Cycle Cost</td>
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<td>LCI</td>
<td>Logistics Chain Integration/Integrators</td>
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<td>Life Cycle Logistician</td>
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<td>Life Cycle Logistics</td>
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<td>LCO</td>
<td>Lead Contracting Officer (MCSC)</td>
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<td>LCSP</td>
<td>Life Cycle Sustainment Plan</td>
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<td>LEng</td>
<td>Lead Engineer (MCSC)</td>
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<td>LEM</td>
<td>Logistics Element Manager</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>LFM</td>
<td>Lead Financial Manager (MCSC)</td>
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<td>LLog</td>
<td>Lead Logistician (MCSC)</td>
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<td>LMI</td>
<td>Logistics Management Information</td>
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<td>LOG-IPT</td>
<td>Logistics Integrated Product Team</td>
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<td>LOGCOM</td>
<td>Marine Corps Logistics Command</td>
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<td>LOGMOD</td>
<td>Logistics Modernization</td>
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<td>LORA</td>
<td>Level of Repair Analysis</td>
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<td>LRFS</td>
<td>Logistics Requirements Funding Summary</td>
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<td>LRIP</td>
<td>Low Rate Initial Production</td>
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<td>Lean Six Sigma</td>
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<td>LTech</td>
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<td>LVSR</td>
<td>Logistics Vehicle System Replacement (PEO LS)</td>
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<td>LW 155</td>
<td>Lightweight 155mm Towed Howitzer (Joint/PEO LS led)</td>
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<td>MAGTF</td>
<td>Marine Air-Ground Task Force</td>
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<td>MAIS</td>
<td>Major Automated Information Systems</td>
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<td>MARCORLOGCOM</td>
<td>Marine Corps Logistics Command</td>
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<td>MARCORSYSCOM</td>
<td>Marine Corps Systems Command</td>
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<tr>
<td>MARFOR</td>
<td>Marine Forces</td>
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<td>MARFORRES</td>
<td>Marine Forces Reserves</td>
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<td>MC</td>
<td>Marine Corps</td>
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<tr>
<td>MC-SAMP</td>
<td>MARCORSYSCOM Single Acquisition Management Plan</td>
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<td>MC2I</td>
<td>MAGTF C2, Weapons &amp; Sensors Development &amp; Integration</td>
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<td>MC2S</td>
<td>MAGTF Command and Control Systems (MCSC)</td>
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<tr>
<td>MCCDC</td>
<td>Marine Corps Combat Development Command</td>
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<td>MCCHS</td>
<td>Marine Corps Common Hardware Suite</td>
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<tr>
<td>MCINCR</td>
<td>Marine Corps Installations National Capital Region</td>
</tr>
<tr>
<td>MCL</td>
<td>MAGTF Capabilities List</td>
</tr>
<tr>
<td>MCCL</td>
<td>Marine Corps Logistics Command</td>
</tr>
<tr>
<td>MCNIS</td>
<td>Marine Corps Network &amp; Infrastructure Services (MCSC)</td>
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<td>MCT</td>
<td>MC2I Coordination Team (MCSC)</td>
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<td>MCWL</td>
<td>Marine Corps Warfighting Laboratory (MCCDC)</td>
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<td>MSCC</td>
<td>Marine Corps Systems Command</td>
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<td>MCTSSA</td>
<td>Marine Corps Tactical Systems Support Activity (MCSC)</td>
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<td>MDA</td>
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<td>MDAP</td>
<td>Major Defense Acquisition Program</td>
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<td>MDD</td>
<td>Materiel Development Decision</td>
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<td>MDMC(A)</td>
<td>Maintenance Depot Maintenance Center (Albany)</td>
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<tr>
<td>MDMC(B)</td>
<td>Maintenance Depot Maintenance Center (Barstow)</td>
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<td>MDP</td>
<td>Milestone Decision Point</td>
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<td>MDR</td>
<td>Milestone Decision Review</td>
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<td>MDT</td>
<td>Mean Down Time</td>
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<td>MEARS</td>
<td>Multi-User Engineering Change Proposal Automated Review System</td>
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<td>MEF</td>
<td>Marine Expeditionary Force</td>
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<td>Marine Expeditionary Rifle Squad (MCSC)</td>
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<td>Modification Instructions</td>
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<td>Management Initiative Decision</td>
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<td>Maintenance Interservice Support Management Office(r)</td>
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<td>Maintenance Management Center (LOGCOM)</td>
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<td>MPB</td>
<td>LOGCOM routing identifier code</td>
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<td>Marine Personnel Carrier (PEO LS)</td>
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<td>MPF</td>
<td>Maritime Prepositioning Force</td>
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<td>MRAP</td>
<td>Mine Resistant Ambush Protected Vehicle</td>
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<td>Marine Requirements Oversight Counsel</td>
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<td>Acronym</td>
<td>Description</td>
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<td>MSA</td>
<td>Materiel Solution Analysis (Phase I of DAMS)</td>
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<td>MST</td>
<td>MEF Support Team</td>
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<td>MT</td>
<td>Motor Transport (MCSC)</td>
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<td>MTA</td>
<td>Maintenance Task Analysis</td>
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<tr>
<td>MTBF</td>
<td>Mean Time Between Failure</td>
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<tr>
<td>MTBOMF</td>
<td>Mean Time Between Operation and Mission Failure</td>
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<tr>
<td>MTTR</td>
<td>Mean Time To Repair</td>
</tr>
<tr>
<td>MTVR</td>
<td>Medium Tactical Vehicle Replacement (PEO LS)</td>
</tr>
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<td>NCR</td>
<td>National Capital Region</td>
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<td>NMCI</td>
<td>Navy Marine Corps Intranet</td>
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<td>NRE</td>
<td>Naval Research Enterprise</td>
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<td>NSN</td>
<td>National Stock Number</td>
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<tr>
<td>O&amp;M</td>
<td>Operations &amp; Maintenance</td>
</tr>
<tr>
<td>O&amp;S</td>
<td>Operations and Support (Phase V of DAMS)</td>
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<td>Operations Analysis Division (MCCDC)</td>
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<td>OEM</td>
<td>Original Equipment Manufacturer</td>
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<td>OIPT</td>
<td>Overarching Integrated Product Team</td>
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<td>ONLS</td>
<td>Optics and Non-Lethal Systems (MCSC)</td>
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<td>ONR</td>
<td>Office of Naval Research</td>
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<td>OPFORS</td>
<td>Operating Forces</td>
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<td>Operations Directorate (LOGCOM)</td>
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<td>OPTEMPO</td>
<td>Operating Tempo</td>
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<td>OSBP</td>
<td>Office of Small Business Programs (MCSC)</td>
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<td>OSD</td>
<td>Office of the Secretary of Defense</td>
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<td>P&amp;D</td>
<td>Production and Deployment (Phase IV of DAMS)</td>
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<td>P&amp;R</td>
<td>Programs &amp; Resources</td>
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<td>PAC</td>
<td>Post-Award Conference</td>
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<td>PBA</td>
<td>Performance Based Agreement</td>
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<td>PBH</td>
<td>Power By the Hour</td>
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<td>PBL</td>
<td>Performance Based Logistics</td>
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<td>PCA</td>
<td>Physical Configuration Audit</td>
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<td>PDR</td>
<td>Preliminary Design Review</td>
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<td>PEI</td>
<td>Principle End Item</td>
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<td>PEO</td>
<td>Program Executive Officer</td>
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<td>PEO LS</td>
<td>Program Executive Officer, Land Systems</td>
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<td>PG</td>
<td>Product Group</td>
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<td>PGD</td>
<td>Product Group Directorate/Director (MCSC)</td>
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<tr>
<td>PHS&amp;T</td>
<td>Packaging, Handling, Storage and Transportation</td>
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<tr>
<td>PICA</td>
<td>Primary Inventory Control Activity</td>
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<tr>
<td>PIP</td>
<td>Product Improvement Program</td>
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<tr>
<td>PM</td>
<td>Program Manager</td>
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<td>Program Manager Marine (MCSC)</td>
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<td>PMT</td>
<td>Program Management Team (MCSC)</td>
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<td>POM</td>
<td>Program Objective Memorandum</td>
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<td>POR</td>
<td>Program Of Record</td>
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<td>Post-CDRA</td>
<td>Post- Critical Design Review Assessment</td>
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<tr>
<td>Post-PDRA</td>
<td>Post- Preliminary Design Review Assessment</td>
</tr>
<tr>
<td>PPBE</td>
<td>Planning, Programming, Budgeting, and Execution</td>
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<tr>
<td>PPL</td>
<td>Provisioning Parts List</td>
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<tr>
<td>PQDR</td>
<td>Product Quality Deficiency Report</td>
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<td>PRR</td>
<td>Production Readiness Review</td>
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<td>PSI</td>
<td>Product Support Integrator</td>
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<td>PSM</td>
<td>Product Support Manager</td>
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<td>PSP</td>
<td>Product Support Provider</td>
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<tr>
<td>PSS</td>
<td>Product Support Strategy</td>
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<tr>
<td>PT</td>
<td>Project Team (MCSC)</td>
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</table>
PTD  Provisioning Technical Data/Documentation
PTL  Project Team Leader (MCSC)
R&E  Research & Engineering
RADCON  Radiological Control
RCIED Radio/Remote Controlled Improvised Explosive Device (MCSC)
RCM  Reliability Centered Maintenance
RAM  Reliability, Availability, and Maintainability
RAM-D  Reliability, Availability, Maintainability, and Dependability
RAR  Recon & Amphibious Raids (MCSC)
RDT&E  Research, Development, Test and Evaluation
RIC  Routing Identifier Code
RIP  Reparable Issue Point
RM  Resource Management
RMS  Reliability, Maintainability, Supportability
RFI  Ready For Issue/Request For Information
RFID  Radio Frequency Identification
RS  Radar Systems (MCSC)
RVS  Requirements, Validation and Sourcing (MCSC)
S&T  Science & Technology
SBIR  Small Business Innovative Research
SCM  Supply Change Management
SCMC  Strategic Change Management Center (MCSC)
SDR  Supply Discrepancy Report
SDR  System Design Review
SE  Supporting Establishments
SE  Systems Engineering
SE&I  Systems Engineering & Interoperability
SECREP  Secondary Reparables
SEP  Systems Engineering Plan
SES  Senior Executive Service
SFR  System Functional Review
SGM  Support Group Manager (MCSC)
SIAT  Systems Engineering, Interoperability, Architecture & Technology
SICA  Secondary Inventory Control Activity
SIM  Serialized Item Management
SLEP  Service Life Extension Program
SMC  Supply Management Center (LOGCOM)
SME  Subject Matter Expert
SOE  System Operational Effectiveness
SOW  Statement Of Work
SPG  Strategic Planning Guidance
SRO  System Readiness Objectives
SRR  System Requirements Review
SVG  Strategic Visions Group (MCCDC)
SVR  System Verification Review
SYSCOM  Marine Corps Systems Command
T&E  Test & Evaluation
T&MCN Table of Allowance Materiel Control Number
TANKS  Tank Systems (MCSC)
TDM  Technical Data Management
TDP  Technical Data Package
TDS  Technology Development Strategy
TES  Test and Evaluation Strategy
TEMP  Test and Evaluation Master Plan
TFITS  Total Force Information Technology Systems (MCSC)
TLCM  Total Life Cycle Management
ACAT ID or IAM PROGRAMS - The USD(AT&L) shall designate programs as ACAT ID or ACAT IAM when the program has special interest based on one or more of the following factors: technological complexity; Congressional interest; a large commitment of resources; the program is critical to achievement of a capability or set of capabilities; or the program is a joint program. Exhibiting one or more of these characteristics, however, shall not automatically lead to an ACAT ID or IAM designation.

ADVOCATES – Provide broad-based experience and direct representation to the MROC for each element of the MAGTF and SE.

COMBATANT COMMANDS – Examples include: Central Command; European Command; Pacific Command; Joint Forces Command; Southern Command; Special Operations Command; Strategic Command; Northern Command; and Transportation Command.

COMPONENTS – Components are defined as the OSD, the military departments, the Chairman of the Joint Chiefs of Staff (Joint Staff), the Combatant Commands, the Office of the Inspector General of the Department of Defense (DoD), the Defense agencies, DoD field activities, and all other organizational entities within the DoD. The military services, while they are part of Component military departments, are also considered Components in their own right.

JOINT PROGRAMS – In most joint programs, a “lead” Component is designated to centrally manage the acquisition process and act as an acquisition agent for the “participating” Components. The participating Components - those with a requirement for the program’s products - both support and participate with the lead Component in managing the acquisition process. As outlined in the chapters to follow, joint programs are managed on a day-to-day basis in accordance with provisions in a memorandum of agreement, a program charter, joint operating procedures, and with the lead Component’s procedures and acquisition chain-of-authority.

MAINTAINABILITY – The ability to repair and restore a system to service when maintenance is conducted by personnel using specified skill levels and prescribed procedures and resources. From a design influence perspective, the goal is to advocate for a system constructed with components that are modular and/or highly interoperable, with built in diagnostics and fail safes, and ease of access for repairs where possible.

MILESTONE DECISION AUTHORITY (MDA) – The designated individual with overall responsibility for a program. The MDA shall have the authority to approve entry of an acquisition program into the
next phase of the acquisition process and shall be accountable for cost, schedule, and performance reporting to higher authority, including Congressional reporting.

MARINE REQUIREMENTS OVERSIGHT COUNCIL (MROC) – Advises the CMC on policy matters related to defining and validating requirements, reviewing major force structure initiatives and concepts validation.

PRIME VENDOR – The lead system entity with whom an agent of the DoD enters into a contract for the purposes of obtaining supplies, materials, equipment, or services of any kind.

PRODUCIBILITY – The degree to which system and product design has been influenced to facilitate timely, affordable, and optimum-quality manufacture, assembly, and delivery of the system to the field.

PROGRAM MANAGER (PM) – A PM shall be designated for each acquisition program. This designation shall be made no later than program initiation, and may be made earlier when determined by the MDA. It is essential that the PM have an understanding of user needs and constraints, familiarity with development principles, and requisite management skills and experience. Unless a waiver is granted by the DAE or CAE, a PM shall be experienced and certified in acquisition management. Waivers should be strictly avoided. If the acquisition is for services, the PM shall be familiar with DoD guidance on acquisition of services. A PM and a deputy PM of an ACAT I or IA program shall be assigned to the position at least until completion of the major milestone that occurs closest in time to the date on which the person has served in the position for 4 years. PMs for ACAT II and other significant non-major programs shall be assigned for not less than 3 years.

RELIABILITY – The ability of a system to perform as designed in an operational environment over time without failure.

SUPPORTABILITY – The time and cost necessary to provision for, and make available, the necessary elements of logistics support during system operations to facilitate system maintenance. The primary objective of designing for supportability is to positively impact and reduce the requirements for the various elements of logistics support during the system operations and maintenance phase.

[To be expanded during Phase 2 of OGWSSM development.]

Appendix B: Reference and Resource Listings

All links current as of February 16, 2011.

1. The Defense Acquisition System (5000.01, 20 NOV 07, 10 pgs)
2. Operation of the Defense Acquisition System (5000.02, 2 DEC 08, 43 pgs)
3. (NEW) Defense Acquisition Management System (DAMS) Introduction Documents (DEC 08) DoD Announces Major Revision to Acquisition Policy (Memo)
   DoDI 5000.02 Rapid Deployment Brief (PowerPoint)
   https://akss.dau.mil/Documents/Policy/DoDI%2050000%2020Rapid%20Deployment%20Brief.ppt
   Frequently Asked Questions Regarding DoDI 5000.02 (V.3 10 DEC 08)
   https://akss.dau.mil/Documents/Policy/FAQs%20for%20RDT%202020%20DoD%2050000%2020V
   3.doc
   Implementing of Life Cycle Sustainment Outcome Metrics Data Reporting (USD(AT&L) Memo, 11 DEC 08, 20 pgs)
   https://akss.dau.mil/Documents/Policy/LCS%20Outcome%20Metrics%20Reporting%20LRM-
   ARA.pdf
4. (NEW) DAMS Chart – Front (version 5.4, 12 JUN 10, 1 pg @ 34x22)
5. (NEW) DAMS Chart – Back (version 5.4, 12 JUN 10, 8 pgs @ 8.5x11)
   https://lilc.dau.mil/back_pg1.html


7. Designing and Assessing Supportability in DoD Weapon Systems (24 OCT 03, 38 pgs)

8. DoD Guide for Achieving Reliability, Availability, and Maintainability (3 AUG 05, 266 pgs)


10. Introduction to Defense Acquisition Management (AUG 10, 62 pgs)
    http://www.dau.mil/pubscats/PubsCats/Intro%20to%20Def%20Acq%20Mgmt%2010%20ed.pdf

11. Performance Based Logistics: A Program Manager’s Product Support Guide (MAR 05, 75 pgs)

12. Product Support Boundaries (USD(AT&L), 23 SEPT 04, 21 pgs)

13. Marine Corps Performance Based Logistics (PBL) (MCO 4081.2, 5 JAN 07, 11 pgs)

14. Contractor Logistics Support (CLS) For Ground Equipment, Ground Weapons Systems, Munitions, and Information Systems (MCO 4200.33, 7 Dec 00, 5 pgs)

15. Acquisition Logistics (MIL-HDBK-502, 30 MAY 97, 140 pgs)


17. Logistics Management Information (MIL-PRF-49506, 18 JAN 05, 81 pgs)
    http://www.responseboatproject.net/sections/Section_J/References/MIL-PRF-49506.pdf

18. Joint Capabilities Integration and Development System (CJCSI 3170.01G, 1 MAR 09, 30 pgs)

19. Operation of the Joint Capabilities Integration and Development System (CJCSI 3170.01C, 1 MAY 07, 149 pgs)

20. Interoperability and Supportability of Information Technology and National Security Systems (CJCSI 6212.01E, 15 DEC 08, 128 pgs)

21. Marine Corps Expeditionary Force Development System (EFDS) (MCO 3900.15B, 10 MAR 08, 81 pgs)

22. Marine Corps Total Life Cycle Management (TLCM) (MCO 4000.57A, 23 DEC 09, 31 pgs)

23. Marine Corps Logistics Command (MCO 4000.58, 16 SEPT 05, 12 pgs)

    https://www.caps.marcorsyscom.usmc.mil/kc/kcobj0.nsf/Key/MQGS-68BJN2/$file/MC---SAMP_GUIDE_V2_Dec04_Final.doc

25. Implementation and Operation of the Defense Acquisition System and the Joint Capabilities Integration and Development System (DoN) (5000.2D, 16 OCT 08, 194 pgs)

26. The Acquisition Plan Guide (DoN) (MAR 07, 63 pgs)
    http://acquisition.navy.mil/rda/content/download/4550/20475/file/DoNAPG%2027-07.doc
Appendix C: Customer and Resource Rosters

The following links connect to rosters of Marine Corps Systems Command product listings and responsible parties, organized by Competency Domain and Program Group. Effective date of each roster will be noted inside the associated file.

Customers:

PEO LS       Land Systems
PGD-10      Information Systems & Infrastructure (ISI)
PGD-11      MAGTF C2, Weapons & Sensors Development & Integration (MC2I)
PGD-12      Communications, Intelligence, & Networking Systems (CINS)
PGD-13      Infantry Weapons Systems (IWS)
PGD-14      Armor & Fire Support Systems (AFSS)
PGD-15      Ground Transportation & Engineer Systems (GTES)
PGD-16      Combat Equipment & Support Systems (CESS)
JEAP       Joint Equipment Assessment Program
Joint MRAP  Joint Mine Resistant Ambush Protected Vehicle

**EID Competency Interfaces:**

- **AC-PROG**  Programs
- **AC-LCL**  Life-Cycle Logistics
- **AC-PROD**  Product Support

**LOGCOM Resources:**

- **OpsDir**  Operations Directorate
- **LCC**  Logistics Capabilities Center
- **LSMC**  Supply Management Center
- **MMC**  Maintenance Management Center
- **DMC**  Distribution Management Center
- **WSMC**  Weapon Systems Management Center

**Appendix D: Knowledge Briefs Repository**

The following alphabetical links connect to their respective high concept, topical briefs.

- Aging Systems
- Balanced Scorecard/Performance Tools
- Commodity Councils/Integrated Product Teams (IPTs)
- Condition Based Maintenance Plus
- Configuration Management
- Continuous Modernization
- Continuous Process Improvement (CPI)/Lean Six Sigma (LSS)
- Contractors Accompanying the Force (CAF)
- Corrosion Prevention & Control
- Defense Logistics Management Standards (DLMS) Migration/MILS Elimination
- Demilitarization and Disposal
- Diminishing Manufacturing Sources and Material Shortages (DMSMS)
- Distribution Management
- End-to-End Customer Support
- Integrated Logistic Assessments (ILA)
- Item Unique Identifier (IUID)
- Levels of Maintenance & Related Work
- Logistics Resources/ Tools
- Logistics/Product Support Plans
- Maintenance Management
- Marine Corps Organization
- Military Equip Val/Accountability
Appendix E: MCSC Life Cycle Logistician Responsibilities Lists
Life Cycle Logisticians – ACQUISITION Focused

The following list frames the responsibilities commensurate with the MCSC Logistician conducting primarily Acquisition Logistics activities (excerpted from the Life Cycle Logistics Professional Development Handbook, 4th Edition, Chapter 4.2.1).

1. Leads the development of logistics and design requirements documentation by serving as a SME in support of the analysis of alternatives and requirements development IPTs. Serve as a key member of government design review teams; directing all aspects of hardware and software design for supportability. Serves as the logistics SME on all programs, IPTs, and chairs logistics and supportability related meetings and teams. Integrates and plans the individual and coordinated efforts of the Logistics IPT in regards to logistic related matters. Analyzes and evaluates the supportability aspects of each proposed design alternative and implements the necessary actions to change the design to improve supportability.
2. Develops, assesses, and directs the support requirements; identifies and analyzes associated risks. Develops the support risk mitigation strategy and incorporates it into the overall program Risk Mitigation Plan. Develops the program's logistics budget profile, incorporating funding to manage supportability risks.

3. Performs technical/cost evaluations of the logistics aspects of contractor proposals and actively participates in contract negotiations.

4. Facilitates, assesses, and is the decision authority on supportability alternatives as part of market research.

5. Prepares the supportability section of the acquisition strategy (for ACAT III and below this will be documented in the Marine Corps Systems Command Single Acquisition Management Plan (MC-SAMP) or Supportability Plan, determining the scope and proper logistics support requirements, considerations, and constraints to identify and address. Aligns logistics timelines with the design and major program events in the program schedule.


7. Uses sound methodologies and processes, along with emerging tools and technologies to aid in making logistics decisions. The Program Team Logistician monitors emerging government/industry best practices and analyzes possible application to their programs. During this analysis, forecasts and models logistics trends and standards using computer or other simulation methods to predict system effects.

8. Refines logistics support to reflect concurrent design changes throughout the life cycle to include Product Improvement Programs (PIPs), modifications, and technology insertions.

9. Identifies and plans the testing of logistics support, evaluating the results against the operational requirements and predetermined measurable metrics.

10. Leads the efforts to identify and meet support requirements, partnering with the operational forces, supporting establishment, and external organizations when developing logistics requirements, documentation, and support mechanisms. Continuously studies, researches and identifies opportunities to improve system support throughout the system life cycle.

11. The Program Team Logistician prepares the logistics funding requirements for Program Objective Memorandum (POM) submission including logistics-related Research, Development, Test and Evaluation (RDT&E) equipment, transportation, etc) and Operations & Maintenance (O&M) funded post-fielding operational support (e.g., O&M of new equipment, depot maintenance, acquisition support, and disposal). Defends the supportability relates estimates in the POM with impact studies and statements. In the event of funding reductions, the Program Team Logistician develops alternate support strategies consistent with levels of funding available.

12. Maintains awareness of Diminishing Manufacturing Sources and Material Shortages (DMSMS) and reacts to correct technological obsolescence that impacts supportability throughout system life cycle. Identifies and matures opportunities for innovative, cost-effective life cycle management solutions. Creates complementary strategies for emerging supportability concepts within the Marine Corps, Navy, and DoD.

13. Provides key logistics testing input into the development of the Test and Evaluation Master Plan, and Developmental Testing Plans. Reviews and approves test plans, procedures and reports prepared by contractors in support of acquisition programs. Serves as a key member of the Test Integration Working Group. Ensures that all logistics elements required to support all test events are acquired and in place, e.g. developmental and operational testing.

14. Develops initiatives for reducing Total Ownership Cost and monitoring logistics metrics, and identifies opportunities for common support solutions.
15. Conducts timely analysis of logistics design parameters (e.g., RAM-D, MTBOMF, Ao, MTTR LORA, etc).

16. Develops and publishes phase-out plans/phase-in plans for replacement system equipment as applicable in conjunction with the operating forces and external organizations. Manages the tracking of assets, modifications, phase out activities, and disposal of systems.

17. Performs data and trend analyses over the systems life cycle to identify, predict, and resolve readiness issues.

18. Prepares and briefs the logistics aspects of programs during In-Process Reviews (IPRs), program reviews, Independent Logistics Assessments (ILAs), and milestone decisions.

19. Responsible for sharing knowledge and lessons learned with others in the Command and the DoN.

20. Prepare, validate, and make changes to the maintenance plan over equipment life cycle.


**Life Cycle Logisticians – SUSTAINMENT Focused**

The following list frames the responsibilities commensurate with the MCSC Logistician conducting primarily Sustainment Logistics activities (excerpted from the *Life Cycle Logistics Professional Development Handbook, 4th Edition*, Chapter 4.2.2).

1. Participates in the development of logistics and design requirements documentation by serving as a SME in support of the Logistics IPT. Serves as a key member of government design review teams; influencing aspects of hardware and software design for supportability.

2. Chairs logistics and supportability related meetings and teams as it relates to the Operations & Support (O&S) phase. Coordinates sustainment logistics related matters with the Program Management Team.

3. Analyzes and evaluates the supportability aspects of each proposed design alternative, assessing the impact on logistics sustainment and the associated risks. Develops the support risk mitigation strategy and incorporates it into the overall program Risk Mitigation Plan. Develops the operations and support portion of the program's logistics budget profile, incorporating funding to manage supportability risks.

4. Facilitates and assesses supportability alternatives as part of market research conducted during O&S.

5. Provides input to the supportability section of the acquisition strategy (for ACAT III and below this will be documented in the MC-SAMP or Supportability Plan, identifying major logistics events and milestones. Aligns logistics timelines with the design and major program events in the program schedule.

6. While executing Sustainment logistics duties, the Life Cycle Logistician uses sound methodologies and processes, along with emerging tools and technologies to aid in making logistics decisions. Monitors best practices and analyzes possible application to their programs/systems. During this analysis, forecasts and models logistics trends and standards, using computer or other simulation methods to predict system effects.

7. Refines logistics support to reflect concurrent design changes throughout the life cycle to include PIPs, modifications, and technology insertions.

8. Actively participates in the planning for supportability testing; evaluating the results against the operational requirements and predetermined measurable metrics.
9. Leads the efforts to improve system support throughout the life cycle; partnering with the operational forces. supporting establishment, and external organizations on emerging O&S logistics requirements, documentation, and support mechanisms.

10. Identifies the logistics funding requirements for POM submission including logistics-related RDT&E equipment, transportation. etc.) and O&M funded post-fielding operational support (e.g.. O&M of new equipment, depot maintenance, acquisition support, and demil/disposal). Defends the supportability related estimates in the POM with impact studies and statements. In the event of funding reductions, the Life Cycle Logician (Albany) develops alternate support strategies consistent with levels of funding available.

11. Maintains awareness of DMSMS and reacts to correct technological obsolescence that impact supportability throughout system life cycle. Identifies and matures opportunities for innovative, cost effective life cycle management solutions. Creates complementary strategies for emerging supportability concepts within the Marine Corps, Navy, and DoD.

12. Develops initiatives for reducing Total Ownership Cost, monitors logistics metrics, and identifies opportunities for common support solutions.

13. Ensures timely analysis of logistics design parameters (e.g., RAM-D, MTBOMF, A0, MTTR, LORA, etc).

14. Develops and publishes phase-out plans and coordinates the phase-out/phase-in plans for replacement system equipment as applicable with operating forces and external organizations. Manages the tracking of assets, modifications, phase out activities, and demil/disposal of systems.

15. Performs data and trend analyses over the systems life cycle to identify, predict, and resolve readiness issues.

16. Prepares and briefs the logistics readiness aspects of programs.

17. Prepare, validate, and make changes to the maintenance plan throughout the system's life cycle.

18. Provide organic depot support capabilities and capacity data; coordinate with MCLC in the gathering of both capability and capacity data for non-organic depots. Gather, evaluate, and submit a BCA with risk assessment and DLSOR recommendation for the PM.

19. Provide Foreign Military Sales (FMS) logistics support as requested.

20. Conducts Audit Reviews.