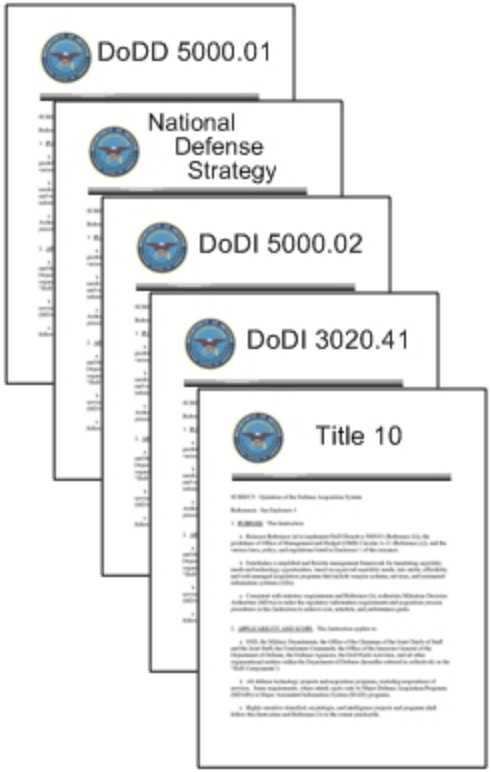
Welcome to the Regulatory Environment

This lesson will address the various regulations and guidance needed during the Materiel Solution Analysis phase to ensure that the Life Cycle Logistician (LCL) can develop the appropriate documentation for product support. A solid understanding of the regulatory environment will help the LCL, the Program Manager (PM), and ultimately the warfighter.



Objectives

Upon completion of this lesson you should be able to:

- Identify the key policies, regulations, and guidance that influence the LCL during evaluation of product support capabilities.
- Identify the three major Department of Defense (DoD) decision support systems that influence the evaluation of product support capabilities.
- Define product support.
- Recognize how the LCL develops and documents a product support strategy for sustainment and continuous improvement.

This lesson will provide you with information regarding the LCL's role in the Regulatory Environment that influences the evaluation of product support capabilities.

Key Policies, Regulations, and Guidance

During the Materiel Solution Analysis phase, the LCL evaluates product support capabilities within the constructs of applicable policies, regulations, and guidance. These influence the LCL during the Materiel Solution Analysis phase through two mechanisms:

1. The first is the guidance associated with DoD's decision support systems.
2. The second is the product support boundaries document that provides guidance on effective and innovative support for current and new weapon systems within the bounds of relevant policy and standards.

The LCL continues to be guided by the interaction of the following three major decision support systems and their associated regulatory elements:

1. Joint Capabilities Integration & Development System (JCIDS)
2. Defense Acquisition System
3. Planning, Programming, Budgeting, and Execution (PPBE) process

On September 23, 2004, the Acting Under Secretary of Defense, Acquisition, Technology, and Logistics (USD (AT&L)) issued Product Support Boundaries. This document, prepared by the Life Cycle Management (LCM) Executive Council, summarized a series of policy memoranda and standards endorsements issued over the preceding two years into a single guide.

In addition the Clinger-Cohen Act influences information technology acquisitions and software support.

Clinger-Cohen Act

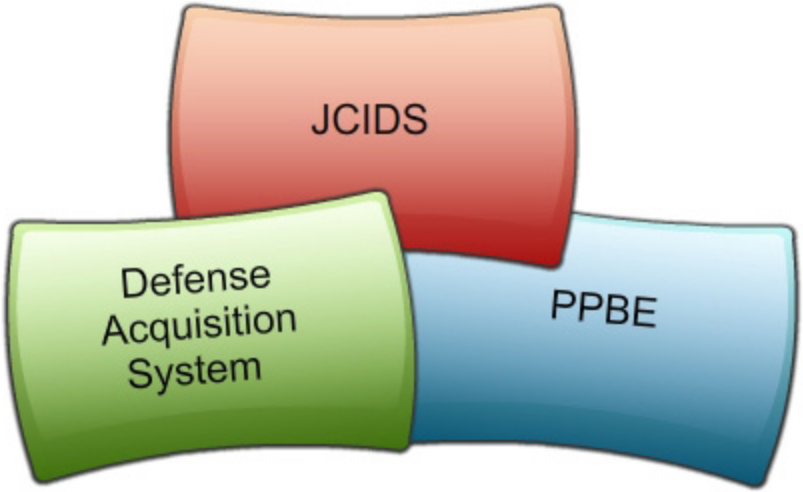
The Clinger-Cohen Act (CCA) is the common term that refers to the Information Technology Management Reform Act of 1996 (co-authored by William Clinger and William Cohen). The CCA was enacted to improve the Federal Government's acquisition and management of information technology (IT). The Act originally excluded national security systems. However, DoD later mandated that all IT investments, including weapon systems, comply with CCA.

According to the AT&L Life Cycle Management Framework, all DoD 5000 processes are inherently CCA-compliant. Formal compliance documentation is required at each acquisition milestone for all DoD programs (including Milestone A at the completion of the Materiel Solution Analysis phase). PMs must also use the DoD IT Registry, an on-line reporting system, to record mandatory information about IT programs.

Click here for more information on the Clinger-Cohen Act and CCA Implementation.

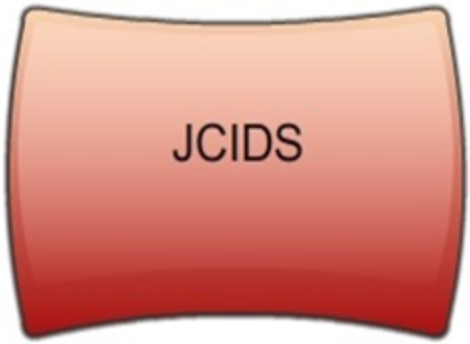
Decision Support Systems

At this point in the acquisition life cycle, the LCL is concerned with identifying critical product support capabilities and the affordability of various support scenarios. There are three major decision support systems that are integral in this effort: JCIDS, Defense Acquisition System and PPBE. The following pages provide a more detailed description of the regulatory environment associated with each.



Decision Support Systems: JCIDS

The Vice Chairman of the Joint Chiefs of Staff oversees the capabilities development process, the Joint Capabilities Integration & Development System (JCIDS), under the guidance outlined in Chairman of the Joint Chiefs of Staff Manual and Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01H. During the Materiel Solution Analysis Phase, the LCL ensures that logistics requirements are included as inputs to the draft Capabilities Development Document (CDD).

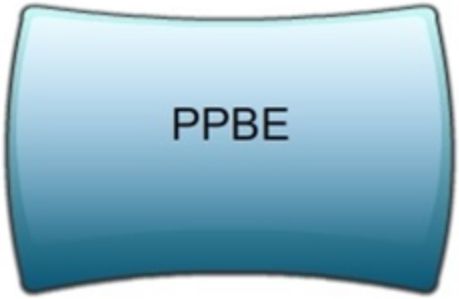


Decision Support Systems: Defense Acquisition System

The Under Secretary of Defense for Acquisition, Technology, and Logistics (AT&L) oversees the Defense Acquisition System that is codified in DoD Directive (DoDD) 5000.01 and DoD Instruction (DoDI) 5000.02. In addition, Chapter 5 of the Defense Acquisition Guidebook defines Life Cycle Logistics and how it applies to acquisition and sustainment during Materiel Solution Analysis and subsequent acquisition phases.

Decision Support Systems: PPBE

The Deputy Secretary of Defense is responsible for the Planning, Programming, Budgeting, and Execution (PPBE) process, which is guided by DoDD 7045.14 and DoD Financial Management Regulation (FMR) 7000.14R. At this point in the acquisition lifecycle, the LCL is concerned with affordability of logistics capabilities and associated trade-offs.



Knowledge Review

Which of the following choices is a Major Decision Support System guiding the LCL during the Materiel Solution Analysis Phase?

- [ ] Joint Capabilities Integration & Development System (JCIDS)
- [ ] Defense Acquisition System
- [ ] Planning, Programming, Budgeting, and Execution (PPBE) process
- [x] All of the above

Check Answer

JCIDS, **Defense Acquisition System**, and **PPBE** are all Major Decision Support Systems guiding the LCL during the Materiel Solution Analysis Phase.

Knowledge Review

Which is a mechanism influencing LCL during the Materiel Solution Analysis?

- [ ] Defense Acquisition System
- [x] Product Support Boundaries document
- [ ] Planning, Programming, Budgeting, and Execution (PPBE) process
- [ ] All of the above

Check Answer

The **Product Support Boundaries document** is one of the mechanisms influencing LCL during the Materiel Solution Analysis.

Product Support Boundaries (PSB)

Product Support Boundaries

- Guides PMs in developing sustainment solutions that ensure operational effectiveness and achieve best value
- Ensure sustainment solutions are consistent with policy and standards
- Provide criteria and a baseline for continuous improvement of system sustainment solutions
- Evaluate the impact of innovative sustainment solutions on short and long-term readiness

The PSB mandates PMs evaluate and implement support strategies with respect to the PSB within the constraints of DODI 5000.02 and any Service guidance.

The LCL is a key resource to the PM for this effort.

Additional guidance that will help the LCL can be found in the DoDD 5000.01 and Defense Acquisition Guidebook (DAG) Chapter 5.

PSB: DoD Logistics Transformation

Section 3 of the PSB, DoD Logistics Transformation, is relevant to the LCL during the Materiel Solution Analysis phase in evaluating product support capabilities. DoD logistics transformation is consistent with the Joint Chief's efforts towards realizing the focused logistics concept. Logistics transformation is a strategic-level modernization effort to support future needs of the warfighter. The LCL must assist the PM by evaluating potential use of the following logistics transformation initiatives for a particular acquisition.

Life Cycle Management (LCM) – The PM is responsible for the overall, end-to-end management of the weapon system.

Depot Maintenance and Repair – DoD will retain core organic depot maintenance capability as a national security requirement. This organic capability can be supplemented with commercial partnerships.

Condition-Based Maintenance Plus (CBM+) – This initiative uses technology, such as prognosis/diagnosis, to predict failures before they occur using condition data to improve operational capability.

End-to-End Distribution – The Commander, United States Transportation Command (USTRANSCOM), the Distribution Process Owner, will ensure streamlined material support to the warfighter from point-of-origin to point-of-use including retrograde and disposal functions

Enterprise Integration – Transformation requires that real-time information is provided to all stakeholders through commercial software and hardware products, such as Radio Frequency Identification (RFID).

Popup Text

Life Cycle Management (LCM)

LCM is the implementation, management, and oversight, by the designated PM, of all activities associated with the acquisition, development, production, fielding, sustainment, and disposal of a DoD weapon system across its life cycle. The LCM approach to system development is optimized if it targets, as a major end state goal, operations and maintenance phase effectiveness and affordability. LCM is distinguished by the translation of force provider-specified levels of performance into deliverable capabilities that represent system readiness, availability, and logistics supportability.

CBM+

Condition-Based Maintenance Plus (CBM+)

CBM+ can be defined as a set of maintenance processes and capabilities derived, in large part, from real-time assessment of weapon system condition obtained from embedded sensors and/or external tests and measurements using portable equipment. The goal of CBM+ is to perform maintenance only upon evidence of need. The desirable outcome of CBM+ is a force of maintainers with knowledge, skill sets, and tools for timely maintenance of complex systems through use of technologies that improve maintenance decisions and integrate the logistics processes. CBM+ focuses on inserting, into both new and legacy weapon systems, technology to support improved maintenance capabilities and business processes. It also involves integrating and changing business processes to dramatically improve logistics system responsiveness. Under consideration are capabilities such as enhanced Prognostics & Health Management (PHM) and Enhanced Diagnostics techniques, failure trend analysis, electronic portable or point of maintenance aids, serial item management, automatic identification technology and data-driven interactive maintenance training. The ultimate intent of this initiative is to increase operational availability and readiness throughout the weapon system life cycle at a reduced cost. CBM+ will help predict a system's remaining operational life span, support operator decision-making, interface with control systems, aid maintenance repairs, and provide feedback to the logistics support and system design communities.

RFID

Radio Frequency Identification (RFID)

Asset identification, visibility, and tracking can be significantly improved through utilization of RFID technology. RFID is a wireless technology that includes passive, semi-passive and active tags. Active RFID systems have the ability to store large amounts of information using an internal power source within the tag. Passive RFID tags operate without a separate external power source and obtain operating power generated from the tag reader. Semi-passive RFID uses an internal power source to monitor environmental conditions, but requires RF energy transferred from the reader/interrogator similar to passive tags to power a tag response. RFID tags can contain various amounts of data ranging from a simple item number to detailed instructions on how to assemble an item. Continued implementation of RFID technologies across the Department of Defense will play an important role in improving supply chain integration, increasing total asset visibility, and ensuring more effective "tracking out/tracing back" of assets in the pipeline.

Product Support Elements of Acquisition

Product support is defined as a package of logistics support functions necessary to maintain the readiness and operational capability of a system or subsystem. It is an integral part of the weapon system support strategy that PMs are required to develop and document as part of their acquisition strategy. LCLs balance multiple elements in designing the strategy to achieve operational effectiveness while maintaining affordability. These elements will deliver the product support capabilities.

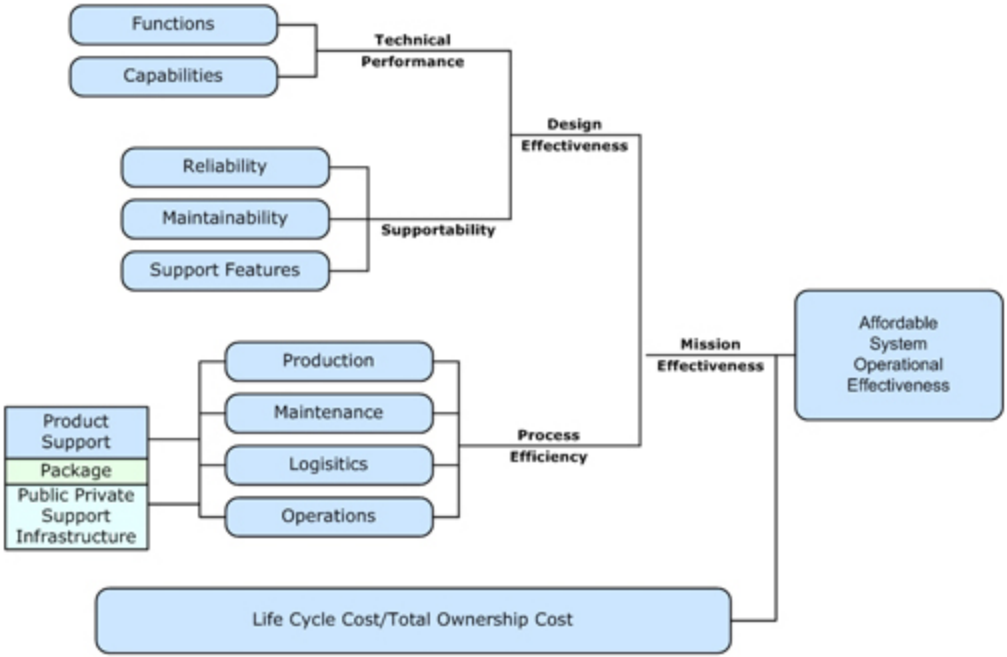


Figure 5.2.F2. Affordable System Operational Effectiveness
Defense Acquisition Guidebook

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Long Description

This chart illustrates Affordable System Operational Effectiveness. On the right is the main box which contains the text: Affordable System Operational Effectiveness. From this box a line moves forward with the words: Mission Effectiveness. From this line another line moves downward to a box that contains the text: Life Cycle Cost/Total Ownership Cost. The Mission Effectiveness line moves forward until it splits into two lines: Design Effectiveness above, and Process Efficiency below. Process Efficiency has four components: Production, Maintenance, Logistics, and Operations. This is further explained as Product Support, Package, and Public, Private Support Infrastructure. Design Effectiveness splits into two lines: Technical Performance above and Supportability below. Supportability has three components: Reliability, Maintainability, and Support Features. Technical Performance has two components: Functions and Capabilities.

Attributes of Logistics Support

The LCL's evaluation of logistics capabilities may be based on the same attributes that characterize the forces they support. The following attributes focus on logistics support for future joint force operations across the full range of military operations. Select each to read the details.

- Expeditionary
- Decentralized
- Fully Integrated
- Adaptable
- Networked
- Decision Superiority

Popup Text

Expeditionary

Rapidly deployable, employable, and sustainable throughout the global battle space, regardless of anti-access or area-denial environments, independent of existing infrastructure.

Decentralized

Operating with shared knowledge of adversaries, friendly forces, and the environment, as well as a clear understanding of strategic objectives and commander's intent, enabling subordinate commanders to compress decision cycles, seize the initiative, exploit fleeting opportunities, and self-synchronize as required.

Fully Integrated

Fully integrated elements with all functions and capabilities focused toward a unified purpose.

Adaptable

Versatile, agile, scalable, able to adapt fundamental capabilities in multi-use manner; prepared to quickly respond to any contingency with appropriate force mix.

Networked

Linked and synchronized in time and purpose, capable of capitalizing on information and near simultaneous dissemination to turn information into actions through a common operating picture.

Decision Superiority

Arrive at and implement better-informed supportability decisions faster than an adversary can react; or, in a non-combat situation, at a tempo that allows the force to shape the situation or react to changes and accomplish its mission.

Sustainment and Continuous Improvement

During the Materiel Solution Analysis phase, the LCL evaluates product support capabilities in terms of reliability, maintainability, supportability and availability while initiating preliminary life cycle cost estimates to ensure system affordability. These product support capabilities become system attributes and parameters during development of the Capability Development Document (CDD) in the Technology Development phase.

As part of the evaluation of product support capabilities, support concepts should satisfy user specified requirements for sustaining support performance at the lowest possible life cycle cost for each evolutionary increment of delivered capability including:

- Availability of support to meet warfighter-specified levels of combat and peacetime performance.
- Logistics support that sustains both short and long-term readiness.
- Minimal life cycle logistics risk.
- Minimal total life-cycle cost to own and operate.
- Maintenance concepts that optimize readiness while drawing upon both organic and industry sources.
- Data management and configuration management that facilitate cost-effective product support throughout the system life cycle.

A total system product support package provides detailed descriptions of:

- Supply Support (Spare/Repair Parts)
- Maintenance Planning and Management
- Support Equipment
- Technical Data
- Training and Training Support
- Facilities and Infrastructure
- Packaging, Handling, Storage, and Transportation
- Design Interface
- Computer Resources
- Product Support Management
- Sustaining Engineering

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Long Description

A total system product support package provides detailed descriptions of:

- Supply Support (Spare/Repair Parts)
- Maintenance Planning and Management
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- Technical Data
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- Packaging, Handling, Storage, and Transportation
- Design Interface
- Computer Resources
- Product Support Management
- Sustaining Engineering

Sustainment and Continuous Improvement, Cont.

Evaluation of product support capabilities should focus on those product support elements that influence key warfighter performance outcome measures and are likely to lead to more effective support solutions. These key warfighter performance outcome measures include the below items. Select each to read the details.

Operational Availability (AO)	Operational Reliability	Cost Per Unit Usage	Logistics Support Footprint	Logistics Response Time/Customer Wait Time

Popup Text

Operational Availability (AO)

The percentage of time that a system or group of systems within a unit are operationally capable of performing an assigned mission and can be expressed as (uptime/(uptime + downtime)).

Operational Reliability

The measure of a system in meeting mission success objectives (percent of objectives met, by system), e.g., sortie, tour, launch, destination reached, or other service and system specific metric.

Cost per Unit Usage

The total operating costs divided by the appropriate unit of measurement for a given system., e.g., flight hour, steaming hour, launch, mile driven, or other service and system specific metric.

Logistics Support Footprint

The government/contractor size or 'presence' of deployed logistics support required to deploy, sustain, and move a system. Measurable elements include inventory/ equipment, personnel, facilities, transportation assets, and real estate.

Logistics Response Time/Customer Wait Time

Period of time from when a logistics demand signal is sent to satisfaction of that logistics demand.

Knowledge Review

What measures a system in meeting mission success objectives (percent of objectives met, by system), e.g., sortie, tour, launch, destination reached, or other service and system specific metric?

- [ ] Expeditionary
- [x] Operational Reliability
- [ ] Logistics Support Footprint
- [ ] Networked

Check Answer

Operational Reliability measures a system in meeting mission success objectives (percent of objectives met, by system), e.g., sortie, tour, launch, destination reached, or other specific service and system specific metric.

Knowledge Review

What can be described as linked and synchronized in time and purpose, capable of capitalizing on information and near simultaneous dissemination to turn information in actions?

- [x] Networked
- [ ] Logistics Support Footprint
- [ ] Operational Availability (A_O)
- [ ] Adaptable

Check Answer

Networked can be described as being linked and synchronized in time and purpose, capable of capitalizing on information and near simultaneous dissemination to turn information in actions.

Product Support Funding

The evaluation of product support capabilities must always consider the objective of attaining best value support. The LCL should work with the PM and financial manager to develop a financial support strategy that addresses:

- Preparing a program requirements and funding plan or similar document.
- Developing logistics funding requirements using cost as an independent variable, utilizing accepted cost estimating methods and risk management principles.
- Developing and validating life cycle cost estimates, including cost reduction efforts, to optimize total ownership cost.

Product Support Funding, Cont.

Additionally, the financial support strategy should:

- Ensure the funding program supports the budgetary requirements of the logistics support plan.
- Identify the correct appropriations source for each logistics requirement. Operations and Maintenance, Procurement or Military Construction are examples of different appropriations that may be used to fund logistics requirements.
- Identify funding shortfalls with impacts prioritized, fully documented, and addressed to the PM and resource sponsor.
- Phase funding requirements appropriately over time.
- Identify funding requirements in the acquisition program baseline.

Knowledge Review

Developing logistics funding requirements using cost as an independent variable, accepted cost estimating methods and risk management principles is a part of which of the following?

- [x] Financial Support Strategy
- [ ] Product Support Boundaries documentation
- [ ] The Clinger-Cohen Act
- [ ] None of the above

Check Answer

Developing logistics funding requirements using cost as an independent variable, accepted cost estimating methods and risk management principles is a part of the **Financial Support Strategy**.

Regulatory Environment Summary

You have completed the lesson Regulatory Environment and should now be able to:

- Identify the key policies, regulations, and guidance that influence the LCL during evaluation of product support capabilities.
- Identify the three major DoD decision support systems that influence the evaluation of product support capabilities.
- Define product support.
- Recognize how the LCL develops and documents a product support strategy for sustainment and continuous improvement.

Lesson Completion

You have completed the content for this lesson.

To continue, select another lesson from the Table of Contents on the left.

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