

Performance Based Life Cycle Product Support



Certification Training



Knowledge Sharing



Continuous Learning



Mission Assistance

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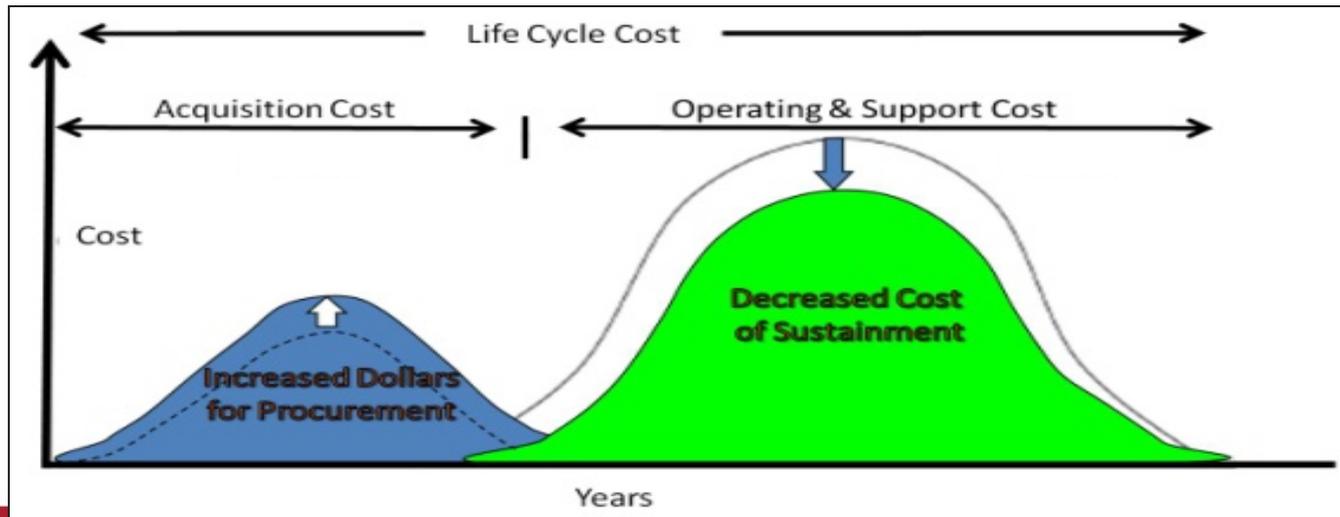
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THE CHALLENGE

*“Traditionally, development and procurement have accounted for about 28 percent of a weapon’s total ownership cost, while **costs to operate, maintain, and dispose of the weapon system account for about 72 percent of the total.**”*



- Life Cycle Product Support
- Product Support Strategy
- Affordability
- Product Support Management
- Performance-Based Logistics (PBL)
- PBL Success Stories



PRODUCT SUPPORT

What is Product Support?

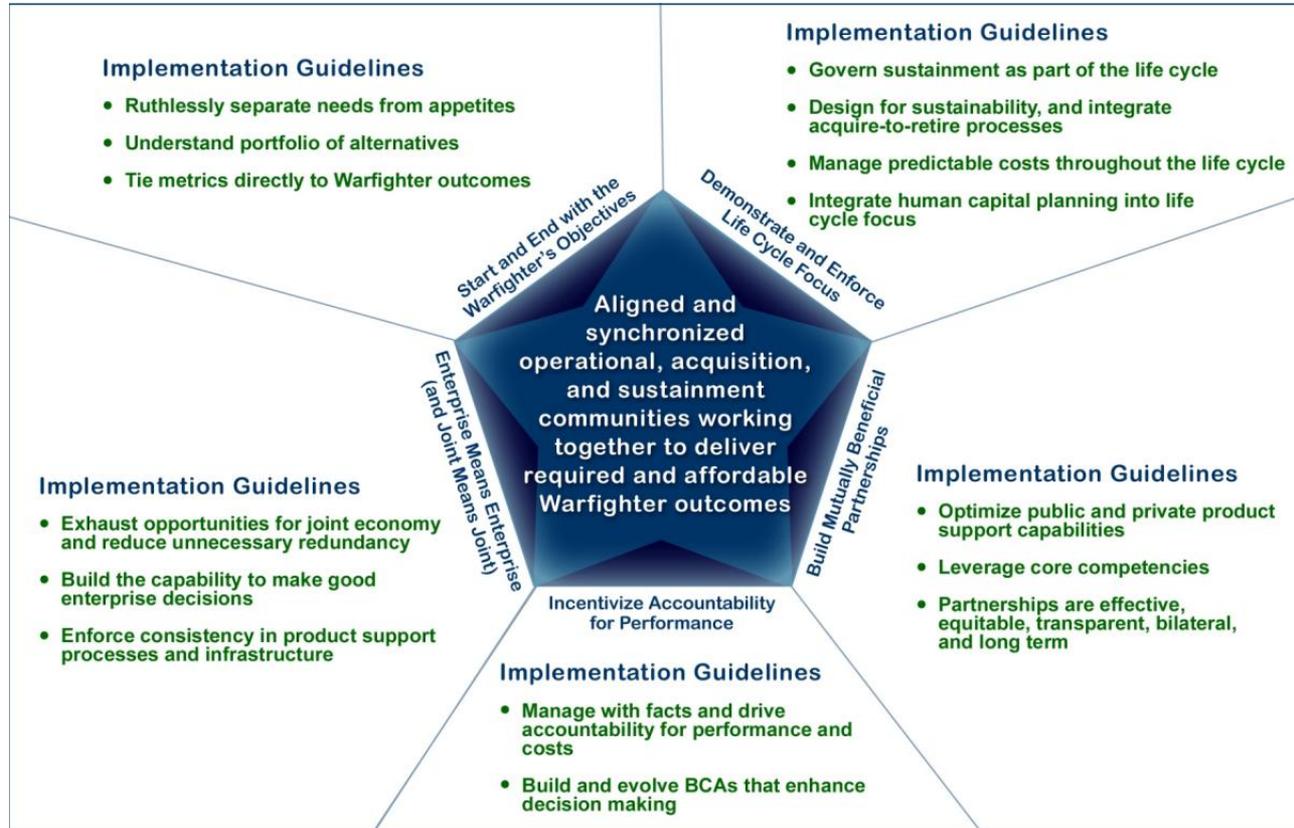
“Package of support functions required to field and maintain the readiness and operational capability of major weapon systems, subsystems, and components, including all functions related to weapon system readiness”

(10 U.S.C. § 2337)

- Often referred to as **system sustainment**
- Consideration **throughout life cycle**, from requirements determination through system design, development, operational use, retirement, and disposal



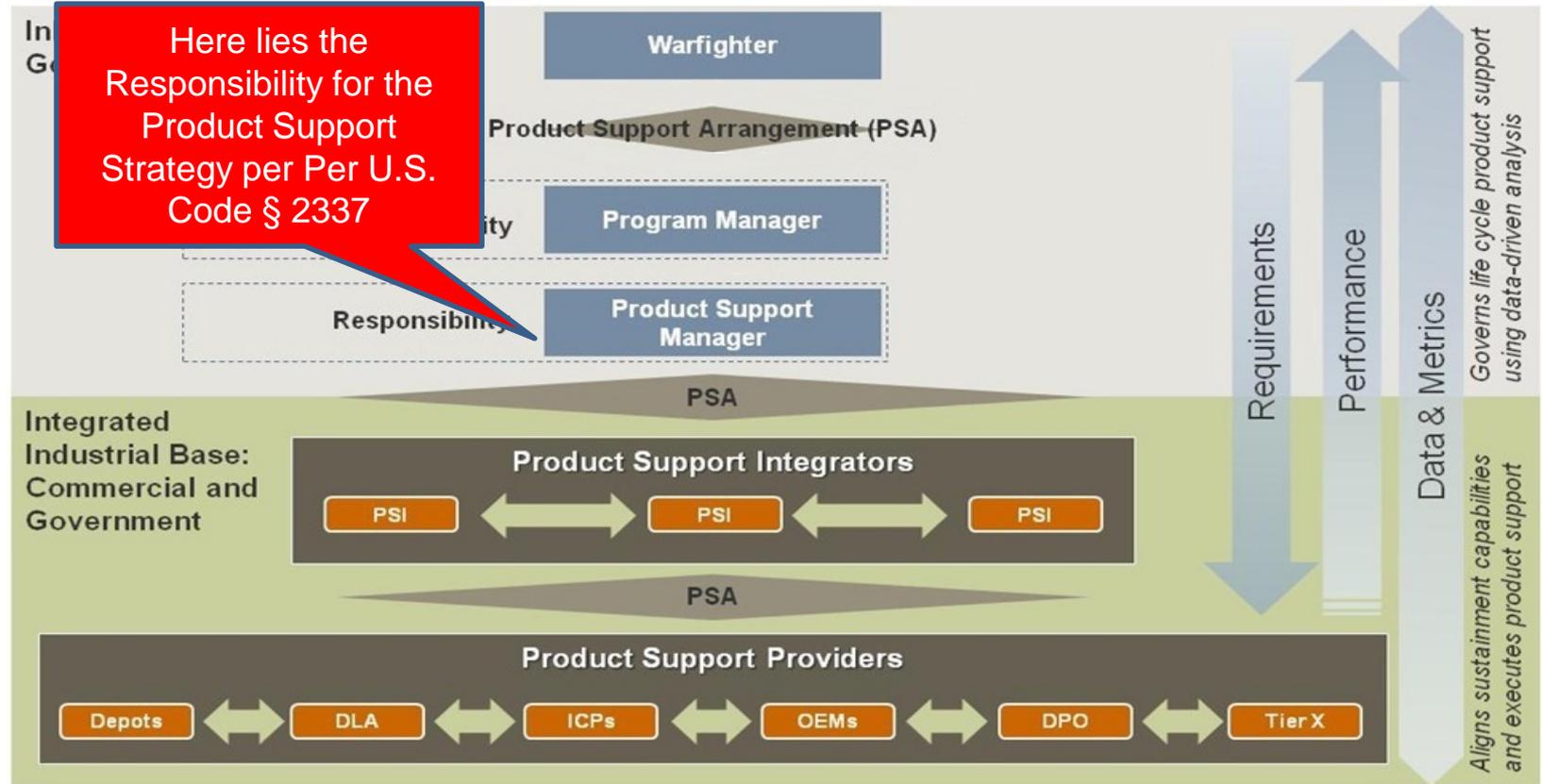
Product Support Guiding Principles



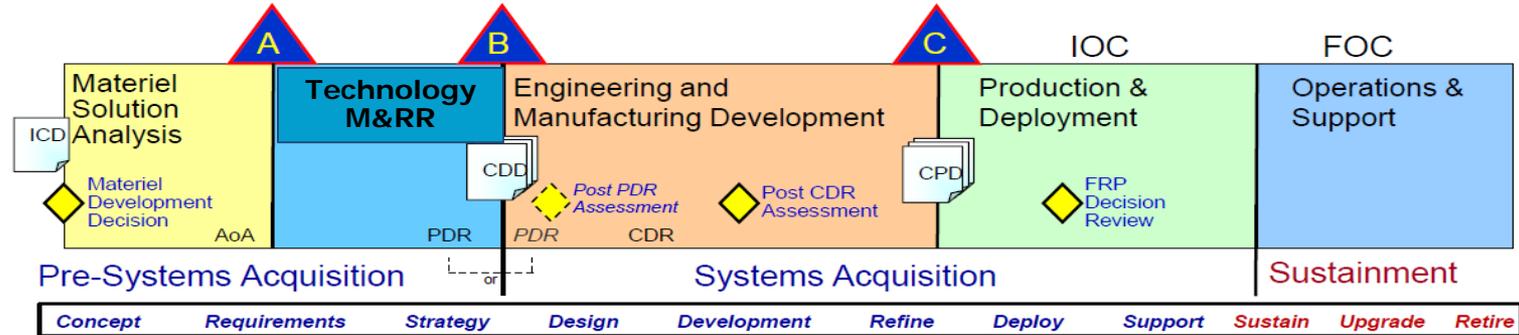
Source: Weapon Systems Acquisition Reform Product Support Assessment, December, 2008



Product Support Business Model



PRODUCT SUPPORT ENGAGEMENT STRATEGY ACROSS THE LIFE CYCLE



- **Key Objectives:**

- Design, maintain and modify systems to reduce (or eliminate) demand for logistics
- Effective and efficient logistics support
- Optimize system availability/readiness and life cycle costs

- **Key Enablers:**

- Life Cycle Management (LCM)
- Product Support Manager (PSM) & well-trained team of life cycle logisticians
- Supportability Analysis
- Product Support Strategy Development, Refinement, Implementation
- Life Cycle Sustainment Plan (LCSP)
- Product Support Business Case Analysis (BCA)
- Adequate O&S funding
- Key Life Cycle Sustainment Outcome Metrics
- Reliability, Availability, Maintainability, Supportability (RAMS)
- Performance Based Life Cycle Product Support (PBL) Strategies
- Prognostics & Health Management (PHM) and Advanced Diagnostics
- Proactive Obsolescence & DMSMS mitigation program



Product Support Strategy

What Is a Product Support Strategy?

- The objective of the Product Support Strategy (PSS) is to achieve and sustain warfighter operational readiness outcomes
 - Achieving these outcomes is dependent on optimizing the integrated product support elements that constitute the support strategy
- **Product support strategy should support and/or improve product's:**
 - Availability
 - Reliability
 - **Affordability**
 - Supportability
- The strategy describes the supportability planning, analyses, and trade-offs
- The support strategy should address how oversight of the fielded system will be maintained

Can be transactional and/or outcome-based

- **Statutory requirements, 10 USC § 2337**

Stipulates a **review** of a weapon support strategy **every 5 years** or prior to a major change in the program product support strategy

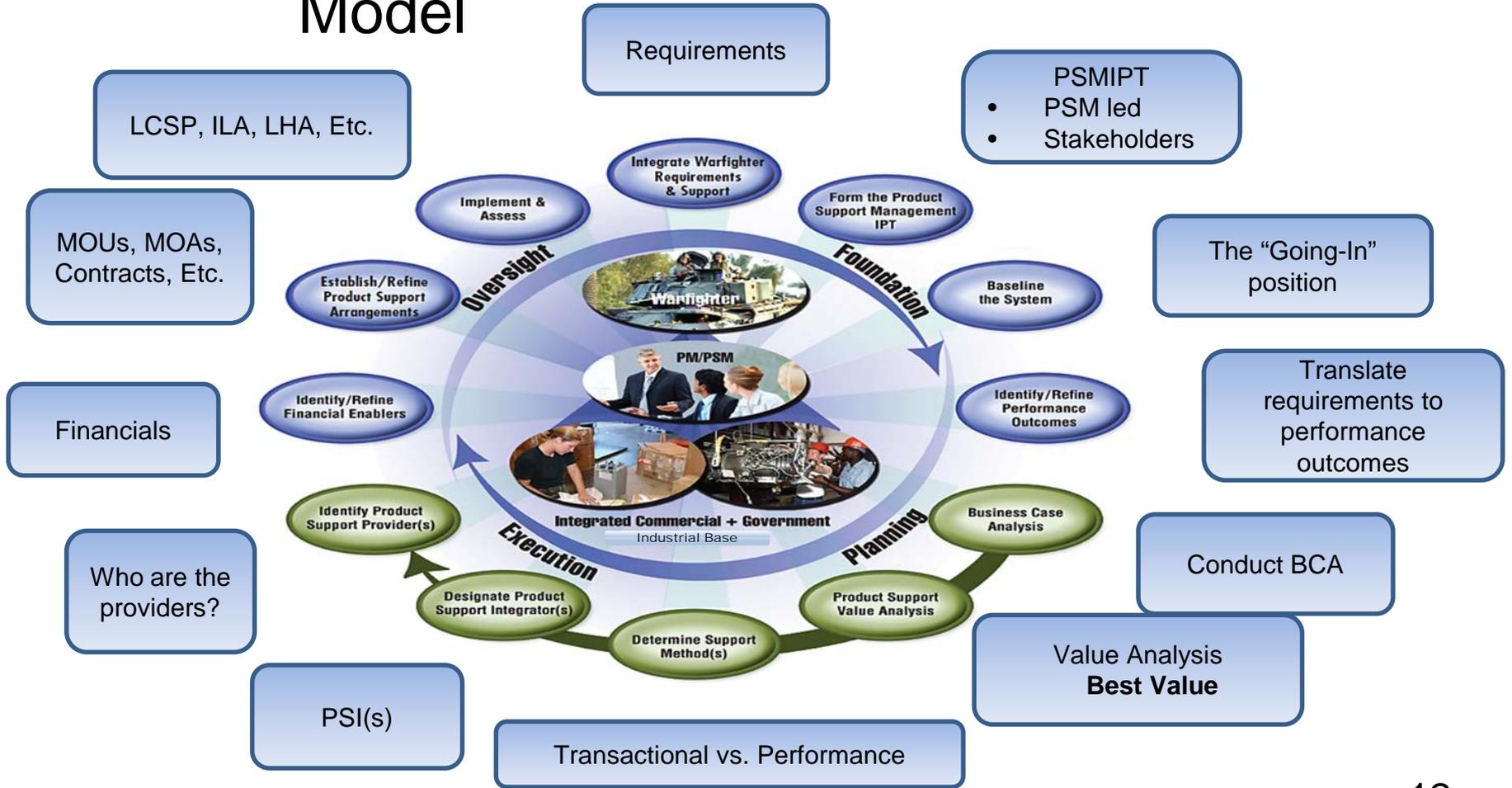
- **5000.02, enclosure 6;**

Program managers for all programs are responsible for **developing and maintaining an LCSP** consistent with the product support strategy, beginning at Milestone A





12-Step Product Support Strategy Process Model



12 Integrated Product Support Elements

- Two New Elements: Product Support Management and Sustaining Engineering.



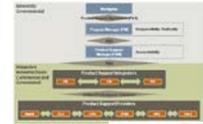
Business Case Analysis Guidebook



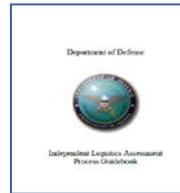
- Tool for the PSM
- Optimizes balance of Warfighter capabilities & affordability
- Analytic, standardized, objective
- **Required for MS B/C/FOC and every five years or prior to a change to the strategy**

PSM Guidebook: codifies and matures DoD Product Support

- Product Support Sustainment Chart
- Product Support Business Model
- 12-Step Product Support Strategy
- Sustainment Maturity Levels



Logistics Assessment Guidebook



- Tool for the PSM
- Validates system support strategy
- Conducted by a team of Subject Matter Experts
- **Required for MS B/C/FOC and every five years or prior to a change to the strategy**



DoD Policy Guidance

DoD Directive 5000.01

Total Systems Approach: *The PM shall be the single point of accountability for accomplishment of program objectives for total life cycle systems management, including sustainment.*

Performance-Based Logistics: *PMs shall develop and implement performance based logistics strategies that optimize total system availability while minimizing cost and logistics footprint.*

DoD Instruction 5000.02, Enclosure 6

Performance-Based Life-Cycle Product Support: *"The Program Manager will: Develop and implement an affordable and effective performance-based product support strategy. The product support strategy will be the basis for all sustainment efforts and lead to a product support package to achieve and sustain warfighter requirements."*

Performance-Based Life-Cycle Product Support: *The PM will: "Employ effective Performance-Based planning, development, implementation, and management in developing a system's product support arrangements. Performance-Based Logistics, also known as performance-based life-cycle product support) ties objective metrics delivered logistical system performance to incentives that will motivate the support provider."*

Product Support Management



Product Support Management

Description

- **Plan, manage, and fund** weapon system product support across all IPS Elements
- **Development and implementation** of product support strategies to ensure supportability is considered throughout system life cycle through optimization of key performance outcomes of reliability, availability, maintainability and reduction of total ownership costs
- Planning and execution includes **enterprise level integration** of all twelve integrated product support elements throughout lifecycle commensurate with roles and responsibilities of the Product Support Manager position created under **Public Law 111-84, Section 805**

Purpose

- Provide **continuous product support leadership** throughout system's life cycle, reporting to senior leadership of status of program key metrics/product support activities, and providing senior program subject matter expertise in all areas of life cycle product support



Product Support Manager (PSM)

10 U.S.C. § 2337 - PSM Role & Responsibilities



- Develop and implement a comprehensive product support strategy
- Conduct appropriate cost analyses to validate the product support strategy (BCA)
- Assure achievement of desired product support outcomes through product support arrangements
- Optimize implementation of the product support strategy (**i.e. balance war fighter effectiveness and affordability - PBL**)
- Periodically review product support arrangements between PSIs and PSPs for consistency with the overall product support strategy
- Prior to changing the product support strategy or every five years, revalidate the BCA / product support strategy

PSM Is Responsible For The Development, Implementation, And Execution Of Life Cycle Sustainment Solution

Affordability



Requirement for Affordability

- USD(AT&L) launched Better Buying Power (BBP) in 2010 to **restore affordability and productivity to Defense spending**
- BBP **challenges the way we think** about our programs to achieve greater efficiency
- BBP 2.0 builds on this beginning to further **instill a culture of cost consciousness** and increase procurement efficiencies
- BBP 3.0 continues with a shift in emphasis toward achieving dominant capabilities through **innovation and technical excellence**

1. Achieve Affordable Programs
2. Achieve Dominant Capabilities While Controlling Lifecycle Costs
3. Incentivize Productivity in Industry and Government
 - **Ensure effective use of Performance-Based Logistics**
4. Incentivize Innovation in Industry and Government
5. Eliminate Unproductive Processes and Bureaucracy
6. Promote Effective Competition
7. Improve Tradecraft in Acquisition of Services
8. Improve the Professionalism of the Total Acquisition Workforce



Better Buying Power 3.0

1. Achieve Affordable Programs

- **Continue to set and enforce affordability caps**

2. Achieve Dominant Capabilities While Controlling Lifecycle Costs

- **Strengthen and expand “should cost” based cost management**
- Build stronger partnerships between the acquisition, requirements, and intelligence communities
- Anticipate and plan for responsive and emerging threats
- Institutionalize stronger DoD level Long Range R&D Planning
- Strengthen cybersecurity throughout the product lifecycle

3. Incentivize Productivity in Industry and Government

- Align profitability more tightly with Department goals
- **Employ appropriate contract types, but increase the use of incentive type contracts**
- **Expand the superior supplier incentive program across DoD**
- **Ensure effective use of Performance-Based Logistics**
- Remove barriers to commercial technology utilization
- Improve the return on investment in DoD laboratories
- Increase the productivity of corporate IR&D

4. Incentivize Innovation in Industry and Government

- Increase the use of prototyping and experimentation
- Emphasize technology insertion and refresh in program planning
- **Use Modular Open Systems Architecture to stimulate innovation**
- Increase the return on and access to small business research and development
- Provide draft technical requirements to industry early and involve industry in funded concept definition
- Provide clear “best value” definitions to industry

5. Eliminate Unproductive Processes and Bureaucracy

- Emphasize Acquisition Executive, Program Executive Officer, and Program Manager responsibility, authority, and accountability
- Reduce cycle times while ensuring sound investments
- Streamline documentation requirements and staff reviews
- Remove unproductive requirements imposed on industry

6. Promote Effective Competition

- Create and maintain competitive environments
- Improve DoD outreach for technology and products from global markets
- Increase small business participation, including more effective use of market research

7. Improve Tradecraft in Acquisition of Services

- Strengthen contract management outside the normal acquisition chain
- Improve requirements definition
- Improve the effectiveness and productivity of contracted engineering and technical services

8. Improve the Professionalism of the Total Acquisition Workforce

- Establish higher standards for key leadership positions
- Establish stronger professional qualification requirements for all acquisition specialties
- Strengthen organic engineering capabilities
- Ensure development program leadership is technically qualified to manage R&D activities
- Improve our leaders’ ability to understand / mitigate technical risk
- Increase DoD support for STEM education



Better Buying Power 3.0

Achieving Dominant Capabilities through Technical Excellence and Innovation

Achieve Affordable Programs

- Continue to set and enforce affordability caps

Achieve Dominant Capabilities While Controlling Lifecycle Costs

- Strengthen and expand “should cost” based cost management

Incentivize Productivity in Industry and Government

- Employ appropriate contract types, but increase the use of incentive type contracts
- Expand the superior supplier incentive program across DoD
- Ensure effective use of Performance-Based Logistics

Incentivize Innovation in Industry and Government

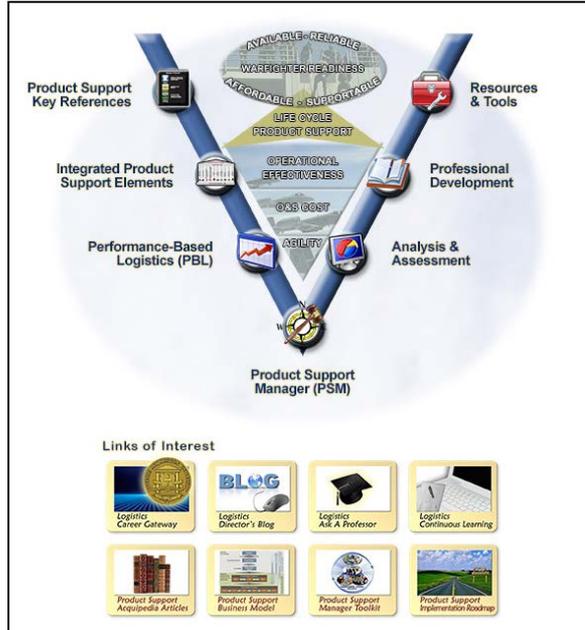
- Use Modular Open Systems Architecture to stimulate innovation

Ensure Effective Use of PBL

- Where Do We Stand?
 - < 5% of DoD systems, sub-systems and components covered by PBL
 - **High Sustainment Costs** – Financial incentives not aligned to life cycle affordability
 - Dismal Reliability for Transactional Sustainment – *Availability Impacted*
- What's New
 - BBP 3.0 PBL Requirement is New
 - **Why? PBL delivers readiness at reduced cost by rewarding innovative cost reduction initiatives**
 - **How? PBLs deliver performance versus parts**



Performance-Based Logistics



Shortcut Link: <https://acc.dau.mil/log>

Shortcut Link: <https://acc.dau.mil/pbl>

*“Go to” Information Sources for
Life Cycle Logistics, Product Support, & PBL*

What is PBL?

- PBL is synonymous with performance based life cycle product support
 - **Outcomes are acquired through performance based arrangements**
 - **Deliver Warfighter requirements and incentivize product support providers to reduce costs through innovation**
 - Arrangements are contracts with industry or intra-governmental agreements

*Includes both the design and implementation
Think “Design the Support” and “Support the Design”*

Why Performance-Based?

- 5000.02 states “The PM shall employ effective Performance-Based Life-Cycle Product Support (PBL) planning, development, implementation, and management”
- **Addresses risk**
- Enduring capability requirement and/or the system is experiencing
 - Unsatisfactory Reliability
 - Unsatisfactory Availability
 - **Unsatisfactory O & S Costs**



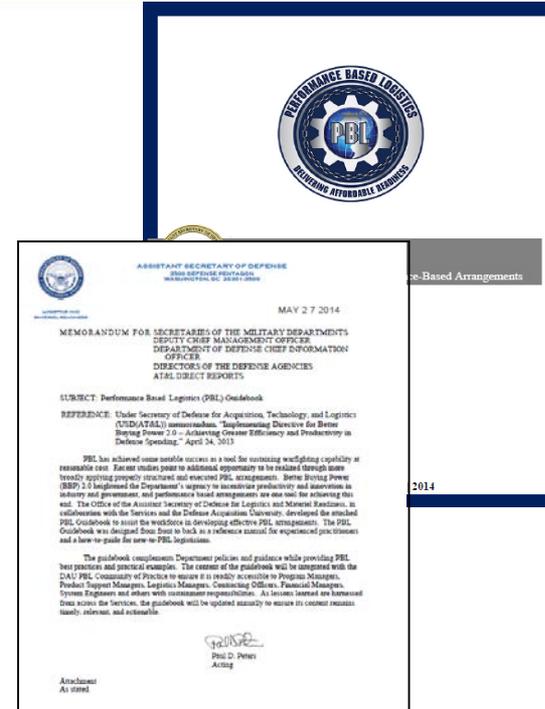
***Incentives = Continuous Investment = Better
Performance & Lower Costs = Affordable Readiness***



DoD Policy Guidance

Performance Based Logistics (PBL) Guidebook: A Guide to Developing Performance-Based Arrangements

- Focuses on assisting the workforce in developing **effective PBL arrangements**
- Designed a reference manual for experienced and new PBL practitioners
- It provides PBL best practices and practical examples
- It is integrated with the DAU PBL CoP to ensure accessibility to multiple careers with sustainment responsibilities
- Lessons learned will be harnessed to ensure the Guidebook content remains timely, relevant and actionable.



Based on proven practices, PBL is included within BBP 3.0 area three
“Ensure the Effective Use of PBL”

Key Fundamental PBL Tenets

- ✓ Tied to Arrangements
 - Measurable and manageable metrics linked to outcomes
 - Appropriate contract type, length, and incentives

- ✓ Tied to Organization
 - Leadership champion
 - Shared risk management

Source: ODASD(MR) PBL Guidebook. See the full listing in your student notes.

It is NOT outsourcing — it “is not synonymous with CLS nor does it require a private-sector integrator” (AFI 63-107)



Key Fundamental PBL Tenets

Tenets of PBL	Description
Tenets Tied to Arrangements	<ol style="list-style-type: none">1. Acquire clearly defined Warfighter relevant outcomes2. Use measurable and manageable metrics3. Provide significant incentives4. Firm Fixed Price contract is generally preferred5. Provide sufficient contract length
Tenets Tied to Organization	<ol style="list-style-type: none">6. PBL knowledge and resources are maintained for the government team and product support providers7. Leadership champions the effort throughout their organization(s)8. Everyone with a vested interest in the outcome is involved9. Supply chain activities are aligned to the desired PBL outcome versus disparate internal goals10. Risk management is shared between customer and support provider

Source: ODASD(MR) PBL Guidebook.

*It is NOT outsourcing — it is not synonymous with CLS
nor does it require a private-sector integrator*

Why Transactional?

- Short Life-Span support requirement
 - Item's expected requirement expires in 3 years
- High Demand/low cost items with stable demand
 - Consumables
- Low or unstable Demand/high cost
 - Flux Capacitor
- Commercial Items?





Transactional vs. Outcome Based

Traditional/Transactional-Based Logistics	Performance Based Logistics (PBL)
Often separately organized support organizations	Support organizations linked via Product Support Arrangements (PSA)/Performance Based Agreements
Lack of top-level system integration function	Single PSM and PSI(s) provides integrating function
Work often under ID/IQ contract or T&M	Leverage fixed price or CPIF contracts
Transaction-based	Outcome-based
“More is better”	“Appropriate is better”
“Spares & repairs”	“Reliability, availability, maintainability & supportability”
Focus on discrete and potentially stove-piped performance, modifications, & modernization efforts risks sub-optimal support posture	Product & process improvements reduce demand, increase time-on-platform, decrease response time, and mitigate DMSMS & obsolescence risk
Risks facilitating adversarial “win-lose” focus	PSM-PSI-PSP alignment & partnerships facilitate synergistic “win-win” focus
Shifting priorities can drive risk-adverse behaviors	Clear metrics & incentives drive best-value outcomes
Near-term, budget-driven thinking	Long-term, warfighter-driven thinking
Transactional logistics risks incentivizing “more parts/repairs I sell, more profit I can make”	PBL support reverses vendor incentive, facilitating “less parts/repairs needed, more profit I can make”
Parts/Repair = Provider Revenue	Parts/Repair = Provider Cost
Leveraging existing infrastructure	Optimized affordable readiness

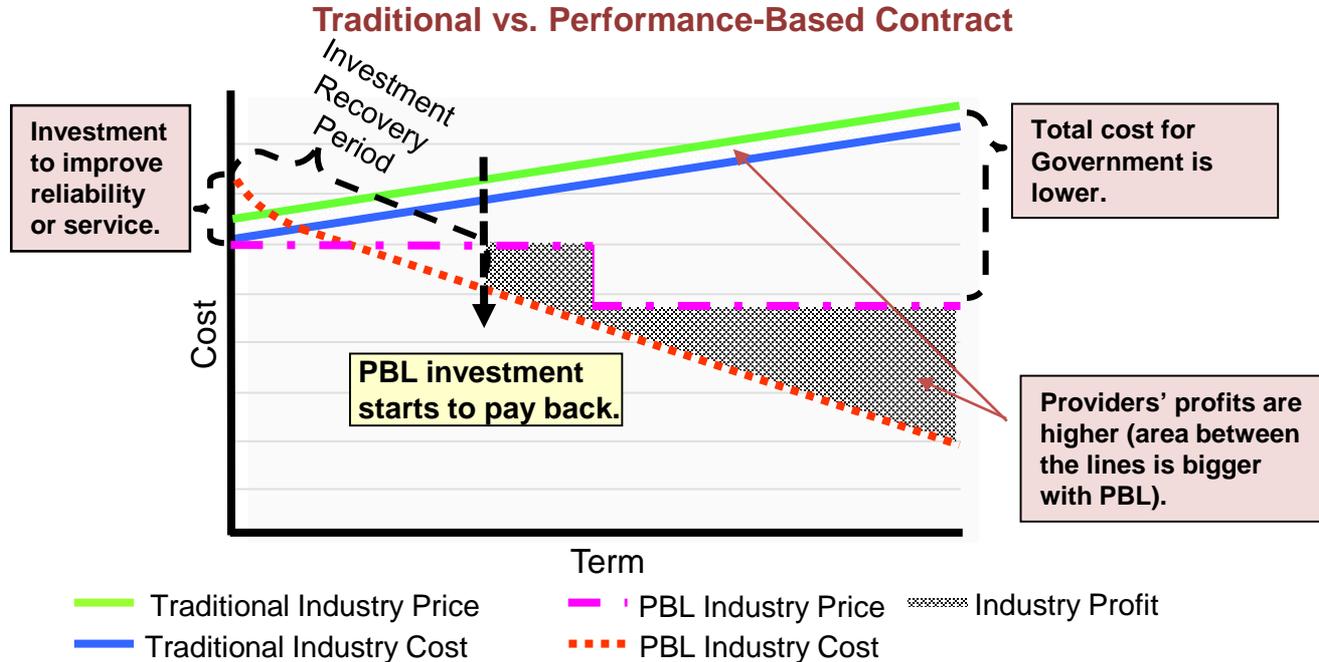


Why Effective PBL Arrangements Work

- **DoD obtains comprehensive performance package**
 - Not individual parts, transactions, or “spares & repairs”
- **Approach reverses vendor incentive**
 - Fixed price performance arrangements tied to warfighter outcome turn traditional revenue centers into cost centers - motivate vendor to reduce failures/ consumption through innovation
 - Incentivizes *“less I use, the more profit I can make”* vice a *“more spares and repairs I can sell, the more profit I can make”* mentality
- **Long term commitment enables vendor to balance risk vs. investment**
 - Support Providers with system knowledge and investment oriented business models innovate to convert cost avoidance into performance gains

It's about Motivating Productivity Through Innovation

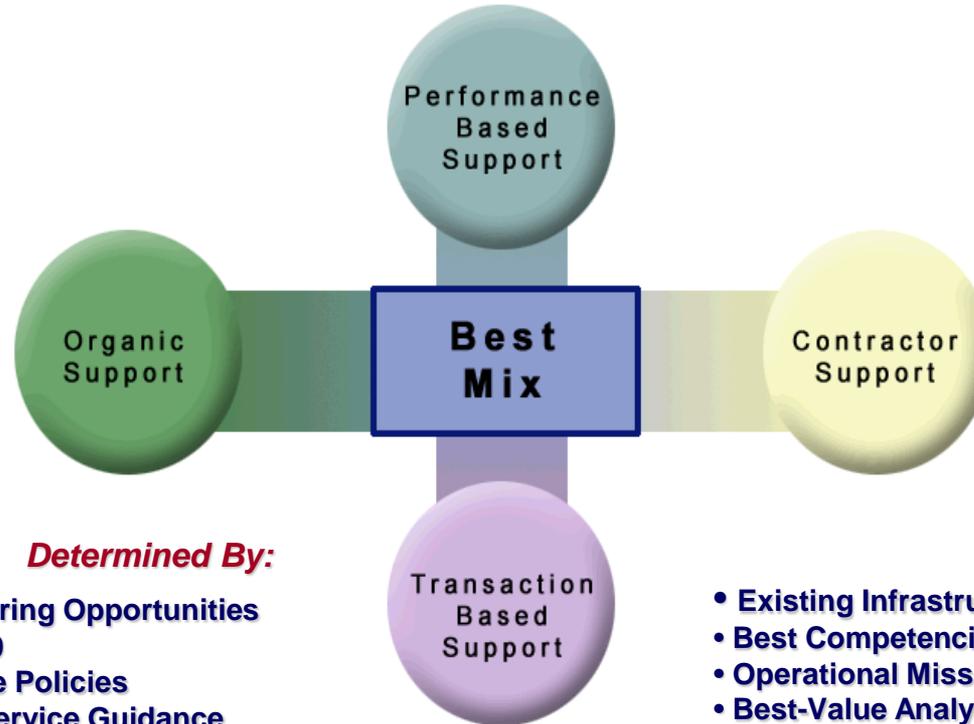
Cost-Value Benefits of PBL



Contract duration incentivizes investment in reliability and service.

**Notional Example*

Spectrum of Support Opportunities



Product Support Decision Matrix





PBL Success Stories



PBL Success Stories

- OSD PBL Award Winners exemplify team success in PBL outcome excellence
- Categories in System, Sub-System and Component Levels
- On-going Awards program since 2005
- Examples highlighted:
 - Honeywell Total Logistics Support PBL
 - NAVICP Partnership Examples
 - U.S. Army / DLA HMMWV Recap Program



Department of Defense PBL Award Winners

Year	Level	Program	Service	Industry Partner
2012	System	C-17 Globemaster Integrated Sustainment Partnership	USAF	Boeing
	Subsystem	P-3 AN/APS-137D(V)5 Radar	USN	Raytheon
	Component	Industrial Prime Vendor, Depot Consumables	DLA	Lockheed Martin
2013	System	Combat Operations Center, TSQ-239(V)	USN/USMC	General Dynamics
	Subsystem	Apache Sensors, Modernized TADS/PNVS (M-TADS/PNVS)	USA	Lockheed Martin
	Component	Global Patriot	USA	Raytheon
	Component	F414 Engine	USN	General Electric
2014	System	F-22 -- Air Combat Command, USAF Air Logistics Complexes, Lockheed Martin, Pratt and Whitney, and Boeing for the F-22 fleet	USAF	Lockheed Martin/Boeing/Pratt and Whitney
	Subsystem	Sniper Advanced Targeting Pod -- System Program Office and Lockheed Martin	USAF	Lockheed Martin
	Component	H-53E -- Naval Supply Systems Command Weapon Systems Support, Naval Air Systems Command, and Sikorsky	USN	Sikorsky



FY 14 PBL Award Winners

- **System Level Award: F-22 (USAF)**
 - Implemented a PBL solution between Air Combat Command, USAF Air Logistics Complexes, Lockheed Martin, Pratt and Whitney, and Boeing for the F-22 fleet
 - Resulted in an 71% mission capable rate
 - Aircraft Abort Rate 5.1%; goal of 6.5%
 - Saved \$20M in O&S costs in 2013
- **Sub-System Level Award: Sniper Advanced Targeting Pod (USAF)**
 - Implemented a PBL solution between System Program Office and Lockheed Martin
 - Improved readiness by 14%
 - Reduced O&S costs by \$77.3M
- **Component Level Award: H-53E PBL (Navy)**
 - Implemented a PBL solution between Naval Supply Systems Command Weapon Systems Support, Naval Air Systems Command, and Sikorsky for 10 high-value, flight-critical components
 - Increased supply availability by 49%
 - Reduced O&S costs by \$20.2M

QUESTIONS?