

Affordable Logistics: Are We There Yet?

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Illustrations by Jim Elmore

Ask any parent to name one of the most frustrating aspects of a family journey, and the inevitable answer will be the repetitive question from the back seat, “Are we there yet?” Despite comprehensive route planning and other travel preparations, the ultimate objective is not the travel, but successful arrival at the destination.

The same analogy applies to affordable logistics. We’ve gassed up the car, planned our route, and are following our planned itinerary. But the road we’ve traveled is only the means to arrive at the destination—not the end itself.

Over the last 13 years, in consonance with Congress’ recognition of the increasing cost of weapon system sustainment, DoD conducted two landmark studies of how to identify and implement more affordable and effective product support. *DoD Weapon System Acquisition Reform Product Support Assessment* was published in November 2009. It concluded that most conclusions from the July 1999 *Product Support for the 21st Century: Report of the Department of Defense (DoD) Product Support Reengineering Implementation Team* remain valid but that clarification of roles and responsibilities within a product support business model (PSBM) framework is needed. This clarification, provided in the 2009 study, will better enable implementation of outcome-based support strategies integrating public-private capabilities through expanded use of partnerships. These findings were endorsed by the under secretary of Defense for acquisition, technology and logistics.

Since that endorsement, the DoD and industry have been cooperatively engaged in strengthening product support processes, practices, governance and workforces. The results of these actions lay the foundation for

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effective and affordable product support based on proven approaches and tangible results. The challenge going forward is to not only implement, but to standardize and institutionalize these practices across the extended DoD enterprise, including industrial partners, in order to meet the DoD mandate of reducing the cost of weapon system sustainment while providing required war-fighter operational readiness across the life cycle.

Product Support Business Model

The key tenets of effective and efficient product support are encompassed in the Product Support Business Model (PSBM), which defines the framework, roles, responsibilities, implementation agreements, and strategy preferences for DoD weapon system sustainment. The noteworthy results of the 2009 *Product Support Assessment* endeavor (and corollary statutory language cited in Section 805 of the 2010 National Defense Authorization Act) include:

- Establishing the role of the product support manager (PSM), a government-only agent responsible for the overall development, validation, implementation, management, integration, and execution of the product support strategy.
- Revalidating the effectiveness of performance-based logistics (PBL) sustainment strategies and their ability to consistently deliver warfighter outcomes at reduced cost.
- Clarifying and endorsing the role of product support integrators (PSIs) as a critical role responsible for delivering performance outcomes through management and integration of product support providers.
- Endorsing the continued use and expansion of public-private partnerships leveraging the best capabilities of the DoD and commercial industrial base.
- Establishing a consistent sustainment governance process institutionalizing a life cycle perspective on affordable and effective product support from acquisition through operations and support.
- Enhancing the focus on workforce development consistent with the responsibilities outlined in the product support business model.
- Emphasizing the competitive selection of product support providers.

Performance-Based Logistics (PBL)

The foundation of the PSBM is the requirement for a performance-based sustainment strategy. PBL, while simple in concept (i.e., delivering outcomes), is more complex in application and merits further explanation and emphasis.

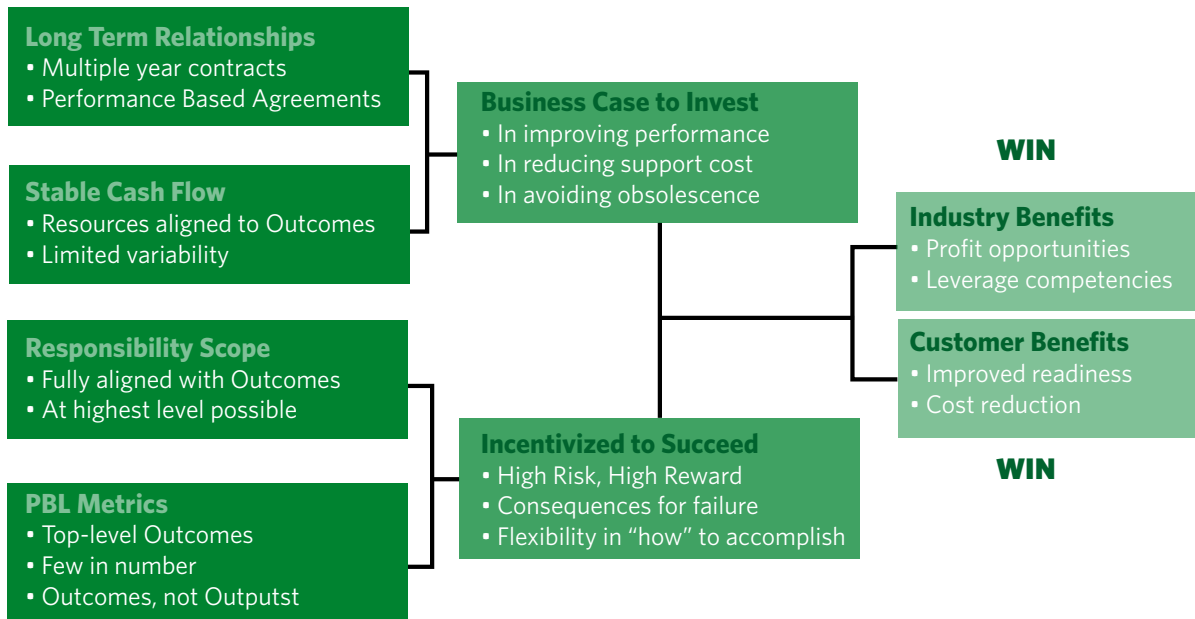
PBL, referred to as both “performance-based life cycle product support” and “performance based logistics” in the *Product Support Assessment*, is DoD’s weapon system product support strategy as stated in enclosure 2-8 of DoDI 5000.02, “Operation of the Defense Acquisition System,” December 2, 2008: “The PM shall employ effective Performance-Based Life-Cycle Product Support (PBL) planning, development, implementation, and management.” The rationale for this requirement is cited later in the same paragraph: “PBL offers the best strategic approach for delivering required life cycle readiness, reliability, and ownership costs. Sources of support may be organic, commercial, or a combination, with the primary focus optimizing customer support, weapon system availability, and reduced ownership costs.”

The effectiveness of PBL in providing warfighter outcomes at a reduced cost was further endorsed in the 2011 DoD-sponsored Project Proof Point, an objective, data-driven assessment of outcome-based product support strategies. The study examined 21 major PBL programs with encouraging results, confirming that “PBL arrangements reduce DoD’s cost per unit of performance while simultaneously driving the absolute levels of system, sub-system, and component readiness/availability.” In the Project Proof Point findings, it was noted that the single most critical factor to PBL success with commercial vendors was “long-term contract business arrangements.”

Performance-Based Business Model

The product support business model endorsed the continued use of PBL, clarified the product support strategy framework and its hierarchy of roles, and provided guidance on determining the appropriate mix and partnering relationships of support sources. But it did not completely address the fundamental tenets of the business relationships that enable PBL success—a shortcoming that had been pointed out as early as 2008, when it was noted that the absence of a clearly defined busi-

Figure 1: Performance Based Business Model



ness model and inadequate training was a significant factor in the failure of some managers to implement PBL successfully:

A report of the Acquisition Advisory Panel sums it up best; "When individuals without the proper training and experience attempt to implement a performance-based contract, the results are understandably and expectedly poor...there is trouble consistently implementing it by an inconsistently trained workforce."

Now, with over 13 years of PBL application by DoD, the fundamental tenets of performance-based business arrangements have become evident to the point that a performance-based business model (PBBM) can be described.

The fundamental characteristics of the PBBM are characterized as follows:

- **Long-Term Relationships:** Enable sufficient time for industry to invest in weapon system improvements in reliability, maintainability, and supportability and to receive a return on that investment through financial incentives structured as part of the PBL contract.
- **Stable Cash Flow:** Enabled through fixed price or similar contracts providing confidence in cash flow sufficient to prompt investments as noted to recoup returns on those investments.
- **Responsibility Scope:** Enabled through alignment of industry Product Support Integrator (PSI) responsibilities to deliver contract-specified metric outcomes with oversight, management, and/or performance of those product support functions that drive those outcomes.

- **PBL Metrics:** Enabled through specification of true 'outcome' measures in the PBL contract consistent with warfighter requirements at a level adequate to provide industry flexibility in determining "how" to achieve the outcomes.

The compelling benefit of PBL vs. traditional transactional sustainment strategies is its ability, when implemented consistent with the PBBM, to achieve win-win results for industry and the DoD customer. Structured properly, PBL consistently delivers superior operational readiness at reduced cost to DoD, while enabling industry the opportunity to invest and create improved profit opportunities at no additional cost to the customer, as reflected in Figure 1.

Industry Efforts

The Aerospace Industries Association (AIA) and National Defense Industrial Association (NDIA) member companies actively supported DoD's assessment and implementation efforts to improve long-term product support planning, management, and execution. As DoD's leading industrial partners, our member companies also launched a complementary effort to ensure we remained responsive to DoD requirements. Industry actions are categorized in three broad areas:

- Performance-based partnerships
- Reducing Operations and Support (O&S) costs
- Professional development

Performance-Based Partnerships

The increasing complexity of weapon systems, diminution of the DoD industrial base, and DoD emphasis on leveraging the benefits of commercial processes has resulted in a sustainment model that utilizes the best mix of public and private capabilities. The success of partnering within depot

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maintenance prompted the 2009 *Product Support Assessment* to not only capture and characterize the best practices of depot maintenance partnering, but to call for the expansion of partnering across the spectrum of integrated product support elements (IPSEs). Industry has aggressively responded to this broadened environment, assuming larger roles in supporting, integrating, and facilitating supply support, sustaining engineering, configuration management, information technology, transportation, distribution, and related product support processes to better enable enterprise solutions.

Reducing Operations and Support Costs

A prime example of how a properly structured PBL can improve performance while reducing O&S cost is the Navy H-60 Tip-to-Tail Program, encompassing supply management and depot maintenance (via partnerships) for the Navy H-60 helicopter fleet. The primary performance metric is fill rate with a contract metric of 80 percent. Over the life of the PBL contract, fill rate has averaged 88 percent, exceeding the customer requirement. Prior to awarding the contract in January 2004, the Navy conducted a business case analysis, the results of which reflected that industry could accomplish sustainment for approximately 6 percent less cost than organic support over the planned 5-year contract term period while committing to deliver higher levels of performance. The Navy implemented the contract at the lower industry cost in a fixed-price contract for the period 2004 to 2009. During that period, industry achieved additional reductions in O&S cost through investments, which served as the basis for negotiation of the follow-on contract. The follow-on contract, signed in late 2010, included an additional price reduction negotiated by the Navy. The end result is that the Navy is paying significantly less per unit of operation for the covered H-60 components 8 years after entering into the PBL contract support arrangement and receiving improving, rather than declining, performance and readiness.

Professional Development

Finally, industry has initiated an ongoing effort to realign its workforce composition and business strategies through product support and systems engineering professional development activities to emphasize life cycle systems engineering and affordability as a design requirement consistent with the PSBM.

The positive foundation laid by the November 2009 *Product Support Assessment*, the quantitative validation of the efficacy of PBL strategies by Project Proof Point, and documentation of the PSBM and the PBBM clearly have moved us much further along the road to our destination of affordable logistics. But the answer to the question "Are we there yet?" is "Close, but we have a little more road to travel." Let's examine the remaining few miles as we close on our destination.

Next Steps

We have clearly recognized affordable sustainment as a priority, conducted research necessary to define and validate the appropriate PSBM and business arrangements that will achieve that objective, and documented the policy and guidance necessary to assure consistent implementation of same. But there remain a few challenges to negotiating the remainder of the route to our desired end state.

PBL, while fully recognized in policy and supported by in-depth quantitative research and real-world success as the most effective and affordable product support strategy, encompasses less than 20 percent of DoD weapon system sustainment, as noted in the 2009 *Product Support Assessment*. Extension of performance-based sustainment to the remaining 80 percent of DoD product support could reduce sustainment costs by an estimated \$16 billion to \$21 billion per year, according to the AIA publication *Modernizing Defense Logistics*.

PBL implementation, as validated by Project Proof Point, must be accomplished using long-term business arrangements as much as possible. Project Proof Point findings support no less than 3-year base periods, with preference for the 5-year statutory limit base period, with 5-year follow-on option periods as necessary to incentivize industry investment in reliability, maintainability, and supportability. Contracts would be re-competed at the end of the base period if incumbent performance is lacking, or at the end of the 10-year effort. Recognize that more frequent competition does not necessarily translate to cost reduction. Longer-term contracts provide industry with a sufficient planning horizon to invest in cost reduction initiatives that can translate to customer savings in follow-on contracts while retaining predictable competition points. The Defense Logistics Agency (DLA) is very successful with this model for commodity supply chains.



In addition, we should rapidly implement the November 2009 *Product Support Assessment* recommendation to expand partnering beyond depot maintenance to Service supply and engineering organizations, DLA, and the U.S. Transportation Command (USTRANSCOM), enabling true enterprise solutions and leveraging the best-integrated capabilities of the public-private industrial base.

Given that O&S costs make up approximately 70 percent of weapon system life cycle costs, we should make life cycle product support an inherent criterion in DoD solicitations for new acquisitions or competitions for legacy systems. The Missile Defense Agency, recognizing the need to focus on life cycle affordability, revised its ground-based midcourse defense (GMD) RFP to elevate PBL to the No. 1 factor in the technical volume, effectively making sustainment the highest-weighted source selection criterion for the program.

We also need to rapidly implement the November 2009 *Product Support Assessment* revisions to the product support business case analysis process to include full cost accounting of DoD/government costs and explicit consideration of inherent process performance efficiency to achieve true best-value sustainment solutions.

Finally, we must acknowledge that in properly structured outcome-based sustainment strategies, industry profit does

not equal higher customer cost. PBL inherently places significant financial risk on industry. That risk is compensated by appropriate business arrangements that provide incentives for industry to reduce cost and create profit at no added cost to the customer and have led to reduced customer cost in follow-on contracts.

Conclusion

It's been a long trip. The kids in the back seat have nodded off, soft music is flowing from the radio, we are clearing the crest of the last hill, and familiar road signs tell us our destination is close. We're not quite there, but we've got enough gas in the tank, and the car is running smoothly. Just beyond the horizon awaits effective and affordable operational readiness for the warfighter that also benefits the taxpayer, the military Services, and the public and private-sector industrial base. We have charted our course well, from accomplishing rigorous analysis to establishing necessary statute, policy, and guidance. Let's hit the accelerator and drive these last few miles together. We still have work to do, but a collaborative approach will assure success. Safe travels!

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