Implementing the Next-Generation Product Support Strategy

Mark Gajda ■ *Basil Gray*

Accumulating budget pressures and ongoing DoD leadership attention has accelerated the need to reduce weapons system life cycle costs and maximize efficiencies across the entire Department. This focus on total life cycle management has created renewed attention to the weapon system support area (now referred to as product support), an area in which DoD spends over $132 billion annually. As a result, the DoD established a cross-functional team of stakeholders from the Services, agencies, industry, and academia, known as the Product Support Assessment Team (PSAT), to drive critical process changes needed to reduce costs and facilitate next generation product support across the entire enterprise. The PSAT reports to a Product Support Executive Council (PSEC), a select group of flag officers and Senior Executive Service (SES) staff, who provide strategic oversight and a resource commitment needed to implement product support changes.

The first phase of the PSAT's efforts culminated with the DoD Weapon Systems Acquisition Reform Product Support Assessment report, signed by the USD(AT&L) in 2009. The report provided an assessment of product support strategies and processes, and provided key recommendations for the next generation product support strategies. The report continues to serve as the foundational guidance for making real changes in the procedures associated with life cycle product support. The PSAT has developed and delivered a majority of the products identified in the 2009 report, with more scheduled to be fielded in 2012. This effort doesn't end there however; the PSAT is also developing a strategic implementation plan to assess product support progress against a set of long term success indicators, to facilitate a continuous improvement process. This article focuses on the PSAT life cycle product support management efforts to drive down costs and provide desired warfighter outcomes through business, governance and human capital improvements.

Product Support: A Life Cycle Management Enabler

A fundamental premise of the total life cycle management approach is the recognition that decisions made in the early program phases have long-term affordability, availability, and supportability ramifications and must be managed accordingly. This total life cycle management view has driven the DoD to see the acquisition and sustainment phases of a weapon system program as dependent on each other, and it has highlighted the importance of product support considerations throughout the entire life cycle. The importance of product support as a life cycle management enabler was reinforced by the 2009 Weapons System Acquisition Reform Act, and more recently, the USD(AT&L) Better Buying Power Initiatives. It

Gajda *serves as a senior logistics management specialist in the Office of the Deputy Assistant Secretary of Defense for Materiel Readiness and leads the integrated product team implementing the recommendations from the November 2009* DoD Weapon System Acquisition Reform Product Support Assessment. **Gray** *serves as a director for PricewaterhouseCoopers LLP and supports the product support assessment implementation team.*

is widely acknowledged that approximately 70 percent of a weapon system's life cycle costs occur after fielding and during operational use (the life cycle phase known as operations and support [O&S]). However, under a total life cycle management approach, addressing product support requirements up front and concurrent with the design, testing and manufacturing phases allows a greater influence on O&S costs and reduction opportunities.

This transition to the next generation product support framework is facilitated by a systems approach that includes a life cycle sustainment plan (LCSP) that documents how the program manager will use the product support business model to manage the twelve integrated product support (IPS) elements. These elements contain all the support functions required to develop, field, and maintain the readiness and operational capability of a weapon system. The product support manager (PSM) position, formerly the program's lead logistician, has been established and elevated to a key leadership position. The PSM is responsible to the program manager for creating and operating an effective and affordable product support strategy over the entire weapon system's life cycle.

Product Support Assessment: Genesis

Responding to the 2009 *Weapon System Acquisition Reform Product Support Assessment*, DoD initiated a PSA effort with the overarching goals of assessing the health of logistics product support and developing recommendations to enhance efficiencies, remove obstacles, and take an enterprise approach to product support improvement. The WSARA PSAT represented all stakeholders, not just logisticians. The components were represented by functional experts from the requirements, acquisition, and sustainment communities. The team also included members from the OSD comptroller, the Office of Cost Analysis and Program Evaluation (CAPE), industry, and academic institutions.

The assessment highlighted obstacles as well as opportunities to improve product support processes, reduce weapon system total ownership cost and improve overall readiness. The analysis went beyond merely identifying problems and provided an operational strategy to correct the root causes. Specifically, some of the root causes included:

- Requirements generation, acquisition process, and governance structure did not support overarching product support, in terms of overall life cycle.
- Inconsistent, inaccurate, and unavailable data for proper life cycle decision making and contract development (especially in the area of costs).
- Poor integration of various stakeholders creating considerable inefficiencies (to include the defense industrial base).
- Ineffective, or at least inconsistent, business case analysis process.
- No standard business model for product life cycle support.
- No common lexicon, metrics, or methodology for assessing and improving the DoD end-to-end supply chain.
- Inconsistent interpretation and compliance with laws, regulations, and strategic intent.
- Skills, talents, tools, and processes not always aligned for transformational thinking and cultural change.

Product Support Assessment: Implementation

Results and recommendations were documented in the 2009 *Weapon System Acquisition Reform Product Support Assessment*, published by USD(AT&L). The report contained a product support strategic vision and objectives (as shown in Figure 1) and is the foundation for the next generation of product support strategies. The Office of Deputy under Secretary of Defense for Logistics and Materiel Readiness created charters and the PSEC provided members for three integrated product teams (IPTs) to develop the recommended policies, leverage best business practices, and create improvements to existing product support processes.

IPT-1 was focused on the product support business model (PSBM) that defines and improves the business aspects of product support. This team had the following sub-IPTs and primary deliverables:

- Product support business model
- Industrial integration strategy
- Supply chain operational strategy
- Analytical tools

The PSBM is designed to optimize product support by balancing maximum system availability with affordability throughout the weapon system life cycle. It achieves optimization by defining product support roles, relationships, responsibilities, authorities, and accountabilities among the managers, integrators, and providers of product support.

Figure 1. PSAT Strategic Vision/Objectives

Figure 2.
Integrated Product Support Elements

The PSBM is the central nervous system for product support execution as defined by the weapon systems logistics life cycle sustainment plan (LCSP). Integral to the LCSP is the *Product Support Managers Guidebook*, a guide for developing and implementing product support across the system's entire life cycle. Accompanying the *PSM Guidebook* is the *Integrated Product Support (IPS) Element Guidebook*. It describes the IPS elements, which replaced the traditional integrated logistic support elements, and added two additional: sustaining engineering and product support management (Figure 2). Supporting all business decisions associated with product support alternatives is the accompanying *Business Case Analysis (BCA) Guidebook*, which has been developed to assist the PSM in a data-driven, objective BCA process.

The analytical tools effort is focused on identification and consolidation of PSM processes and tools. A survey across the various stakeholders allowed creation of a preferred list of tools for a notional PSM toolbox application. It is scheduled to be available in 2012.

Key to successful product support implementation is consideration and integration of the industrial base and maximizing the efficiency and effectiveness of the supply chain operations. Accelerated industrial integration efforts began with validating the number and types of public-private partnerships in existence and providing product support functions. The next step will identify how to make improvements in these partnering agreements, the development of a depot partnering handbook for depot maintenance, and multiple efforts associated with Title 10 legislative changes and proposals.

A majority of a weapon system's life cycle cost is accounted for in operations and support cost; identifying and optimizing O&S costs needs to be strongly considered—not only in developing the product support strategy, but also in execution. For example, optimizing supply chain operations can have considerable impact on reducing cost and improving weapon system availability. In order to better manage the supply chain, the Deputy Assistant Secretary of Defense–Supply Chain Integration Office has established a joint supply chain architecture (JSCA) that creates a common lexicon and metrics for managing the end-to-end supply chain elements (plan, source, make/maintain, deliver, and return). JSCA enables the assessment of a supply chain's reliability, speed, and efficiency in order to target the best opportunities for improvement. The concept has been used in private industry for decades but was recently proven extremely effective with managing weapon systems in the development or sustainment phases. To supplement the JSCA model, OSD is planning to deliver a supply chain performance assessment capability and other planning guidance in 2012.

IPT-2 was designed to address the governance and decision making process throughout the product life cycle. This team focused on the following:

- Sustainment metrics
- Logistics assessment
- Post initial operations review
- Operations and support costs

One of the first deliverables for this team was a sustainment quad chart to provide product support visibility during the various weapon system acquisition reviews. This sustainment quad chart includes a product support overview, product support schedule, sustainment key performance parameter (KPP)/key system attribute (KSA) information as well as financial resource information (including O&S information). Mandated for use in program integrated process teams, defense acquisition boards, defense acquisition executive summary reviews, etc., since April 2010, the sustainment quad chart has allowed decision makers to gain an understanding of the health of the product support strategy as well as facilitating comparison with any antecedent systems. Currently, refinement of the sustainment metric definitions for different weapon system types and linking the sustainment quad chart to affordability targets/requirements and portfolio reviews has been initiated.

To govern product support effectiveness across the life cycle, two additional processes are under development: the logistic assessment and post–initial operational capability (IOC) review. The *Logistic Assessment Guidebook* provides criteria for evaluating the product support strategy throughout the weapon's life. For those programs that are post–full rate production, the acquisition continuum has no equivalent formal milestone review. However, the PSAT identified this as a shortfall and developed procedures modeled after the post-deployment Navy six-gate review processes. This includes post-IOC triggers (changes in product support strategy, KPP not being met, resource changes, etc.) to initiate a formal review. This post-IOC review really introduces a new type

Addressing product support requirements up front and concurrent with the design, testing and manufacturing phases allows a greater influence on O&S costs and reduction opportunities.

of milestone review. Governance procedures for this review are scheduled to be fully developed in 2012.

O&S costs have been a major emphasis area in 2011. The initial focus is on understanding and standardizing common O&S element nomenclature and definitions, which resulted in the *O&S Cost Glossary*. This is the foundation for an upcoming *O&S Cost Management Guidebook*, to be released in 2012, along with an *O&S Cost Analysis Guide* being developed by the cost analysis program evaluation (CAPE).

IPT-3 addressed the human capital, skills, and tools needed to create and sustain a new product support mentality:

- Establish required product support competencies
- Revise and create new training courses
- Integrate product support considerations into other competency classes

The human capital IPT is critical to the product support transformation because it isn't possible without the right people in the right places. This includes training specific to product support areas, and integrating product support into other competency areas such as program management, systems engineering, and test and evaluation. A lot of advances have resulted from collaborative efforts of the DAU Logistics Center. All PSAT-related human capital efforts have been developed and deployed in an integrated fashion with the product support business model and governance efforts. Efforts have focused on continuous learning module development on a wide variety of product support related topics, rapid deployment training that has emphasized life cycle management and PSM responsibilities, and cross functional training, including life cycle product support and supportability courseware.

In carrying out PSAT tasks, the IPTs and sub-IPTs met individually as required. Each quarter, IPT meetings were conducted to provide development status, integrate related efforts and identify issues. Additionally, IPT progress was reported periodically to the PSEC via quarterly newsletters.

The PSAT spent 2010 developing several product support products and processes. In 2011 the team began fielding and evaluating these products and processes for Service and industry use. Currently, the remaining tasks are being initiated, and ongoing feedback on implementation will be used to adjust direction and inform updates as required. Change and transition will take time, but since many of the ideas and solutions were developed by team representatives, there is less resistance to change and better organizational acceptance across DoD and industry. The success of PSAT will be judged on how the Services, agencies and industry adopt solutions to make a lasting change, manifested as efficiencies gained and achievement of the next generation product support vision.

The DAU Acquisition Community Connection (https://acc.dau.mil/product support) provides a centralized repository for information about product support policy, PSAT generated guidebooks, associated manuals, tools, and training material for further reference.

What's Next

Under the Office of the Deputy Assistant Secretary of Defense-Logistics and Materiel Readiness leadership, DoD has been making changes and enhancing the business of product support. This is in alignment with ongoing changes internal to the acquisition community. In a relatively short time, the PSAT's Service, component, industry, and academia representatives have responded to WSARA-PSA report recommendations and begun implementing the next generation product support strategy in the business model, governance, and human capital areas.

DoD weapon system product support implementation is now at a critical juncture. The first wave of products has been delivered and socialized among the product support community, but this is not the most key measure of success. Rather, these processes must be institutionalized, evaluated and refined over time, to realize the desired outcomes.

More recently, the PSAT's focus has been on designing a capable, enduring approach that lends itself to ongoing continuous improvement. The strategic implementation plan focuses on measurable outcomes and identifies opportunities for the way ahead. It also serves as a framework to measure transition progress from a program centric management approach to a focus on enterprise-wide management. This effort will ensure that DoD reaches its vision to "align and synchronize the operational, acquisition, and sustainment communities to provide affordable warfighter outcomes."

The authors can be contacted at **mark.gajda@osd.mil** *and* **basil.f.gray@us.pwc.com**.