Program Executive Office

SHIPS

We Are Ships
From Cradle to Grave

DoD DMSMS Conference: Lifecycle Management Panel

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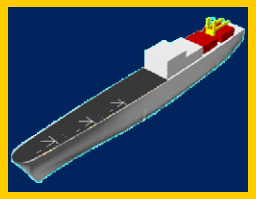
We Are Ships From Cradle To Grave

Concept Refinement	Technology Development	System Development & Demonstration	Production & Deployment	Operations & Support
JHSV	**MPF(F)**	**LCS**	**LPD 17**	**DD 963**
JHSS 		**DDG 1000**	**T-AKE**	**FFG 7**
JMAC		**LHA 6**	**LHD 8**	**CG 47**
			LCAC	**DDG 51**

DASN-L Requirements Background

- **DMSMS Management Process is informed by the following DoD documents:**
  - **DASN(L) Memo, Evaluation Criteria for DMSMS, 20 August 2004**
  - **DASN(L) Memo, DMSMS, 10 May 2004**
  - **DOD 4140.1-R, Supply Chain Material Management, 23 May 2003**
  - **SECNAV Instructions 5000.2C, 19 November 2004; 4105.1A, 5 March 2004**
  - **NAVSO P-3692, 30 December 2003**

DASN-L Requirements Background

- **PEO Ships and PEO IWS AEGIS Programs have been at the forefront of Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management for 15 years**
- **The AEGIS Weapon System has well established DMSMS management processes, techniques and tools with a proactive approach fully implemented & operational within a collaborative supply chain infrastructure**

DASN-L Requirements Summary

- **The AEGIS Program submitted a detailed DMSMS Management Plan and the Deputy Assistant Secretary of the Navy - Logistics responded with a DMSMS Management Plan and Metrics Assessment Results Memo dated 13 January 2006**
  - **The programs assessed to have the best obsolescence plans and metrics collections are:**
    - **V-22 Osprey (PMA-275);**
    - **AV-8B Harrier (PMA 257);**
    - **Aircraft Mission Computer (PMA 209);**
    - **AEGIS Weapon System (PEO-Ships / IWS);**
    - **Ship Self Defense Systems (PEO-IWS);**
    - **SPQ-9B Radar (PEO-IWS);**
    - **SPAWAR Programs (PMW 150)**
  - **The AEGIS DMSMS management process and tools have been recognized and validated as "Best of Breed" and we continue to make improvements to adapt to the needs of the program and DoD policies**

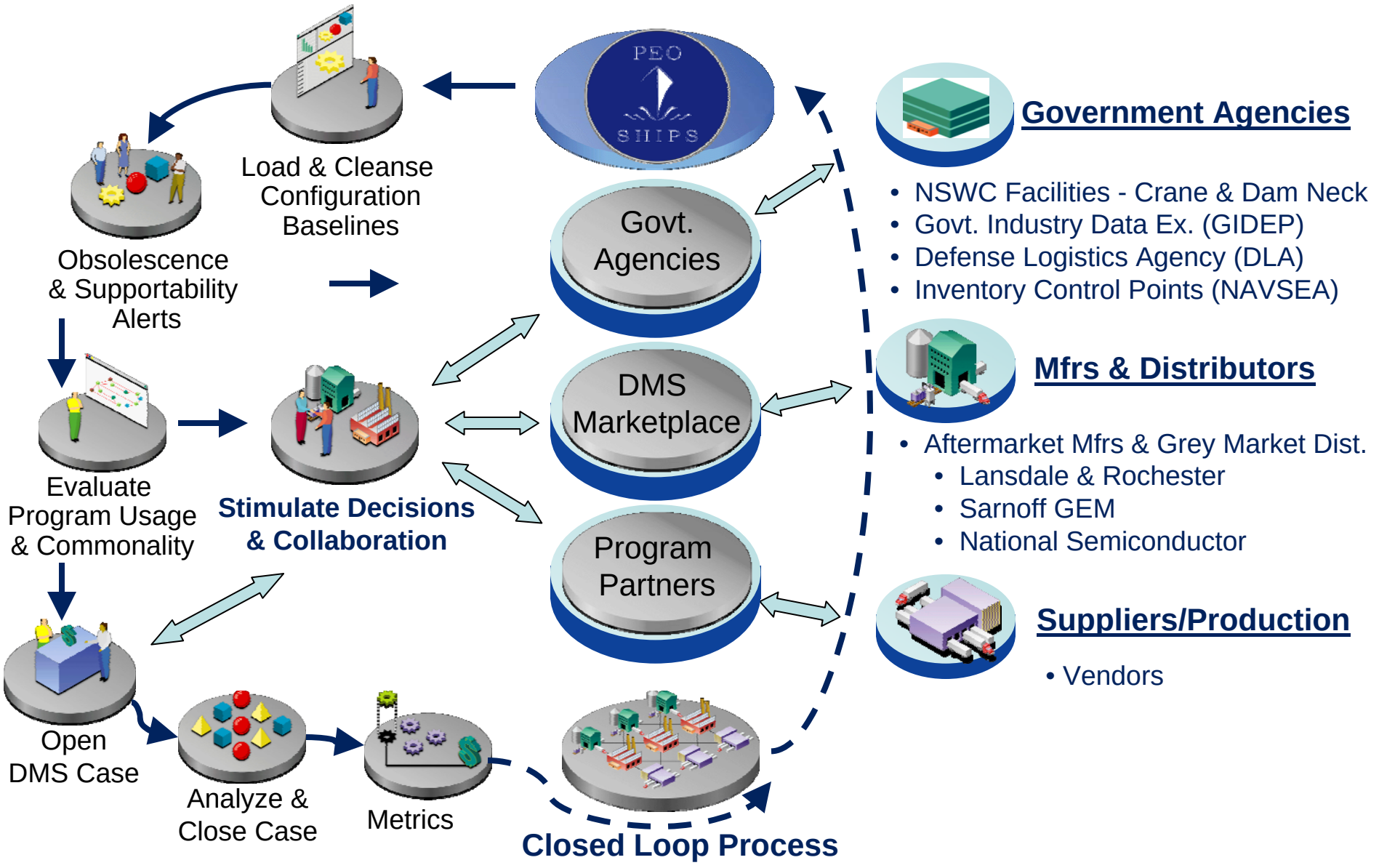
PEO Ships F DMSMS PBL In Service Support Applications

- **DMSMS Applications of PBL for PEO Ships F applies to the AEGIS Weapon System**
  - **Current and ensuing Supply Support contracts with NAVICP include basic DMSMS Management with Lockheed Martin which includes:**
    - **Limited two year Bridge Buy or Life of Type procurement**

Non PBL DMSMS Systems Support Applications

- **PEO Ships F AEGIS Weapon System Lifetime Support Contract N00024-00-C-5139 DMSMS Management, CLIN 04**
  - **Tasking covers all aspects of DMSMS Management which includes:**
    - **Market Technology Monitoring**
    - **Lowest Replaceable Unit and Piece Part level identification and monitoring**
    - **DMSMS Case Initiation and Management**
    - **Technical Refresh Schedule development and implementation**
    - **Engineering Analysis for Case Resolution Options**
    - **Bridge Buy and Life of Type Procurements**

Closed Loop Decision Process



Major DMSMS Process Steps

- **Step 1 - Alert Identification**
  - Utilize all existing tools and methods to proactively identify DMS alerts and distribute notifications. This starts the process and provides guidance & direction.
- **Step 2 - Program Verification**
  - Verify program usage across all systems and determine criticality impacts. System Commonality will play a big factor in the decision path & options
- **Step 3 - Decision Analysis**
  - Evaluate all available solution options and leverage subject matter experts to make an appropriate decision on DMS issues
- **Step 4 - Case Management**
  - Open and manage cases with appropriate delegation in a closed looped process that facilities and optimizes the resolution and cost avoidance
- **Step 5 - Metrics**
  - Centralized assignment and monitoring for all cases with measurement criteria and cost avoidance metrics for value-added and return on investment assessments

Platform Level DMSMS Plan

- **DASN L Requirement for Ship / Platform Level DMSMS Plan and Management:**
  - **PEO Ships is modifying its current in-service DMSMS Plans that will comply with the following format**
    - **Introduction will contain a summary of the various platforms that PEO Ships F manages and their functions**
    - **A matrix is currently under development that will contain all of the Ships Systems and if they have a developed and approved and current System DMSMS Plan**

Direct DMSMS management is done at the system level by each respective program manager

System Design Practices to Mitigate DMSMS in New Acquisition Programs

- **DMSMS management needs to be part of the early system design efforts to mitigate production and life cycle issues**
- **Embed DMSMS / OM into Systems Engineering process to support obsolescence forecasting**
  - **Design for Technology Insertion**
  - **Design using Open Systems Architecture**
  - **Design for reliability**
- **Factor Obsolescence Management (OM) into equipment selection / procurement process**
  - **Select equipment with multiple suppliers**
  - **Conduct market surveillance to anticipate equipment lifecycle**
  - **Review supplier technology roadmaps that will provide form, fit, function upgrades in the future**
- **Consider standardization within the Fleet where possible**

LCS Ongoing Management of DMSMS

- **The LCS Program Office is working with the two Prime contractors (Lockheed Martin and General Dynamics) to manage obsolescence**
  - **Present focus on production with additional emphasis on moving into the support phase with a focus on lifecycle cost and sustainment**
  - **Each company submitted an Obsolescence Management plan that was based on PMS 501's DMSMS plan and experiences on previous programs**
- **PMS 501 has participated in a DMSMS pilot project with Sarnoff**
  - **Sarnoff reviewed the LCS 1 Master Equipment List**
  - **Identified areas of potential DMSMS risks (technologies and OEMs particularly foreign sources)**
  - **Data is being used in planning with LM for Life Cycle Support**

Identified DMSMS Issues

- Despite the relatively short ship production timeline for LCS obsolete items have been identified impacting equipment selection for follow ships and life cycle support
- LM identified a COTS Network Attached Storage device that was discontinued by the vendor
  - LM is working through the mitigation approaches to determine the best solution for LCS 3 production
- During the review of LCS 1 provisioning data and generation of the Ship's Allowance list Obsolete Laptops were identified
  - Issue raised with LM for follow on production
  - Substitute computers that meet form, fit, and function requirements are being purchased

LCS Interim Support Contract

- **The first LCS deliveries provided limited time to ramp up Navy infrastructure support for new LCS systems**
- **An Interim Support Approach has been developed in which:**
  - **GD and LM would provide Class Services similar to a traditional planning yard including DMSMS management**
  - **GD and LM would provide maintenance, supply, engineering, and training support for selected systems on their respective hull types**
  - **Interim contracts would end three years after delivery of each lead ship at which time long term PBL decisions will be made**

Interim Support and DMSMS Execution on LCS

- **Obsolescence Management Sub CLIN**
  - **Scope Monitor, identify, plan, and execute the resolution of DMSMS and parts obsolescence issues for supported systems**
  - **Contractor is paid for systems readiness including the impact of readiness from obsolete components and parts**
- **Combined with the supply support, maintenance and modernization scope of the contract to provide flexibility in executing support**
  - **Contractor able to propose and execute changes based on DMSMS issues or equipment performance within scope of contract**
  - **Can manage DMSMS issues while conducting maintenance and supply support functions**
    - **Modernization through spares**
    - **COTS refresh to mitigate obsolescence or improve performance**
    - **Execute life of type buys, Navy will not pay for until used, contractor takes on risk**

DDG 1000 DMSMS

- **DDG 1000 contract specifications include DMSMS/obsolescence management requirements**
  - **Vendor purchase orders flow down these requirements**
  - **Prime contractors leverage well established corporate DMSMS processes and toolsets**
  - **Prime contractors review design and screen components for potential obsolescence issues**
- **DASN-L approved DD(X)/DDG 1000 DMSMS Plan 13 Jan 2006**

DDG 1000 Standardization

- **Contract specifications also include standardization requirements**
  - **Standardization requirements are flowed down to vendors from shipyards during purchase request process**
  - **References use of Hull, Mechanical and Electrical Data Research System (HEDRS) to implement/enforce Fleet standardization**
- **DDG 1000 Class Common Equipment List (CCEL) and Common Parts Catalogue (CPC) ensure common end items, components and suppliers among both shipbuilders**
- **Standardization is enforced at the hull, class and Fleet levels**
- **Effective standardization will limit scope of obsolescence issues**

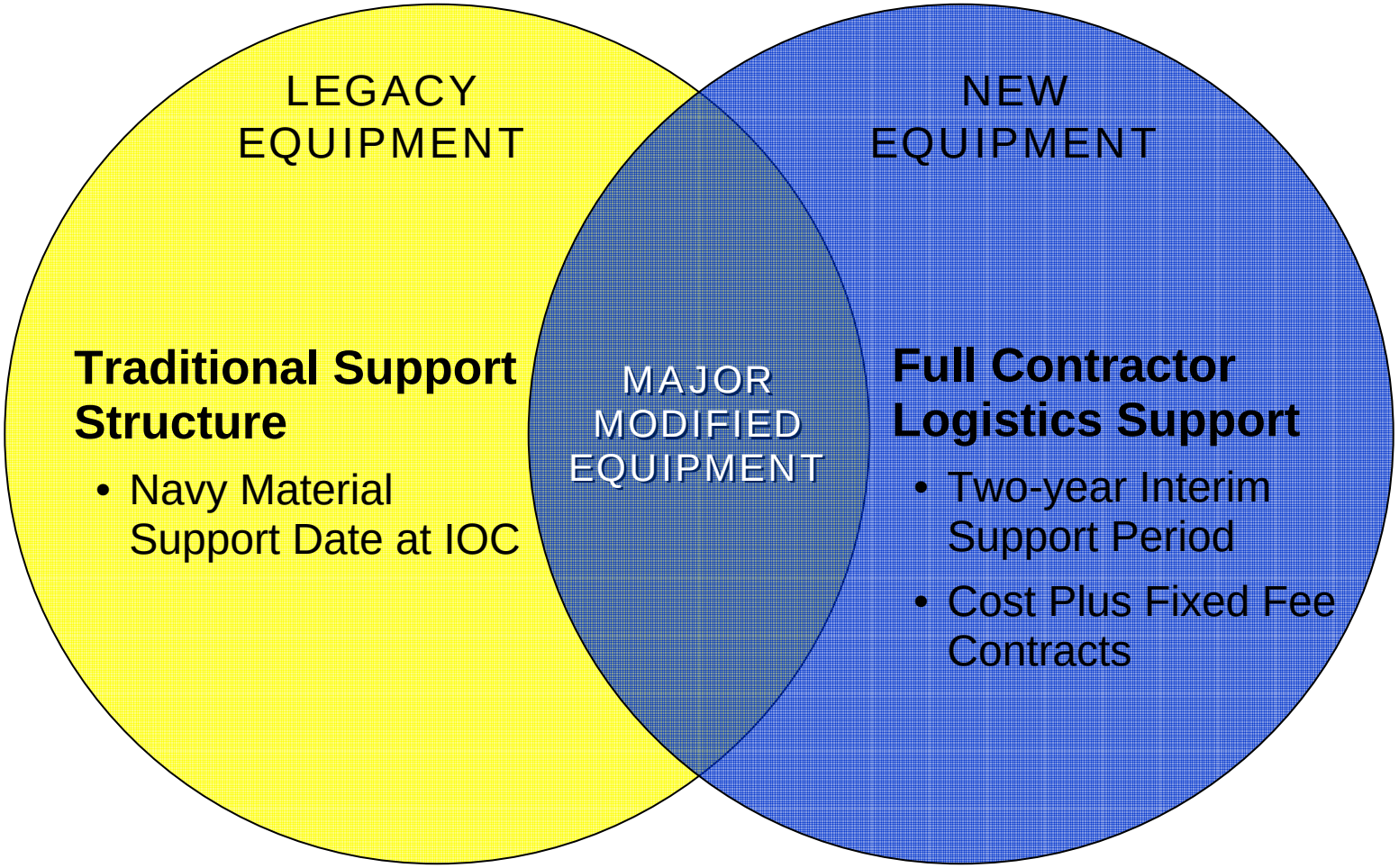
DDG 1000 UID

- DFARS clause 211.274-1 Unique Item Identification invoked on DDG 1000 detail design and construction contracts
- Contract specifications further definitize DDG 1000 UID requirements
- OUSD (AT&L) approved DDG 1000/DD(X) UID Plan 7 Oct 2005
- DDG 1000 Automatic Identification Technologies (AIT) working group overseeing UID implementation across multiple prime contractors
- Effective UID implementation supports DMSMS objectives through enhanced life cycle configuration management and visibility across the program

DDG 1000 PBL

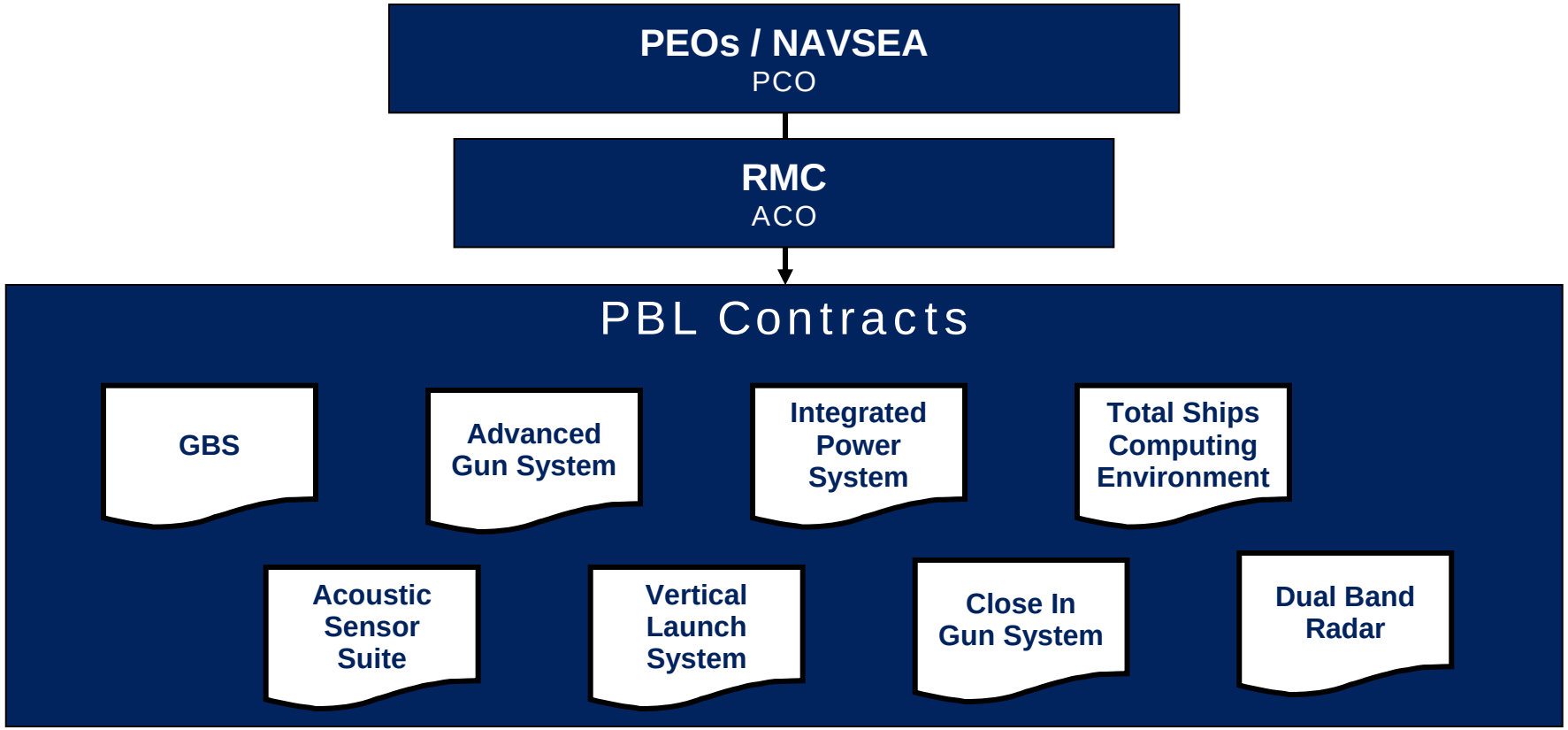
- **DDG 1000 Performance Based Logistics (PBL) approach emphasizes support of class unique equipment at the major system level**
  - **Evolving with Fleet interaction**
  - **Leveraging LCS lessons learned**
- **Obsolescence Management is a DDG 1000 PBL functional element**
  - **Associated metrics and incentives/penalties will be determined when PBL arrangements are definitized**

DDG 1000 Logistics Support Strategy



DDG 1000 PBL Contracting Strategy

- **Full Contractor Logistics Support Contracts**
  - **Two-year Cost Plus Fixed Fee Initial Support Contract**
  - **Cost and performance data collected during initial support period will be used to negotiate Firm Fixed Price PBL support contract**



Summary

- **AEGIS Weapon System has become the standard process for all DMSMS management requirements within PEO Ships F Fleet Support**
- **DMSMS management needs to be part of the early system design efforts to mitigate production and life cycle issues**
  - **Embed DMSMS / OM into Systems Engineering process to support obsolescence forecasting**
  - **Factor Obsolescence Management (OM) into equipment selection / procurement process**
  - **Consider standardization within the Fleet where possible**

Questions?

Back Up

Selected Key Policy Documents

- **DMSMS**
  - **ASN(RDA) Memorandum, DMSMS Management Guidance, 27 Jan 05**
  - **DASN(LOG) Memorandum, DMSMS Program Management Plans and Metrics, 12 Apr 05**
  - **USD(AT&L) Memorandum, DMSMS Guidebook, 25 May 05**
  - **ASN(RDA) Memorandum, DMSMS Guidance for Developing Contractual Requirements, 12 May 06**
- **Standardization**
  - **SD-18, Defense Standardization Program Guide for Part Requirements and Application, Aug 00**
  - **SD-19, Life Cycle Cost Savings Through Parts Management, Jun 01**

Selected Key Policy Documents (cont'd)

- **UID**
  - **ASN(RDA) Memorandum, Policy for Unique Identification of Tangible Items, New Equipment, Major Modifications and Reprocurement of Equipment and Spares, 10 Feb 04**
  - **USD(AT&L) Memorandum, Contract Pricing & Cost Accounting – Compliance with DFARS 252.211-7003 "Item Identification and Valuation", 9 Jul 04**
  - **DoD Guide to Uniquely Identifying Items, 1 Jun 06**
- **PBL**
  - **Product Support for the 21st Century: A Program Manager's Guide to Buying Performance, Nov 01**
  - **USD(AT&L) Memorandum, Performance Based Logistics, 13 Feb 02**
  - **ASN(RDA) Memorandum, Department of the Navy Performance Based Logistics Guidance Document, 27 Jan 03**
  - **Performance Based Logistics: A Program Manager's Product Support Guide, 1 Nov 04**