

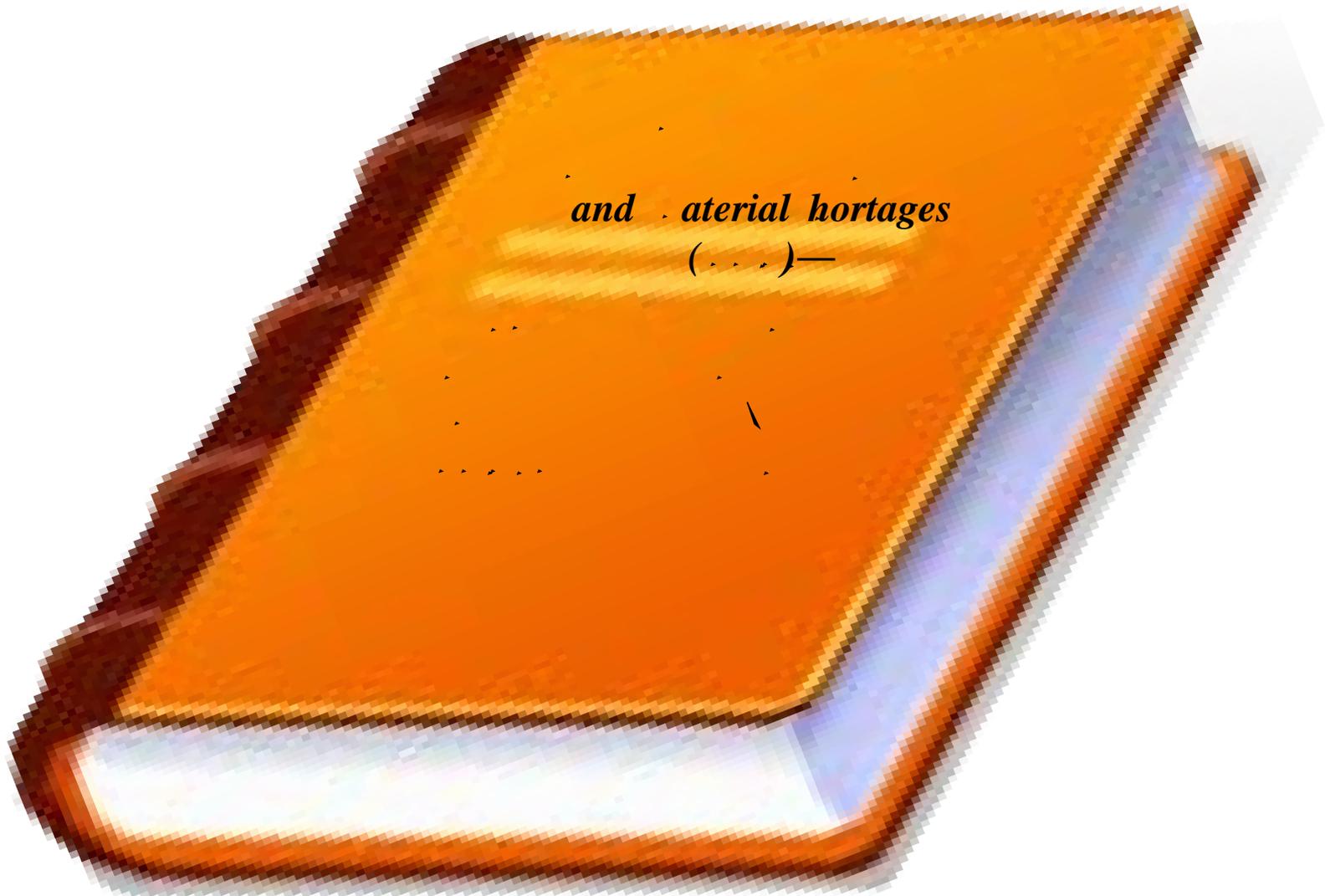
SD-22 Revision Status and Links to Product Support

**Presented to
Product Support Manager's Conference
Wednesday, June 6, 2012**

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ODASD Systems Engineering
Defense Standardization Program Office**



SD-22





Reasons for the Revision



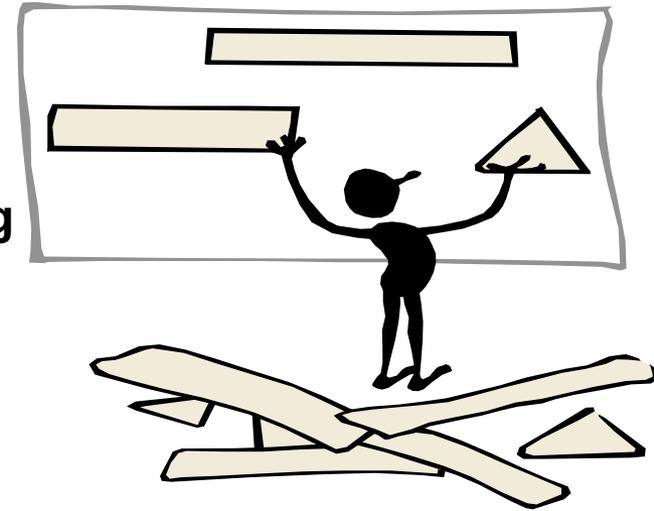
- Improve linkages with the systems engineering community – DMSMS affects the design concept
- Update linkages with the logistics community – new product support manager policy and guidance has been issued
- Introduce new resolution ontology and cost factor approach
- Provide more “how to” information by establishing DMSMS best practices for *all* DMSMS processes
- Increase utility to the program management community
- Establish a basis for more comprehensive DMSMS training for practitioners and for those acquisition career fields that should interface with practitioners



Revision Process



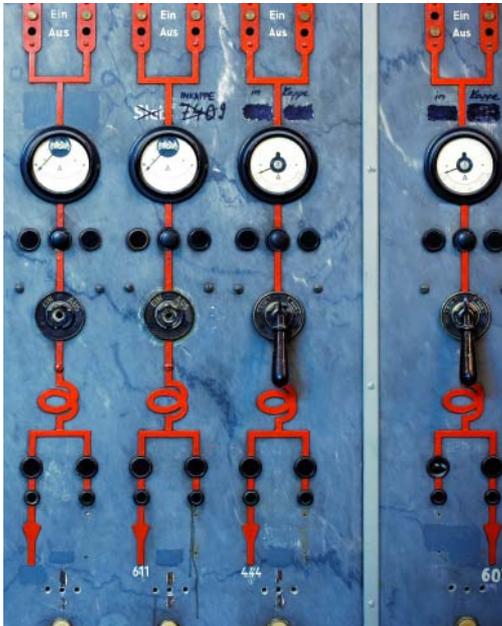
- **Community effort**
 - Initial outline developed by DMSMS WG
 - First draft writing assignments divided among key subject matter experts (SMEs) from the Services, Defense Agencies and DoE
 - Lengthy face to face comment sessions with chapter authors and other SMEs
- **Current status**
 - Draft final version distributed to government- and industry-wide audience for final comment, due April 27
 - Detailed review planned with small industry SMEs group involved in writing TechAmerica STD-0016
 - Final opportunity to comment: May 2012 DMSMS WG meeting
- **New version to be published prior to the August Standardization and DMSMS Conference**





What is DMSMS?

- **DMSMS is the loss, or impending loss, of manufacturers of items or suppliers of items or raw materials**
 - **DoD loses a manufacturer or supplier when that manufacturer or supplier discontinues production of needed components or raw materials, or the supply of raw material is no longer available**
 - **This can be caused by many factors including low volume market demand, new or evolving science or technology, detection limits, toxicity values, and/or regulations related to chemicals and materials**

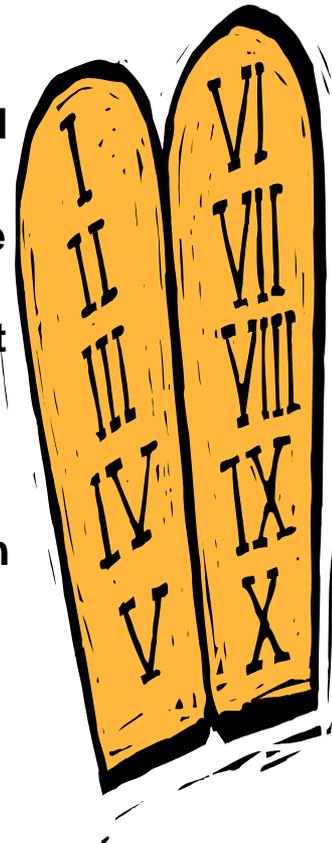




DMSMS Policy



- DoD 4140.1-R, *DoD Supply Chain Materiel Management Regulation*, directs that DoD Components shall:
 - “[P]roactively take timely and effective actions to identify and minimize the DMSMS impact on DOD acquisition and logistics support efforts.”
 - “[D]evelop a process to resolve problems created by DMSMS and reduce or eliminate any negative impacts.”
 - “[P]roactively consider DMSMS through[out] a system's life cycle by anticipating potential DMSMS occurrences and taking appropriate logistics, acquisition, and budgeting steps to prevent DMSMS from adversely affecting readiness or total ownership cost.”
 - “[A]ggressively pursue ... actions,” when an item is identified to have a DMSMS problem “, particularly, when those items threaten to degrade weapon system readiness below established goals.”
 - “[E]stablish DMSMS programs that shall reduce or eliminate the cost and schedule impacts of all identified DMSMS problems and help ensure that DMSMS problems do not prevent weapon system readiness and performance goals from being met.”





Why is Robust DMSMS Management Important?



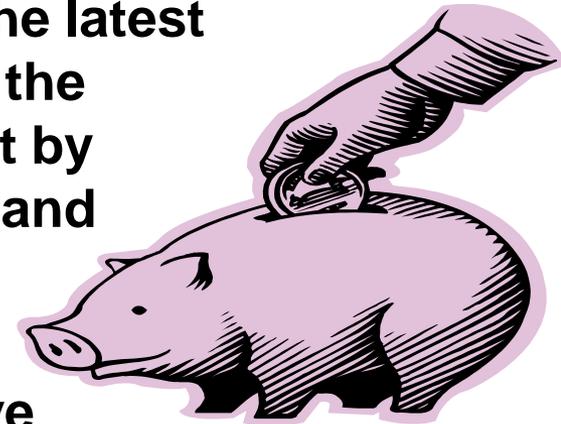
- **Prevent potential detrimental impact on materiel readiness, operational mission capability, and safety of personnel**
- **Enhance affordability by avoiding significant costs in the future •••**



DMSMS Management Contributions to the Better Buying Power Initiatives (1 of 2)



- **Target affordability and control cost growth**
 - Factoring considerations, such as modular open systems and using standardized parts and the latest technologies into design trades, can reduce the impact of DMSMS issues during sustainment by enhancing the interchangeability, reliability, and availability of parts
 - Proactive DMSMS management may enable programs to control cost and thereby achieve “should cost” estimates
- **Incentivize productivity and innovation in industry**
 - DMSMS management cultivates long term supplier relationships
 - Decreases the likelihood of product discontinuation
 - Increases the likelihood of advanced notice of changes

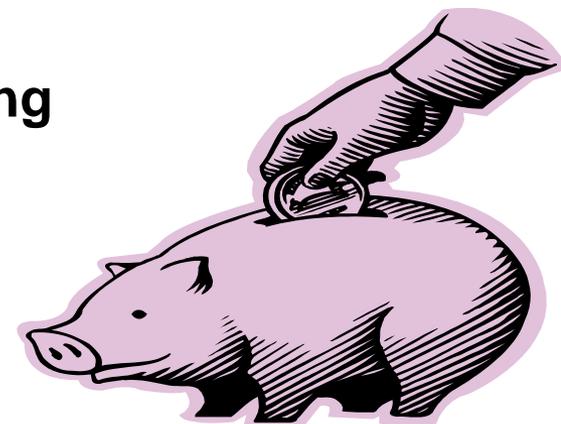




DMSMS Management Contributions to the Better Buying Power Initiatives (2 of 2)



- **Promote real competition**
 - An alternate source may be developed as a mitigation approach
 - Enabled by open systems architecture, having data rights for technical information, and decomposing a system into components
- **Improve tradecraft in services acquisition**
 - Service contracts are often used for weapon system support with a requirement for the contractor to manage DMSMS
 - Contractors should be incentivized to perform robust DMSMS management
 - Effective metrics and notification of issues to the government are key



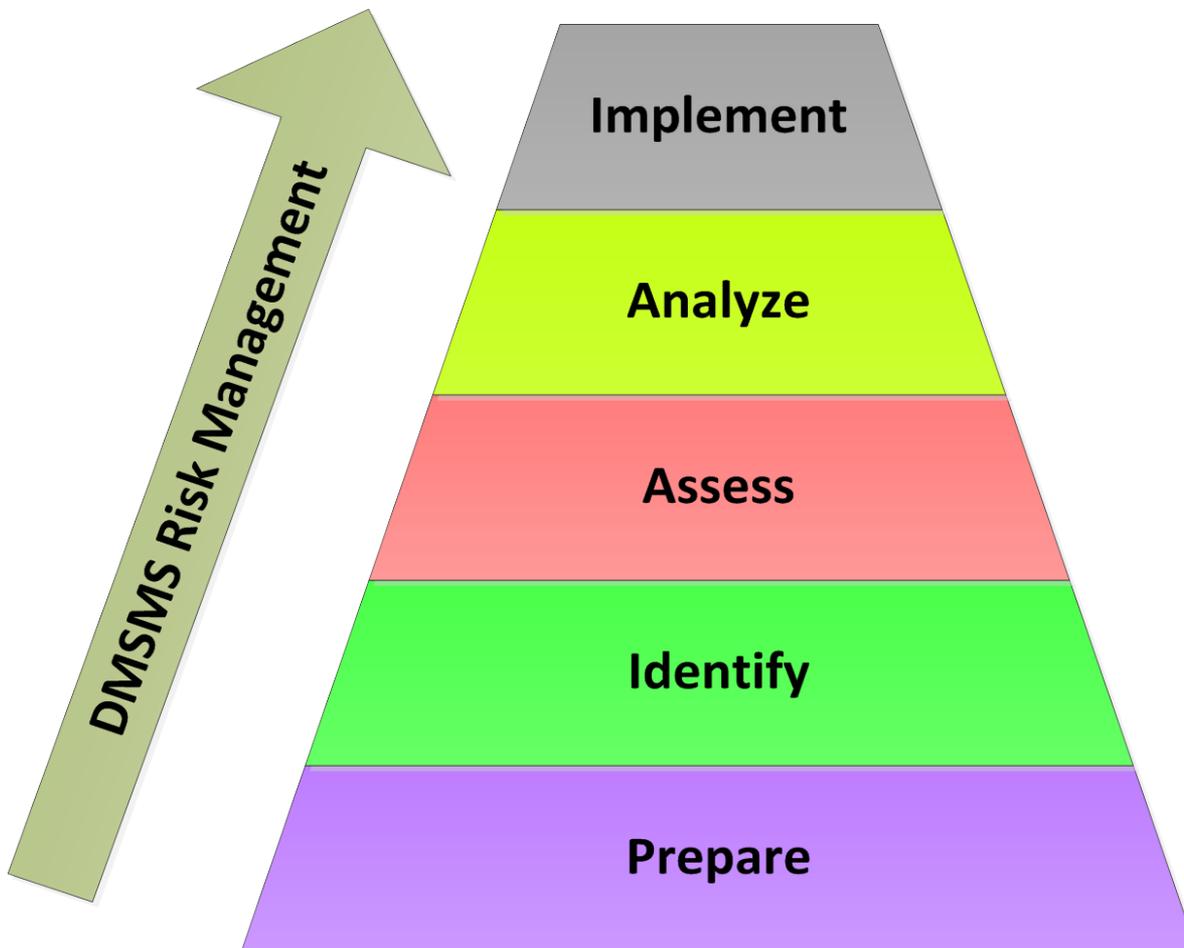


Cost Avoidance Examples

- **B-1 program**
 - OEM informed the government that the offensive radar system was experiencing obsolescence; recommended a system upgrade that would cost \$350 million
 - Obsolescence and supportability issues were easily overcome with an estimated ten year cost avoidance of \$316 million
- **Apache program**
 - Obsolescence working group shares power equally between the government and contractor to resolve issues
 - The benefit has been no part shortages or schedule delays and the identification of funding to mitigate obsolescence
 - The success of this model is represented by over \$200 million in cost avoidance
- **Foreign military sales (FMS)**
 - An obsolete part was needed for test sets used by FMS customers
 - The OEM quoted a cost of \$2.6 million for redesign
 - The FMS DMSMS team found an alternative source resulting in a \$2.3 million cost avoidance

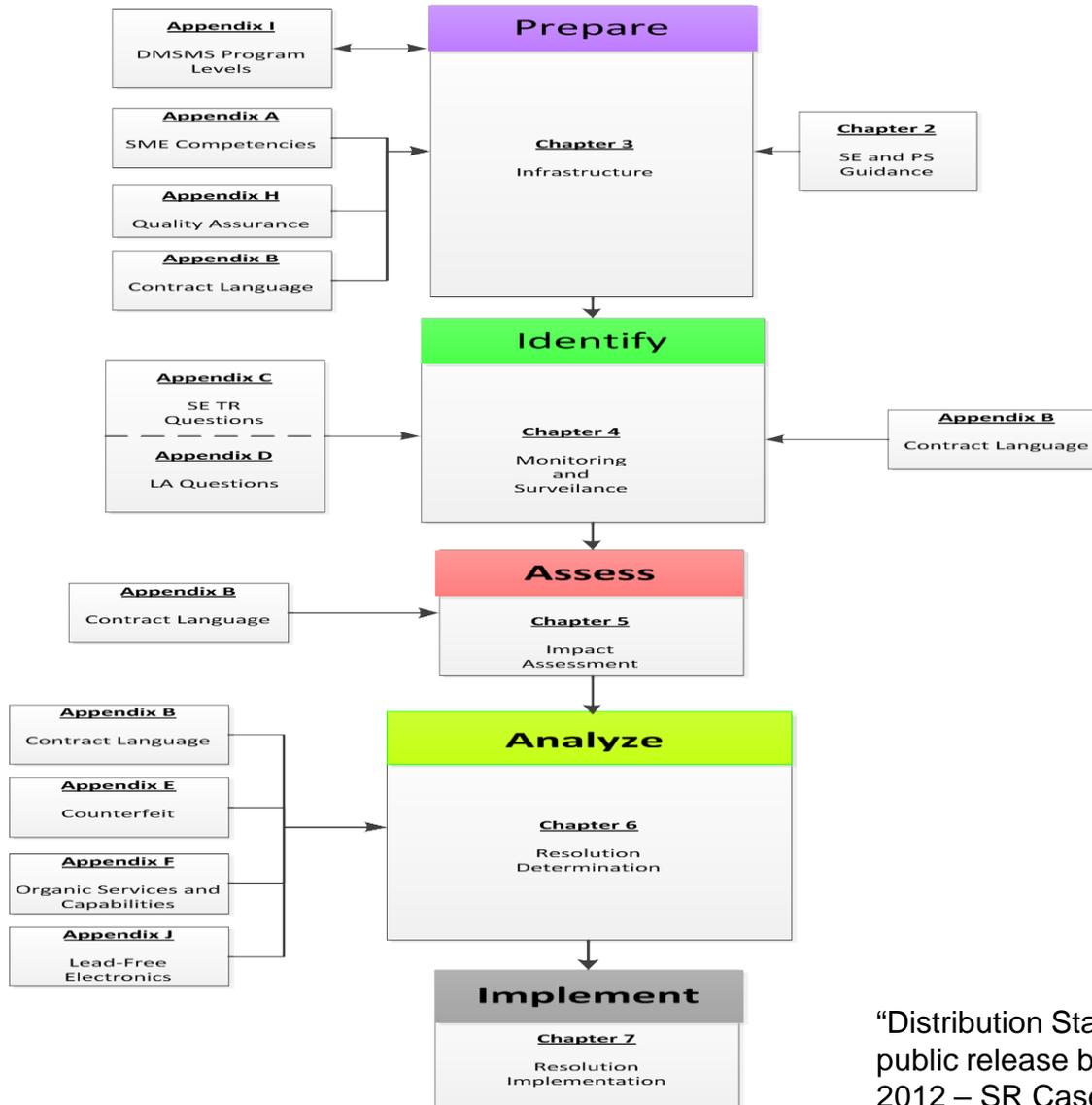


Sequence of DMSMS Risk Management Elements





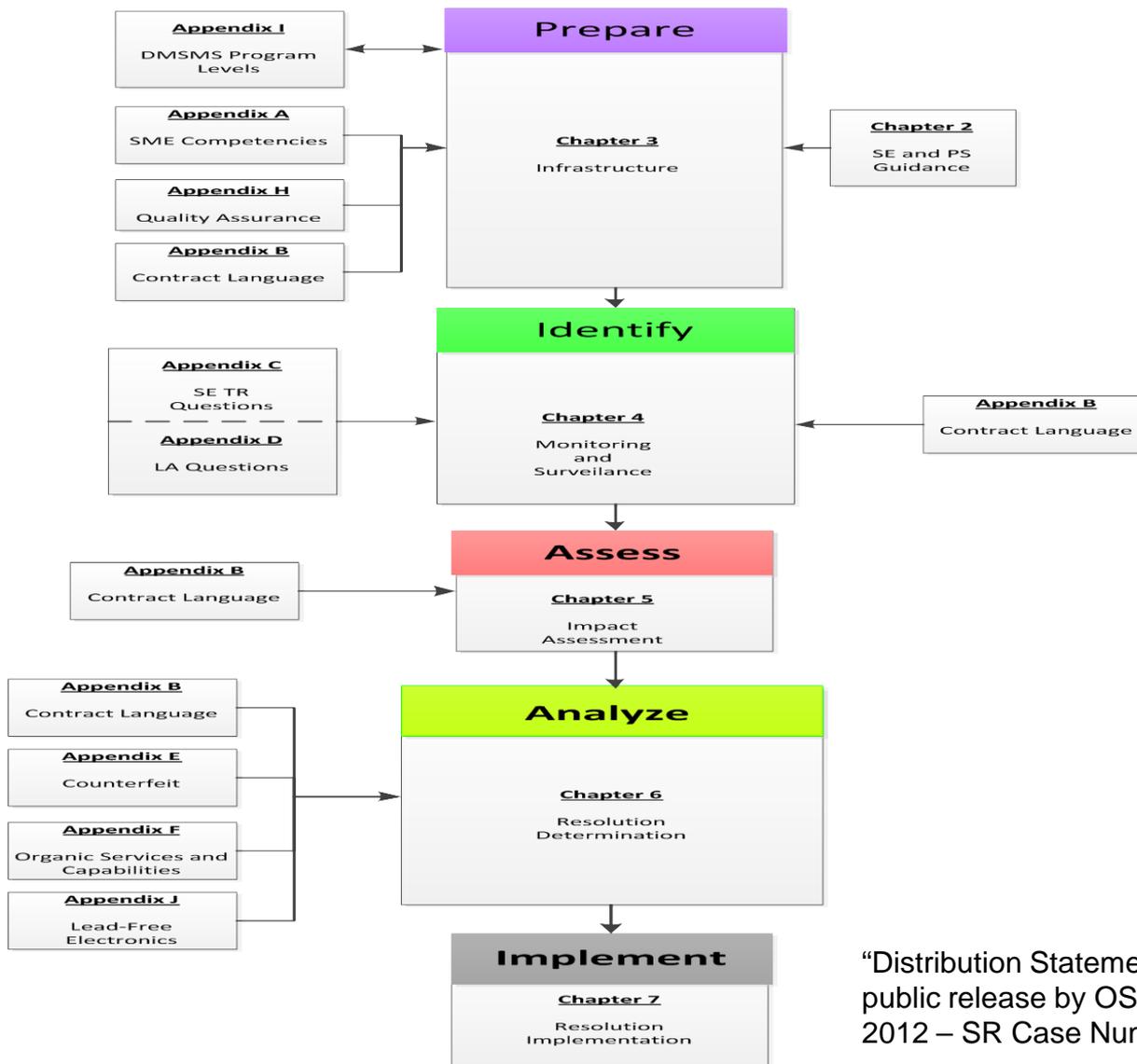
SD-22 Organized by Risk Management Elements (1 of 2)



“Distribution Statement A – Cleared for public release by OSR on 10 MAY 2012 – SR Case Number 12-S-1819”



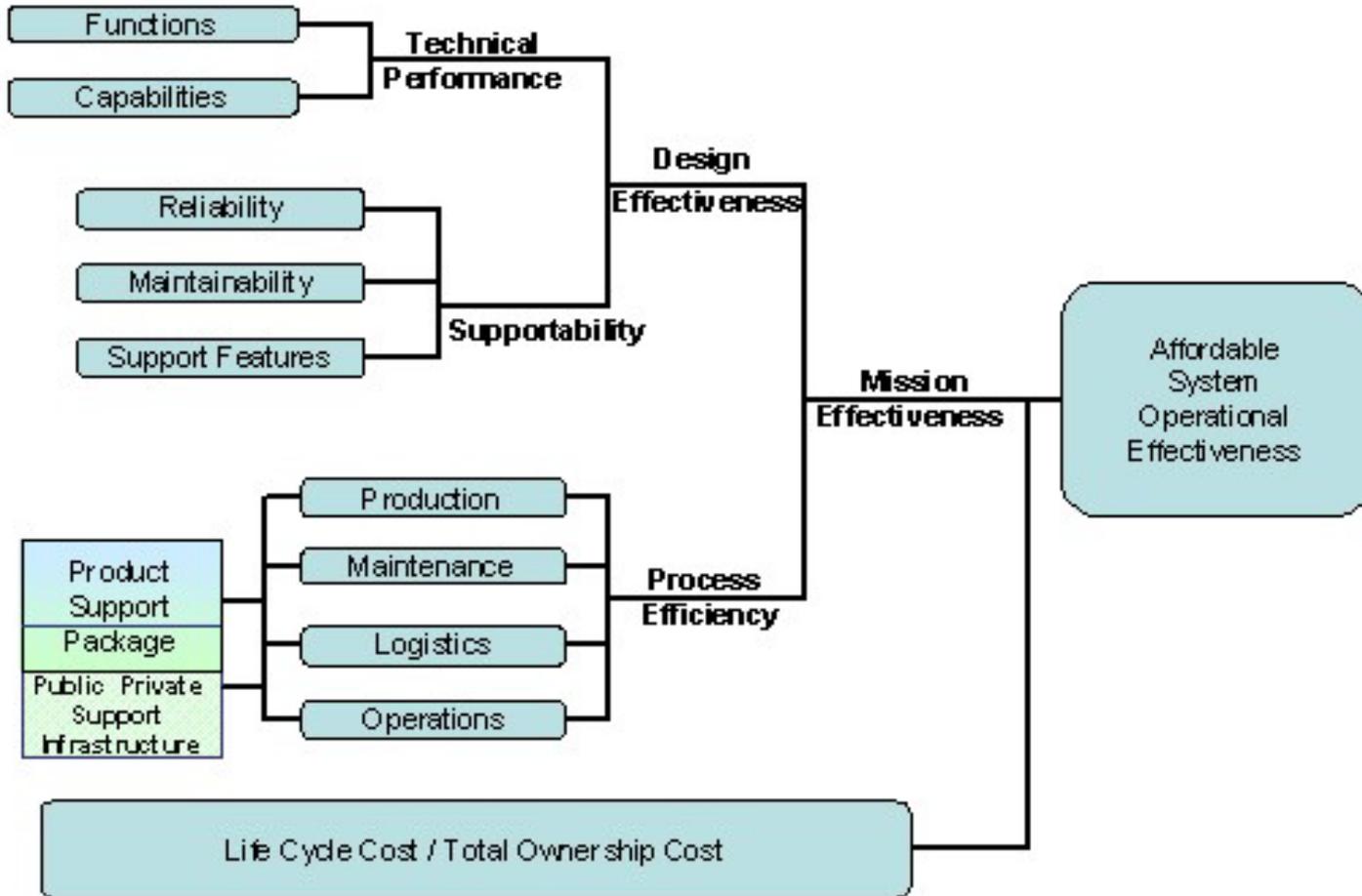
SD-22 Organized by Risk Management Elements (2 of 2)



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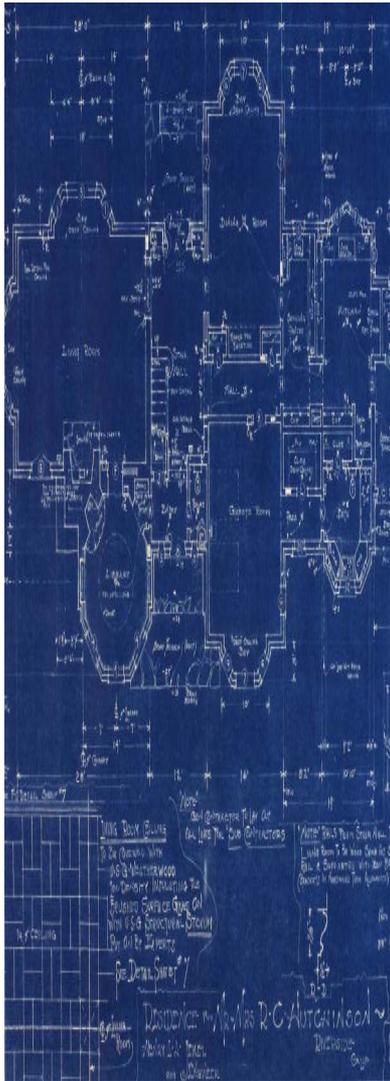
Affordable System Operational Effectiveness Diagram



Source: Defense Acquisition Guidebook



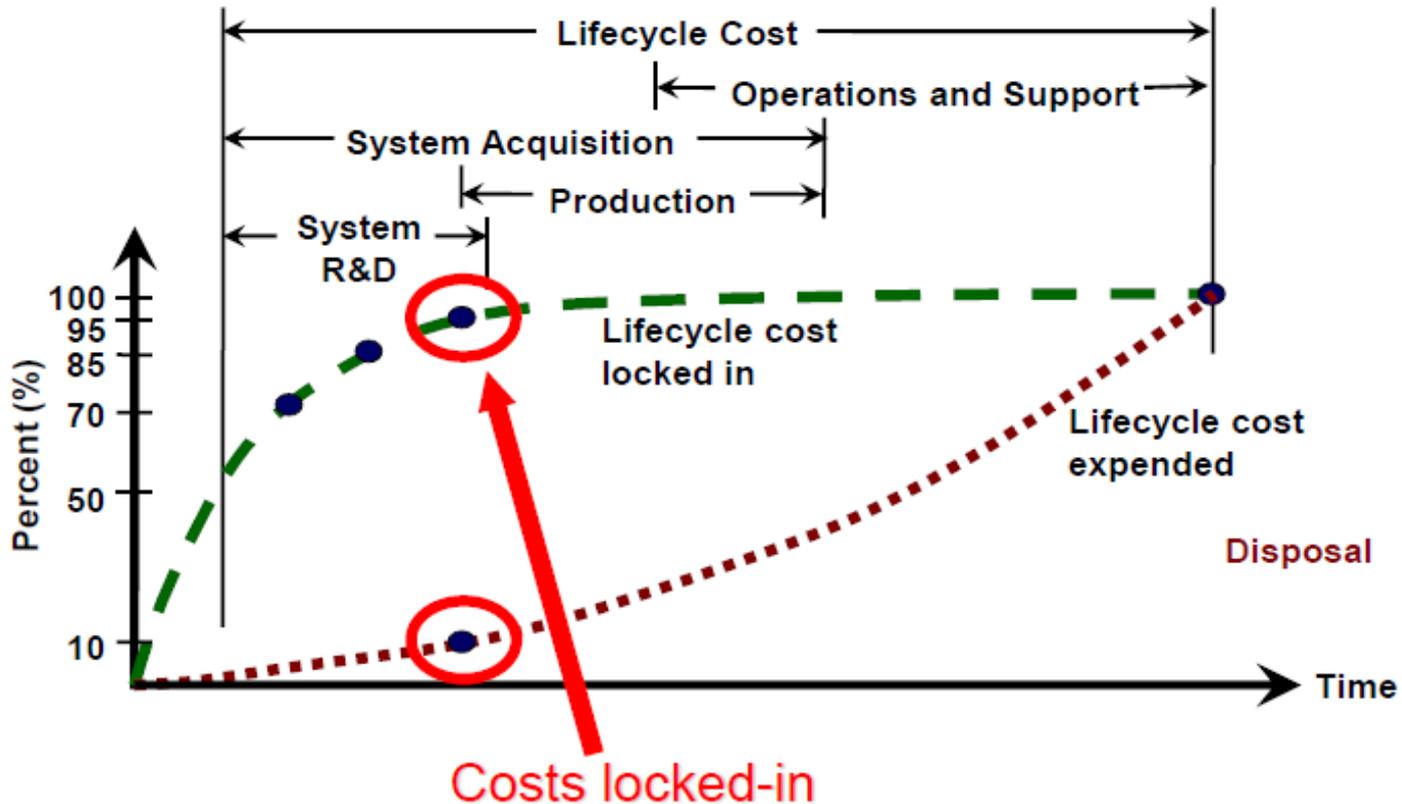
Design Effectiveness and DMSMS (1 of 3)



- **DMSMS as a systems engineering design consideration**
 - **Guiding principles**
 - **DMSMS concerns should be balanced with other design requirements**
 - **DMSMS management activities during O&S should be considered in upfront design activities**
 - **DMSMS should be included in technical reviews and engineering plans**
 - **Design concepts that minimize DMSMS risk throughout the life cycle**
 - **Technology and component selection**
 - **Parts management**
 - **Open systems**
 - **COTS – a double edged sword**



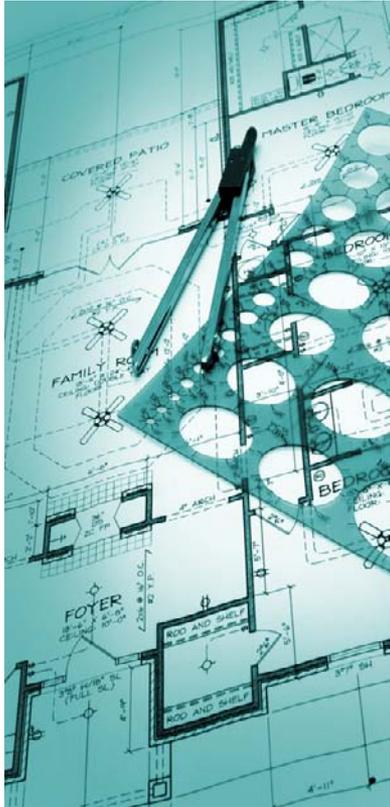
Design Effectiveness and DMSMS (2 of 3)



From W. J. Larson & L. K. Pranke (1999) Human Spaceflight: Mission Analysis and Design



Design Effectiveness and DMSMS (3 of 3)



- **DMSMS in systems engineering technical reviews**
 - **ASR**: DMSMS planning has been initiated and is focused on the most likely preferred systems concepts
 - **SRR**: The program has begun to develop its DMSMS strategy and plan, which begins to identify the roles and responsibilities of the government, prime/sub-contractor and third party vendors
 - **SFR**: Draft DMSMS management plan has been developed and partial DMSMS Management Team formed; development of DMSMS processes and metrics underway
 - **PDR and beyond**: Monitoring and surveillance for DMSMS issues, using predictive tools and market surveys, are being conducted for notional or preliminary parts list/bill of material (BOM) and later the actual BOMs; impact assessment, resolution determination, and implementation ongoing as needed



Process Efficiency and DMSMS

DMSMS Considerations in the Product Support Strategy



- **Baseline the System**
 - Technology refreshment is an important contributor to the design for support and DMSMS is recognized as one of several drivers of technology refreshment
- **Business Case Analysis (BCA)**
 - Obsolescence management is part of the BCA scope; the Product Support Business Case Analysis Guidebook recommends using DMSMS analytical tools
- **Product Support Value Analysis**
 - Guidance is provided to proactively take DMSMS into account as part of best value analysis to optimize life-cycle cost





Process Efficiency and DMSMS

DMSMS Considerations in the Product Support Elements

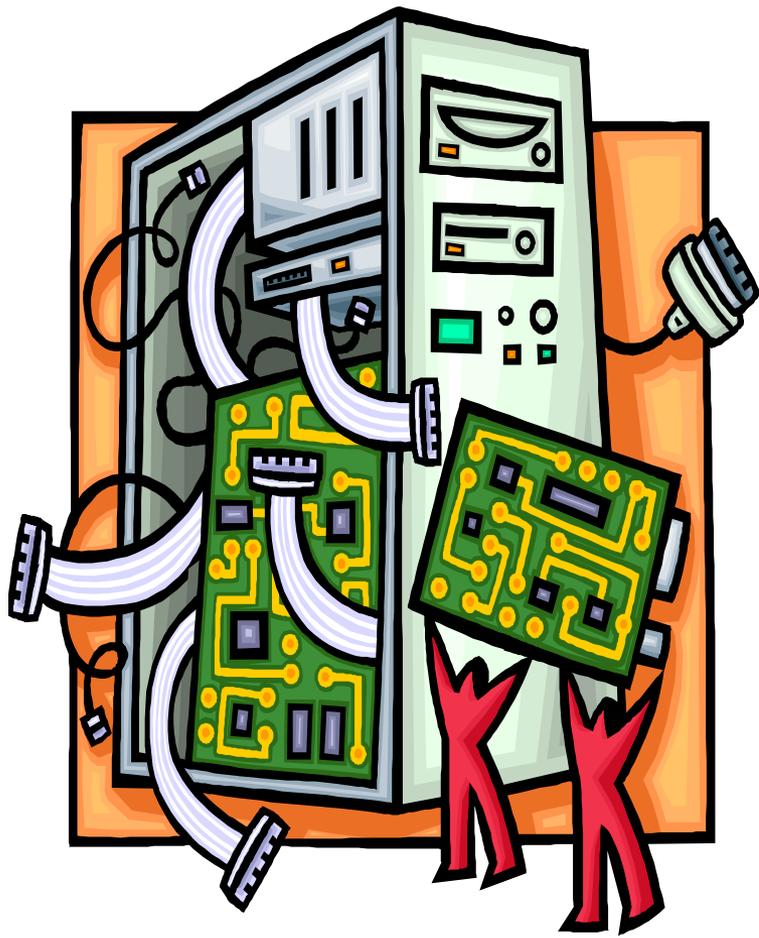
- **Product Support Management**
 - The product support strategy evolves as the system ages in part because DMSMS issues impact the Product Support Manager's ability to provide support, including the cost of that support
- **Design Interface**
 - DMSMS, technology refreshment, and modifications and upgrades are called out as long term considerations affecting design
- **Sustaining Engineering**
 - Guidance recognizes that DMSMS problems are one root cause of in-service problems and that continuous modernization should anticipate DMSMS issues; cautions are raised with the use of COTS





Process Efficiency and DMSMS

Considerations in the Product Support Elements



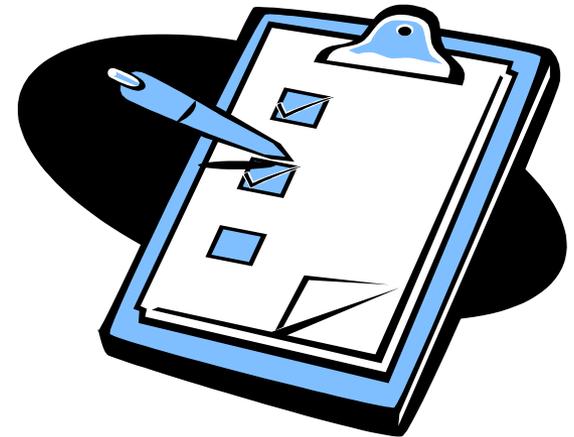
- **Supply Support**
 - DMSMS may cause adjustments to sustainment supply chains
- **Technical Data**
 - DMSMS management is one driver of the need for detailed technical data
- **Support Equipment**
 - DMSMS management is a consideration in the sustainment of support equipment



Process Efficiency and DMSMS



- **DMSMS considerations in Logistics Assessments**
 - **Monitoring and surveillance for DMSMS issues, using predictive tools and market surveys, is being conducted to identify immediate and near-term obsolescence issues associated with the system BOM**
 - **Impact assessment (using actual reliability data and inventory dispositions when available), resolution determination, and resolution implementation taking place**
 - **Technology roadmaps and refresh strategies being factored into DMSMS processes and reviewed for potential updates and adjustments**
 - **Case management and the capture of metrics taking place**





What You Should Do



- **Contact the centralized DMSMS office that supports your program**
- **Obtain an assessment of the adequacy of your current DMSMS efforts**
- **Close the gap before it's too late**



Questions

