2011 DOD Maintenance Symposium
Breakout Session:

“It’s All about the Money!”

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Office of the Secretary of Defense
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Outline

• Current and future fiscal environment
• Enduring workload and reset
• Need for aligning declining resources to requirements
• Measuring effects of a potential shortfall
• Requirement Metrics
  – PB12 Metrics
• Future efforts
Bottom Line Up Front (BLUF)

- Virtual certainty funding will be less for the near future
- Depot maintenance (DMx) is essential to sustaining the readiness of DoD’s weapon systems
- Effective DMx metrics are crucial to communicating the Department’s needs
- Collaborative efforts have produced initial successes in metrics development
What’s Different This Year?
Austere Fiscal Environment

• April 2011—POTUS proposes $400B Defense budget reduction over 12 years
  – Comprehensive Review
• August 2011—POM guidance
  “...in light of the Budget Control Act of 2011...”
• November 23, 2011 – Deficit Reduction plan due
  – Automatic “trigger” could result in more significant DoD reductions
• February 6, 2012 – President’s budget release

Bottom line: We are in a new budget environment and will need to make hard, strategic choices!
DOD Depot Maintenance

Requirement must be synchronized with reduction in force.

Future funding will be less.

Must re-establish baseline depot maintenance program.
Unstable Base Program

- The PB11 Resource Management Decision (RMD) 700 directed Services to fund with a goal of 80% of baseline program enduring workload requirements. But the execution data shows the reality.

<table>
<thead>
<tr>
<th>%Requirement Funded</th>
<th>FY04-07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY010</th>
<th>FY11</th>
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<tr>
<td>USA</td>
<td>35%</td>
<td>45%</td>
<td>41%</td>
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<tr>
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<td>100%</td>
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<tr>
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<td>86%</td>
<td>85%</td>
<td>94%</td>
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<td>90%</td>
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</table>

- The PB12 RMD re-phased the OCO-to-Base transfer. Consequently Army transferred $1B from baseline to OCO in FY 12 for “non-war” workloads.

- The Army has significantly under-executed their Depot Maintenance (DMx) program in FY 2010 ($1B+) and FY 2011 ($2B+).

- Services reduce base program by billions and undermine their ability to sustain material readiness.

- Iraq/Afghanistan drawdown will increase DMx workload.
  - Reset of returned theater provided equipment (TPE)
  - Increase of peacetime training
Increasing Workloads

• The Services rely on Overseas Contingency Operations (OCO) funds to resource DMx workloads.
  – During FY 2003-13, OCO funding makes up > 60% of Army and ~68% of USMC.
  – Services rely on OCO funding to achieve some portion of the following capabilities:

<table>
<thead>
<tr>
<th>Service</th>
<th>OCO funded enduring capabilities (PB2012)</th>
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<tbody>
<tr>
<td>USA</td>
<td>• BCT equipment sets and CAB; % of enduring requirement % of theater-specific APS</td>
</tr>
<tr>
<td>USMC</td>
<td>• MEB equipment set or % of enduring requirement % of theater specific equipment</td>
</tr>
<tr>
<td>USAF</td>
<td>• Strike and SOP: Funds contingency munitions and F-15 sustainment % of Mobility requirements; % of ISR requirements; % of Cyber/Space/Nuclear requirements</td>
</tr>
<tr>
<td>USN</td>
<td>• % of Life Cycle maintenance for amphibious and surface ships supporting CSGs, ARGs, and IDUs; ships will not reach expected service life % of CSG 30-and 90-day surge required to support OPLAN timelines % of unit-level aircraft needed for peacetime training</td>
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DMx Readiness to Requirements Project

• Objective
  – Provide decision makers through the Planning Programming and Execution System (PPBES) process with a tool to quick and effectively evaluate the resources required for a desired level of requirement
  – Quantify and associate risk levels with force structure

• Project sponsors
  – OSD (CAPE)
  – OUSD (AT&L)/ASD(L&MR)/ADUSD(MPP)
  – OSD (C)
Business Case

- Services *must have appropriate level of funding support* to effectively meet the warfighters’ needs. Depots will benefit from a common method of reporting depot projected requirements to DoD.

- DoD leadership needs *clarity* of information to quickly and effectively evaluate capability/risk regarding depot maintenance investment for to effectively meet the warfighters’ needs.
Approach

- Collaborate with the military Services to identify appropriate metrics for linking readiness to resources
  - Tailor the method to each Service and type of system, metrics expected to vary by Service and weapon system type
  - Develop and apply a “common graphical display” as a method to present data, conduct analysis, and develop resource allocation recommendations
- Use existing PPBES data whenever possible – require additional data submissions, if necessary
  - Analyze Selected Native and Programming (SNaP) data
Challenges

• **Metrics**
  – What is the appropriate metric to use?
  – Are these standard across the Services?
  – How are the metrics determined?
  – How meaningful are the metrics?

• **Requirements**
  – Describe the requirement generation process.
  – Identify out-year factors (e.g., force reduction / OCO availability) to better calibrate future requirements.
  – Understand relationship between capability of units to requirements and funding.

• **Risk**
  – How do we determine the appropriate amount of risk?
  – Which areas can absorb more risk?
  – When do we take risk (near years vs. out-years)?
  – What will be the OCO availability?

• **Data Collection**
  – Improve transparency of data.
  – Increase use of Selected Native and Programming (SNaP) data in analysis.
Programming Activities Over Multi-Year Time Scale

Myriads of Depot Maintenance Data

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<td>62</td>
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FYDP Horizon
Common Graphical Display

DMx Requirements = f (Readiness, Force Structure, Weapon System Operational Standard, ...)

<<< Increased Risk --- Increased Capability >>>
Tailoring Aviation Metrics Using a Common Graphical Display

Capability Requirements <=> $$$

Common Graphical Display

Aircraft Availability (AA)
Mission Capability (MC)
Ready for Tasking (RFT)

USAF AEF
USA CAB
USN/USMC CVW

AA: Aircraft Availability
AEF: Air Expeditionary Force
GR: Global Reach; GP: Global Power
GV: Global Vigilance
MC: Mission Capability
CAB: Combat Aviation Brigade
RFT: Ready for Tasking
CVW: Carrier Air Wing

Services assess the health of individual weapon systems in that mission area against their respective operation standard, i.e. aircraft availability (AA), ready for tasking (RFT), or mission capability (MC).
PB 2012 DON Airframe DMx Peacetime Requirement Metrics and Funding Profile

PB12 DON Airframe DMx Requirement Metrics
Source: OP-30 Table 2

PB12 DON Airframe DMx Requirements and Funding
Source: OP-30 Table 1

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PB 2012 Army Active Aviation DMx Peacetime Requirement Metrics and Funding Profile

Army Active Aviation DMx Req't Metrics

Army Active Aviation DMx Funding

Source: PB 2011 & PB 2012
PB 2012 AF B-52 Aircraft DMx Requirement Metrics and Funding Profile

PB12 AF Aircraft DMx Requirement Metrics
Source: SNaP OP-30 Table 2

PB12 AF Aircraft DMx Requirements and Funding
Source: SNaP OP-30 Table 1 & 2

* OCO fundings are only included in FY 2010-12.
PB 2012 AF F-16 Aircraft DMx
Requirement Metrics and Funding Profile

PB12 AF Aircraft DMx
Requirement Metrics
Source: SNaP OP-30 Table 2

PB12 AF Aircraft DMx
Requirement Metrics, Requirements and Funding
Source: SNaP OP-30 Table 1 & 2

* OCO fundings are only included in FY 2010-12.
DMx Metrics in POM 2013 and Beyond

• **Ground Systems**
  – Army: Ground systems for all Compos
  – Marine Corps: metrics correlated to MEBs

• **Aviation Systems**
  – Army: Aviation systems for all Compos
  – Air Force: Consolidate tens of MDS metrics to 5
    • Strike, Cyber/Nuclear/Space, ISR, Mobility, SOF

• **Software Maintenance**
  – SNaP data Received based on revised definition (PBR 12 Log Efficiency Services’ WIPT)
  – Software DMx metrics in POM 2014

• **Other maintenance activities, e.g.** Electronics and Communications
Summary

- Constrained DMx funding will continue well into the future.
- **Metrics** will become more and more essential to the defense of sufficient funding levels as resources decline depot maintenance.
- The DMx metrics development process is challenging, but the collaboration of the Military Services is helping to ensure success.
Backup
Major Changes in POM 2013

- **WPC Code U: Software Maintenance**
  - PBR 12 Log Efficiency Services’ WIPT
  - Financial Management Regulation (FMR), Vol 6, Chapter 14 revision

- **Selected Native and Programming Data (SNaP)**
  - **PB-45.** All Appropriations.
    - Collect data for all source of funds, including O&M, RDTE and Procurement.
    - FMR Volume 2b Chap 19 revision
  - **OP-30.** O&M Appropriation.
    - FMR Volume 2a Chap 3.
  - Table 2. *Ground* DMx Capability/Metrics
Definition of Software Maintenance (SW DMx)

Code U - Software Maintenance, DOD Financial Management Regulation, Volume 6a, Chapter 14

Used to report software maintenance that includes all activities following initial hardware operating capability (IOC) and/or fielding/tasking of the weapon system. Software maintenance must be reported regardless of location or funding source with exception as listed in 10 USC 2460. Activities include all events to maintain operational capability, correct faults, improve performance, and adapt the software to environmental changes or new requirements. These activities include:

1. Change events made to operational software resident in military materiel (including weapon systems and their components and space control systems and their components) as well as the associated software technical data, automated test equipment (ATE), including interface test adapters (ITA) and test program sets (TPS), and laboratory support (simulation or stimulation software, data acquisition or reduction software); and

2. Software infrastructure maintenance which includes the purchasing of license agreements, maintaining standards that ensure the operational software is certified and accredited to operate safely, conducting information assurance vulnerability assessments (IAVAs), etc.

Consistent with industry standard, ISO/IEC 14764 IEEE 14764-2006, change events include:

1. Fixes:
   - Corrective maintenance which successfully repairs faults discovered in the software.
   - Preventive maintenance which detects and corrects latent faults in the software.

2. Upgrades:
   - Adaptive maintenance which incorporates enhancements made necessary by modifications in the software or hardware (operational) environment of the program.
   - Perfective maintenance which incorporates enhancements demanded by the users.

Unless otherwise specified, software maintenance and software sustainment are considered synonymous.
# Software Maintenance Categories

<table>
<thead>
<tr>
<th>Essentiality</th>
<th>Software Maintenance Categories</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Mandate</td>
<td>Non-negotiable requirement mandated in law or policy by an outside Department-level authority (Congress, OMB, DoD, FAA, OSHA, State); Selected combatant command support; OSD Policy; Joint Vision.</td>
</tr>
<tr>
<td>B</td>
<td>Mission Critical</td>
<td>Requirements include safety issues to correct faults, and modifications/upgrades which mitigate or eliminate assessed risk to life, health, property, equipment and environment; Service specific Senior Leader Directed priorities and programs.</td>
</tr>
<tr>
<td>C</td>
<td>Mission Essential</td>
<td>Requirements that directly support readiness and provide the capability to meet operational and training objectives; mission capability to perform its intended use (mission critical software fixes for interoperability and/or obsolescence); modernization (recap/upgrade).</td>
</tr>
<tr>
<td>D</td>
<td>Mission Enhancing</td>
<td>Requirements that retain or increase the reliability, maintainability and/or supportability of a system or component; software deficiencies; help desk; field software engineers; service specific special interest; select service specific priorities.</td>
</tr>
</tbody>
</table>
The Congress has a special forum. In February 2011 the House formed the Military Depot and Industrial Facilities Caucus to watch spending on depot maintenance and repairs. This bipartisan group of House Members will be dedicated to policy issues that affect military industrial facilities, including aviation depots, shipyards, arsenals, ammunition plants, and energetic material production facilities. If Services only report resource data of O&M appropriation, other related activities funded by appropriations, e.g. RDTE and Procurement will lose protection from the Caucus. For further info, pls use the following link: http://jones.house.gov/Legislation/HouseMilitaryDepotandIndustrialFacilitiesCaucus.htm

IAW U.S.C. 10, Section 2460, Depot-Level Maintenance and repair

"...regardless of the source of funds for the maintenance or repair or the location... includes

(1) all aspects of software maintenance classified by the Department of Defense as of July 1, 1995, as depot-level maintenance and repair, and
(2) interim contractor support or contractor logistics support (or any similar contractor support), to the extent that such support is for the performance of services described in the preceding sentence."

Exceptions.—

(1) The term does not include the procurement of major modifications or upgrades of weapon systems that are designed to improve program performance ..."