NDIA EHM COMMITTEE
Enterprise Health Management Technology Transition Task

27 Oct 2010
Presented by Chris Reisig
Boeing
Integrated Diagnostics
NDIA EHM Committee Co-Chair
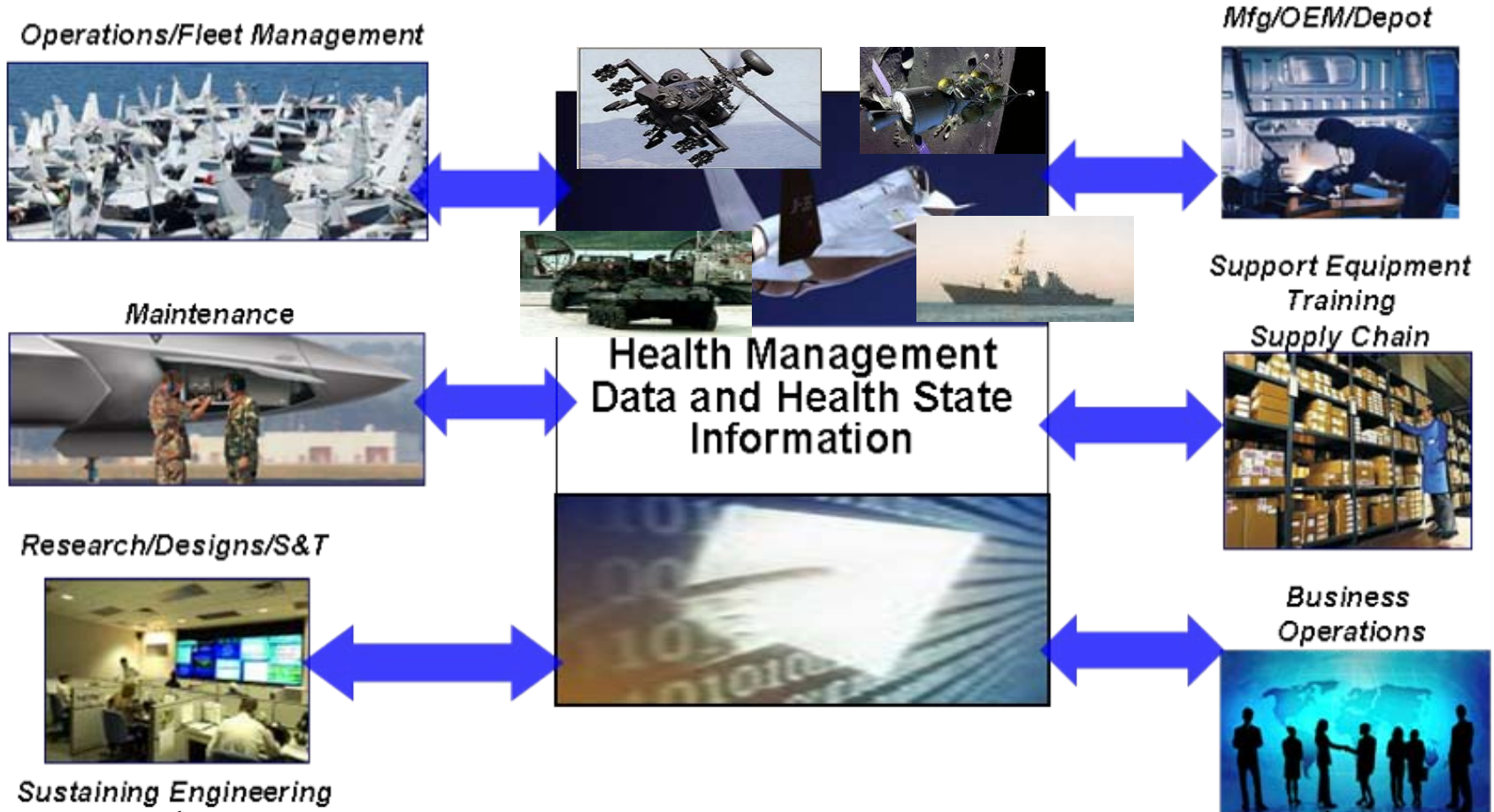
Enterprise Health Management – What is it

"The capability to make intelligent, informed, appropriate decisions across the Enterprise about design, logistics, maintenance and operational actions based on Health Management Data or Information, available resources, acquisition strategy, and operational demand."

Next Generation Enterprise Health Management Decision Support Solution Targeting Unprecedented Value, Affordability and Continuous Improvement

Key Attributes Include….
EHM as a Design Element; Proactive Advisory Generation Based on Health State; Autonomic; Planned Maturation; Near Real Time Updates; No False Alarms

EHM – Who's Affected

Operations/Fleet Management

Maintenance

Research/Designs/S&T

Sustaining Engineering

Health Management Data and Health State Information

Mfg/OEM/Depot

Support Equipment
Training
Supply Chain

Business
Operations

Product life cycle must be considered for applicable transition

**Transformation Expected Across All Elements
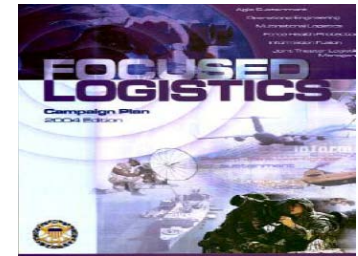Strong Commonality Across Platforms**

EHM – Who Promotes It

Shared Vision, Purpose & Barriers

Prognostics and Health Management

The capability to make intelligent, informed, appropriate decisions across the Enterprise about design, logistics, maintenance and operational actions based on HM information, available resources, acquisition strategy, and operational demand.
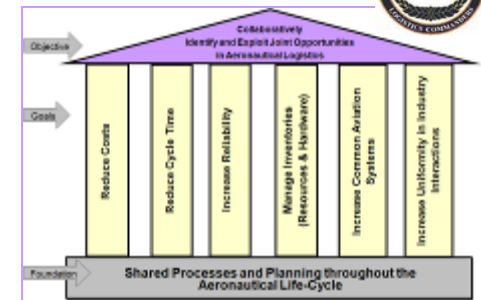
AFSO21
Air Force Smart Ops For The 21st Century

EXPEDITIONARY LOGISTICS LOG 21 21st CENTURY

FOCUSED LOGISTICS
Campaign Plan 2004 Edition

The proactive approach to managing fleet health

SLIM Mission Statement

Integrate WSIP, CBM+, RCM/MSG-3, RAM, MFOQA, EAVI, and AIP efforts. Standardize engineering processes/tools associated with improving system performance monitoring and assessment leading to proactive weapon system management and product improvement throughout the system lifecycle.

BUSINESS TRANSFORMATION
U.S. ARMY — CHANGING THE WAY WE DO BUSINESS

A Renewed Spirit of Discovery

CBM+ is the application and *integration of appropriate processes, technologies and knowledge-based capabilities* to improve the *reliability and maintenance effectiveness of DoD systems and components*. At its core CBM+ is maintenance performed on evidence of need provided by Reliability-Centered Maintenance (RCM) analysis *and other enabling processes and technologies.*

Enterprise Health Management is the Common Denominator

The Bridge
Required for Efficiency and Effectiveness

Prognostics and Health Management
The capability to make intelligent, informed, appropriate decisions across the Enterprise about design, logistics, maintenance and operational actions based on HM information, available resources, acquisition strategy, and operational demand.

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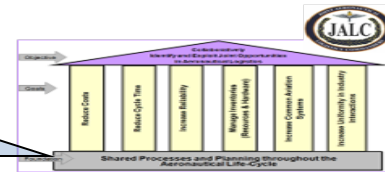
Focused EHM Framework, Guiding Principles & Collaborative Alliance

Needs, Barriers, Expertise, Funding, Schedule, Data, Roadmaps

STAKEHOLDERS/SPONSORS

Policy & Requirements	Technology Offices	OEM/Integrators
Programs and Platforms	Research Labs	Suppliers
Warfighters	Academia	Small Business

The Fundamental Challenge

"Despite significant investment in technology-the uptake of CBM+ enabling technologies and emerging concepts like Enterprise Health Management (EHM) into operational forces is languishing due to significant gaps and barriers preventing effective technology transition."

ADUSD MP&P tasked NDIA to study the problem:

- ➢ **Review a framework for EHM developed by the JSF PHM Lead**
- ➢ **Assess and recommend a set of applicable guiding principles**
- ➢ **Use the proposed framework to identify common system level gaps and barriers to achieving CBM+**
- ➢ **Determine the need and desire for an overarching alliance of industry, government, academia, and professional societies to accelerate uptake of CBM+ capabilities into the Services' platforms.**

Task Activities

Near-term Actions	FY2008	FY2009	FY2010	FY2011
Task Initiated	◆			
Refine Concept in Committee	▲————————▲			
Conduct Workshop		◆		
Refine Results and Prepare Report		▲————————————▲		
Results Briefed to Sponsors			◆	

Strategic Focus Areas

Study identified nine Strategic Focus Areas vital to transition:

Strategic Focus Area	State Change Needed
EHM Systems Engineering Process and Framework	An EHM framework with SE process to derive holistic CBM+ solutions and drive transition.
Architecture	A reference model with tools to develop effective architectures.
Standards	Use of existing standards, and creation of new standards for EHM.
Alignment/Collaboration	Alignment/collaboration across industry, government and academia
Policy	Revise existing CBM+ DoD policy to add link to EHM framework.
Business Case/Communication	Cost modeling tools that link requirements, solution, CONOPS, KPPs, and LCC management objectives of the particular program.
Organization/ Leadership	An "overarching leadership structure" that effectively integrates the various elements of EHM.
Education	Training and educational resources for CBM+.
Test Environments and Guidelines	Test environment and guidelines to demonstrate validity and maturity of a given CBM+ approach.

Strategic Focus Areas Leadership

Strategic Focus Area (SFA)	Issue Description	Recommended Leader
1. EHM Systems Engineering Process and Framework	An EHM framework with SE process to derive holistic CBM+ solutions and drive transition.	Jim Dill(Chair), Phil Dussault(Deputy-chair)
2. Architecture	A reference model with tools to develop effective architectures.	Michael Mullins (Chair), Mark Hollins(Deputy-chair)
3. Standards	Use of existing standards, and creation of new standards for EHM.	Phil Dussault(Chair), Michael Mullins(Deputy-chair)
4. Alignment/Collaboration	Alignment/collaboration across industry, government and academia	Sonia Vohnout(Chair), Ron Newman(Deputy-chair)
5. Policy	Revise existing CBM+ DoD policy to add link to EHM framework.	Ron Newman(Chair), Dave Cutter(Deputy-chair)
6. Business Case/ Communication	Cost modeling tools that link requirements, solution, CONOPS, KPPs, and LCC management objectives of the particular program.	Paul Howard(Chair), Jim Dill(Deputy-chair)
7. Organization/ Leadership	An "overarching leadership structure" that effectively integrates the various elements of EHM.	Steve Desantis (Chair), Andy Hess(Deputy-chair)
8. Education	Training and educational resources for CBM+.	Ed Crow(Chair), William Decker (Deputy-chair)
9. Test Environments and Guidelines	Test environment and guidelines to demonstrate validity and maturity of a given CBM+ approach.	Mark Hollins (Chair), Kirby Keller (Deputy-chair)

Recommended Actions (Forward Strategy)

- ✓ **Form EHM WIPT** under existing CBM+ Action Group (AG) to assess and align ongoing CBM+ initiatives, formalize EHM process and address Strategic Focus Areas identified

- ✓ **Form an alliance** among government, industry, and academia to collaborate and promote the transition of CBM+/EHM capabilities, and the adoption of the common EHM framework.

- **Create an Enterprise Demonstration (Pilot) Program--**integrating CBM+ components from the major ongoing programs, government labs, industry and academia, initiate an effort to demonstrate the effective benefits, implementation, and transition of a CBM+ enterprise solution based on the proposed EHM framework approach.

- **Plan/do/check/adjust**– to provide a measure of progress against the strategic focus areas and overall task progress

Action Plan

Near-term Actions	FY2010				FY2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Release Final Report	◆							
Brief Key Stakeholders	▲ 12/17	▲						
Form DOD EHM WIPT		◆						
Form EHM Alliance		◆						
Activate/Enhance EHM Alliance Web Site www.hmframework.org		▲ ▲						
Formulate EHM Demonstration (Pilot) Program Approach			△ △					
WIPT Meetings & Conference Road Show		PDCA ▬▬▬						
Provide Responses to CBM+ AG tasking					▬▬▬			

The NDIA EHM Advisory Alliance – NEAA
Key Attributes

- ## NEAA Organization Format
  - Reports to the NDIA EHM Committee Chairs
  - Supports the OSD EHM WIPT
  - Tasks From the WIPT Approved by the EHM Chairs and the SED
  - Eleven Core Member Positions – one Chair with one DoD co-chair + three Classes of three Members Each. Class members recruited by chair
    - Initial class nominated 2010, term ends 2013
    - Second class nominated 2010 term ends 2014
    - Third class nominated 2010 term ends 2015
    - Staggered "nominations and commitment" 3 each year
    - Chairman serves for one year with no term limits
  - Class Tenure – three years.
  - NDIA Rules Govern All Tasking

- ## Tasking Implementation Process
  - Upon Approval of a WIPT Tasking, the task is assigned to an NEAA Task Leader (PM)
  - NEAA task leader forms a Task Group with Expertise Applicable to the Specific Tasking
    - Members Drawn From Academia, Industry, Government on an Ad Hoc Basis
  - Task Plan / Schedule / Deliverables Defined and Approved by NDIA EHM Chairs
  - Task Group Interacts With WIPT as Needed during Task Performance
  - Task Products Approved by EHM Chairs, SED, and Forwarded to WIPT

Questions?