DoD Analysis Update:
Support to T&E in a Net-Centric World

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DoD Analysis Initiatives

- OSD ATL – Developmental Planning
- Army USA/VCSA – Strategic Assessment
- ASA(ALT) – SoS Systems Engineering
- AMC – AMC Analysis Center

Multiple Initiatives at Multiple Levels
Putting the Pieces Together

**OSD ATL:** Early Development Planning

- CBA
- ICD
- MDL Material Solution Analysis
- Technology Development
- B Engineering and Manufacturing Development
- Production and Deployment
- O&S

**Army USA/VCSA:** Strategic Assessment

- OSD ATL: Early Development Planning
  - Iterative, rapid anticipatory interface between operational and technical community.
  - Mature, valid concepts and technical models to enter and bolster the AoA.
  - Engineering analysis that is broad based, considering strategic and operational direction, SoS and legacy integration.
- AMC: Analysis for the Materiel Enterprise
  - Focus on Lifecycle Analysis Support
  - Key Ongoing Initiatives Provide an Opportunity to Better Sync Analysis, Enterprise Assessment and SoS System Engineering to Improve Acq & T&E

**ASA(ALT):** SoS Sys Engineering Organization

- Performs Integration Function Across Brigade Formations
- AAE MILDEP
- SoSDE
- Integrate across the entire Army and across the POM years.
- Relevant, Integrated and Affordable Capabilities

**ARMFORGEN:**

- Objective: Efficient Delivery of Outputs
- Improve ARFORGEN
- Adopt an Enterprise Approach
- Reform Requirements & Resource Processes

**AMC:** Analysis for the Materiel Enterprise

- Analysis Capabilities Required
  - Strategic Decision Support & Business Ops Analysis
  - Logistics Engineering Analysis
  - Material Performance and Effectiveness Analysis
- "Cradle to Grave" Material Lifecycle Enterprise
- Which Enables AMC & the Materiel Enterprise to:
  - Achieve Affordability
  - Enhance Performance/Effectiveness
  - Provide Timely, Informed Warfighter Support
- Working within VCSA Assessment Support Capability Framework

**Objective:** Effective Delivery of Outputs
Where Does Development Planning Fit?

Needs and Opportunities
- IPL
- Urgent Need
- New Threat
- New Technology
- New Strategic Direction

Viable Solutions
Translating User Needs and Opportunities Into Viable Solutions

Delivery Options
- Rapid Fielding
- Technology Refresh
- O&S Upgrade
- Experimentation
- JCTDs

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OSD Lead:
Systems Engr. Directorate
Office of DDR&E

Analysis, Tightly Coupled with SoS System Engineering during Development Planning

Strongly Supports
Improved Acq and T&E of Programs w/ Realistic Reqmts and Lower-Risk Solutions

Plus, the Tools, Knowledge & Data Developed Early On --- Support T&E
**Problem Statement:** The problems with the Army’s current assessment process are: (1) time constraints, (2) lack of cross-functional perspective and (3) lack of visibility into past, present or planned analysis.

How does the Army ensure that senior-level decision makers and forums have all relevant information and analysis?
ASAALT's SoS Systems Engineering Org.

Perform Integration Function Across Brigade Formations

AAE MILDEP

PEO A PEO B PEO Integration PEO C PEO D

Formerly PM FCS
- GCV - Increments - Network

INTEGRATION Formation Based Task Forces

New Organization (SoSSEO)

All Materiel Solutions

All Network Solutions

Integrate across the entire Army and across the POM years.

Relevant, Integrated and Affordable Capabilities

Materiel Enterprise (ME) Analysis to Improve the Army Acquisition Process

- Identify capability gaps
- Identify potential efficiencies
- Identify redundancies

SoSSEO Can Be a Focal Point for Integrating Analysis Support to the ME
An AMC Step To Army Enterprise Analysis

Analysis Capabilities Req'd

- Strategic Decision Support & Business Ops Analysis
- Logistics Engineering Analysis
- Materiel Performance and Effectiveness Analysis

“Cradle-to-Grave”

“Materiel Lifecycle Enterprise”

- DEVELOP
- ACQUIRE
- EQUIP
- SUPPLY
- MANTAIN
- SUSTAIN
- DISPOSE
- DISTRIBUTION
- TEST & EVAL

A Transformed AMC Analytic Capability To Provide:

- Materiel Lifecycle Analysis
- Integrated Log, Mat, Cost
- Enterprise Focus

Which Enables AMC & the Materiel Enterprise to:

- Achieve Affordability
- Enhance Perf/Effectiveness
- Provide Timely, Informed Warfighter Support

Working within VCSA Assessment Support Capability Framework

Examples:

- PEO-CS&CSS Fleet Mgt Study
- Responsible Retrograde Task Force (R2TF)
- Army Materiel Mgt Strategy Study (AMMSS)

Examples:

- Ground Combat Vehicle (GCV) AoA

ME - Materiel Enterprise

Integrated Lifecycle Data, Info & Analysis to Improve Enterprise Decision-Making
Both Organizations Collaborate to Inform Senior Army Enterprise Decision Making
--- to Facilitate Delivery of Relevant, Integrated & Affordable Materiel Solutions
Some Parting Thoughts

- Successful acquisition and its associated T&E are dependent on doing our homework upfront --- realistic requirements & acceptable-risk solutions.

- That upfront piece needs to be better addressed by the analysis and SoS Systems Engineering communities during Development Planning.

- All of the tools, the data, the methodologies and the knowledge gained during that upfront phase can be directly applied to the follow-on T&E.

- Finally, continuing a “lifecycle”, “SoS”, and “enterprise” mindset throughout the acquisition cycle will improve the product & facilitate T&E.

A Few Observations & Insights From an Army Analyst ....
Analysis Myth

“Myth”
Doing more analysis earlier in the acq. cycle always leads to better system development, T&E, and acquisition.

“Another View”
Doing better analysis, tightly coupled with SoS Systems Engineering, as part of early Development Planning --- leads to:
- More realistic reqmts
- Better solutions

Key Drivers of Successful Acquisition and T&E

A Few Observations & Insights From an Army Analyst ....
End State: A focused and comprehensive assessment capability for senior decision makers that is strategically aligned, integrated, coordinated, and prioritized. Such a capability should respond to senior decision-maker requests while simultaneously monitoring the enterprise to sense less obvious trends and shifts.

This Is A Work In Progress --- and It Will Influence Acquisition & T&E
Developmental Planning in the Army

Operational Requirements Documentation

LEARNING FULL BODY OF WORK

CAPABILITY GAP ASSESSMENT; ATTRIBUTES BALANCING ANALYSIS; CAPABILITY BASED ASSESSMENT

LESSIONS LEARNED GOVERNANCE

SO E-IBCT CPD
JROC Approved

UNMANNED GROUND SYSTEMS ICD

BCT CAP PACKAGE CPD FY 15-16
BCT CAP PACKAGE CPD FY 13-14

Network AoA

BRIGADE MODERNIZATION CDD

Battle Command Network ICD

CURRENT SYSTEM UPGRADE CDD / CPD

GCV AoA

GCV CDD

GCV IC

MRAP, Stryker, Abrams, Bradley, Network Docs

OIF/OEF

USMC Docs

FCS ORD 2.0

SoS PDR

Army DP is integrated into Army force management process and addresses “capability sets” needed to address future threats

Leveraging Full Body of Work

Army's Enterprise Approach to ARFORGEN Will Change the Way We Approach Acquisition, T&E --- and Our Supporting Analysis & SE
Pre MS-A Development Planning Activities (Being Promoted by OSD-ATL)

- Understand need in the context of operations and other systems
  - Put the need into operational, threat and systems context (CONOPs, and mission threads, thread profile and current SoS architecture)

- Identify ideas/concepts for solutions
  - Communicate capability needs and gaps to concept generating organizations (i.e., industry, academia, S&T community, etc.)
  - Receive and catalogue ideas and concepts

- Assess ideas/concepts to identify feasible material solution options
  - Apply MS&A to confirm military utility (via modeling, via prototyping)
  - Identify the impact on current systems
  - Conduct initial lifecycle cost estimate

- Technical analysis of the proposed concepts
  - Conduct SE and refine concept technical analysis artifact on promising concepts to provide technical foundation (via prototyping)

- Identify best mechanism to provide solution based on need & solution options
  - Formal acquisition program, technology refresh, rapid fielding, etc.

- Continue System Analysis and SE support into the solution development
  - For acquisition, technical advisor supporting the AoA study and analysis teams

Tools/Data/Knowledge Dev’d Here Provide Healthy Foundation for T&E Later.