DT&E Contributions to Better Buying Power

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Overview

"We sometimes fail to conduct adequate DT&E prior to the decision to start production...I stress solid, well-defined DT&E results as an important prerequisite for this decision...

Working with program and engineering leadership as key members of the management team, developmental testers provide the information that makes program success possible and much more probable."

Mr. Frank Kendall, USD(AT&L)
March 2013, ITEA Journal

Inform Decision Making

- Contribute to program efficiency and effective execution
- Provide relevant information as early as possible
- Integrate DT&E planning across the product life cycle
- Focus on support to internal program decisions and verification of compliance with requirements
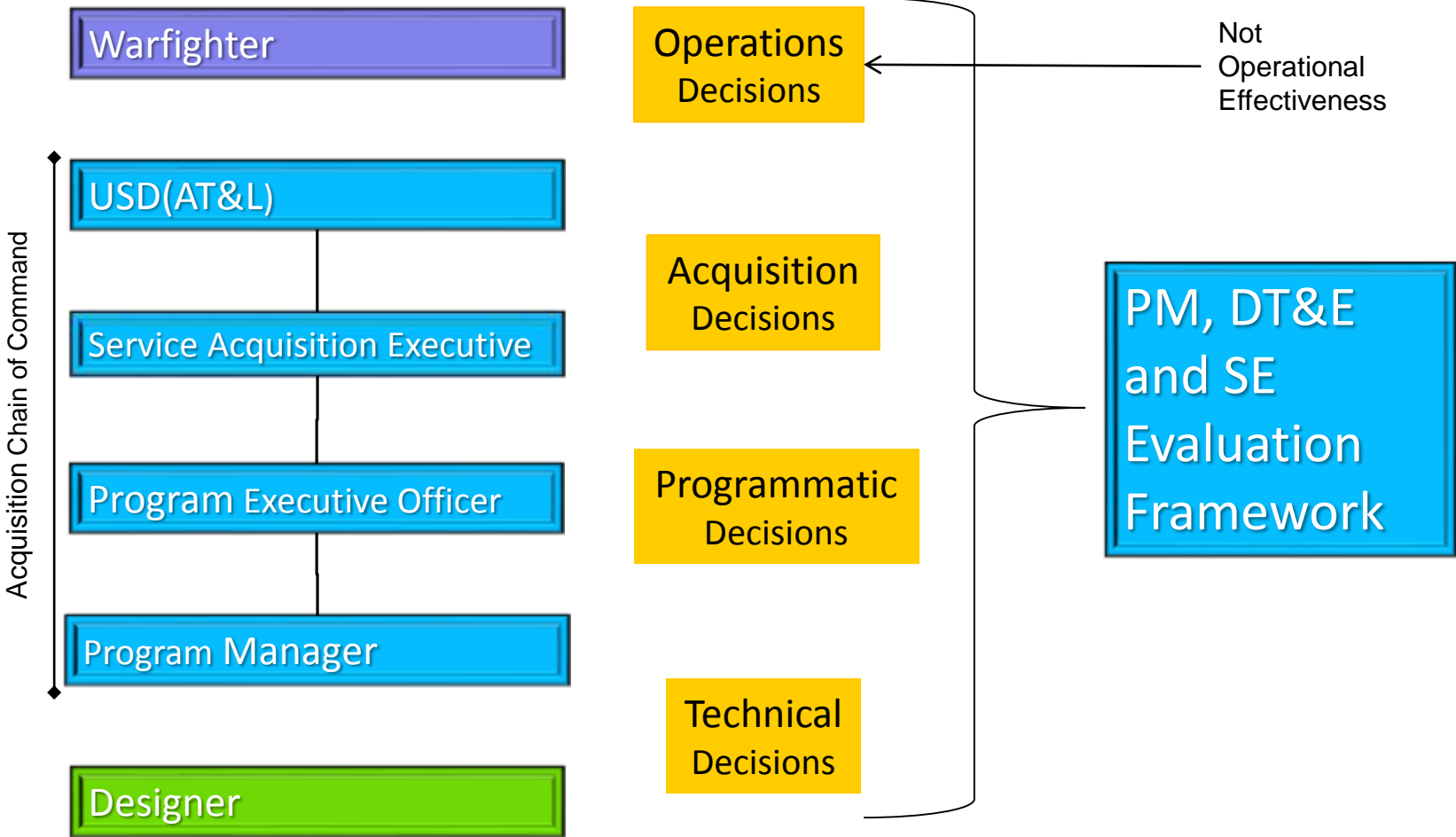- Use DT&E to improve the efficiency and validity of OT&E

Resulting Efficiencies

- Emphasize the acquisition chain of command and its responsibility and accountability
- Support sound investment strategies
- Use Technical Development phase for true risk reduction
- Support technical measure definition and evolution
- Improve interactions with PMs and SEs
- Identify test infrastructure and assess availability
- Establish standards for key leadership positions
- Develop the evaluation workforce

Decision Makers

Acquisition Chain of Command

Warfighter	
USD(AT&L)	
Service Acquisition Executive	
Program Executive Officer	
Program Manager	
Designer	

Operations Decisions

Acquisition Decisions

Programmatic Decisions

Technical Decisions

Not Operational Effectiveness

PM, DT&E and SE Evaluation Framework

Informed Decisions

- Focus program engagement on evaluation strategies that inform decisions
- Answer: Did I build the system right?
- Align right information, right time
  - Provide timely and objective acquisition program DT&E Assessments
  - Publish a DT&E Assessment at each critical decision point (across the life cycle)
  - Discover deficiencies earlier
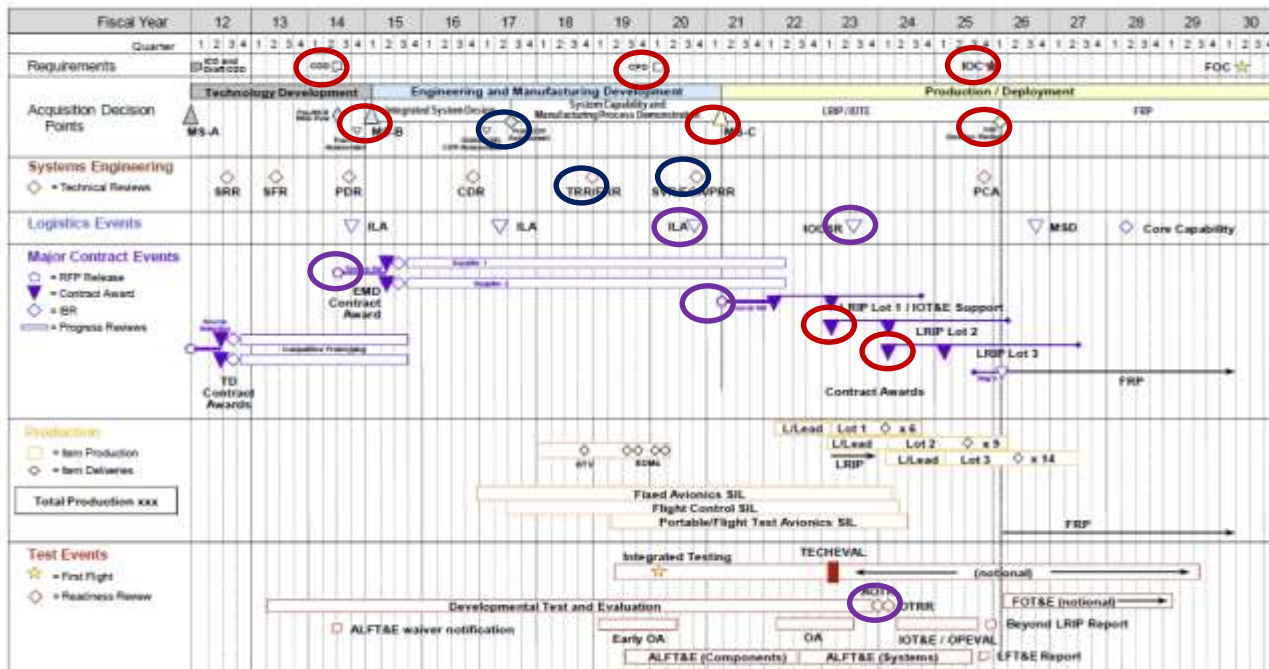 - Ensure developmental evaluation with a mission context

Improve Acquisition Outcomes

DT&E Informing Decisions

Figure 3. Notional depiction of the Integrated Schedule for Program
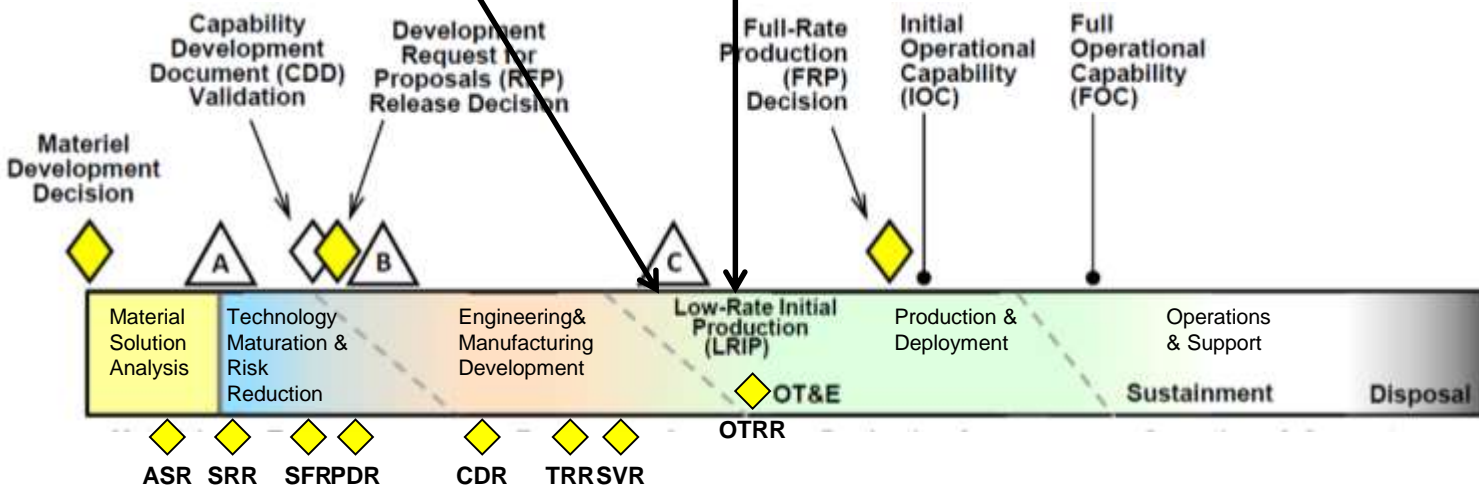
Legend:
- Acquisition
- Programmatic
- Technical

Provides decision maker with system capability information, with mission context "so what?" and support for acquisition "now what?"

Traditionally DT&E Did Not Support Early Decisions

Assessment of Operational Test Readiness

KPP Assessment

Capability Development Document (CDD) Validation

Development Request for Proposals (RFP) Release Decision

Full-Rate Production (FRP) Decision

Initial Operational Capability (IOC)

Full Operational Capability (FOC)

Materiel Development Decision

A   B   C

Material Solution Analysis

Technology Maturation & Risk Reduction

Engineering & Manufacturing Development

Low-Rate Initial Production (LRIP)

Production & Deployment

Operations & Support

Sustainment   Disposal

OT&E

OTRR

ASR   SRR   SFR PDR   CDR   TRR SVR

Avoid late-to-need assessments

Find and Fix Problems Early

Focus critical DT&E activities earlier in the acquisition life cycle

- Three initial focus areas:
  - Mission context
  - Interoperability testing
  - Cybersecurity testing
- Additional focus areas:
  - System performance
  - Reliability

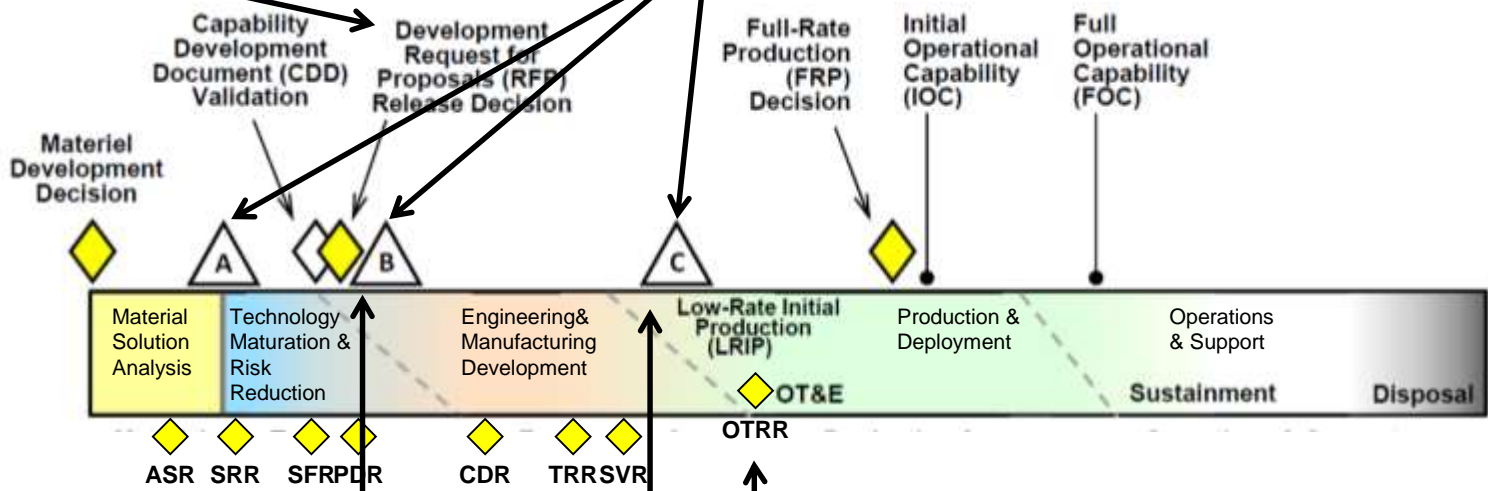Traditionally, first characterized at the LRIP decision

"Right Information, Right Time"

DEF and Assessments

Developmental Evaluation Framework (DEF) to Inform

DEF to develop TEMP/Updates

Capability Development Document (CDD) Validation

Development Request for Proposals (RFP) Release Decision

Full-Rate Production (FRP) Decision

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Material Solution Analysis

Technology Maturation & Risk Reduction

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DEF as the Foundation for Assessment

DASD(DT&E) Assessments

DD/Staff Spec DT&E Assessments

Defense Acquisition Executive Summary (DAES) Reporting / OIPTs

Focus on the "E," Then Plan the "T"

Articulate a logical evaluation strategy that informs decisions
- How acquisition, programmatic, technical, and operations decisions will be informed
- How system will be evaluated
- How test and M&S events will provide data for evaluation
- What resources will be required to execute test, evaluation, and inform decisions

Decisions

Define ↓ Inform ↑

Evaluation

Define ↓ Data ↑

Test / M&S

Define ↓ Execute ↑

Resources | **Schedule**
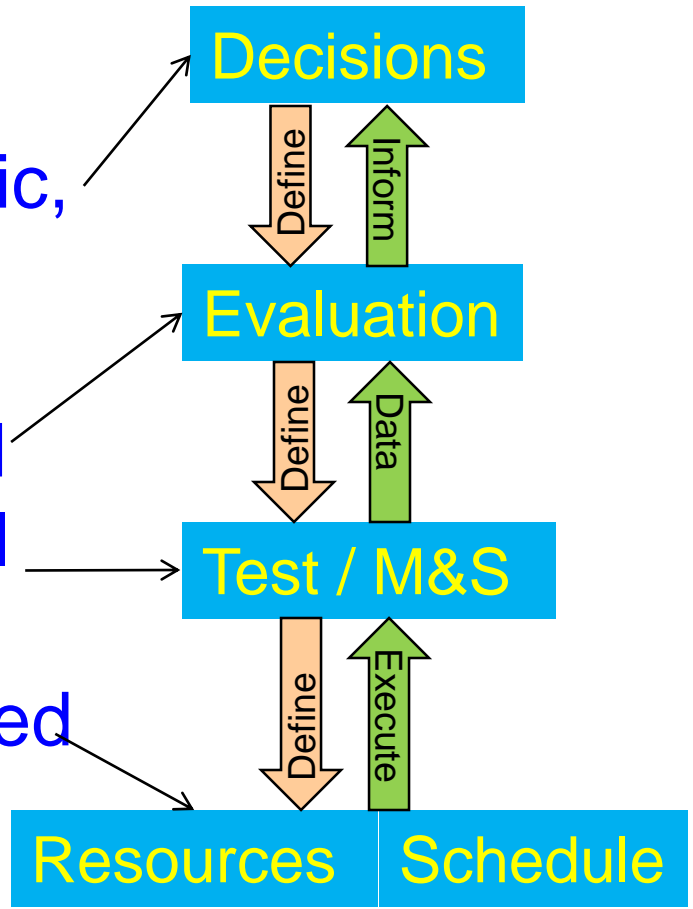
Foundation for DT&E, informed decision making

Benefits

- Benefits the PM by forcing a structured T&E effort
- Provides PM with an understanding of risk
- Phases information across acquisition life cycle
- Recognizes PM responsibility and accountability for the DT&E program and the information provided
- Requires working relationship with systems engineering community

Changes the way the acquisition chain of command thinks about and views DT&E

Acquisition and T&E Workforce

How are we leading change?

- Establish standards for key leadership positions
- Implement professional qualification requirements for all acquisition specialties
- Recognize and support excellence in acquisition management
- Develop evaluator and analyst capabilities

Better Buying Power 3.0

- Provide draft technical requirements to industry early and involve industry in funded concept definition to support requirements definition

- Provide clear "best value" definitions so industry can propose and DoD can choose wisely

- Emphasize Acquisition Executive, Program Executive Officer and Program Manager responsibility, authority, and accountability

- Improve our leaders' ability to understand and mitigate technical risk

The DEF Supports BBP 3.0 Initiatives

Summary

Under Better Buying Power

- The acquisition chain of command is in the decision making business

- Evaluation and information are primary

- The Developmental Evaluation Framework aligns the right information, the right time, and the right decision maker

Programs improve acquisition outcomes when they have properly set the conditions for entry into the next phase of development