Module Objective:

Recognize the challenges of and opportunities for integrated acquisition, from the DoD Decision Support Systems perspective, and formulate tailored strategies to promote effective integration and collaboration both within and outside of your organization.
Outline

- DoD Decision Support Systems
  - Acquisition (DOD 5000)
  - Requirements/capabilities (JCIDS)
  - Resources (PPBES)
Do You Understand This Chart?
Understand That Chart?

• If not…
• No worries!!!
• It has changed!!!!
• We now have six life cycle models!!!!
Product-Tailored Acquisition Models

- Model 1: Hardware Intensive Program
- Model 2: Defense Unique Software Intensive Program
- Model 3: Incrementally Fielded Software Intensive Program
- Hybrid Program A (Hardware Dominant)
- Hybrid Program B (Software Dominant)
- Model 4: Accelerated Acquisition Program

One Sizes DOES NOT Fit All Programs
Model 1: Hardware Intensive Program

• ... model of a hardware intensive development program such as a major weapons platform
• This is the “classic” model that has existed in some form in all previous editions of this instruction
• It is the starting point for most military weapon systems; however, these products almost always contain software development resulting in some form of Hybrid Model A
Model 2: Defense Unique Software Intensive Program

• a model of a program that is dominated by the need to develop a complex, usually defense unique, software program that will not be deployed until several software builds have been completed.

• The central feature of this model is the planned software builds – a series of testable, integrated subsets of the overall capability – which together with clearly defined decision criteria, ensure adequate progress is being made before fully committing to subsequent builds.

• Examples of this type of product include military unique command and control systems and significant upgrades to the combat systems found on major weapons systems such as surface combatants and tactical aircraft.

* The actual number and type of builds during the program will depend on system type.
This model is distinguished from the previous model by the rapid delivery of capability through several limited fieldings in lieu of single Milestones B and C and a single full deployment. Each limited fielding results from a specific build, and provides the user with mature and tested sub-elements of the overall capability.

Several builds and fieldlings will typically be necessary to satisfy approved requirements for an increment of capability.

…will apply in cases where commercial off-the-shelf software, such as commercial business systems with multiple modular capabilities, are acquired and adapted for DoD applications.
Hybrid Program A (Hardware Dominant)

• ... a model depicting how a major weapons system combines hardware development as the basic structure with a software intensive development that is occurring simultaneously with the hardware development program.

• In a hardware intensive development, the design, fabrication, and testing of physical prototypes may determine overall schedule, decision points, and milestones, but software development will often dictate the pace of program execution and must be tightly integrated and coordinated with hardware development decision points.

• ... software development should be organized into a series of testable software builds.

• These builds should lead up to the full capability needed to satisfy program requirements and Initial Operational Capability (IOC). Software builds should be structured so that the timing of content delivery is synchronized with the need for integration, developmental and operational testing in hardware prototypes.

• ... Milestone B decision to enter EMD and the Milestone C decision to enter Production and Deployment should include software functional capability development maturity criteria as well as demonstrated technical performance exit criteria.

* The actual number and type of builds during the program will depend on system type.
• ... depicts how a software intensive product development can include a mix of incrementally fielded software products or releases that include intermediate software builds

• Risk Management in Hybrid Models:
  • Highly integrated complex software and hardware development poses special risks to program cost and schedule performance.
  • Technical, cost, and schedule risks associated with hardware and software development must be managed throughout the program’s life cycle and will be a topic of special interest at all decision points and milestones.
Model 4: Accelerated Acquisition Program

- … is a model that applies when schedule considerations dominate over cost and technical risk considerations
- This model compresses or eliminates phases of the process and accepts the potential for inefficiencies in order to achieve a deployed capability on a compressed schedule
- The model shows one example of tailoring for accelerated acquisition and many others are possible
- For products that must be developed and acquired as quickly as possible, usually motivated by a potential adversary achieving technological surprise, and featuring a greater acceptance of program risk
Describes 5 Overarching Policies That Govern All DoD Acquisition Programs:

» **Flexibility.** No *one* best way to structure a program

» **Responsiveness.** Integration of advanced technology at earliest time; time-phased requirements; evolutionary strategies

» **Innovation.** Adopt initiatives and practices that reduce cycle time and cost, and encourage teamwork

» **Discipline.** IAW statute/regulations; identify program goals in terms of cost/schedule/performance parameters

» **Streamlined and Effective Management.** Decentralize responsibility; maximize credibility in cost/schedule/performance reporting
DoD Instruction 5000.02 January 7, 2015
Operation of the Defense Acquisition System

- Provides mandatory procedures for all Defense Acquisition Programs, to include acquisition of services. Some requirements apply only to Major Defense Acquisition Programs and Major Automated Information Systems.

- Designates milestones and phases making up the acquisition management system and defines ACAT Levels.

- Decrease emphasis on “rules” and increase emphasis on process intent and thoughtful program planning.

- Provide program structures and procedures tailored to the dominant characteristics of the product being acquired and to unique program circumstances, e.g., risk and urgency.

- Enhance the discussion of program management responsibility and key supporting disciplines.

- Institutionalize changes to statute and policy since the last issuance of DoD Instruction 5000.02.
“If the Materiel Development Decision is approved, the MDA will designate the lead DoD Component; determine the acquisition phase of entry; and identify the initial review milestone.”
The Defense Acquisition Management System

- The Materiel Development Decision precedes entry into any phase of the acquisition management system
- Entrance Criteria met before entering phase
- Evolutionary Acquisition or Single Step to Full Capability

Model 1: Hardware Intensive Program

- Initial Capabilities Document (ICD)
- DRAFT CDD
- Capability Development Document (CDD)
- Capability Production Document (CPD)

Relationship to JCIDS:

- PDR: Preliminary Design Review
- CDR: Critical Design Review
- CDD-V: CDD Validation
- LRIP: Low Rate Initial Production
- FRP: Full Rate Production
- DRFPRD: Development Request For Proposals Release Decision
- IOC: Initial Operational Capability
- FOC: Full Operational Capability
Better Buying Power Initiatives

Better Buying Power Gateway: https://dap.dau.mil/bbp
Better Buying Power Community of Practice: https://acc.dau.mil/bbp
Why are We Here?

- Schedule Delays
- Decline of Economy
- Budget Overruns
- Production Cost increasing for the same item over time
- Over 51% of the DoD budget is Acquisition of Services
- Examination of programs exposed large sole source activity (vendor lock) and poor examples of real competition
- Small Business was not constructively engaged
- Programs took too long to get to Milestones
- No clear explanation of the value of many of the reports AT&L had to sign
- Requirements being implemented without consideration of cost or affordability

We are Just Paying Too Much

AT&L issues guidance on the use of Best Practices that would:

- Deliver the capability we need for the dollars we have
  - Better buying power for the warfighter and taxpayer
- Restore Affordability to defense goods and services
- Improve defense industry productivity
  - Maintain a vibrant and financially healthy defense industry
  - Remove government impediments to leanness
- Avoid program turbulence
- Develop our Acquisition Workforce
Better Buying Power 3.0

What Is Better Buying Power?

DoD’s Mandate To Do More Without More

Better Buying Power (BBP) is the implementation of best practices to strengthen the Defense Department’s buying power, improve industry productivity, and provide an affordable, value-added military capability to the Warfighter. Launched in 2010, BBP encompasses a set of fundamental acquisition principles to achieve greater efficiencies through affordability, cost control, elimination of unproductive processes and bureaucracy, and promotion of competition. BBP initiatives also incentivize productivity and innovation in Industry and Government, and improve tradecraft in the acquisition of services.

BBP Focus Areas

1. Achieve Affordable Programs
   Conducting a program at a cost constrained by the maximum resources the Department can allocate for a capability. These resources include funding, schedule and manpower.

2. Control Costs
   Committed to not exceeding the funds available for any program.

Items of Interest

- 2015 AAA Acquisition Policy and Regulations Memo Signed.

- 2015 USD(AT&L) memorandum.
  Appropriately designates LOCA as a “low-cost acquisition” approach.

- 2015 DoD Instruction 5000.02
  Under Secretary of Defense for Acquisition, Technology and Logistics
Better Buying Power 3.0
A Guide to Help You Think

- BBP 3.0 reflects the Department of Defense’s commitment to continuous improvement – part of our culture – **AND now INNOVATION**

- Overarching acquisition principles underlie BBP and all that we do
  - Think
  - People Count
  - Start With the Basics
  - Streamline Decisions

- BBP encompasses initiatives organized into **EIGHT** focus areas
  - Achieve Affordable Programs
  - Control Costs throughout the Product Lifecycle
  - Incentivize Productivity & Innovation in Industry and Government
  - Eliminate Unproductive Processes and Bureaucracy
  - Incentivize Innovation in Industry & Government
  - Promote Effective Competition
  - Improve Tradecraft in Acquisition of Services
  - Improve the Professionalism of the Total Acquisition Workforce
Overarching Acquisition Principles
Stars to Steer By

• **Think**
  - Apply our education, training and experience
  - Creative, informed, thorough
  - Do not default to perceived ‘school solutions’

• **People Count**
  - Professional preparation to think well
  - Policies/processes of little use without acquisition professionals trained & supported
  - People and professionalism - Acquisition leaders drive results more than any policy

• **Start with the Basics – Acquisition Fundamentals Work**
  - Effective incentives to industry – especially competitive pressures
  - Understand and manage technical risk
  - Demonstrated progress before major commitments
  - Getting big early decisions right – particularly requirement tradeoffs
  - Using the right contract type for the job

• **Streamline decisions**
  - Streamline processes/oversight to provide value added
  - Directing differences of opinion to the *appropriate* decision makers
  - Allow managers to be more effective by protecting their most precious resource - time

These principles have always been valuable…and will increase in value as our acquisition environment becomes more volatile
Better Buying Power 3.0
Achieving Dominant Capabilities through Technical Excellence and Innovation

Achieve Affordable Programs
• Continue to set and enforce affordability caps

Achieve Dominant Capabilities While Controlling Lifecycle Costs
• Strengthen and expand “should cost” based cost management
• Build stronger partnerships between the acquisition, requirements, and intelligence communities
• Anticipate and plan for responsive and emerging threats
• Institutionalize stronger DoD level Long Range R&D Planning

Incentivize Productivity in Industry and Government
• Align profitability more tightly with Department goals
• Employ appropriate contract types, but increase the use of incentive type contracts
• Expand the superior supplier incentive program across DoD
• Increase effective use of Performance-Based Logistics
• Remove barriers to commercial technology utilization
• Improve the return on investment in DoD laboratories
• Increase the productivity of IR&D and CR&D

Incentivize Innovation in Industry and Government
• Increase the use of prototyping and experimentation
• Emphasize technology insertion and refresh in program planning
• Use Modular Open Systems Architecture to stimulate innovation
• Increase the return on Small Business Innovation Research (SBIR)
• 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

Eliminate Unproductive Processes and Bureaucracy
• Emphasize Acquisition Executive, Program Executive Officer, and Program Manager responsibility, authority, and accountability
• Reduce cycle times while ensuring sound investments
• Streamline documentation requirements and staff reviews

Promote Effective Competition
• Create and maintain competitive environments
• Improve technology search and outreach in global markets

Improve Tradecraft in Acquisition of Services
• Increase small business participation, including through more effective use of market research
• Strengthen contract management outside the normal acquisition chain
• Improve requirements definition
• Improve the effectiveness and productivity of contracted engineering and technical services

Improve the Professionalism of the Total Acquisition Workforce
• Establish higher standards for key leadership positions
• Establish stronger professional qualification requirements for all acquisition specialties
• Strengthen organic engineering capabilities
• Ensure the DoD leadership for development programs is technically qualified to manage R&D activities
• Improve our leaders’ ability to understand and mitigate technical risk
• Increase DoD support for Science, Technology, Engineering, and Mathematics (STEM) education

Ideas retained from BBP 2.0
New in BBP 3.0
DoD Decision Support Systems

Effective Interaction Essential for Success

Planning, Programming, Budgeting, and Execution

Joint Capabilities Integration and Development System (JCIDS)

Defense Acquisition System
Outputs of the JCIDS process are used to:

- Facilitate Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) changes
- Drive the Defense Acquisition System (DAS)
- Inform the Planning, Programming, Budgeting, and Execution (PPBE) processes
Services, Combatant Commands, and other DOD Components conduct **Capabilities Based Assessments (CBAs)** or other studies to assess capability requirements and associated capability gaps and risks.

Capability requirements and capability gaps identified through CBAs and other studies are traceable to an organization’s assigned roles and missions,

**Capability requirements which have significant capability gaps typically lead to an ICD**
The operational level MOE requirements in the ICD become performance characteristics for a weapon system which may then become KPPs and KSAs in the CDD.
**JCIDS Documents**

**Capability Development Document (CDD)**
- Identifies performance parameters
- Identifies system thresholds and objectives
- Applies to a single increment of the program's development
- Updated or rewritten for subsequent increments
- Prepared during the Technology Development Phase for use at Milestone B

**Capability Production Document (CPD)**
- Prepared in EMD to support P&D
- Supports the MS C decision (must be validated and approved < MS C)
- Identifies production attributes for a single increment of a program
- Rewritten for each increment in an evolutionary acquisition program
- Contains “refined” KPPs, performance attributes, and cost / engineering estimates
Urgent Operational Needs (UON)
• Documents capability requirements which if left unfulfilled, would result in capability gaps leading to unacceptable loss of life or critical mission failure
• Expedited staffing and validation procedures are used to facilitate timely validation and initiation of rapid acquisition efforts.
• Three types of UONs
  - **Component UONs**: applicable to only one DOD Component
  - **Joint UONs (JUONs)**: UONs affecting two or more DOD Components. Driven by *ongoing* contingency operations.
  - **Joint Emerging Operational Needs (JEONS)**: UONs affecting two or more DOD Components and driven by *anticipated* contingency operations.
**JCIDS Documents**

**“Initial Capabilities Document” (ICD)**
- No Key Performance Parameters
- Defines capability gap in terms of the functional area, the relevant range of military operations & timeframe
- Describes capability gaps
- Guides MSA and TD phases

**“Capability Development Document” (CDD)**
- Threshold Objective
- Introduces KPPs
- Cost estimates
- Guides EMD phase by defining measurable & testable capabilities

**“Capability Production Document” (CPD)**
- Threshold Objective
- Refines KPPs and performance attributes, as necessary
- Refines Cost & Engineer estimates
- Guides Production and Deployment phase
Three Requirements “Lanes”

- **Deliberate Requirements**
  - Service, CCMD or Agency Driven
  - Traditional route for capabilities that require significant tech development and/or are not urgent or compelling in nature

- **Emergent Requirements**
  - CCMD Driven
  - Supports accelerated acquisition of capabilities needed for an anticipated or pending contingency operation
  - VCJCS verifies, JCB or JROC validates

- **Urgent Requirements**
  - CCMD Driven
  - Urgent and compelling to prevent loss of life and/or mission failure during current operations
  - Require little tech development and can be resolved in less than two years
  - DDR validates

“Keep right, except to pass”
DoD Decision Support Systems

Planning, Programming, Budgeting and Execution

Joint Capabilities Integration and Development System (JCIDS)

Defense Acquisition System

Effective Interaction Essential for Success
PPBE Phases – Synopsis

• **Planning**
  – Review threat / assess capabilities
  – Develop guidance

• **Programming**
  – Turn guidance into achievable and affordable packages / programs

• **Budgeting**
  – Scrub budget year
  – Prepare defensible budget
  – First year of FYDP

• **Execution**
  – Measure performance against plan
  – Assess effectiveness of resource allocations
“Will Cost” vs “Should Cost”  
USD (AT&L) and USD(C) 22 Apr 11 Memo

• Will Cost
  • Used for programming and budgeting
  • Used for acquisition program baselines (APBs)
  • Used for all reporting requirements external to DoD

• Should Cost
  • Scrutinize every element of govt and contractor costs
  • 3 ways to develop should cost estimates:
    • Bottoms –Up estimate
    • Determine specific discrete and measurable items
    • Use competitive contracting and contract negotiations to identify should cost savings (old FAR definition)

• Model Programs
  • Air Force: JSF, Global Hawk, SBIRS, EELV, AEHF
  • Army: Joint Air Ground Missile, UH-60M, GCV, Paladin Product Improvement (PIP), NETT Warrior
  • Navy: JSF, E-2D, Presidential Helo, LCS, Ohio Replacement Program
Future Years Defense Program (FYDP)

• Computer database maintained by CAPE
• Contains approved force structure and resources for all Defense Programs
• Updated two times per annual PPBE cycle:
  – Program Objectives Memorandum/Budget Estimate Submission (POM/BES) – July
  – President’s Budget (PB) - February
• Reflects PY, CY, BY, + 4 Out-Years
  
  13  14  15  16  17  18  19

3 additional years for force structure only
• The acquisition process is event driven vs PPBE which is calendar driven vs JCIDS which is threat/technology driven
• Better Buying Power is a collection of best practices
• JCIDS has 3 pathways for development
• PPBE requires 2-year lead time to get a new start in the budget
• Bringing all three systems together seamlessly and efficiently is NOT easy
• Not mentioned here specifically is S&T, but that 4th dimension complicates this subject further
Questions?

V/R

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