Test and Evaluation Conference

26 March 2001

Defense Systems Management College
Acquisition Policy Department

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Evolution of Defense Acquisition Policy

- 1969 - DSARC established by DEPSECDEF Packard.
- 1971 - DoD Directive 5000.1, “Acquisition of Major Defense Systems”.
- 1975 - DoD Instruction 5000.2, “Decision Coordinating Paper and the DSARC”.
- 1976 - OMB Circular A-109, “Major System Acquisitions”
- 1977 - DoDD/DoDI 5000.1/2 revised to incl. OMB Cir A-109. DoDI 5000.2 becomes “Major Systems Acquisition Process”, implements 5000.1.
- 1987 - Policies and procedures extended to “nonmajor” acquisition programs.
- 1991 - DoD 5000.2-M issued to provide detailed formats for all documents. 5000.1/2 expanded to absorb over 60 other directives, instructions, and memoranda.
- 1996 - DoD 5000.1 applies to all programs. DoDI 5000.2 replaced with DoD Regulation 5000.2, applies to major programs (mostly). DoD 5000.2-M eliminated. Major AIS programs included. Deskbook created. Components “empowered” for nonmajor programs.
- 2000 - DoDI 5000.2 returns, implements revised DoDD 5000.1- both apply to all programs. Milestones/phases restructured. S&T becomes major emphasis.
- (TBD) 2001 - DoD 5000.2-R revised; still primarily, but not completely, major programs. “Interim 5000.2-R” issued on 4 Jan 2001.

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DoD 5000 Series

From This
(March 1996)

- **DoD Directive 5000.1**
- **DoD Regulation 5000.2-R**

To This

- **DoD Directive 5000.1 (chg 1, 4 Jan 01)**
- **DoD Instruction 5000.2 (chg 1, 4 Jan 01)**
- **Interim 5000.2-R, 4 Jan 01**

- **1996 DoD 5000.2-R cancelled**
- ***New DoD 5000.2-R pending***

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Status of DoD 5000.2-R

- **Revision of DoD 5000.2-R lagging behind new DoDD 5000.1 and DoDI 5000.2**
- **Interim 5000.2-R, 4 Jan 01, released as *Attachment 1* to *memo* from USD(AT&L), ASD(C^3I) & DOT&E**
- **Applies to MDAPs and MAISs and specifically where stated, to less-than-major programs**
- **Interim 5000.2-R contains about 90% of what is expected to be in final DoD 5000.2-R - expected no earlier than Apr 2001**

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Transition to the New 5000 Process

"Grandfathering"

- **Programs/efforts not yet past Milestone II: <u>shall apply</u> new phases and milestones unless MDA says otherwise.**
- **Programs past Milestone II: <u>shall not apply</u> new milestones and phases unless MDA says otherwise.**
- **<u>All programs/efforts</u>, regardless of where they are in the old process <u>will comply with all the new policies and procedures in DoDI 5000.2</u>.**

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Problems With Old Policy

- **Only addressed systems acquisition - not total acquisition system**
- **Treated evolutionary approaches and innovations as "non-traditional" excursions**
- **Endorsed "tailoring" but provides no amplifying guidance to assist acquisition strategy development**
- **Provided no firm decision criteria**

<u>Our process and practices</u>:

- **Took too long and cost too much**
- **Were incompatible with modern technology cycles**

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The New 5000 Process

- ***Multiple process paths*** - not just one way of entering acquisition process
- ***Evolutionary acquisition*** - based on *time-phased requirements* - preferred (but not only) approach
- **Minimum number of *mission-oriented KPPs to* facilitate *cost-performance trades***
- **Achieve *proven technology* and a *validated ORD*** -- before beginning systems-level development
- **Complete *full systems* demonstration** -- before committing to low-rate production
- **Use *market research* and *commercial products*** -- to increase competition

Higher Performance, Lower Costs, More Rapid Deployment

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The New 5000 Process
Key Focus Areas

- **Deliver advanced technology to warfighters faster**
  - Rapid acquisition with demonstrated technology
  - Time-phased requirements and evolutionary development
  - Integrated test and evaluation
- **Reduce total ownership costs**
  - Cost as a requirement that drives design, procurement, and support
  - Increased competition

"Improved performance (including quality) at lower cost."

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The New 5000 Process
Key Focus Areas, continued...

- **More flexible process focused on interoperability, supportability, and affordability**
  - Integration of acquisition and logistics
  - Interoperability as a Key Performance Parameter
  - Improve software management
  - Emphasis on total system support and operational sustainment

"Improved performance (including quality) at lower cost."

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The New 5000 Process
What's New in DoDD 5000.1?

- **Achieving interoperability**
- **Rapid & effective transition from S&T to Products**
  - Time-phased requirements & communications with users
  - Commercial products, services & technologies
  - Performance based acquisition
- **Rapid & effective transition from acquisition to deployment & fielding**
  - Evolutionary acquisition
  - Integrated test & evaluation
  - Competition
  - Commitment to production

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The New 5000 Process
What's New in DoDD 5000.1?
Continued...

- **Integrated & Effective Operational Support**
  - Total systems approach
  - Logistics transformation
  - Protection of critical program information
- **Effective Management**
  - Tailoring
  - Cost & affordability
  - Program stability
  - Simulation based acquisition
  - Streamlined organizations & a professional workforce

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The New 5000 Process
What's New in DoDI 5000.2?

- Three Major Activities; Four Phases; Eight Work Efforts
- Decision & Interim Progress Reviews
- Key capability enablers (Critical Pgm Info, Info Superiority, & Interoperability)
- Interoperability as Mandatory KPP
- Procurement of Services to satisfy mission need.
- Technological Opportunity Activities
- Independent Technology Assessments

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The New 5000 Process
What's New in DoDI 5000.2?
Continued...

- Use of ATDs, ACTDs & Experiments
- Entrance Criteria
- Analysis of Multiple Concepts
- Technology Transition Fund
- Foreign Disclosure & Anti-Tampering
- Clinger-Cohen Compliance
- Preference for Allied Systems
- CIO Registration
- OIPT Leader Approval of TEMP
- Proof of Software Systems Maturity

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The New 5000 Process
What's New in DoDI 5000.2?
Continued...

- Evolutionary Acquisition & Time-Phased Requirements
- Evolutionary Sustainment
- Follow-on Blocks for Evolutionary Acq
- Pre-ACAT Technology Projects
- Report of Change in ACAT Level
- Written Charter for Program Managers
- Restricts PEO "other responsibilities"
- Application for Frequency Allocation

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Evolutionary Acquisition Strategy (Block Upgrades)

- **Block 1: Initial deployment of usable increment of capability.**
- **Block 2 & subsequent blocks: Two approaches -**

  1. ORD has firm requirement for each block. Each block is baselined, funded, developed, tested and produced using traditional methods.

  2. ORD defines block 1, but does not allocate to subsequent blocks remaining requirements to achieve full capability.

  - Sequential block upgrades to achieve full capability based on user experience with delivered system.

  - ORD updated lead-time away from each block, based on user understanding of delivered capability of previous block.

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The New 5000 Process
Emphasis on Technology

- **Technology Transition Objectives - Component S&T Executives shall:**
  - Advise requirements & acquisition communities of new technology developments
  - Conduct independent technology assessments
- **Technology Transition Mechanisms**
  - Advanced Technology Demonstrations (ATDs)
  - Advanced Concept Technology Demonstrations (ACTDs)
  - Experiments

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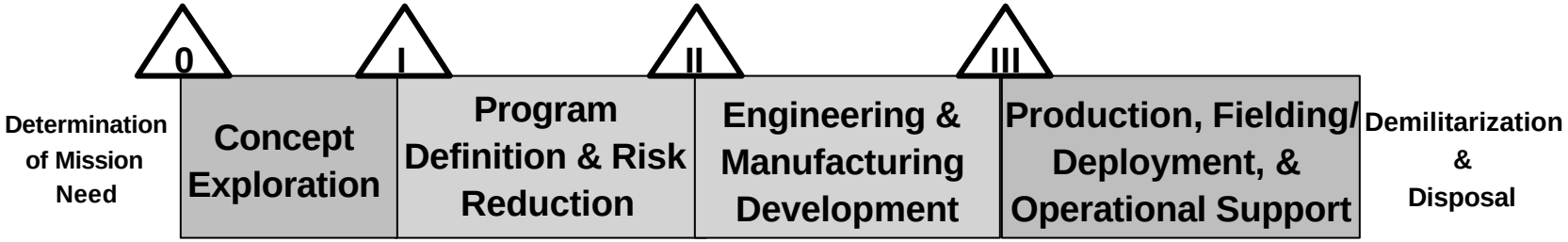
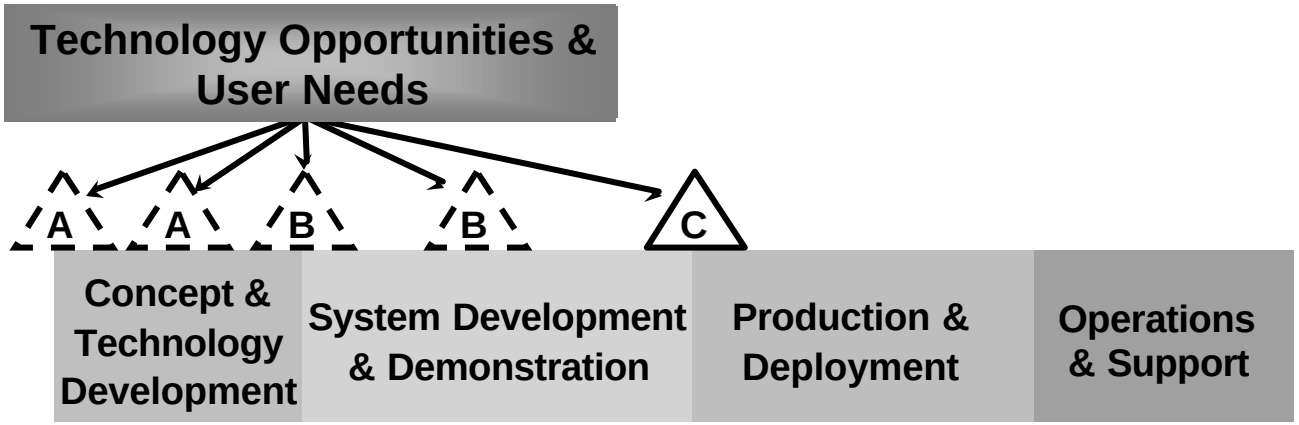
The 5000 Process
old and new

Old Process



New Process



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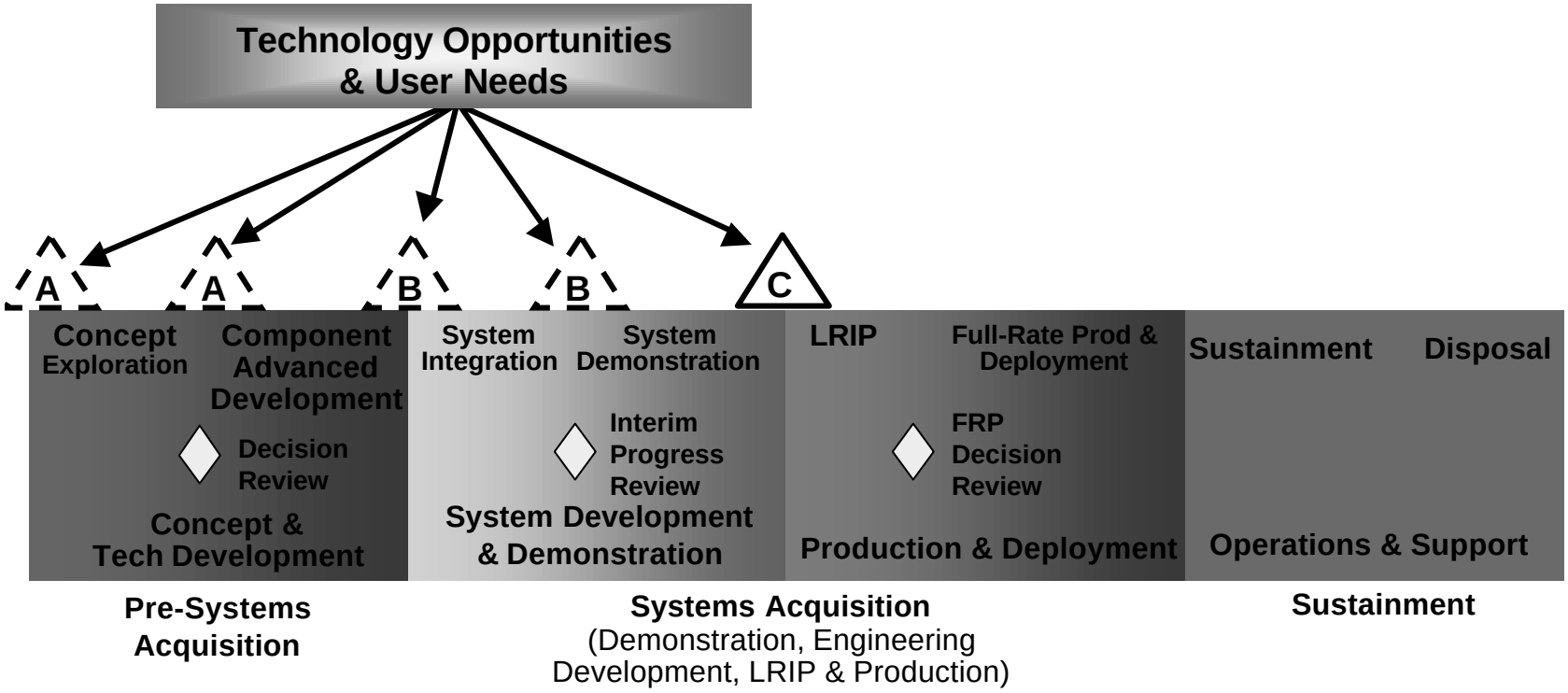
Defense Acquisition Management Framework



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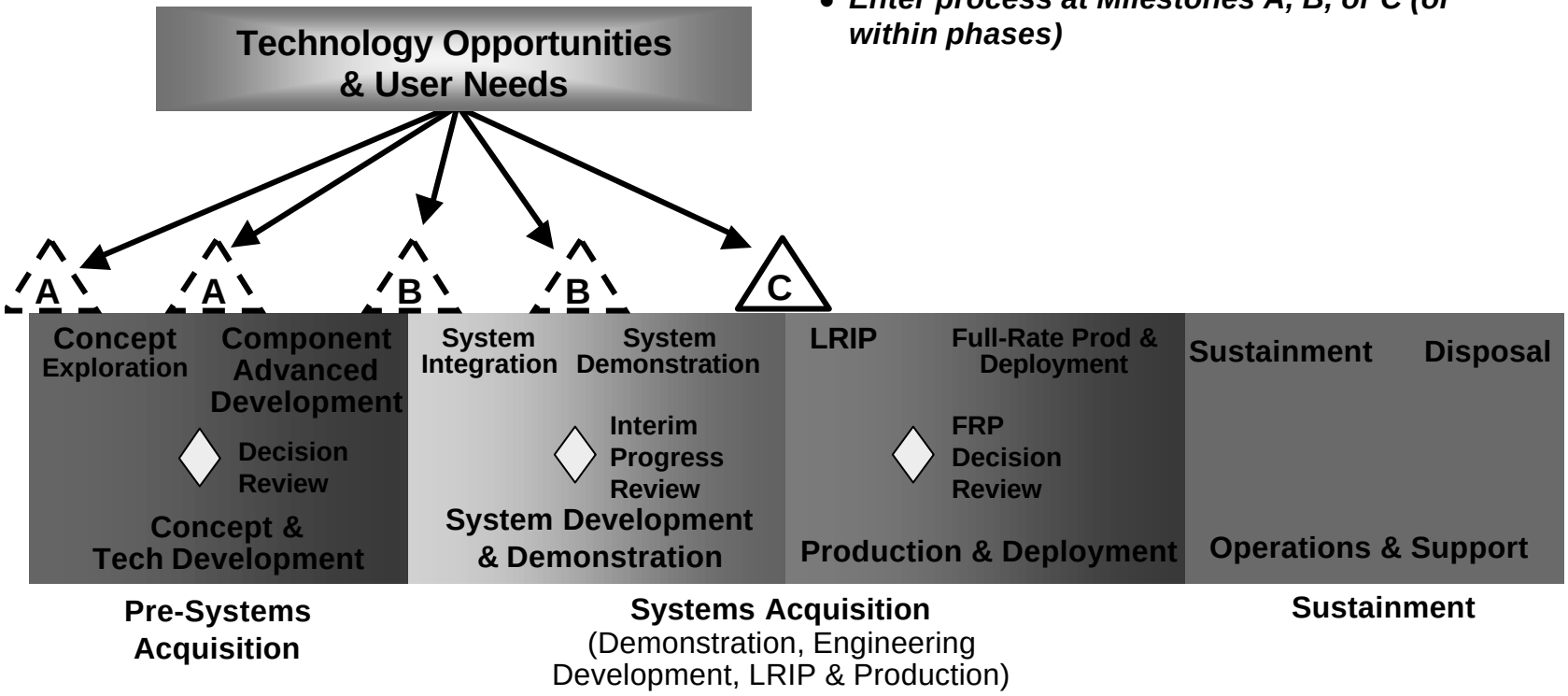
Defense Acquisition Management Framework

- ***Enter process at Milestones A, B, or C (or within phases)***



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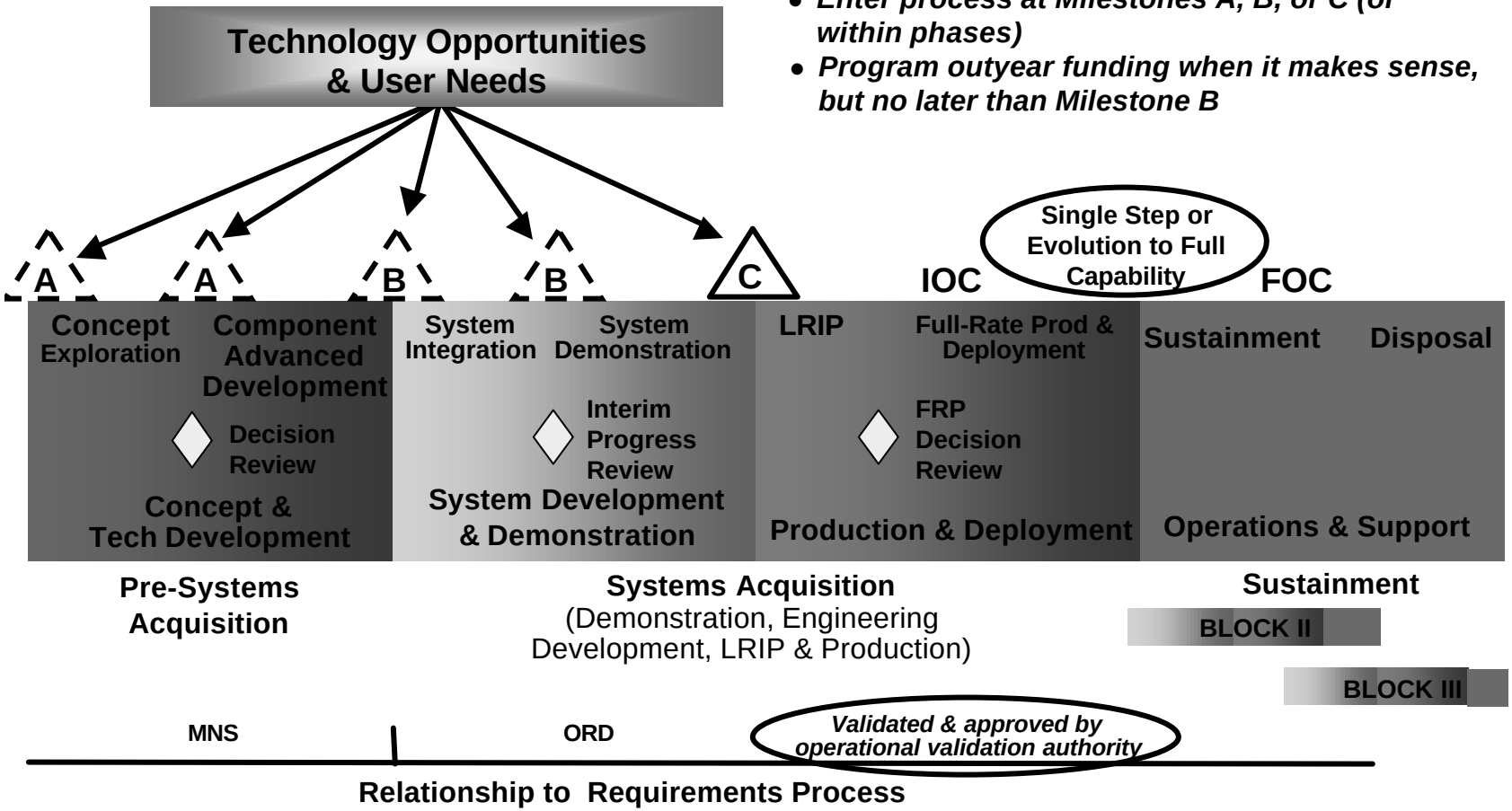
Defense Acquisition Management Framework

- *Enter process at Milestones A, B, or C (or within phases)*
- *Program outyear funding when it makes sense, but no later than Milestone B*



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Implementation Challenges

- Accepting a militarily useful capability early, based on demonstrated technology, and obtaining objective capability when technology matures
- Ensuring that successive evolutionary blocks are adequately funded
- Ensuring that “transition funding” is available to speed the transition of successful demonstrations to acquisition
- Integrating the test and evaluation community into the new acquisition approach
- Ensuring that the workforce (including industry) is adequately trained to successfully implement the new approach
- Assuring Congress that the new approach will maintain their visibility into DoD programs and continue their ability to verify DoD’s accountability for program success
- Employing new product support strategies

DoD 5000 Series Resource Center

• DAU Home • Links • Help

Documents

- DoD Directive 5000.1
- DoD Instruction 5000.2
- DoD Regulation 5000.2-R

Learning Resources

- Terminology Review
- Defense Acquisition Process Tutorial
- Frequently Asked Questions

Brought to you by DSMC and ODUSD(AR)

http://dod5000.dau.mil

Back-up Charts

The 5000 Process

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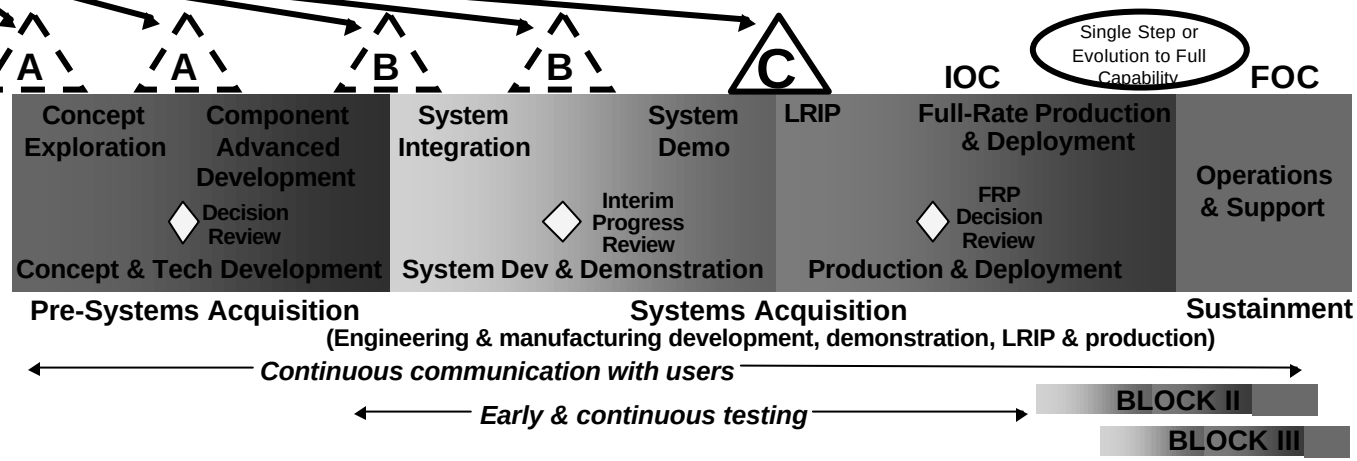
Technology Opportunities & User Needs (BA 1 & 2)

Program Outyear Funding

- **Multiple entry points** possible depending on technical/concept maturity
- **Three basic options at each decision point** Proceed into next phase; do additional work; terminate effort
- **Reviews** are in-phase decision/progress points held as necessary



Requirements MNS | ORD — *Validated & approved by operational validation authority*

Concept Exploration
- Paper studies of alternative concepts for meeting a mission need

Component Advanced Development
- Development of subsystems/components that must be demonstrated before integration into a system
- Concept/tech demo of new system concepts

System Integration
- System integration of demonstrated subsystems and components
- Reduction of integration risk

System Demonstration
- Complete development
- Demo engineering development models
- Combined DT/OT

Low-Rate Initial Production
- IOT&E, LFT&E of prod-rep articles
- Create manufacturing capability
- LRIP

Full-Rate Prod & Deployment
- Full rate production
- Deployment of system

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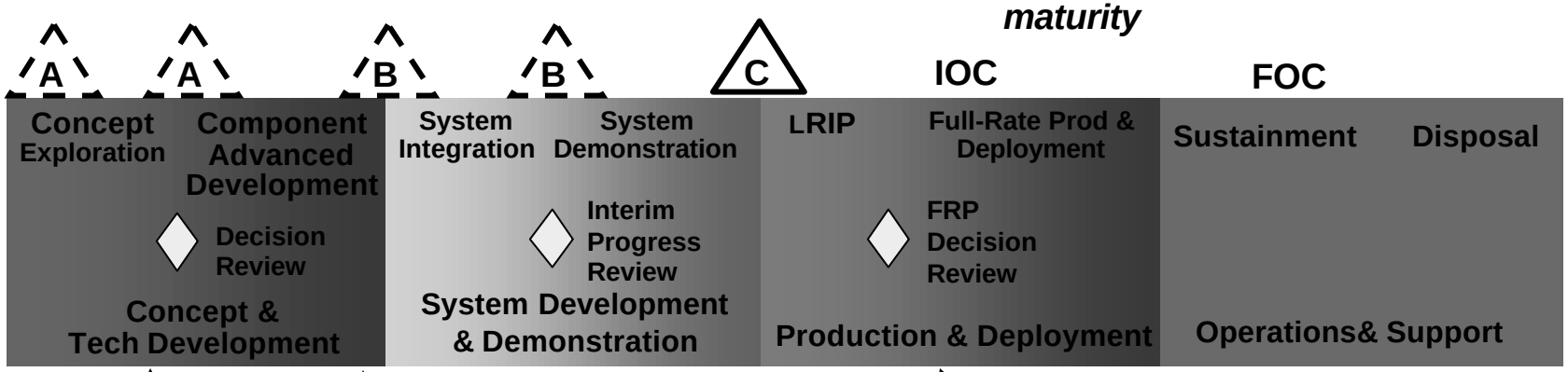
Concept Overview

Programs can enter the process at various points depending on concept and technology maturity



- *Joint Maritime Command and Control Capability*
- *Hard and Deeply Buried Target Capability*
- *Advanced Narrow Band System*

- *Airborne Laser*
- *Joint Advanced Strike Technology*
- *DD-21*

- *F-16 Upgrade*
- *Joint Direct Attack Munition*
- *CVN-77*

- *Fast Sea Lift Ships*
- *Global Hawk (transition into acquisition)*
- *Joint Primary Aircraft Training System*

- *Non-Developmental Airlift Alternative*
- *Administrative Use Vehicles*
- *C-9*

Note: These are <u>notional</u> examples of where these programs might have entered the new process based on <u>historical</u> data of the PM's estimate of technology maturity.

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Information For Milestones & Reviews

Information (DoDI 5000.2)	Milestone/Review A	DR	B	IPR	C	FRP
Acquisition Decision Memorandum	X	X	X	X	X	X
Acquisition Program Baseline		*Note 1*	X		X	X
Acquisition Strategy (28 major elements)		*Note 1*	X		X	X
Affordability Assessment			X		X	
Analysis of Multiple Concepts	X					
Analysis of Alternatives			X		*Note 3*	
Application for Frequency Allocation			X		X	
Beyond LRIP Report *(note 2)*						X
C4 Integrated Support Plan		*Note 1*	X		X	
Clinger-Cohen Act Compliance *(all IT)*		*Note 1*	X		X	X
Compliance with Strategic Plan			X		X	
Component Cost Analysis *(MAIS; optional MDAP)*			X			X
Consideration of Technology Issues	X		X		X	
Cooperative Opportunities			X		X	X
Cost Analysis Requirements Description *(MDAPs)*			X		X	X
Economic Analysis *(MAIS)*			X			
Exit Criteria	X	X	X	X	X	X
Independent Cost Estimate *(MDAPs; n/a AIS)*			X		X	X
Independent Technology Assessment			X		X	

Notes: 1. At entry to CAD if CAD is program initiation. 2. OSD T&E Oversight programs. 3. If no MS B.

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Information For Milestone/Decision Reviews, continued

Information (DoDI 5000.2)	Milestone/Review A	DR	B	IPR	C	FRP
Interoperability Certification						X
IT Certification *(MAIS)*		X	X		X	X
Live Fire T&E Waiver *(covered systems)(note 2)*			X			
Live Fire T&E Report *(covered systems)(note 2)*						X
LRIP Quantities			X			
Manpower Estimate *(MDAPs)*			X			X
Market Research	X		X			
Mission Need Statement	X					
National Environmental Policy Act Schedule		*Note 1*	X		X	X
Operational Requirements Document			X		X	
OT&E Results			X		X	X
Post Deployment Performance Review						X
Program Protection Plan			X		X	
Registration of Msn Critical & Msn Essential Info Sys		*Note 1*	*Note 1*		*Note 1*	
System Threat Assessment *(n/a AIS)*			X		X	
Selected Acquisition Report *(MDAPs)*		*Note 1*	X		X	X
Test & Evaluation Master Plan	*Note 3*		X		X	X

Notes: 1. If program initiation. 2. OSD T&E Oversight programs. 3. Eval strategy for MNS due 180 days after MS A

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Acquisition Strategy Elements

Interim DoD 5000.2-R, 4 Jan 01

- Requirements
  - Approved Source Docs
  - Status of In-process Source Docs
- Program Structure
- Acquisition Approach
- Risk
- Program Management
  - Resources
    - →Advance Procurement
    - →PMO Staffing & Support
  - Info Sharing & DoD Oversight
  - IDE
  - Tech Reps at Contractor Facilities
  - Government Property In Possession of Contractors
  - Tailoring & Streamlining
    - →Requests for Relief or Exemption
    - →Applying Best Practices
  - Planning for Modeling & Simulation
  - Independent Expert Review of Software Intensive Programs
- Design Considerations
  - Open Systems
  - Interoperability
    - →IT Interoperability
    - →Other than IT Integration
  - IT Supportability
  - Protection of Critical Program Info & Anti-Tamper Provisions
- Support Strategy
  - Product Support
    - →Management Plan
    - →Integration
  - Source of Support
    - →Depot Maintenance
    - →Supply
    - →Contractor Log Support
  - Human Sys Integration
  - Environ Safety & Occupational Health
  - Demil & Disposal
  - Life Cycle Support Oversight
  - Post Deployment Evaluation

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Acquisition Strategy Elements

Interim DoD 5000.2-R, continued..

- **Business Strategy**
  - **Competition**
    - → **Fostering a Competitive Environment**
      - ♦ **Competition Advocates**
      - ♦ **Ensuring Future Competition**
    - → **Building Competition Into Strategies**
      - ♦ **Acquisition Phases**
      - ♦ **Evolutionary Acquisition**
      - ♦ **Industry Involvement**
    - → **Potential Obstacles**
      - ♦ **Exclusive Teaming**
      - ♦ **Sub-Tier Competition**
    - → **Potential Sources**
      - ♦ **Market Research**
      - ♦ **Commercial & NDI**
      - ♦ **Dual-Use Tech & Comm Plants**
      - ♦ **Industrial Capability**
    - → **SBIR Technologies**
  - **International Cooperation**
    - → **Cooperative Strategy**
    - → **Interoperability**
    - → **Compliance**
    - → **Testing Required for Foreign Military Sales**
  - **Contract Approach**
    - → **Major Contracts Planned**
    - → **Contract Type**
    - → **Contract Incentives**
    - → **Performance Mgmt**
    - → **Integrated Baseline Reviews**
    - → **Special Terms & Conditions**
    - → **Warranties**
    - → **Component Breakout**
  - **Leasing**

From DoDI 5000.2, Encl 3, Table 1

•Partnering Analysis	•Core Logistics Analysis/
•Make or Buy Analysis	Source of Supply Analysis

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The New 5000 Process
Milestones, Phases & Work Efforts

OLD: "pipeline" approach: 4 Milestones; 4 Phases

- **Milestone 0, Approval to Conduct Concept Studies**
  - ➔ Phase 0, Concept Exploration
- **Milestone I, Approval to Begin a New Acquisition Program**
  - ➔ Phase I, Program Definition & Risk Reduction
- **Milestone II, Approval to Enter Engineering & Manufacturing Development**
  - ➔ Phase II, Engineering & Manufacturing Development
- **Milestone III, Production or Fielding/Deployment Approval**
  - ➔ Phase III, Production, Fielding/ Deployment, & Operational Support

NEW: "flexible entry" approach: 3 Milestones; 4 Phases; 8 work efforts

- **Milestone A, Decision to enter Concept & Technology Development Phase. May enter at:**
  - ➔ Concept Exploration, or
  - ➔ Component Advanced Development
- **Milestone B, Program Initiation, and Decision to enter System Development & Demonstration Phase. May enter at:**
  - ➔ Systems Integration, or
  - ➔ Systems Demonstration
- **Milestone C, Decision to enter the Production & Deployment Phase**
  - ➔ LRIP (ACAT I/II), or production/ procurement (ACAT III)
  - ➔ Production & Deployment
- **Operations & Support Phase**
  - ➔ Sustainment
  - ➔ Disposal