DoD's Software Acquisition Pathway

Digital Delivery at the Speed of Relevance

NPS: Innovations in DoD Software Acquisition
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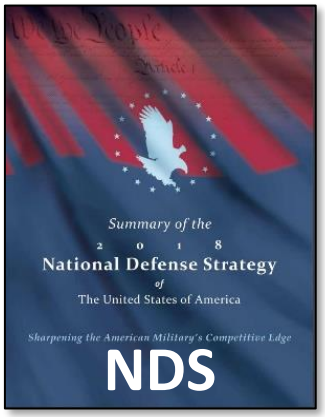
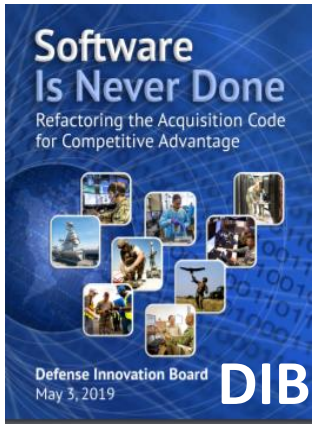
https://aaf.dau.edu/aaf/software/

Urgency to Modernize



…prioritize speed of delivery, continuous adaptation, and frequent modular upgrades.

The DoD must have the ability to update our systems rapidly.



Speed & Cycle time matter.
Faster is more reliable, secure, and possible.

Establish a new software acquisition pathway

Congress and DoD Drive Software Reforms

Recent NDAAs

- FY18 Sect 873/874 Agile Pilots
- FY20 Sec 800 Software Acquisition
- FY20 Sec 862 Software Training
- FY20 Sec 230 Digital Careers

Leadership Direction

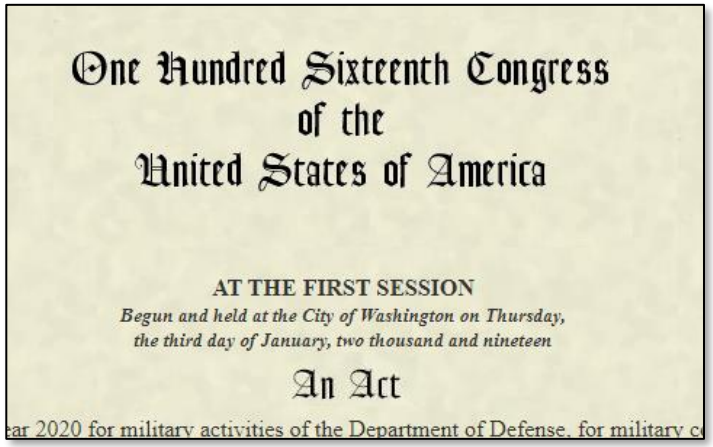
- Gen Hyten: Insert speed, take risk
- Ms. Lord: Software runs through all our programs
- Dr. Roper: Change software daily

FY20 NDAA Section 800

Directed DoD to create two software acquisition pathways

Applications and

Embedded Systems



One Hundred Sixteenth Congress
of the
United States of America

AT THE FIRST SESSION

Begun and held at the City of Washington on Thursday, the third day of January, two thousand and nineteen

An Act

ear 2020 for military activities of the Department of Defense, for military c

- Software programs shall not be treated as an MDAP
- Exempt from JCIDS (unless VCJCS, A&S, SAEs agree on new process)
- Streamline SW requirements, budget, acquisition processes
- Demonstrate viability and effectiveness of capabilities for operational use within one year after funds first obligated

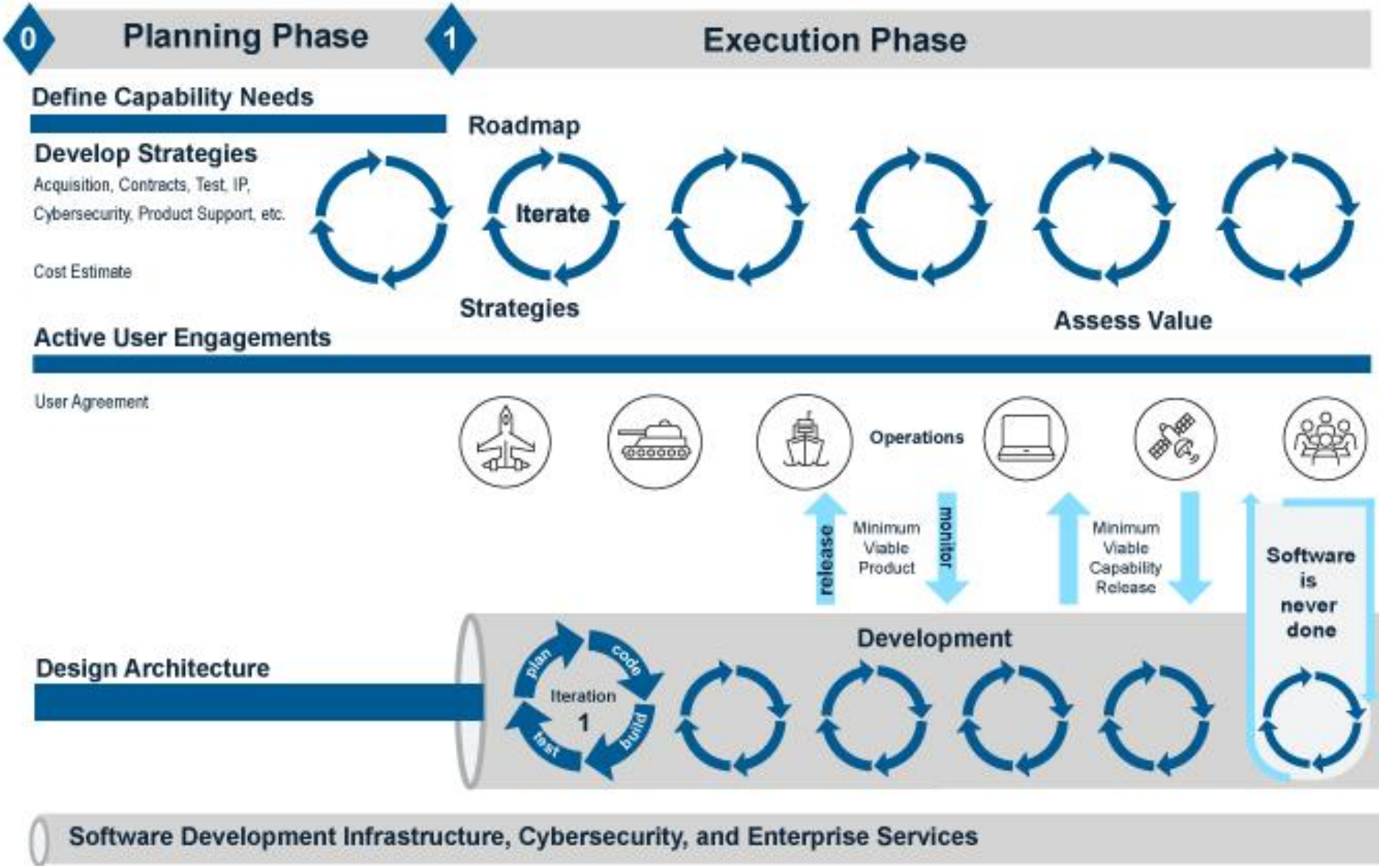
https://www.congress.gov/bill/116th-congress/senate-bill/1790/text

Key Elements of SW Acquisition Pathway

- Modern SW development practices
- Human-centered design
- Active, committed user engagement
- Enterprise services/platforms
- Rapid and iterative deliveries
- Gov't-industry software teams
- Automated tools

Source: DODI 5000.02 Section 4.2

Software Acquisition Pathway



https://aaf.dau.edu/aaf/software/

Planning Phase

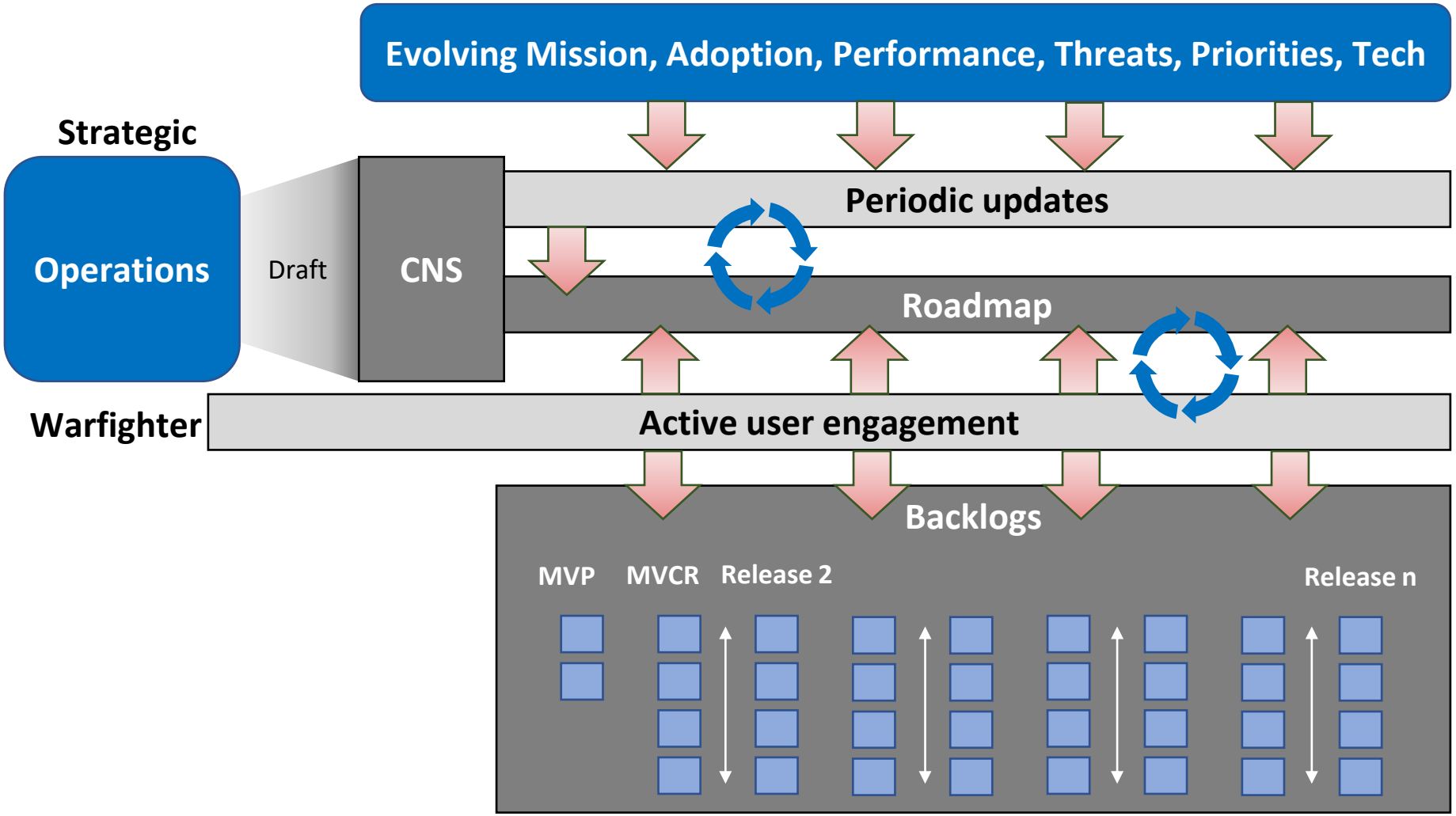
Focuses on understanding the users' and systems' needs and planning the approach to deliver capabilities to meet those needs

Key Artifacts

- Capability Needs Statement
- User Agreement
- Program Strategies
  - Acquisition Strategy
  - Contracting Strategy + IP Strategy
  - Test Strategy + Cybersecurity Strategy
  - Product Support Strategy
- Cost Estimate

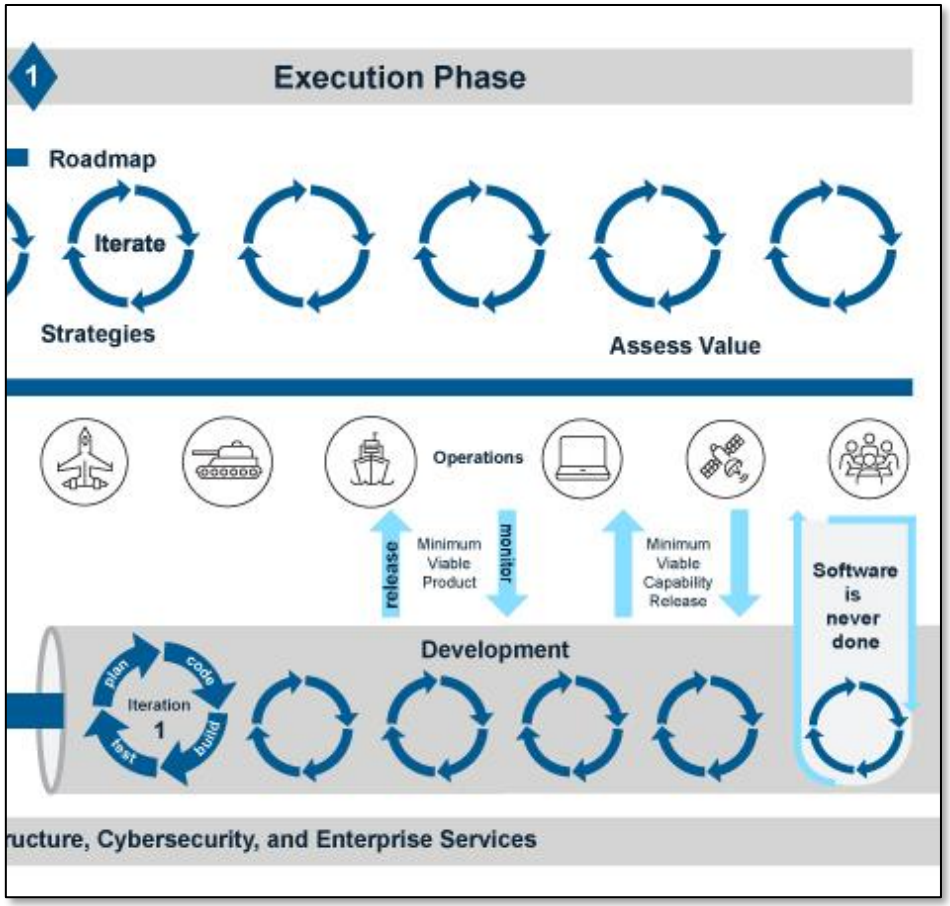
https://aaf.dau.edu/aaf/software/planning-phase/

Evolving Software “Requirements”



https://aaf.dau.edu/aaf/software/define-capability-needs/

Execution Phase – Key Activities

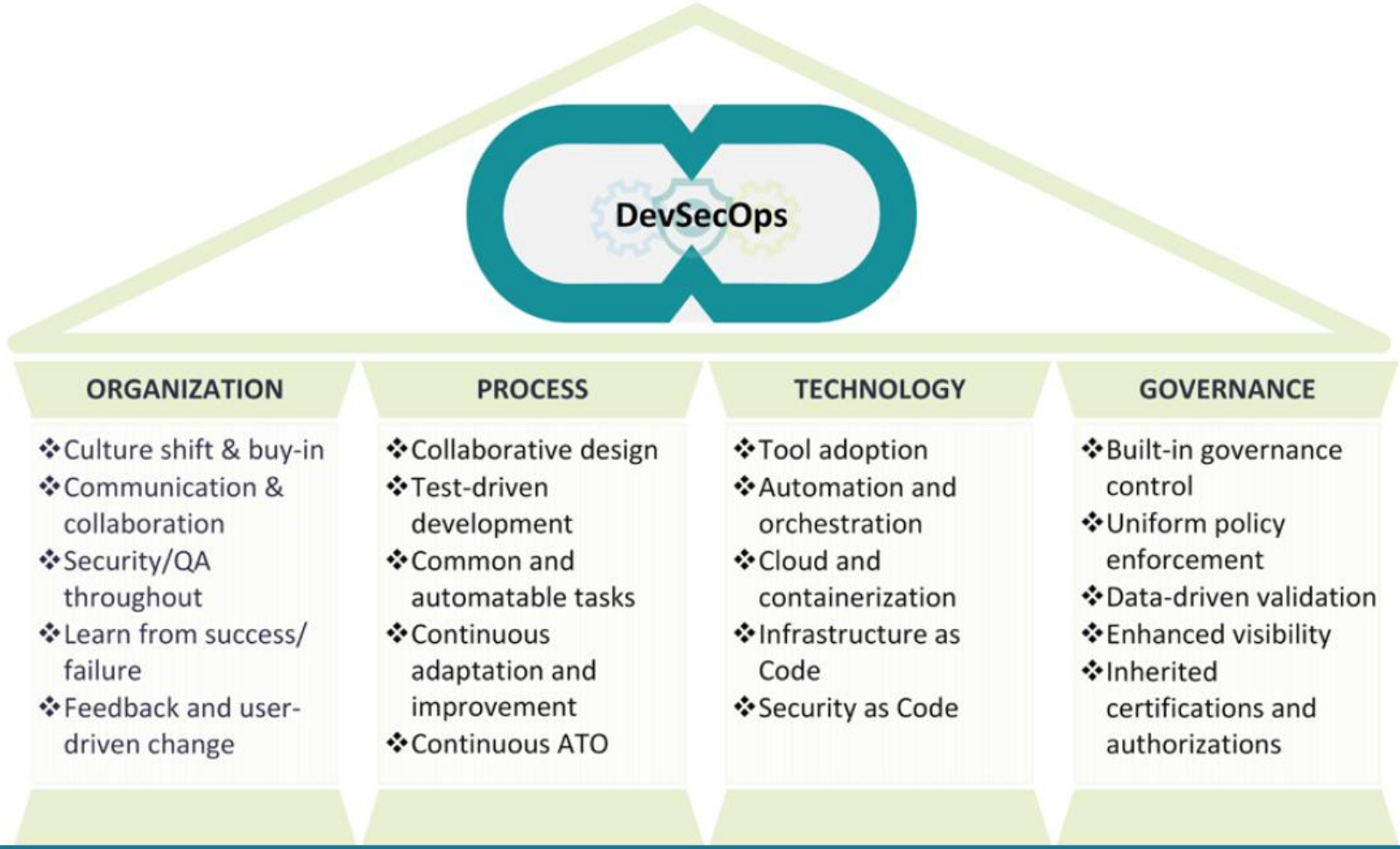


- **Product Roadmap**
- **Program Backlogs**
- **Active User Engagements**
- **Develop, Deliver Software**
- **Track Metrics**
- **Value Assessments**

Continuous improvement to maximize mission impact.

https://aaf.dau.edu/aaf/software/execution/

DevSecOps Reference Design Pillars



"DevSecOps is the preferred software practice for DoD to deliver at speed of relevance" **– DoD CIO, USD(A&S)**

DoD Enterprise DevSecOps Reference Design

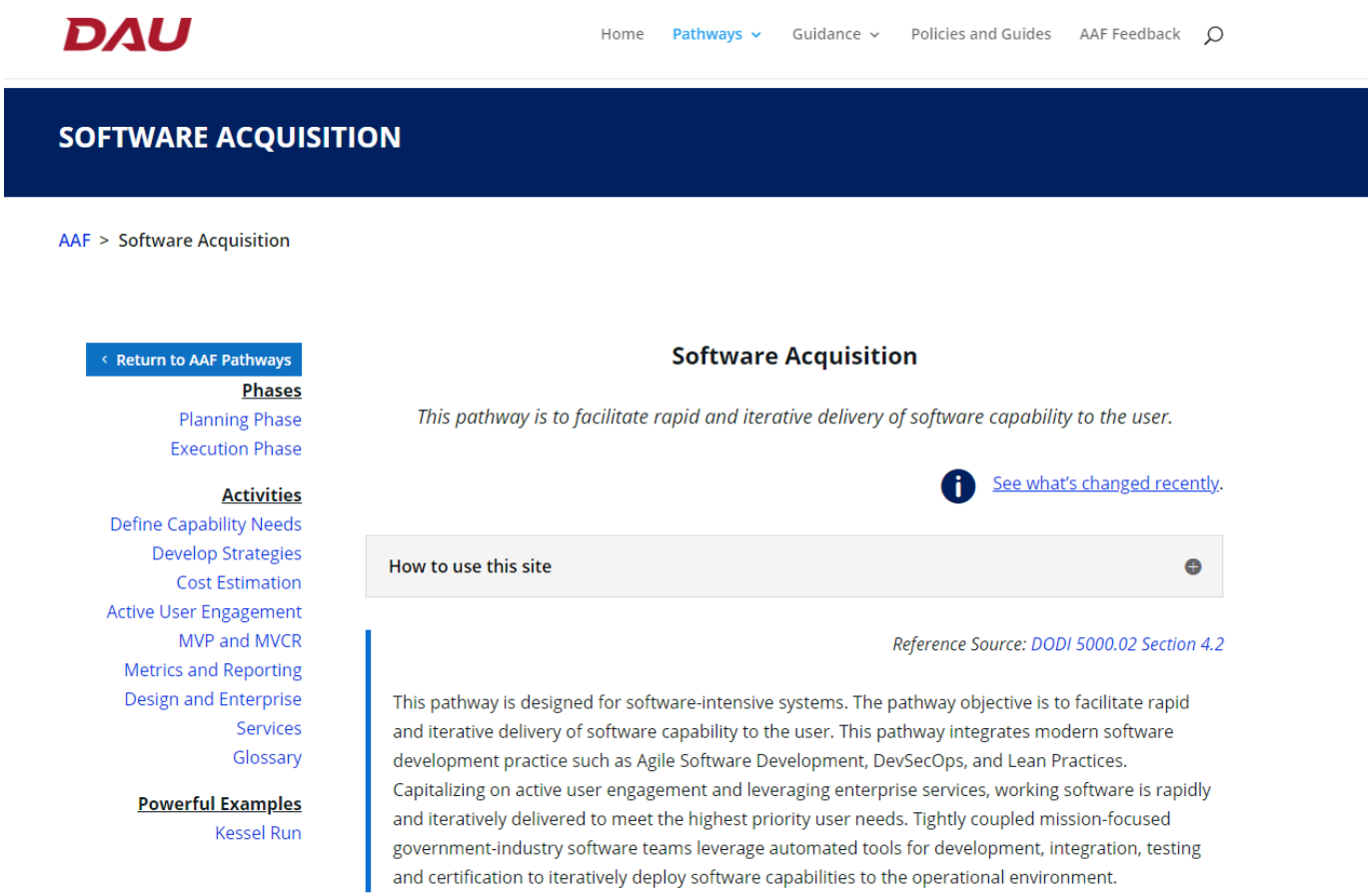
Benefits of Software Acquisition Pathway

- Tailored acquisition processes for modern software development
- No formal milestones – Delegated decision authorities
- Exempt from JCIDS (unless VCJCS, A&S, SAEs agree on new process)
- Streamlined reviews and documentation – No MDAPs
- Leverage enterprise services and not “rebuilding the SW factory”

Software Acquisition Pathway and DevSecOps provide the framework that prioritizes speed, flexibility, and rigor

SWP on AAF Website

Integrated policies, guidance, and resources to navigate the SWP with greater speed and success.



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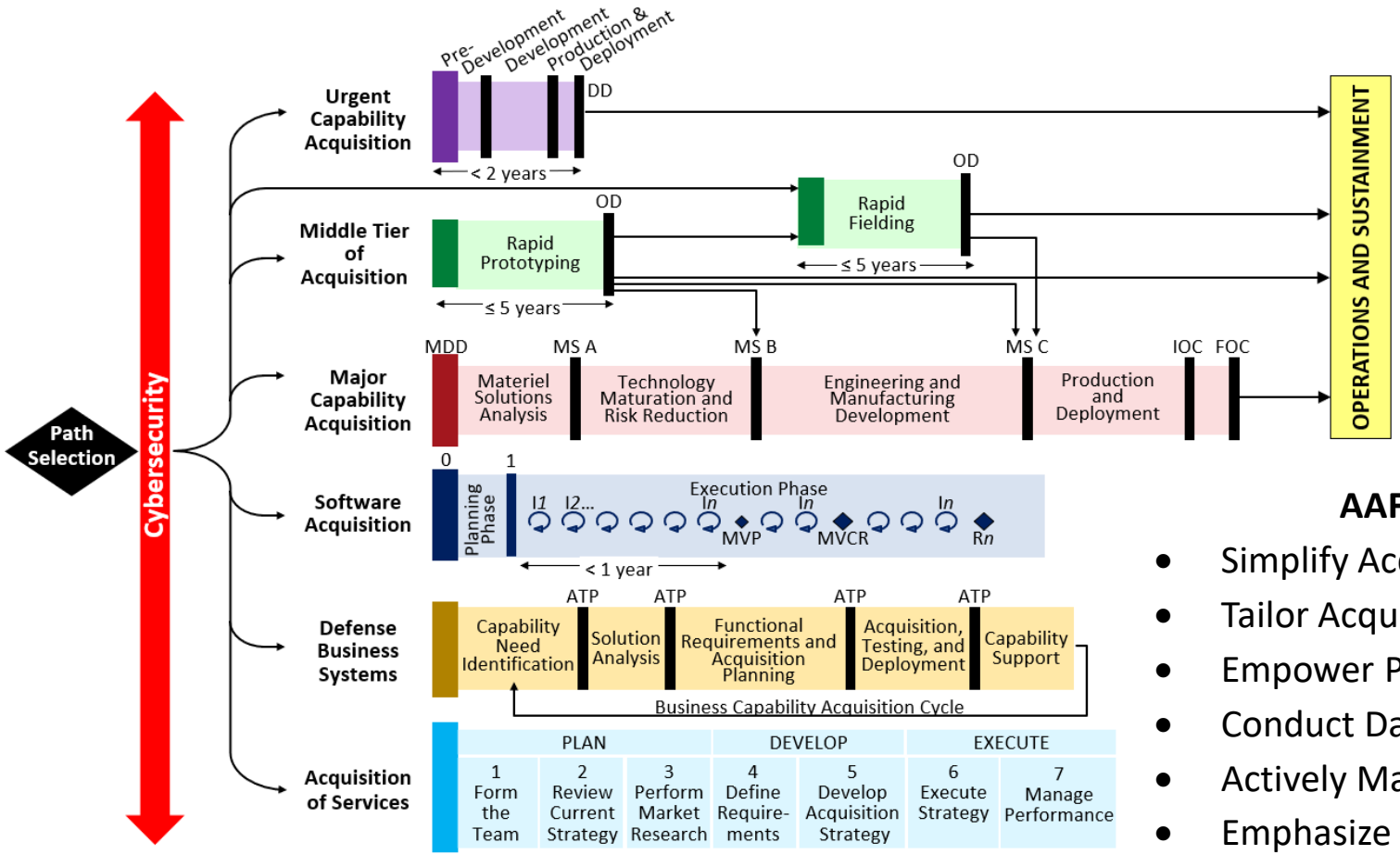
Backup Slides

Adaptive Acquisition Framework



AAF Tenets

- Simplify Acquisition Policy
- Tailor Acquisition Approaches
- Empower Program Managers
- Conduct Data Driven Analysis
- Actively Manage Risk
- Emphasize Sustainment

A set of acquisition pathways to enable the workforce to tailor strategies to deliver better solutions faster.

https://aaf.dau.edu/

Information Requirements

Balance speed with rigor – Focus on SW over extensive docs

Entering the Planning Phase	
ADM signed by DA	Draft CNS
Entering the Execution Phase	
Capability Needs Statement	User Agreement
Acquisition Strategy	Cybersecurity Strategy
Test Strategy	IP Strategy
Product Support Strategy	Information Support Plan
Program Cost Estimate and ICE	CARD
During the Execution Phase	
System Architecture	Product Roadmap
Program Backlogs	Strategy Updates
CARD/Cost Estimate Updates	Value Assessment
Metrics and Reporting	

See details at: https://aaf.dau.edu/aaf/software/develop-strategies/

Capabilities Needs Statement (CNS)

A high-level capture of need with enough information to define the software solution space and consider the threat environment.

- Sponsor and Requirements Manager ID operational software capabilities needed
- Draft CNS to start the Software Pathway
- Refine during Planning Phase and approve prior to entry into Execution Phase

A&S Acquisition Enablers shop collaborating with Components to encourage adoption of flexible and streamlined requirement processes for the SWP.

Clear Understanding of What is Needed

https://aaf.dau.edu/aaf/software/user-engagement/

Draft CNS Template

User Agreement

Agreement between the operational and acquisition communities to ensure active user involvement and informed decision making.

- Ensure proper resourcing of user involvement to support development
- Commit to active user involvement throughout design and development during planning phase
- Signed by sponsor, PMO prior to entry into Execution Phase

Establish Strong Ties to Users from Start

https://aaf.dau.edu/aaf/software/user-engagement/

Draft UA Template

Contracting Considerations

Instead of a single monolithic contract for Software solution dev…

Portfolio of contracts of leveraging *Modular Contracting

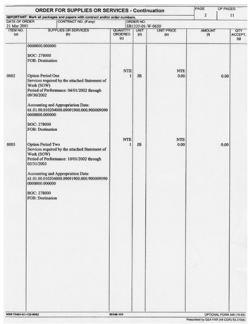
Example Modular Contracting Strategy

	Contract Strategies
Agile S/W Dev Team(s) (Services)	FAR 8.4, FAR 12, FAR 13.5, FAR 16.5
Microservice Solutions (Tools)	FAR 8.4, FAR 12, FAR 13.5, FAR 16.5
DevSecOps-aaS (Manage CI/CD Pipeline)	FAR 8.4, FAR 12, FAR 13.5, FAR 16.5
Platform-aaS (CI/CD Pipeline)	FAR 16.5, BOAs (i.e., Platform One)
Infrastructure-aaS (Cloud solution)	FAR 16.5 (i.e., Cloud One, AWS GovCloud)

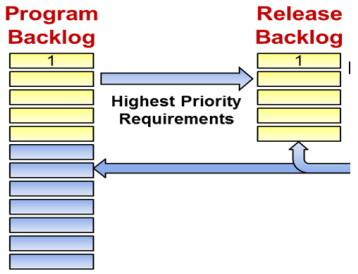
Agile S/W Dev Contracts

(may have separate contracts for each dev team)

Objective: Support small, frequent releases, respond to change, consider programmatic risks, and program scope/objectives



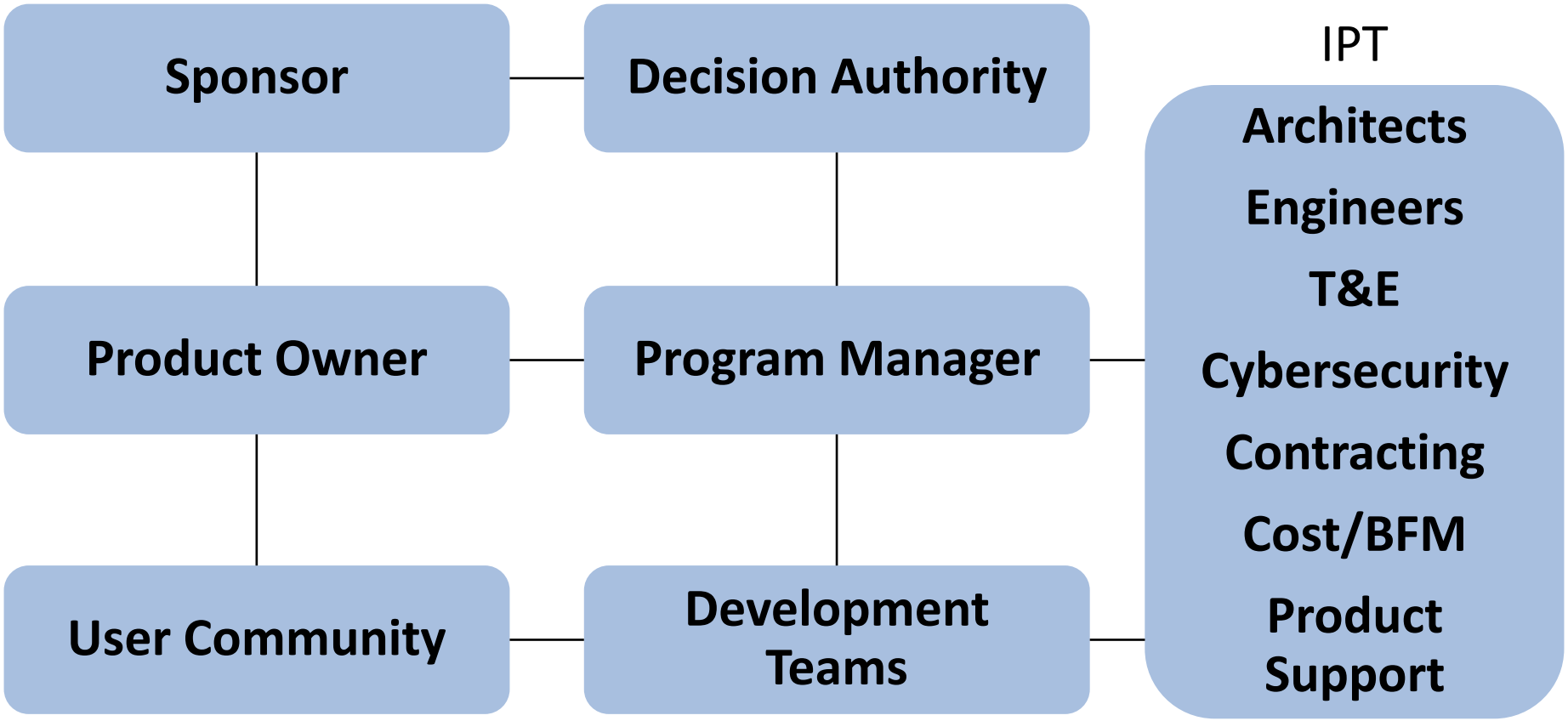
Contract Requirements
Tasks and activities describing Agile S/W development needs to develop and deliver solution



Agile Requirements
Capabilities expressed in user stories and continuously managed in backlogs to achieve solution required by contract

*FAR 39.103

Key Players in Software Acquisition Pathway



Integrated Teams Across Operations and Acquisition; Government and Vendors; All Functions and Levels

Two Paths within Software Acq Pathway

Application Path	Rapid development and deployment of software running on commercial hardware (including modified hardware) and cloud computing platforms.
Embedded Software Path	Rapid development and insertion of upgrades and improvements for software embedded in weapon systems and other military-unique hardware systems.