BREAKING BARRIERS: EXTENDING SOFTWARE-INTENSIVE ACQUISITION PATHWAYS WORKSHOP RECOMMENDATIONS

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INTRODUCTION

Recent Executive Orders and Directives require the Department of Defense (DoD) to prioritize innovation in the commercial marketplace and streamline processes to rapidly deliver solutions to our warfighters. Success for achieving DoD priorities, such as Golden Dome for America, Border Security, and Autonomous Systems, will depend on innovative industry solutions—combining new approaches with today's capabilities and bringing in non-traditional industry partners, quickly and flexibly.

Existing policies, acquisition processes, technical processes, and other challenges to implementing modern software development processes were considered in the discussion to arrive at the set of recommendations. Workshop participants represented government, industry, and Federally Funded Research and Development Centers.

Key Recommendations

1. **Enable software programs to execute with any color of money.** This may be achieved by codifying the use of existing funding to operate with existing appropriations or legislating "colorless money" for software acquisition.

2. **Update the Government Accountability Office (GAO) Yellow Book: Government Auditing Standards to include a framework for software acquisition.** GAO's Yellow Book provides the auditing standards used to evaluate acquisition processes. The current auditing framework negatively impacts GAO audits of software programs. This was a Section 809 panel recommendation that has not been implemented.

3. **Overhaul cost estimation processes for software development efforts.** Traditional Department of Defense (DoD) cost-estimating processes designed for hardware-centric and waterfall development programs, combined with cost estimators unfamiliar with modern software development approaches, challenge software programs. Industry-informed cost estimating strategies leveraging software development experts should replace DoD cost estimating processes for acquiring software solutions.

Key Recommendations

- Enable software programs to execute with any color of money.

- Include audit definition for software acquisition in GAO's Yellow Book.

- Overhaul cost estimation for software development efforts.

- Leverage Value Assessments for accountability of software programs.

- Develop organizational reference design architecture for software programs.

- Re-think testing for software programs.

4. **Leverage Value Assessments for accountability of software programs.** Value Assessments are currently used by Software Acquisition Pathway programs to assess delivered capability, but could be expanded to evaluate the capability of the acquisition program to identify when modern software development approaches are not correctly implemented.

5. **Develop an organizational reference design architecture for software programs.** Software acquisition programs resourced without key software development skill and expertise are destined to fail. An organizational reference design architecture is needed to ensure a consistent framework across DoD software acquisition programs with an adequately skilled acquisition workforce to enable program success with modern software development practices.

6. **Rethink testing for software programs.** The Software Acquisition Pathway emphasizes iterative development and continuous testing. A modernized test and evaluation approach—e.g., validating automated tests—is necessary for the DoD to adapt test strategies for software.

Impact to DoD Software Programs

The workshop recommendations align with the Directing Modern Software Acquisition to Maximize Lethality directive and amplify elements of the proposed FY26 Senate Armed Services Committee (SASC) National Defense Authorization Act (NDAA) and the Streamlining Procurement for Effective Execution and Delivery (SPEED) Act, as well as recommendations provided by the Atlantic Council's Software-Defined Warfare Study, all of which focus on improving acquisition processes that will benefit software programs.

> The workshop recommendations align with the Directing Modern Software Acquisition to Maximize Lethality directive and amplify elements of the proposed FY26 SASC NDAA and the SPEED Act.

- The **FY26 SASC NDAA** proposes transitioning the role of Program Executive Officer (PEO) to Portfolio Acquisition Executive with direct control and responsibility for requirements, programming, and acquisition (including functional support) to deliver capabilities (Sec. 801); proposes modifications to the Modular Open Systems Approach (Sec. 804); and establishes an alternative test and evaluation pathway for Software Acquisition Pathway programs to accelerate capability delivery (Sec. 805).

- The **SPEED Act** proposes empowering PEOs by aligning key functional support under PEO leadership to ensure PEOs can be held accountable for program performance and clarifies Modular Open Systems Approach requirements to accelerate the integration of evolving technologies.

- The **Software-Defined Warfare Study** recommends modernizing test and evaluation infrastructure and removing restrictions on software funding.

The Breaking Barriers recommendations would better posture software programs to rapidly develop iterative capability to the warfighter as directed in DoD Instruction 5000.87 and in the Directing Modern Software Acquisition to Maximize Lethality directive.

Status of Recommendations

MITRE is developing an implementation plan to move forward with the set of recommendations with continued input from workshop attendees. Recommendations identified as short- and mid-term to address within the next year include Software Program Color of Money (#1), Cost Estimation Processes (#2), Value Assessments (#4), Organizational Reference Design Architecture (#5), and Testing (#6).

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