

**Fiscal Year 2020 National Defense Authorization Act §862(b)(D)
Defense Innovation Board Assessment: Department of Defense Implementation of
Software Development and Software Acquisition Training and Management Programs
5 March 2020**

The Defense Innovation Board (DIB), a federal advisory committee that provides advice to the Secretary of Defense, was tasked to conduct an assessment of Department of Defense (DoD) efforts implementing FY20 NDAA §862, targeted at the implementation of software development and acquisition training and management programs. As part of the DoD reporting requirement to Congress, the DIB Science and Technology (S&T) sub-committee reviewed a draft version of the report in February 2020 in order to facilitate deliberations at its public meeting on 5 March 2020, as required by the Federal Advisory Committee Act (FACA) regulations.

The materials provided to the DIB presented a high level summary of the work that the Department is undertaking to implement §862. Given that the Department's report is still in draft form, the DIB's assessment may not fully address the totality of efforts outlined in the final version of the DoD report that will ultimately be delivered to Congress. If necessary, the DIB may update its assessment following completion of the DoD report. The DIB will also conduct an additional assessment on Department implementation of software development and software acquisition training and management programs in December 2020, as required by Congress.

The DIB's initial report on the results of DoD's implementation of §862 recognizes good overall alignment with the recommendations of the 2018 Defense Science Board (DSB) software report and the 2019 DIB Software Acquisition and Practices (SWAP) study. The DIB applauds the establishment of a software workforce working group charged with proposing the creation of new career paths for digital talent by establishing software development as a high-visibility, high-priority career track and increasing the level of understanding of modern software across the acquisition workforce. This is an area of urgent need within DoD, and by forming a working group to recommend changes to DoD leadership, the Department has created a potential mechanism for change, which is a crucial first step.

In the DIB's review of the draft report, it was clear the working group was focused on developing a baseline understanding of the myriad of ongoing activities in the Department, identifying the gaps and pain points that need to be addressed, and establishing a set of definitions for the different sections of the workforce and the types of capabilities that will be required. The actual implementation of the changes directed by Congress are still in a formative stage.

Some specific results that are reported include:

- Compilation of a list of civilian occupational series that might comprise software developers, as a precursor to discussion regarding a new core occupational series (COS); and
- Review of career roadmaps and positions descriptions developed by DoD software programs, the Services, and industry.

The DIB believes these are all good first steps, but obviously represent a small fraction of the progress and effort that will be required to attract, retain and promote digital talent within DoD. In addition, the DIB is cognizant of several education, training and leadership hiring efforts aimed at addressing workforce capabilities in software acquisition. The DIB continues to encourage DoD to work with partners in Congress to seek legislative support for these efforts. This was the approach recommended in the SWAP study and yielded success with the Software Acquisition Pathway.

Most importantly, the DIB encourages the working group to continue their efforts and to identify ways to move toward implementation more quickly. As one approach toward accelerating its efforts, the DIB strongly encourages DoD to take an innovative approach toward transformation as it continues its work on implementation of §862: *start small and iterate quickly*. This is the same axiom that characterizes the best of modern software innovation cycles and is the cornerstone of the DIB's software acquisition study and recommendations. With some creativity it can be implemented here as well. The DIB encourages DoD to implement a quarterly (or faster) "release cycle" in which the working group makes (modest) recommendations for initial changes that can be tried out within a few units of willing "beta testers". If the changes are successful, then they can be expanded to a larger subset of the Department; if not then they can be "rolled back" with relatively little cost. This approach could be used in establishing initial definitions of the workforce, articulating roles and competencies to map the existing workforce, and creating and testing training and certification programs. Each of these areas are identified in the report as current and proposed areas of study, and we hope that by the final report they will be areas in which multiple iterations of implementation have been tested and adopted.