

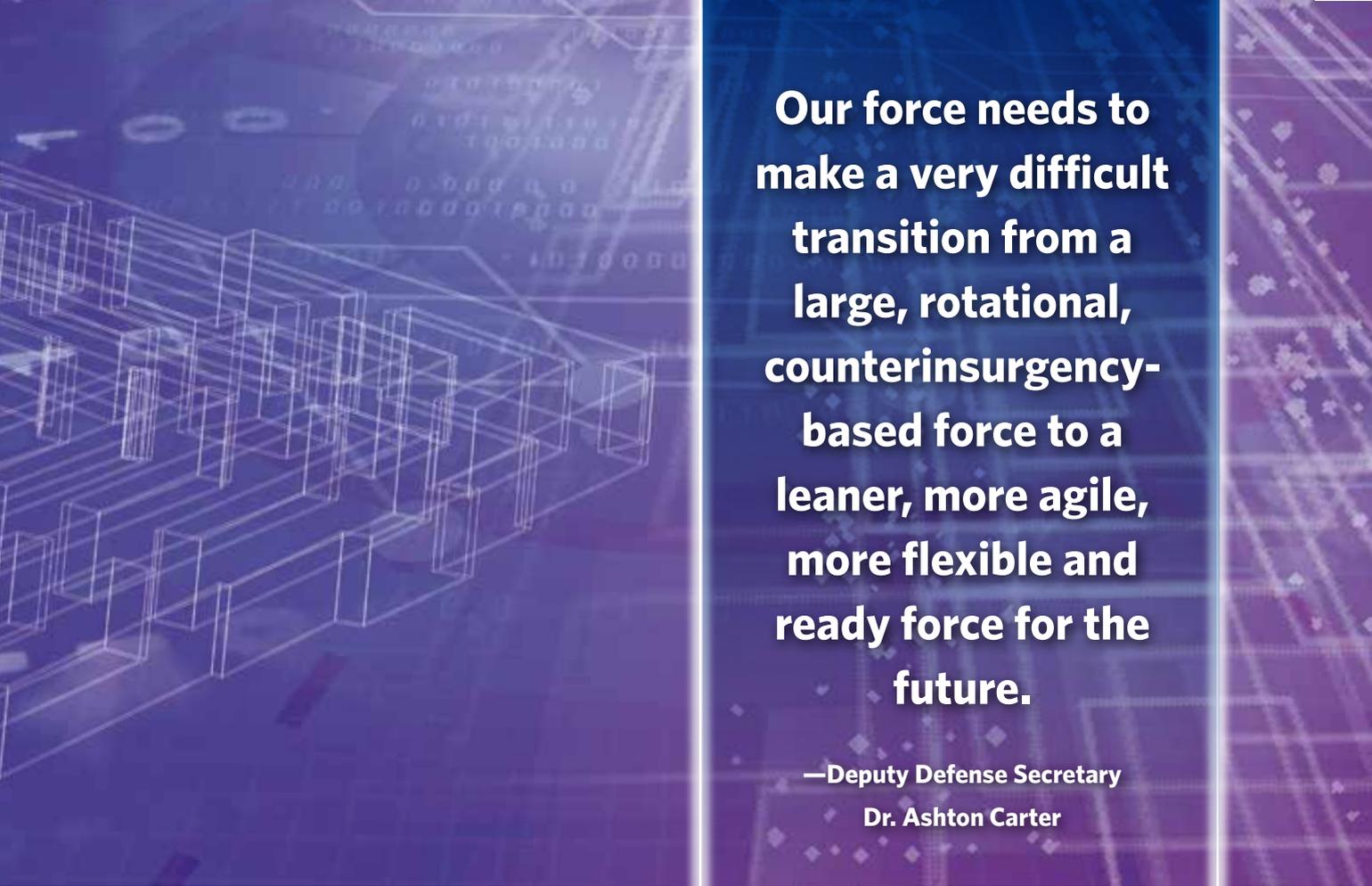
Digital Pentagon

Pete Modigliani

The time has come for the Pentagon to retire its Industrial Age management model and invent a radically new approach for the Digital Age. The Department of Defense (DoD) faces an increasingly complex operational environment at a time of decreasing defense budgets. The DoD would yield better results if it harnessed its strategic initiatives to enabling innovation instead of strict cost-cutting measures. The enterprise that more than 40 years ago helped invent the Internet for research and development collaboration must leverage the Web as a platform to network its acquisition workforce.

Rigid command and control hierarchies must transition to a more dynamic, networked decision-making model. Bureaucratic policies, processes and culture must be replaced with an operating model that is focused on organizing collective knowledge. Defense acquisitions in the digital era must be designed for an agile, innovative and

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**Our force needs to
make a very difficult
transition from a
large, rotational,
counterinsurgency-
based force to a
leaner, more agile,
more flexible and
ready force for the
future.**

**—Deputy Defense Secretary
Dr. Ashton Carter**

collaborative environment. Rapidly advancing digital technologies, collective intelligence and organizational innovations can unleash a remarkable transformation toward a Digital Pentagon.

Rethinking DoD's Oversight Model

While a rigid command and control hierarchy may be the best approach for commanding troops on the battlefield, it is a fundamentally flawed model for leading knowledge workers in the 21st century. The traditional top-down directed management style cannot keep pace with the dynamic and changing environment in operations, business and technology. Hierarchical organization charts should make way for dynamic network models, aligning the right expertise to mission objectives, often via self-organizing, cross-functional teams. Instead of adherence to the growing number of policies and directives, leadership must focus on guiding change and fostering innovation.

The controlling mindset of many DoD executives drives the development and coordination of vast amounts of documents and a gauntlet of reviews to get an authoritative decision every step of the way. The more important or risky a program or initiative, the more oversight it receives. This approach only increases cost, schedule and risk, which is counter to the agile, rapid and cost-

effective DoD objectives. The DoD should rethink its control model and consider the old adage, "If you love it, set it free." Even Under Secretary of Defense for Acquisition, Technology and Logistics Frank Kendall wants to get the Office of the Secretary of Defense out of the business of managing programs. Senior leaders should focus on enterprise strategies and architectures. Decision-making authorities of individual programs should be delegated to empowered and accountable program executive officers. Leaders in the Digital Age guide active collaboration, learning and self-organizing teams to deliver solutions.

In a Digital Pentagon, executives establish processes, resources and a culture for innovation. Instead of relying on many tiers of oversight councils and governing boards to gain wisdom, knowledge is diffused across the enterprise. Coordination will be less focused on reviewing documents and more on aligning the right expertise to help program managers be successful. A networked model that fosters mass collaboration will manage the enterprise standards, interdependencies and collective learning.

Policies, processes and reviews intended to avoid repeating failures will replicate success. Identifying and sharing what went right is more beneficial than

documenting what went wrong. Adversarial relationships across the enterprise will decline as a collaborative, integrated and networked culture emerges. The acquisition workforce will shift its attention from delivering documents to the hierarchy to delivering innovative capabilities to users in a complex, dynamic operational environment.

Headquarters staffs in the Digital Pentagon focus less on ensuring policy compliance and more on providing thought leadership as centers of excellence for their functional area. In their oversight role, senior officials reviewed dozens of programs, gaining valuable insight into what works. Now they actively share that knowledge with the acquisition community by posting best practices and lessons learned to websites and enterprise knowledge repositories. Success is replicated by analyzing the most successful programs and identifying the leading factors for others to model. Communicating elements of successful program strategies and practices enables the workforce members to understand and apply these elements to their programs early in the processes.

In a Digital Pentagon, many oversight reviews are replaced with peer reviews where acquisition professionals in other program offices review program strategies. Peer reviews provide the program office rapid, unbiased feedback from others who are going through the same processes and tackling similar issues. This approach also provides reviewers keen insight that they can apply to their programs and strengthens their professional development. Coordinating strategies with other programs improves interoperability and shapes an enterprise-wide view. Peer reviews can include those in other Services or agencies to offer a unique perspective and strengthen inter-service partnerships.

Knowledge Management

The Defense Acquisition Workforce includes more than 150,000 civilian and military knowledge workers. In addition, the DoD employs more than 200,000 contractors at a \$100 billion annual cost for knowledge-based services in engineering, program management, logistics and other areas. Given this vast knowledge workforce, the DoD needs an enterprise-wide knowledge-management strategy. It requires a robust knowledge platform to capture, share and collaborate on the complex acquisition environment. The Defense Acquisition University's set of tools can serve as the foundation for an enterprise platform. Doing so will require an investment and redesign to effectively capture, search and share acquisition knowledge.

Transitioning from a tightly controlled policy and academic environment to an open, collaborative platform like Wikipedia is necessary for managing the vast amount of content. Empower the 350,000 knowledge workers to actively contribute and collaborate. In addition, free the acquisition policies from static PDF files to a dynamic Web of pages and wikis linking the complex concepts online. Rapidly integrate additions and changes into the policy network with trace-

ability and notification alerts. To do this, the DoD needs an Acquisition Knowledge Management Directorate within the Pentagon to develop powerful enterprise tools and strategies. It would network the acquisition knowledge workers and improve leadership's implementation of its vision, policies and initiatives.

A similar enterprise acquisition platform is needed to manage the thousands of defense acquisition programs effectively and efficiently. Program information pulled from the countless program documents, reports and metrics databases are integrated into an enterprise knowledge repository. Each acquisition program maintains a Wikipedia-like page as the single authoritative source of information on the program. Program strategies can be developed collaboratively and approved via wiki libraries, streamlining processes and improving data connections and stakeholder engagement. Stakeholders across a program's community should have central online platforms to collaborate on the program's strategies, status and issues. Portfolio managers can use IT platforms to oversee their suite of programs by aligning budgets, dependencies and strategies to strategic outcomes. The DoD can break from the static reports to more dynamic tools that monitor progress, issues and opportunities. Leveraging an enterprise knowledge repository enables the acquisition workforce to be smarter, more engaged and innovative. These tools enable new connections of people and information, advanced big data analytics and opportunities to rapidly deliver capabilities at reduced costs.

Fostering Collaboration

Kendall published an article on "The Optimal Program Structure" in the July-August 2012 issue of *Defense AT&L*. He said he wants acquisition leaders to think first, not simply adopt the school solution to program structures. Because there is no optimal solution, Kendall poses a dozen thought-provoking questions to consider when structuring a program.

What if the article were posted as a blog on his website? Discussion could occur among the defense acquisition community members, who could comment and offer additional factors. While no single optimal structure is available for all programs, Kendall could challenge the community to submit potential program structures and supporting information. Very quickly, a few dozen alternatives to the school solution would be available to reference and discuss the merits and perils.

Enabling acquisition professionals to build on these ideas will generate innovative solutions. Such dynamic collaboration cannot happen with a static PDF file. The DoD needs a platform of collaborative, Web-based tools to bring the knowledge, experience and ideas of the more than 350,000 acquisition workforce to create extraordinary opportunities. Beyond IT tools, a collaborative culture is needed that encourages sharing knowledge, program status and draft ideas integrated throughout the enterprise.

Dynamic Organization

The greatest challenge in organizational changes isn't learning the new practices, but unlearning the legacy models. While the DoD frets about the frequent turnover of political appointees and program managers, it should remain vigilant about people entrenched in key headquarters staff positions. Maintaining a steady pipeline of fresh talent and ideas in organizations fosters an environment for thought leaders to emerge. *Innovation rarely occurs from someone who has been in the same job for a decade.* The DoD should review those who have been in a key position for more than 5 years and develop transition strategies to maintain a vibrant enterprise.

The Government Accountability Office reported that 30 percent of the DoD civilian workforce and 90 percent of its senior leader workforce will be eligible to retire by 2015. Transformation to a 21st-century model will take shape as digital immigrants and natives increasingly assume positions of responsibility. This is not a culture war between generations, but a balance of experienced veterans and tech-savvy collaborative thinkers. Effectively recruiting, integrating and retaining the best and brightest of the digital generation is important to transforming the enterprise.

A Digital Pentagon would not be structured around traditional organization charts, but by a more dynamic network model. A home organization would still exist, but a significant portion of the work would occur via projects or self-forming teams. Instead of attending meetings with people who represent their organizations' interests, teams will assemble to tackle specific outcomes. Membership will fluctuate, based on the skills required, expertise available and project timelines. The Digital Pentagon will be organized for innovation with work dynamically linked and widely collaborated, instead of bureaucratically controlled. People will be given the opportunity to contribute their knowledge, ideas and passion to create exciting new enterprise solutions.

Agile Acquisitions

In this challenging global security environment, it is increasingly critical to provide our warfighters with cutting-edge, unmanned, cyber and intelligence capabilities. The DoD's emerging 21st-century primary missions include counterterrorism, irregular warfare and cyber warfare. Success in these missions requires an agile acquisition framework. Over the past 2 decades, our major weapon systems have become larger and more complex. This has resulted in significantly higher costs, longer schedules and reduced quantities, ultimately increasing acquisition, budget and operational risk. DoD must reverse this trend by developing many smaller systems more frequently as networked elements of an integrated enterprise.

Many of the DoD's most successful programs over the past decade operated outside the traditional acquisition framework to deliver warfighter capabilities rapidly. Urgent warfighter needs, short operational timelines, senior leadership attention and sufficient funding were common elements. These

programs did not spend years defining requirements; analyzing alternatives; developing detailed cost estimates, acquisition and test strategies; and obtaining approval from dozens of organizations. These programs broke from the model that focused on a large-scale \$10 billion weapon system with a 10- to 15-year schedule to delivery and 30- to 50-year life-span. MC-12 Liberty aircraft integrated an existing radar suite with a commercial aircraft and delivered a critical intelligence, surveillance and reconnaissance asset to theater in less than a year for \$17 million each. More than 20,000 Mine Resistant Ambush Protected vehicles were developed rapidly and delivered to theater, reducing improvised explosive device casualties by up to 90 percent. Cyber capabilities developed in weeks and months can achieve strategic objectives without deploying large ground forces or dropping thousands of bombs. Digital technology is advancing innovations at breathtaking speeds.

Wikispeed leveraged agile software development methods to develop an innovative 100-miles-per-gallon car in 3 months. Wikispeed broke from General Motor's and Toyota's traditional manufacturing model, entailing 10-year development cycles and billion-dollar capital investments. Wikispeed used a modular approach with 1-week sprints to iterate its car, continually re-evaluating and inventing the highest-priority features. This approach enabled Wikispeed to be more responsive to customer changes, integrate current technologies and rapidly improve system performance. By leveraging distributed, collaborative teams, Wikispeed was highly productive, knowledgeable and motivated.

The DoD enterprise collaborative platforms and networks will enable a tighter integration of the Joint warfighter and the acquisition community and increase public/private collaboration. A dynamic requirements model can evolve with operations, budgets and technology. Information systems that leverage automated tools enable rapid testing and continual cybersecurity assessments. Capabilities are developed faster, are cheaper and are more integrated when building to an enterprise architecture and leveraging common platforms. Acquisitions in a Digital Pentagon will be structured from a dynamic network model foundation to harness the accelerated pace of technological change and foster an *innovation* environment.

Summary

Achieving an agile, innovative and technologically advanced force for the future will require a radical new approach to the Pentagon's structure, operations and culture. New investments in digital platforms will harness the collective knowledge of the enterprise to unleash innovations and generate substantial cost efficiencies. Recruiting and integrating the digital generation into a dynamic, networked workforce will be critical. This new, agile way of working makes decision making easier, freeing the organization of bureaucracy and institutional paralysis. Digital technologies will underpin DoD processes, policies and strategies to position the Pentagon for tremendous opportunities in the 21st century. 

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