Testimony before the National Commission on
Military, National & Public Service
May 16, 2019 | Washington, DC
Military Service: Creating New Pipelines and Fostering Critical Skills

Nicole Camarillo
Executive Director, Talent Acquisition and Management Strategy
U.S. Army Cyber Command

Chairman Heck and distinguished members of the Commission, I am honored to have the opportunity to testify on ways to encourage military service, foster critical skills, and address the military civilian divide. My name is Nicole Camarillo, and I serve as the Executive Director of Talent Acquisition and Management Strategy for U.S. Army Cyber Command. Prior to taking this position, I served as a senior advisor to the Assistant Secretary of the Army for Manpower and Reserve Affairs focused on the recruitment of civilian and military technical talent. The time I have dedicated to cultivating reforms designed to empower those who build the technical capabilities required to outpace adversarial threats has been the most meaningful of my career. They have shown up to make significant contributions to national security and protecting our warfighters. I am here today to share what I have learned by working with technologists across the military, including lessons I believe are instructive to addressing the challenges we are discussing today.

I would like to begin by noting that I have encountered a substantial number of extraordinarily gifted men and women in uniform who already possess the skill sets we seek, including mathematicians, software engineers, and data scientists. However, we often try to manage them within a structure where military dominance has been measured in number of aircraft carriers, ships, tanks, and people. Today, major conflicts will be decided by our ability to effectively use technology to defend ourselves from cyber attacks in addition to the effective use of technology in traditional warfare. The metrics for dominance in this domain do not require that we have the most people on mission, but the best and the brightest. One exceptional engineer equals the fighting power of 100 average engineers. The fundamental challenge we face is creating a working environment where the nation's best technical minds can work on the hardest problems we have and believe that they have a meaningful career path whether in uniform or as a civilian. Today, we are making impactful strides in this direction, but we are not there yet while many of our greatest adversaries are.

A few years ago, I began working in my current position with Army Cyber Command under General Paul Nakasone. Before developing specific talent management strategies, I spent time with hundreds of technical service members of all ranks across the command as well as other services. Junior military members and civilians highlighted the need for senior technical mentorship, training opportunities that would challenge their current skill level, and access to technical tools that would allow them to do their jobs. Based on these conversations, I focused on developing strategies to test building the right environment for technical talent to flourish. Essentially, we changed the cultural paradigm they were accustomed to working in by providing unlimited resources for mentorship, training, and tools to build capabilities. We accomplished this by partnering with another audacious effort underway at the Department of Defense called Defense Digital Service (DDS).

Leveraging top technical talent from the private sector

Established under Secretary of Defense, Ash Carter, the Defense Digital Service is a team charged with bringing in private sector tech talent and best practices to transform the way the Department of Defense approaches technology. Individuals are recruited from the private sector to come and serve two year tours of duty as government civilians. In addition to improving technology inside the Pentagon, SWAT teams of nerds are deployed globally to combatant commands in support of the warfighter and our global defense networks. In just four years, these teams have fundamentally disrupted the processes that have precluded us from getting to the right technological solutions by only taking on projects that will have substantial impact on DoD and service members.

Building on the depth of technical expertise DDS recruits and the level of support provided by the Secretary of Defense, I enlisted their help addressing the fundamental talent management challenges impacting the Department and the services. This collaboration resulted in the JYN Program, an effort to provide technical talent in uniform the opportunity to work as they would in any start-up alongside some of the best engineers in the country.

If you build it, they will come

We launched the JYN pilot program in partnership with DDS to help cultivate, support, and best utilize technical talent within ARCYBER. The program deploys small, focused tech teams of DDS tech experts and cyber soldiers to rapidly produce cyber capabilities. These highly-trained Army officers and soldiers work side-by-side with DDS civilians in unclassified, collaborative, startup-like spaces using technology and tools found in the private sector. For instance, project teams are using concepts of continuous software iteration and user-centered design, which are common in the tech sector, but not in the military. They are also allowed to work out of uniform which is key to removing rank from the problem solving process. Once rank is not the focus, greater and more rapid trust among the group develops and there is more candid input at critical decision points.

Teams are empowered to rapidly produce cyber capabilities while also receiving focused training by DDS digital service experts on modern tools and technology approaches. Teams are also assigned “product managers” that interface between the engineers and the customer, allowing technologists to focus on tool development. The role of product manager is critical to strategic management and execution of product development in the private sector, but extremely rare in DoD and the military. Through the JYN program, teams have successfully developed capabilities in areas ranging from drone detection technologies to tools for hunting adversaries on networks. There is also a team redesigning training for cyber soldiers to align it with operational requirements and real world training techniques.

A DDS designer developed a "JYN Playbook" that provides a roadmap to the fundamental elements of how we build and manage these teams for successful technical product development. The playbook also addresses the key areas of development we want participants to achieve during their time in the program. For example, they brief senior leaders on the technology they are developing and its purpose to practice conveying critical information to someone who may not be as technical as they are. They receive multiple training sessions from DDS team members on various best practices from the private sector. Ultimately, once they complete a project, they become JYN alumni and are expected to lead a new team with what they have learned. We have had multiple alumni lead teams who are then coached on technical leadership techniques by DDS experts.

Scalability

JYN is now expanding to formally include technical talent from the Navy with plans to continue to expand across the services. Teams were originally headquartered at the Pentagon in DDS offices, but will also have space in Augusta, Georgia in anticipation of Army Cyber Command's relocation there next year. Dubbed Tatooine, this unique, startup-like workspace is housed in the Georgia Cyber Center, a state-owned facility designed to promote modernization in cybersecurity technology among government, industry, and educational institutions. Being located in Augusta, the work place will house participating top technical talent from within the ranks and provide them a nearby hub with the tools, technology, and DDS mentorship to hone technology skills in new ways. Army Cyber and the Cyber Center of Excellence support the JYN program by providing the technical soldiers to staff teams, as well as constructive credit towards Professional Military Education (PME) for their time on those teams. The Cyber Center of Excellence and the Army Cyber Institute have provided senior officers who oversee day-to-day operations in Tatooine and report to DDS.

Sustainability

Simple notions like believing one has a purpose, is contributing to it in a meaningful way, and is acknowledged when they do contribute are key to the culture that we must create to retain and recruit top technical talent. Although the JYN program has been a success in terms of the training teams receive and their ability to rapidly develop technology, we have not yet figured out the broader challenge of how to manage these technologists once they go back into their organizations. Unfortunately, they do not always return to commands that embrace the value of their experience from the JYN program or their desire to remain technical in a meaningful way. The attitudinal disposition of their leadership will ultimately determine whether they believe they have a viable career path as technologists in the military and our ability to retain them. In my experience, this has been one of the most influential factors in whether an individual decides to stay in uniform or separate from the military.

We have been able to create *a* place within DDS where talent can thrive and be excellent, but until it is simply how we manage technical talent and apply them to mission, it is not enough. If they go back to a place where they are once again discouraged for pursuing a technical path while in uniform, it will be next to impossible to retain them.

Recruiting New Talent

Another challenge is reaching out to technical talent across the country and sharing our mission with them. Tech talent at top universities is bombarded with opportunities in the private sector, but rarely are their skills recruited for public purpose. This is a significant missed opportunity because more than ever this generation wants to be part of a community working on a problem of impact. What better place is there to do that than in government? I began reaching out to tech and policy students at Stanford, taking along with me the young military members who work on JYN teams and DDS experts who left the private sector to work on these challenges. We now have a steady pipeline of Stanford students who come and work with JYN teams, building alongside them. They have become our greatest ambassadors and all it took was a sustained effort to reach out and share our mission with them and tell them how vital their skills are to the work we are doing. However, key to our success is the fact that when they come we do not waste their time. They are on-boarded in a timely manner and immediately put to work on the actual problem set in an environment where they can write software quickly using modern tools and technologies. It is critical that we do not call them to a mission and then let them languish once they have committed to work on a problem of consequence.

<u>Additional efforts to attract civilians from the private sector</u>

In addition to JYN, the Army supports a direct commission officer pilot program focused on technical leaders from the private sector and a cyber civilian hiring pilot in partnership with DDS.

Direct Commission Officer Pilot Program

In my role, I recommended an increase to constructive credit for direct commission officers from 3 years to 20 years. The fundamental benefit of this pilot would be to allow us to bring in senior technical talent from the private sector to address the gap in senior military leaders who are technical. However, we needed the ability to bring them in at more senior level ranks (up to colonel) than the previous three year cap allowed. The credit increase was passed in the FY 19 NDAA and the Army has been actively recruiting technologists from the private sector, but will still need to address the challenge of defining their roles and optimizing their value. In order to be successful, those we bring in will need to be supported at the highest leadership levels with clear guidance to the rest of the command as to their purpose. It is critical that they be identified as technical mentors *and* leaders who are here to develop our junior service members who are

technical and evolve them into future technical leaders. This path is not officially supported in our current military structure, but if provided will demonstrate a commitment to their technical development.

Cyber Civilian Hiring Pilot

In partnership with DDS, we have also established a civilian hiring pilot that allows us to address the fundamental challenges of quickly hiring technical talent into the Department of Defense. The pilot allows us to maximize direct hiring authorities, leverage subject matter experts (SMEs) from DDS to vet technical skills of candidates, and provide SMEs for hiring panels. All HR processes up until onboarding have been delegated to the pilot team to allow us to establish a road map for optimal hiring practices. The pilot began earlier this year, with Army as the first partner and we are in the process of supporting current hiring panels. I believe hiring technical talent as civilians may inspire them to consider military service as well if they are given an opportunity to work alongside service members on problems of impact. In fact, several DDS team members and other technologists I have encountered in the private sector have expressed interest in the direct commission officer pilot. Some have already considered military service at different points in their careers. As with interns and recent graduates, we must not waste their skills once they commit to the mission.

<u>A path forward</u>

If we do not have the talent capable of building effective tools, we will not be able to stand up to our adversaries in this domain. Eric Schmidt, Chairman of the Defense Innovation Board and former CEO of Google, recently said that "the future is going to be about assembling the right experts quickly, getting the ideas quicker than anybody else and implementing them faster than anyone else, because global competition means the timeframe you have is shorter and shorter." The good news is we have the talent in our ranks already and an unrivaled mission to bring more to the fight. We just need to get out of their way and let them work quickly and deliberately, while also cultivating them as leaders. After spending over two years observing our JYN teams work, the best guidance I can offer today is how to lift up the brilliant few who will ensure we achieve superiority against asymmetric, non-kinetic threats.

1. Build a place where technologists have all of the resources needed to do their technical jobs; not just technical tools, but technical mentors from both the military and private sector who can support their development. What we gave them was an environment where they could put their heads down and work without the typical friction of a large bureaucracy. They have a product manager to oversee the daily resourcing requirements, scheduling, and overall strategies for successful product development. They have bureaucracy hackers like me, who maintain leadership buy-in and navigate unexpected road blocks. They don't spend time on anything but the work.

2. We tend to spread talent thinly across organizations when what they require to thrive is a concentrated community where all of them work side by side. Instead of spreading them across organizations, we should deploy SWAT teams of nerds to research the technical problems facing commanders who can come back to develop the solution by leveraging the brain trust. This approach has been essential to the success of JYN.

3. Let them build solutions with the customer. Being able to iterate quickly throughout development with the customer will lead to more rapid, precise and cost effective solutions.

4. Let them be technical and develop them as not just managers, but technically proficient leaders, consistent with the principles of the Profession of Arms.

5. Redefine force readiness to accurately reflect our ability to project combat power through technology. Let's redefine how we answer questions like can we withstand attacks by our adversaries and do we have the ability to develop cyber capabilities at the speed of relevancy? Remember the math: one exceptional engineer can outmaneuver a hundred mediocre engineers. With fairly small numbers of the right individuals, properly empowered, we can significantly increase our organizational capabilities.

6. The technologists themselves are our greatest ambassadors. Let them be the ones to share the mission and their amazing technical accomplishments with other talented individuals who want to serve both in uniform and out of uniform.

7. Recognize that we need these technologists now, more than ever before, and that they signed up to serve their country because they want to solve impactful problems. Let's get out of their way and let them lead us where we need to go. We should also embrace the idea that they may not pursue a long career in the military, but we can leverage the time they are in the service by maximizing their ability to work on technical challenges. Then, we should create meaningful paths for them to come back to mission through organizations like DDS. It is incredibly important that they leave the military inspired to recruit others from the private sector to come and work on these problems with us.

I would like to close with a comment I overheard from a gifted lieutenant colonel in the Air Force who said "Leaders are always trying to figure out how to keep us. Just create a place where someone like me wants to work. That's it." I believe the Army achieved what that place looks like with JYN and the roadmap is simple: foster a culture appropriate for the type of talent you want to attract to the mission.