

Stenographic Transcript  
Before the

Subcommittee on Personnel

COMMITTEE ON  
ARMED SERVICES

## **UNITED STATES SENATE**

HEARING TO RECEIVE TESTIMONY ON THE CURRENT  
AND FUTURE CYBER WORKFORCE IN THE DEPARTMENT  
OF DEFENSE AND THE MILITARY SERVICES

Wednesday, April 21, 2021

Washington, D.C.

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1 HEARING TO RECEIVE TESTIMONY ON THE CURRENT AND FUTURE CYBER  
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3 SERVICES

4  
5 Wednesday, April 21, 2021

6  
7 U.S. Senate

8 Subcommittee on Personnel

9 Committee on Armed Services

10 Washington, D.C.

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12 The committee met, pursuant to notice, at 2:30 p.m. in  
13 Room SR-232A, Russell Senate Office Building, Hon. Kirsten  
14 Gillibrand, chairman of the subcommittee, presiding.

15 Committee Members Present: Gillibrand [presiding],  
16 Hirono, Tillis, and Hawley.

1           OPENING STATEMENT OF HON. KIRSTEN GILLIBRAND, U.S.  
2 SENATOR FROM NEW YORK

3           Senator Gillibrand: Good afternoon, everybody. The  
4 subcommittee meets today to receive testimony on the current  
5 and future cyber workforce requirements of the Department of  
6 Defense and Military Services. Our witnesses include Mr.  
7 John Sherman, Acting Department of Defense Chief Information  
8 Officer; Ms. Veronica Hinton, Acting Deputy Assistant  
9 Secretary for Defense for Civilian Personnel Policy; Mr.  
10 Leonard Litton, acting Deputy Assistant Secretary for  
11 Defense for Military Personnel Policy; and Lieutenant  
12 General Dennis Crall, Director, Command, Control  
13 Communications and Computers/Cyber and Chief Information  
14 Officer, Joint Staff, J6. Welcome. Thank you.

15           In March, General Nakasone testified to the full  
16 committee that USCYBERCOM conducted two dozen operations to  
17 counter foreign threats to the 2020 election, and threats  
18 that followed on the heels of Russia's tampering with the  
19 2016 election. And in December, we learned that foreign  
20 hackers had penetrated software widely used by the U.S.  
21 Government and the private sector and went undetected for  
22 months, exposing thousands of public and private networks to  
23 exploitation.

24           This election interference and SolarWinds hack recently  
25 prompted President Biden to issue a new round of sanctions

1 against Russia. But make no mistake about it -- Russia is  
2 not our only adversary. Cyber intrusions and attacks from  
3 all quarters will only increase moving forward, and it is  
4 our responsibility to ensure that we have the capability to  
5 defend the United States on this new front. The need for an  
6 effective, talented, and diverse cyber workforce within the  
7 Department of Defense, the Military Services, and really  
8 across the whole of government has never been clearer.

9 Growing and maintaining a cyber capability sufficient  
10 to prevent these attacks and to meet national defense  
11 objectives starts with the people behind the keyboard. Our  
12 ability to field the world's strongest military has always  
13 come from the collective talent and dedication of our  
14 servicemembers and the civilian workforce who support them.  
15 We must recognize and commit to meeting these new threats by  
16 developing, fielding, and maintaining the world's most  
17 capable cyber force.

18 That brings us to the topic we will discuss today. In  
19 short, how do we recruit and retain the very best for  
20 civilian and military service in the cyber workforce? How  
21 do we attract top talent, hire them, pay them, manage them,  
22 and keep them? How do we keep their skills fresh and  
23 provide meaningful career progression and professional  
24 development to ensure we have a cyber workforce for the  
25 defensive capability to protect the nation's networks and

1 the offensive capability to deter aggression, not just by  
2 traditional cyber adversaries like China and Russia, but  
3 also by the likes of Iran, North Korea, non-state actors,  
4 and criminal cartels. What is the proper role for the  
5 reserve component, especially the National Guard? What are  
6 the personnel policy implications of sustainable and  
7 effective management with the private sector?

8 I am especially interested in our witnesses' views on  
9 the proper civilian-military mix for the cyber workforce of  
10 tomorrow, how we set the course to achieve that mix, and how  
11 we ensure that our cyber workforce possesses the very best  
12 talent America has to offer.

13 Lastly, I want to know why the Department of Defense  
14 has been slow to implement some of the authorities it  
15 already has to hire and retain the best cyber personnel,  
16 such as the ability to directly hire cyber personnel we  
17 enacted in Section 502 in fiscal year 2019 NDAA.

18 I am also interested in the status of the authorities  
19 Congress passed in last year's NDAA regarding Cyber Reserve,  
20 Cyber Mission Force, and the National Guard Cyber Workforce.  
21 Have these and other previous authorities to attract and  
22 retain the best cyber personnel resulted in the expansion  
23 and improvements necessary for the DOD to detect and defeat  
24 the cyber intrusions and attacks we are now facing? A

25 Again, I am so grateful to our witnesses here today. I

1 welcome them all and appreciate hearing your testimony.

2           What we will do is we will take your testimony now, but  
3 when Senator Tillis returns we will pause in your testimony  
4 so he can give his opening remarks, I will run and go vote,  
5 and then I will come back, and you can continue your  
6 testimony. But we will not postpone the hearing for the  
7 vote. We will just keep it running.

8           Our first witness, Mr. Litton, would you like to go  
9 first?

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1           STATEMENT OF LEONARD G. LITTON III, ACTING DEPUTY  
2 ASSISTANT SECRETARY FOR DEFENSE FOR MILITARY PERSONNEL  
3 POLICY

4           Mr. Litton: Yes, ma'am. Thank you. Chairwoman  
5 Gillibrand and distinguished members, thank you for the  
6 opportunity to appear before you to today to discuss the  
7 health of the DoD cyber workforce. I appreciate your  
8 support on this very important issue.

9           My role in performing the duties of the Deputy  
10 Assistant Secretary for Military Personnel Policy is  
11 primarily an enabling one, so I will speak to the  
12 overarching military personnel policies that support the  
13 Services and enable them to access, support, and attain and  
14 retain a highly ready force.

15           The Department does desire to be the employer of  
16 choice, not only for individuals with cyber-related skills  
17 but for all Americans who are looking and working hard every  
18 day to join the military. Enabling our cyber forces to  
19 operate and defend against today's threats will require us  
20 to maintain the authorities and resources we have now, but  
21 also ensure that our warriors are properly assessed,  
22 compensated, and retained to fight and win against these  
23 threats.

24           As you know, ma'am, the Military Services conduct a  
25 whole-person assessment of each candidate who applies for

1 either an officer commissioning or the enlisted force. This  
2 holistic process looks at a number of factors, including  
3 citizenship, age, education, physical fitness, conduct, and  
4 aptitude. The general model is to recruit and assess a  
5 qualified field of applicants, placing them in a best-fit  
6 occupational specialty and career trajectory, and provide  
7 them the necessary technical training to meet those  
8 operational objectives. This process provides a steady  
9 pipeline of highly qualified personnel for the required  
10 tasks.

11 The Military Services can also employ an accession  
12 option known as "lateral entry." This process allows the  
13 active and reserve components to recruit highly qualified  
14 individuals directly from industry to fill those critical  
15 requirements and bring them in at advanced grades, based on  
16 their previous level of education and experience.

17 The Military Service Academies and Reserve Officer  
18 Training Corps also have programs focused on attracting  
19 young, talented officers into the cyber fields.

20 For enlisted accessions, the Services utilize an array  
21 of assessments designed to understand the technical  
22 training, including cyber. For example, in enlisted cyber  
23 specialties, the Services utilize a combination of the ASVAB  
24 and a targeted cyber knowledge test, called the Cyber Test,  
25 to identify applicants with specific aptitude for cyber



1 career field accessions.

2         Additionally, we continuously evaluate new types of  
3 assessments, for example, a fluid intelligence test called  
4 "Complex Reasoning" was recently developed, and we hope to  
5 have that ready in the 2024 time frame to help us better  
6 attract and identify cyber capabilities among those who  
7 apply.

8         The Department realizes that military members with  
9 cyber experience are in great demand and can command top  
10 salaries within the private sector. In addition, we have a  
11 robust military compensation package and a toolkit of  
12 bonuses and incentives and special pays designed to attract  
13 and retain these servicemembers with cyber skills.

14         We have the authority for enlistment bonuses, and we  
15 thank you for that, up to \$50,000 for those who agree to  
16 serve at least 2 years in a specified career field, as well  
17 as retention bonuses up to \$30,000 per year of service  
18 obligation. The Services also have the authority to offer  
19 other monetary and non-monetary incentives for service in  
20 certain cyber-related occupational specialties. Non-  
21 monetary incentives may include choice of duty assignment,  
22 guaranteed training, advanced education, and other  
23 professional development opportunities. Additional monetary  
24 incentives include the authority for assignment incentives  
25 and special duty pays that can be as much as \$5,000 per

1 month.

2           The Department prides itself on building a strong and  
3 viable total force that delivers combat capability around  
4 the globe. Our cyber personnel are and will remain a  
5 critical component of the Department's ability to defend the  
6 nation.

7           I look forward to your questions. Thank you.

8           [The prepared statement of Mr. Litton follows:]

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Senator Gillibrand: Thank you. Mr. Sherman?

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1           STATEMENT OF JOHN SHERMAN, ACTING DEPARTMENT OF  
2 DEFENSE CHIEF INFORMATION OFFICER

3           Mr. Sherman: Ma'am, good afternoon, and thank you for  
4 the opportunity to testify today regarding the efforts of  
5 the Department of Defense to enhance the cyber workforce  
6 across our enterprise.

7           My name is John Sherman. I am the Acting Department of  
8 Defense Chief Information Officer, a position I have held  
9 since 20 January. I work alongside my colleagues to  
10 establish policy and provide oversight, direction, and  
11 guidance for the cyber workforce. We have come far in  
12 focusing our efforts to be proactive, agile, and competitive  
13 in order to recruit and retain the most innovative  
14 individuals with high-demand skill sets while also  
15 encouraging increased representation of minorities and  
16 women.

17           I would like to highlight how my office is developing  
18 the cyber workforce through new policies and governance,  
19 using my existing oversight. I will speak to how we are  
20 leveraging special hiring authorities granted to us by  
21 Congress and how we are recruiting from a diverse pool of  
22 candidates.

23           However, there is still work to be done. We have put  
24 many of the key foundational mechanisms in place and have  
25 actively leveraged the tools at our disposal, but we must

1 build on the progress by updating our overarching strategy  
2 to ensure our workforce is prepared to implement zero trust  
3 and the other latest approaches to defending our enterprise.

4 Our existing cyber strategy from 2018 provides some key  
5 points on the cyber workforce, but we need a more holistic  
6 North Star to guide our future cyber workforce efforts. I  
7 have given my office direction that drafting and  
8 coordinating this new strategy is a priority going forward.

9 Our DoD cyber workforce is comprised of individuals  
10 including military, civilian, and contractor personnel. Our  
11 goal has been to refine and hone this critical workforce,  
12 but we first had to define its composition and ensure we had  
13 a solid workforce management structure.

14 To do this, we created and implemented the DoD's Cyber  
15 Workforce Framework, which has enabled my office to  
16 establish a standard lexicon to describe the scope of work  
17 in the cyber field. We then identified and analyzed cyber  
18 work roles with greater specificity in order to inform  
19 workforce priorities and initiatives beyond the legacy  
20 occupational descriptions, which are too broad in many  
21 cases.

22 To fully realize the potential of this framework, we  
23 are developing a new policy serves called 8140, which will  
24 drive implementation and compliance of our vision. In 2015,  
25 Department leadership signed the associated DoD directive

1 and then updated it late last year. The instruction and  
2 manual for this policy series are in the final stages of  
3 coordination, and we are working with Department  
4 stakeholders to get these over the goal line in the coming  
5 months, if not sooner.

6 Additionally, we established a tri-chaired form called  
7 the Cyber Workforce Management Board to govern and oversee  
8 implementation of the activities in the policy series with  
9 representation from my office, the Under Secretary for  
10 Personnel and Readiness, and the Principal Cyber Advisor.  
11 We recognize this whole-of-department challenge and our  
12 approach must match.

13 Very importantly, we have leveraged the Cyber Excepted  
14 Services, or CES, personnel system to meet more quickly the  
15 immediate need of the Department. We now have over 9,000  
16 positions designed for CES across 10 DoD components, and we  
17 plan to increase this number even more later this year as  
18 Army Cyber comes into the fold. Moreover, we are taking  
19 lessons learned on workforce feedback related to their  
20 decisions on moving into the CES to inform ways we can  
21 socialize this great opportunity even more effectively in  
22 the future.

23 Meanwhile, we are also conducting the congressionally  
24 directed zero-based review of cybersecurity personnel. Once  
25 complete, the ZBR will provide us with the input to conduct

1 data-driven analysis of our current and future workforce  
2 needs. We are aiming to complete the initial phase of data-  
3 gathering by September, and look forward to updating the  
4 committee later this year, as directed in legislation.

5 While we have improved our ability to identify and  
6 develop the cyber workforce in the past 3 years, I recognize  
7 we still have work to do, especially as we move out on zero  
8 trust. This is an approach based on extensive network  
9 segmentation and protection of the data in the systems, with  
10 an assumption that adversaries have already breached the  
11 perimeter at some point. For this and other evolving cyber  
12 strategies, we can expect to draw an even wider range of  
13 skill sets in areas like data and artificial intelligence.

14 I am confident that our workforce, now and in the  
15 future, is up to the challenge, and am proud of their  
16 ongoing work to build, secure, operate, defend, conduct  
17 intelligence activities, and enable operations through  
18 cyberspace. We realize that it is an ever-changing space.  
19 However, our continual workforce updates and upskilling will  
20 be critical. Our adversaries are definitely not standing  
21 still, and we must not either.

22 Finally, I am committed to continue our efforts to  
23 reach out to all of this nation's human capital through an  
24 ongoing focus of the National Security Agency's Cyber  
25 Scholarship Program and Centers of Academic Excellence

1 accreditation.

2 Thank you for the opportunity to speak with you today,  
3 and I am grateful for the attention you have dedicated to  
4 Secretary Austin's top three priorities on taking care of  
5 our people. I stand ready to answer questions.

6 [The prepared statement of Mr. Sherman follows:]

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1           Senator Gillibrand: Now I would like to introduce  
2 Senator Tillis for his opening remarks. I will run and go  
3 vote, and then when you are completed you can call on Ms.  
4 Hinton and then Lieutenant General Crall, and I will be back  
5 ASAP.

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1 STATEMENT OF HON. THOM TILLIS, U.S. SENATOR FROM NORTH  
2 CAROLINA

3 Senator Tillis: Thank you, Madam Chair, and thank you  
4 all for being here today. I am sorry I was late. We are  
5 doing the tag team for voting.

6 I just want to say the success in the cyber domain is  
7 uniquely reliant on highly skilled personnel. We all know  
8 that. We have had several discussions and meetings about  
9 it. Where stealth technology and smart weapons provide the  
10 United States with a discernable advantage in traditional  
11 warfighting domains, the U.S. military does enjoy a similar  
12 technological advance when it comes to cyberspace. Rather,  
13 we must rely on the intelligence, creativity, and cunning of  
14 our people if we are to be successful with this rapidly  
15 changing environment.

16 Fortunately, this country still produces the world's  
17 most innovative cyber talent. The Department of Defense's  
18 challenge is to make itself appealing to that talent. Since  
19 success in cyberspace is so heavily dependent on skilled  
20 people, the last several NDAA's included numerous provisions  
21 focused on military and DoD civilian workforce.

22 I look forward to asking questions about the creative  
23 recruiting and retention ideas, some of the authorities we  
24 have given, whether or not they have been fully implemented,  
25 and what more authorities and creative thinking we should

1 consider to be absolutely certain we are bringing the best  
2 and brightest into the cyber domain within the Department of  
3 Defense.

4 So thank you all for being here. We will continue the  
5 introductions. Ms. Hinton?

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1 STATEMENT OF VERONICA E. HINTON, ACTING DEPUTY  
2 ASSISTANT SECRETARY FOR DEFENSE FOR CIVILIAN PERSONNEL  
3 POLICY

4 Ms. Hinton: Ranking Member Tillis, thank you for the  
5 opportunity to appear at today's hearing to discuss the  
6 health and readiness of the DoD's cyber workforce.

7 Today, as the Acting Deputy Assistant Secretary of  
8 Defense for Civilian Personnel Policy, I am representing the  
9 Office of the Under Secretary of Defense for Personnel and  
10 Readiness, the Department's chief human capital officer, to  
11 discuss matters related to the civilian cyber workforce.

12 Important to this discussion is the acknowledgement  
13 that we live in a relentlessly evolving and fiercely  
14 competitive world where technological achievements are  
15 driving immense change across political, economic, and  
16 social landscapes. As such, the Department strives to  
17 cultivate a technologically dominant force that is  
18 strategically ready, globally relevant, and flexibly  
19 sustainable. Competition for high-quality, experienced  
20 cyber workforce personnel is constant and increasingly  
21 aggressive. However, the Department shares your vision and  
22 commitment to pursuing, recruiting and retaining world-class  
23 cyber talent to advance and achieve the DoD's unique  
24 mission.

25 DoD is one of the three largest markets for cyber

1 talent in the United States due to its size, its continuous  
2 adoption and adaptation of technology, and its extensive  
3 mission requirements. Therefore, we must be tenacious in  
4 not only fully utilizing the appointment and compensation  
5 flexibilities that Congress has provided but must  
6 increasingly invest in human capital initiatives, training  
7 and development for the civilian cyber workforce. This  
8 focus includes designing and implementing programs and  
9 policies that eliminate any barriers and inefficiencies that  
10 may detract from our ability to acquire needed and  
11 diversified talent, expand pathways to service, and enable a  
12 flexible workplace essential to the future of work.

13 Additionally, we are expanding our outreach, including  
14 with the private sector, to recruit top talent from across  
15 all segments of society, while retaining and compensating  
16 current technical talent and closing mission-critical gaps.

17 To assess our progress, the Department has established  
18 capability to identify, evaluate, and manage the civilian  
19 cyber workforce, and is also leaning forward utilizing  
20 advanced data analytics and technological tools to better  
21 match potential candidates and current employees against  
22 talent and competency gaps in various locations across the  
23 globe, proving real-time solutions to organizational needs.  
24 We are working closely with industry experts in the cyber  
25 community to build hiring assessments that will better match

1 top talent to specific competency and skills needs, reducing  
2 time to hire, and equipping hiring managers with the best  
3 talent.

4 In recent years, Congress has provided several DoD-  
5 exclusive civilian hiring authorities that are helping to  
6 meet our objectives. In particular, Section 1109 of the  
7 National Defense Authorization Act of fiscal year 2020  
8 granted streamlined and enhanced direct hire authorities,  
9 including an expanded direct hire authority for cyber  
10 workforce positions. The expansion of this coverage has  
11 been beneficial in that it has allowed the Department the  
12 ability to directly hire for any and all critical cyber  
13 skill sets.

14 The Department is also utilizing a variety of  
15 compensation tools, including the use of Federal-wide  
16 special salary rates and the added flexibility of the cyber-  
17 accepted service that allows the Department to implement  
18 targeted local market supplements for certain cyber  
19 occupations and locations. The Department appreciate such  
20 authorities which expand our toolkit, and are much needed to  
21 attract and retain the best talent and compete with the  
22 private sector for the same skill sets.

23 The Department further acknowledges that civilian  
24 personnel policies should be as clear and concise as  
25 possible. We are committed to ensuring that we are training

1 and assisting human resource professionals and managers  
2 alike in the use of cyber personnel management authorities  
3 and flexibilities. This not only includes streamlined and  
4 efficient guidance on the use of the authorities and  
5 implementation procedures, but also gathering and analyzing  
6 data to better equip practitioners with the necessary  
7 information to proactively address emerging requirements.

8 The Office of Personnel and Readiness continues to  
9 ensure that information disseminated across the Department  
10 encompasses the full spectrum of hiring options that enable  
11 hiring managers to reach the right talent, at the right  
12 time.

13 We thank you for your continued interest and support of  
14 the DoD civilian workforce. I look forward to your  
15 questions.

16 [The prepared statement of Ms. Hinton follows:]  
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1           Senator Tillis: [Presiding.] Thank you, Ms. Hinton.  
2 General Crall.

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1           STATEMENT OF LIEUTENANT GENERAL DENNIS A. CRALL, USMC,  
2     DIRECTOR, COMMAND, CONTROL COMMUNICATIONS AND  
3     COMPUTERS/CYBER AND CHIEF INFORMATION OFFICER, JOINT STAFF,  
4     J6

5           General Crall: Sir, thank you for the opportunity to  
6     share a few thoughts and then certainly get into your  
7     questions.

8           It is very clear that the committee knows the challenge  
9     we face. You know, we are about warfighting businesses in  
10    the Joint Staff, and the digital nature of the fight that we  
11    expect, especially at pace and speed, is going to demand  
12    workforce and talent level that we have not seen before.  
13    The human-machine interface brings a demand that is going to  
14    have to be found, cultivated, educated, and implemented to  
15    get that level of experience as we learn and work our way  
16    through this new capability set.

17          You have heard from my partners up here the number of  
18    efforts that are underway, but I take maybe a more sobering  
19    look at where the need lies ahead, to make sure we fulfill  
20    your charge. You said be absolutely certain that we are  
21    getting the right talent, basically delivered at the right  
22    time, and I am not absolutely certain.

23          I had the opportunity to do some traveling with the  
24    Vice Chairman the week before and talk to some industry  
25    leaders, and I specifically challenged them as to how they

1 went about finding the talent to fill the same billets that  
2 we are looking to fill, the same people with the same skill  
3 sets. And we always talk about money as being maybe the  
4 driving factor, but I learned some things that challenged my  
5 previous thinking on our approach to this.

6 So while many of the endeavors that you have heard  
7 about and will hear today are certainly worthwhile as we  
8 work our way through feeling out what works best for us, I  
9 do not think we know our target audience as well as we need  
10 to. We need to find out what really motivates individuals  
11 to want to serve in the capacity that we are offering.

12 We also need to do a better job in evaluating the very  
13 programs that we are describing. I do not believe that  
14 while they are interesting to approach and employ, they may  
15 not all deliver in the way that we expect, and we certainly  
16 want to tweak the ones that can be maximized to deliver that  
17 output, and maybe retire some that are not working. So we  
18 owe a better understanding and study of our own efforts and  
19 our own audience.

20 So while I am excited and optimistic at the opportunity  
21 to get after fulfilling this talent range that we need, I am  
22 concerned about pace. I think the divide between the need  
23 is growing, compared to what we are able to fulfill. I am  
24 not sure we are closing the gap, and I think time is ticking  
25 for us to do so. So the challenge is certainly understood,

1 I think on both ends, and we are looking to maximize the  
2 very empowerments that Congress gave us to get after this.  
3 But I think more time and more effort and a faster pace is  
4 needed, and probably a new approach to our thinking, to make  
5 sure that we can meet the need.

6 Thank you, sir. I look forward to your questions.

7 [The prepared statement of General Crall follows:]

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1           Senator Tillis: I am going to -- we will wait on, or  
2 we will see Senator Gillibrand go back, but I will go ahead  
3 and ask some questions, and if she takes a little time I  
4 will ask more questions.

5           General, I am going to ask Ms. Hinton a question  
6 second, but your comments made me reflect on a discussion I  
7 had yesterday with the Personnel Subcommittee staff. I  
8 worked in research and development and product management  
9 back in the '80s, and I was trying to think about, we were  
10 having a tough time attracting talent back then. This is a  
11 perpetual problem in the private sector, and even more  
12 difficult, I think, in the government sector.

13           But one thing that we had in place that I do not even  
14 know how we would structure it here, but you had these  
15 highly motivated, technically competent software and  
16 hardware engineers that we created an economic incentive, on  
17 their day job, work on fulfilling their mission set, to use  
18 your terms, but if they chose on weekends and nights to come  
19 up with something creative that was relevant to what you  
20 were doing but was creative, we had an economic and other  
21 reward systems that encouraged that sort of extracurricular  
22 activity.

23           Any thought, for any of the panelists, any thought on  
24 the applicability of that same sort of thing, that still  
25 continues to this day in a lot of the software and hardware

1 research and development shops, how something like that  
2 would even work or whether or not it would make sense, given  
3 your mission goals?

4 General Crall: Sir, it is interesting because that  
5 overlaps quite well. You know, even the time frame that you  
6 said. I will be careful because my observations, I believe,  
7 are anecdotal. I had a chance to talk to probably a few  
8 dozen individuals who are right squarely in the market of  
9 the type of individual we want to recruit. And what I found  
10 interesting was their answers were almost identical, so not  
11 a true statistical sampling that I would trust, necessarily,  
12 but this is what has me some pause.

13 Not only did the CEOs and CIOs tell me this, I  
14 discovered it for myself. The number one area that came  
15 back in feedback to me was people want to live where they  
16 want to live. The idea of moving to someplace they do not  
17 want to live, no matter what other feature is offered, is  
18 apparently quite unattractive. And if you look at some of  
19 the hubs that we have to offer, that is going to be a  
20 challenge for us.

21 There are some interesting solutions, given the work  
22 and the nature that maybe we need to explore about creating  
23 spaces where that work can be done literally anywhere, as  
24 long as the security environment is set for that. But  
25 living in the community they want to live in seemed to be a

1 strong driving factor.

2           The other one was in team composition, which gets after  
3 what you described. The hierarchy of the government isn't  
4 something that is really motivating to them at all. They  
5 want a flat organization where everyone has equal input into  
6 driving an outcome. For many of them, wearing the uniform  
7 was not attractive. They like working hours from noon until  
8 3 a.m., is their prime working hours, and again, does it  
9 matter if productivity is there? Our organizations do not  
10 normally look like that.

11           Senator Tillis: I even had a ponytail back in the day.

12           [Laughter.]

13           General Crall: Yes, sir.

14           Senator Tillis: It was not a good look.

15           General Crall: Student debt was more important than  
16 the salary itself, which seemed odd to me, because it  
17 appeared that higher salaries could retire student debt, you  
18 know, maybe over time, but they looked certainly at the idea  
19 of what programs could address the debt they are in.

20           And the last piece that we did very well in, the reason  
21 we were even having the conversation, was cause. They want  
22 to work for a cause, something that is meaningful, something  
23 that is viable, not just simply to make money. And the  
24 government, especially the Department of Defense, was  
25 unusually attractive to them, to give back some level of

1 service, and to do activities they could not do in other  
2 jobs.

3 So, you know, again, sir, that is maybe just a few  
4 ideas that I learned.

5 Senator Tillis: Well, thank you. I am going to yield  
6 back to the chair and then reserve the right for a second  
7 round, if that is okay.

8 Senator Gillibrand: [Presiding.] Absolutely, and you  
9 can ask another question if you prefer.

10 Senator Tillis: Well, Ms. Hinton, I will ask you a  
11 question. I do have some for the other witnesses, but I am  
12 kind of curious about your view of the Cyber Excepted  
13 Service, what is working, what is not working. I am  
14 particularly interested in loan repayment benefit.

15 Ms. Hinton: Yes, sir. So Cyber Excepted Service has  
16 given us incredible flexibilities that are not resident in  
17 traditional civil service authorities. In particular, we  
18 have found great use in the hiring authorities that are  
19 associated with Cyber Excepted Service, that ability to  
20 target recruitment opportunities to get the talent that we  
21 need.

22 Another piece of the Cyber Excepted Service that has  
23 been beneficial has been the compensation authorities. In  
24 particular, we have recently rolled out targeted local  
25 market supplements that enable us to compensate at a higher

1 level for seven areas. And so it gives us that ability,  
2 while General Crall mentions that compensation is not the  
3 only factor that weighs in an individual's decision to  
4 serve, it certainly is a factor, and our ability to compete  
5 with the industry through those compensation flexibilities  
6 helps us get at that targeted skill set that we need.

7         Additionally, with the Cyber Excepted Service, it gives  
8 us some authorities to think about how we classify work, how  
9 we organize work, how we describe work, and how we look at  
10 the qualifications associated with the individuals that we  
11 need.

12         I will say that there are some challenges with Cyber  
13 Excepted Service, and I would really back that up to a  
14 broader perspective in the whole cyber-coded workforce,  
15 which is not just Cyber Excepted Service.

16         So first, as we think about compensation authorities  
17 that we were given, we are still held to the existing pay  
18 caps that we have under Title 5. So while we have some  
19 flexibility to change policies and processes associated with  
20 how we compensate, we are still held to the higher limits.  
21 So that really does not make us, in certain areas, as  
22 competitive as we could be to get certain talent.

23         The other sort of nexus with Cyber Excepted Service  
24 that I would highlight is that it is tied to United States  
25 Cyber Command and those supporting elements, and so when we



1 think about the cyber workforce writ large, Cyber Excepted  
2 Service is just one subcomponent of a broader cyber mission  
3 set. So as we think about where there are opportunities to  
4 expand the use of Cyber Excepted Service, we have had to  
5 look at what are some different ways that we can determine  
6 what are elements that are supporting Cyber Command on a  
7 position-by-position basis, to be able to expand that  
8 authority. So that is one area where I think there is  
9 opportunity to look at the authority and see does it have  
10 broader application, broader use.

11 Additionally, there are some authorities in some of our  
12 sister alternative personnel systems, like Acquisition Demo  
13 demonstration project or our Defense Civilian Intelligence  
14 Personnel System, that allow for some additional  
15 flexibilities around streamlined classification that I think  
16 would bolster the Cyber Excepted Service.

17 But all in all, we are very thankful for this  
18 authority. It has given us additional flexibility, and I  
19 will defer to Mr. Sherman for additional information about  
20 that.

21 Senator Tillis: I am going to come back with questions  
22 for Mr. Sherman. I particularly want to know about the  
23 current loan benefit, and back to General Crall's point, I  
24 do think that they place a value on that. Even though the  
25 compensation may be offsetting, there is something

1 attractive about just getting that debt retired as quickly  
2 as possible.

3 But I am going to ask some additional questions. I  
4 will defer back to the chair.

5 Senator Gillibrand: Thank you very much. For the  
6 whole panel, the National Security Commission on Artificial  
7 Intelligence has recommended a digital academy to address  
8 the skills gap in cyber workforce hiring, which will be  
9 fully accredited and independent from the government, with  
10 students doing government and private sector internships  
11 during breaks.

12 The Department of Defense does have some existing  
13 authorities to address the skills gap now. We talked about  
14 the CES program. And there also exists authority for the  
15 Department of Defense to grant cyber scholarships, paying  
16 for up to 3 years of college, and there is, of course, the  
17 ROTC commissioning programs that currently pay for up to 4  
18 years of college, and even for graduate and professional  
19 school beyond 4 years, in some cases.

20 So for each of you, I would like to start with Ms.  
21 Hinton and then go to Lieutenant General Crall, then Mr.  
22 Sherman, then Mr. Litton, what are the most important  
23 components to consider regarding this recommendation for a  
24 digital academy? Is this a necessary step? And could we  
25 also work to fill the skills gap from diverse sources, using

1 existing authorities such as the cyber scholarships or a  
2 generous ROTC program?

3 Ms. Hinton: Thank you, Senator Gillibrand. That is a  
4 great question, and we are very interested in the digital  
5 academy as another potential Federal-wide avenue to reach  
6 the talent that we need. Certainly, in the Department, as  
7 we look through standing up the Defense Civilian Training  
8 Corps, which is an authority that we received recently, we  
9 thought through how and what type of academic programs we  
10 need in order to reach this talent, and the digital academy  
11 would be another complementary avenue for us to be able to  
12 identify that diverse segment of the population and to bring  
13 them into Federal service, and to entice them into Federal  
14 service.

15 In particular, to Senator Tillis' point around student  
16 loan repayments, the ability to offer paid education in  
17 exchange for service to the country is an area where we  
18 think that will enable us to reach this talent and entice  
19 them and attract them to support not just the Department of  
20 Defense but from a U.S. digital academy perspective, benefit  
21 to the entire government.

22 In terms of authorities that we use to attract a  
23 diverse workforce, I will mention again that the streamlined  
24 direct hire authority that Congress has granted us, has so  
25 generously granted us, has been an incredible tool for us,

1 to be able to target our recruitment and outreach, in  
2 complement with our scholarship programs. In particular,  
3 when we look at our cyber student hiring authorities, we see  
4 that even if I look at fiscal year 2021, we have been able  
5 to attract 20 percent of our student hires, cyber student  
6 hires, have been Asian Americans. We see in our Cyber  
7 Excepted Service 20 percent of our Cyber Excepted Service  
8 hires have been African American.

9 So these hiring flexibilities make a difference for us  
10 to go out and target the diverse segments of the country,  
11 and then the scholarship programs add that additional bonus  
12 of enticing them to serve in exchange for their paid  
13 education. Thank you.

14 Senator Gillibrand: Thank you. Lieutenant General  
15 Crall?

16 General Crall: Ma'am, to your specific question about  
17 the digital academy, I really do not know whether that is a  
18 good idea or not a good idea. I think through the  
19 throughput and what the volume of that academy might produce  
20 might really be the answer.

21 What I have found interesting is attending two  
22 universities last week, meeting with staffs and what degrees  
23 they offer and what motivates them and how they build  
24 curricula, it seems there is a very willing audience in the  
25 university system writ large to cater to this audience. And

1 some of our more technical universities have created what is  
2 almost a human supply chain with industry, to build the very  
3 individual that can be placed immediately into the corporate  
4 world. And that means they come with security clearances,  
5 background, training for the years and internships that  
6 build up to that. That long-term relationship, that may be  
7 buttressed by the ROTC programs at large, for all the  
8 services, to include service in the Guard. There are a lot  
9 of opportunities.

10 But the National Center of Academic Excellence in  
11 Cybersecurity, that whole apparatus, which is a formal  
12 partnership, I think is up to over 80 schools now. And the  
13 last two schools that we looked at were just joining that  
14 consortium, which lays out that curricula and provides an  
15 interface with the Department, again, to build that cyber  
16 warrior for which we are looking. And then all these things  
17 can be applied on top of it, to include the internships,  
18 scholarships, et cetera.

19 What I find lacking in this, though, is that the  
20 colleges and universities that have signed up for this thus  
21 far do not represent the full scope that we ought to be  
22 interacting with. I believe there is room for more  
23 diversity in the schools and outreach to make sure that we  
24 get greater participation.

25 Senator Gillibrand: Mr. Sherman?

1           Mr. Sherman: Thank you, ma'am. I would agree with my  
2 colleagues' comments on this, and I want to build on what  
3 General Crall said. From my view as CIO, the Centers for  
4 Academic Excellence for Cyber, they do offer a pretty broad  
5 and diverse set of schools we can get to, everything from  
6 North Carolina A&T to NYU, from University of Missouri-  
7 Columbia to Honolulu Community College. It is a broad swath  
8 there.

9           I would certainly welcome a digital academy as an  
10 additional pipeline, but I would not want to do it at the  
11 expense of this broad swath of schools, from rural, urban,  
12 all across the country, HBCUs, larger universities, et  
13 cetera.

14           What we have through the NSA Cybersecurity Scholarship  
15 Program, leveraging these Centers for Academic Excellence,  
16 back to what General Crall was saying about the pipeline of  
17 talent, I think it has been diverse, as Ms. Hinton  
18 indicated, for African Americans, Asian Americans, I would  
19 add Hispanic Americans, Latinos, Latinas coming into our  
20 workforce. I would want to continue to leverage that.

21           So I think a digital academy would be a good complement  
22 to that, but what we are doing on the CIE front, with the  
23 broad swathe of opportunity, I would want to keep that up as  
24 well, because we are seeing return on investment there.  
25 Thank you.

1 Senator Gillibrand: Mr. Litton.

2 Mr. Litton: Yes, ma'am. Each year the Military  
3 Service Academies and senior ROTC programs produce  
4 approximately 450 cyber officers for the military. Most of  
5 these universities with senior ROTC programs, and, of  
6 course, the academies, are certified as National Centers for  
7 Academic Excellence in cyber defense education by the NSA,  
8 and most, as well, have a cyber institute dedicated to  
9 research to promote the understanding of cyber and cyber to  
10 be used in defense.

11 The Citadel, along with the five other senior military  
12 colleges, have each received approximately \$1.5 million of  
13 Federal funds to establish these cyber institutes as pilot  
14 programs on their campuses, and so I think your idea is very  
15 well taken, ma'am.

16 Senator Gillibrand: Thank you. Mr. Tillis -- Senator  
17 Tillis.

18 Senator Tillis: Thank you. Mr. Sherman, last Congress  
19 we authorized the CYBERCOM enhanced pay authority. It was  
20 based on a generally viewed successful program out of DARPA.  
21 I understand that CYBERCOM has chosen not to implement that.  
22 Is that true, and what was the rationale for not doing it?

23 Mr. Sherman: Sir, I am going to tell you I am frankly  
24 not sure on that particular authority there. I would have  
25 to go back and take that one for the record and check with

1 General Nakasone on that, sir.

2 Senator Tillis: Okay. Thank you.

3 And, Mr. Litton, I just had a question, I think it was  
4 the FY 2019 NDAA. It included several provisions to disrupt  
5 the standard tenure-based military career path. We were  
6 especially concerned with cyber careers. The alternative  
7 promotion authority, in particular, meant to provide more  
8 flexibility for promotions. What is the current status?

9 Mr. Litton: Yes, sir. My understanding is that  
10 we have largely implemented that. If you are referring to  
11 our ability to rank officers on the promotion list based on  
12 their skills and abilities, and our need for them in the  
13 service to be promoted before the other --

14 Senator Tillis: The military departments are  
15 authorized to use it?

16 Mr. Litton: Yes, sir, they are.

17 Senator Tillis: Thank you.

18 General Crall, the Defense Digital Service, DDS, put in  
19 place some innovative personnel policies, and we have seen  
20 some of the best cyber officers that enlisted spend time at  
21 DDS. What is special about it, and should we extend this  
22 kind of mindset to the broader military cyber workforce?

23 General Crall: Yes, sir. I am personally a huge fan  
24 of DDS for the very reasons you have mentioned. They  
25 approach problems in a non-conventional way. They are not



1 intimidated by rank, structure, hierarchy. They seem to get  
2 to --

3 Senator Tillis: Well, that too.

4 General Crall: -- yes, sir, a very flat organization.  
5 They do not look like us. They do not act like us. But I  
6 have found that the value of getting to the truth and  
7 getting to the bottom of something, that they operate at  
8 much greater speed. And again, their ability to, you know,  
9 recruit such a diverse population, from all backgrounds,  
10 from all experiences, make the team composition one that is  
11 fairly complete. No blind spots. They are able to really  
12 fill some holes neatly, and tailor their workforce to our  
13 very specific problem set.

14 And the last piece I would offer is they appear to be  
15 very current, because their operations and their influence  
16 in what they read and who they interact with comes from  
17 sources well outside of the Department. So they have been  
18 extremely valuable, and I do agree that those lessons  
19 learned export quite well to the condition that I offered in  
20 my opening statement.

21 Senator Tillis: Yeah, I think that kind of creates a  
22 -- sort of casts a wider net for that organizational  
23 framework that I think works and that exists.

24 Senator Gillibrand: Senator Tillis? Can you describe,  
25 for the record, what DDS is, how many people you have? Just

1 describe it from start to finish.

2 General Crall: Well, I apologize that I do not know  
3 the exact numbers that they have, but they are a small  
4 force, and that small force was created a few years back to  
5 get after these problem sets in an unconventional way. The  
6 recruitment for that team has been largely left up to the  
7 DDS leadership, and was managed by the Secretary of Defense  
8 proper, and they had a pretty wide authority in their  
9 hiring. They could onboard very quickly, they could go seek  
10 the talent they needed, and they are very independent. In  
11 fact, when I first met them, they were almost inspector  
12 general-like, meaning their level of independence, not  
13 beholden to anyone in the building, but to really get after  
14 truth was pretty impressive. And the speed with which they  
15 delivered was also impressive.

16 Senator Tillis: If we can get back those details for  
17 the record.

18 Senator Gillibrand: Yeah, for the record. So who do  
19 they report to, how many people are there, what is the  
20 salary range, just so we can describe the program  
21 accurately, to know if we should replicate it or augment it  
22 or make it bigger than it is today.

23 General Crall: Yes, ma'am. I have that for action.

24 Senator Tillis: I did have a question that goes to  
25 education. I will ask anybody on the panel that may want to

1 answer it. I like the idea that we are investing in some of  
2 the military-oriented institutes, but what kind of a net  
3 have we cast? This may sound parochial, but if there are  
4 institutions like this elsewhere then they should be  
5 included.

6 But Montreat College, for example, in western North  
7 Carolina, just outside of Asheville, has had a four-year  
8 cyber program for several years. It actually dates back to  
9 the time that I was Speaker of the House. We provided  
10 funding to help them stand up facilities and get that  
11 program going. They have had a couple of graduated classes  
12 now.

13 So to what extent have we cast a wide net for any  
14 institutions, public or private, that look like they would  
15 be good feed stock and good places for investment to vector  
16 people into government service, either uniformed service or  
17 civilian service?

18 Mr. Sherman: So with the program, sir, with the ROTCs  
19 that I think you are referring to, at six universities --  
20 Texas A&M, my alma mater; North Georgia; Virginia Tech; VMI,  
21 Virginia Military Institute; Citadel, and Norwich. So six  
22 of the civilian institutions with rather large ROTCs, core  
23 cadets type functions. That was the initial group here with  
24 the initial grant investment, as Len indicated just a minute  
25 ago. I think in terms of expanding the net, or expanding

1 the applicability to this, we are very early in this, to see  
2 how the return on investment turns out. But this was just  
3 an initial group of institutions that have established  
4 ROTCs, sir, and so I would not see why we would not want to  
5 expand in the future, perhaps to similar institutions.

6 Senator Tillis: And, Senator Gillibrand, if I can just  
7 ask one more question. Another discussion that came up in  
8 brainstorming about this is almost a civilian analog to the  
9 ROTC, programs where you would put them in place, they would  
10 provide civilian service to the government. Where are we  
11 with that thinking, and to what extent do you all think that  
12 is a good idea?

13 Ms. Hinton: Yes, sir. As mentioned previously, we are  
14 working through establishing the Defense Civilian Training  
15 Corps, which is the concept that you mentioned, the ROTC-  
16 like program. We have developed an initial implementation  
17 plan and are still exploring and building out what that will  
18 look like.

19 But to your point, we are looking across the nation at  
20 what institutions would have the right capabilities and  
21 program and curricula to support not just acquisition, which  
22 is a priority area we are looking at under the Defense  
23 Civilian Training Corps, but also our modernization  
24 priorities. So when we look at that program, coupled with  
25 the Defense Science, Mathematics, And Research for

1 Transformation, the SMART Defense fellows program -- sorry,  
2 I had to look down to get that correct -- which is one of  
3 our many scholarship programs that is offered throughout the  
4 country, we are going after those STEM, technical areas to  
5 find that talent. And that is another area where we are  
6 looking at, are there new outreach, new partnerships that we  
7 need to explore to find the diverse talent.

8 Senator Tillis: And you can do that under current  
9 authorities?

10 Ms. Hinton: Yes, sir.

11 Senator Tillis: The last open question, really, for  
12 maybe feedback for the record -- I may have a couple of  
13 questions for the record too -- would be any additional  
14 authorities or modification of current authorities that  
15 would help you better tackle this problem, please get it to  
16 us. I am sure that the Chair agrees that that would be  
17 helpful, as we lead up to the NDAA process. Thank you.

18 Senator Gillibrand: Our future military leaders across  
19 all specialties must be educated on cyber issues to ensure  
20 that our military remains the world's most effective  
21 fighting force. Professional military education  
22 institutions can ensure that world-class cyber faculty are  
23 positioned to teach our officers about the ways in which  
24 cyber strategy, policy, and operations affect the Armed  
25 Forces and shape future conflict.

1           Several questions. When it comes to institution on  
2 topics like cyber policy, strategy, and operations, how  
3 effective are professional military education institutions  
4 across the service branches, number one? How is the  
5 effectiveness of professional military education  
6 institutions evaluated? To what extent are cyber programs  
7 and curricula standardized across the service branches? And  
8 what is the expected standard of performance for  
9 professional military education institutions and educational  
10 cyber programs across the service branches? Lieutenant  
11 General Crall?

12           General Crall: Yes, ma'am. There is a lot there. So  
13 I would say that maybe taking it from the highest question  
14 and working down. I know that the National Defense  
15 University, for example, that has a program, its cyber  
16 college was the first that I was aware of to offer a senior-  
17 level program, rather than curricula off to the side or  
18 maybe electives, but really a full discipline aimed at  
19 building that cyber policy professional. That is kind of a  
20 rarity. Yes, ma'am.

21           Senator Gillibrand: So there is a lot of concern right  
22 now regarding the DoD's potential elimination of the College  
23 of Information and Cyberspace as a component institution of  
24 the National Defense University. And as you mentioned, CIC  
25 provides critical mission of consolidating intellectual

1 resources and providing joint higher education for the  
2 nation's defense community. Now more than ever, we need  
3 every resource available to bring together and grow our  
4 military's knowledge base on cyber issues, and we really  
5 should not miss an opportunity to impart that knowledge on  
6 the military's rising leaders.

7 With these concerns in mind, what is your long-term  
8 vision for the College of Information and Cyberspace at the  
9 National Defense University, and how can Congress help  
10 achieve that vision?

11 General Crall: So, ma'am, I will leave the chairman to  
12 maybe inform what his personal vision is. I will give you  
13 my personal vision is I am a big believer in that college,  
14 and I have hired many of the graduates from that program,  
15 and have employed them, and I actually seek them. So I  
16 think there has been tremendous value added with that  
17 program.

18 The other aspect, as far as standardized training for  
19 leadership across all the Services, we are clearly not  
20 there. There is a greater interest, and I find that our  
21 younger servicemembers and civilians come better trained and  
22 probably just more experienced, based on their age. But I  
23 have seen training programs in the Services. I just do not  
24 know that they are necessarily aligned and they are all  
25 equal. There certainly needs to be more work done to make

1 sure that that level of training is consistent and  
2 effective.

3 Senator Gillibrand: Thank you. Ms. Hinton? You can  
4 answer any of the questions I posed on this topic.

5 Ms. Hinton: Yes, ma'am. So I would take the question  
6 for the record as it applies to the civilian workforce and  
7 joint professional military education. We certainly, as  
8 part of our leadership development competencies for our  
9 civilian workforce use the joint professional military  
10 education venues as an avenue for our civilians to grow and  
11 develop the same competencies as our military. But I will  
12 have to take your question for the record.

13 Senator Gillibrand: Mr. Sherman?

14 Mr. Sherman: Ma'am, I would agree with everything my  
15 colleagues said, and also for the record, the one thing I  
16 would add is on the College of Information and Cyber at  
17 National Defense University. This is, of course, aligned to  
18 Joint Staff and support them, but as a functional advocate  
19 for them we are strongly supportive of them, and as General  
20 Crall indicated, they turn out many, many good graduates,  
21 many of whom work for me as well, and we think it should be  
22 sustained and continued. We are a big fan of it. Thank  
23 you.

24 Senator Gillibrand: Mr. Litton?

25 Mr. Litton: Yes, ma'am. If I might, a tangentially



1 related issue is one of the most exciting things to me in  
2 this area is the U.S. Space Force. They are creating a  
3 digital service from the ground up. The Chief of Space  
4 Operations, Jay Raymond, has directed his leaders to improve  
5 digital education across all members of the Space Force. To  
6 that end, the Space Force has stood up a digital university  
7 which gives air and space professionals access to over 7,000  
8 training courses in which they can access on duty, off duty,  
9 and receive qualifications and certifications to that end.

10 He has also directed his leaders in the U.S. Space  
11 Force to build a cadre of software developers,  
12 "supercoders," he is calling them, with the skills,  
13 knowledge, and ability to access the right and deploy  
14 software to military systems at the speed of relevance.  
15 Yes, ma'am.

16 Senator Gillibrand: We do not have a Space Force  
17 Academy. Should we?

18 Mr. Litton: Ma'am, that is a good question. I think  
19 right now that the United States Air Force Academy is doing  
20 an adequate job. I think as the Space Force grows and  
21 matures, that is something that the Department should take a  
22 hard look at.

23 Senator Gillibrand: Do you believe that the U.S. Air  
24 Force has the state of the art cyber technology department?

25 Mr. Litton: Well, all of the Services have cyber

1 capability. All of the Services are really doing their best  
2 and trying really hard to acquire that talent and develop  
3 them to meet the need of the warfighters. That is more  
4 kind of in General Crall's lane than mine. Mine is the  
5 policy to access and enable the Services to retain and  
6 support those members.

7 Senator Gillibrand: Lieutenant General Crall, can you  
8 speak to having a Space Force Academy, whether the Air Force  
9 has enough expertise in developing it, and speak to perhaps  
10 -- I know West Point has a cyber program. Can you speak to  
11 each of these departments and whether they need to augment  
12 what they offer or whether they are doing what they need to  
13 do sufficiently?

14 General Crall: So, ma'am, I will have to take the  
15 comment on the academy and whether the Air Force has an  
16 adequate, you know, presence, I would have to take that for  
17 the record because I do not know.

18 Senator Gillibrand: Okay.

19 General Crall: But to the other question about where  
20 the talent comes from across all the Services, I think it is  
21 important to note that if we believe -- and I do believe --  
22 that United States Cyber Command has amassed, really, our  
23 most technical individuals in the cyber community, it is  
24 important to note from where they come. Those are service-  
25 provided individuals. So as Cyber Command sets, as a joint

1 force provider and joint force trainer, that common  
2 curricula and standard, it is the Services who are  
3 recruiting and putting those individuals through the  
4 pipeline.

5 So I think the Services do have pretty good footing and  
6 a pretty equitable talent base.

7 Senator Gillibrand: Could we get a report on that, of  
8 what is the personnel makeup of Cyber Command, and an  
9 analysis to the question about whether we should be  
10 standardizing the teaching across service academies, but  
11 also the question of do we need a Space Force Academy? And  
12 then, which you have already said, you do believe that we  
13 could have a separate Federal cyber academy for all Federal  
14 workforce needs, not just the Services.

15 General Crall: Yes, ma'am. I will take that for the  
16 record.

17 Senator Gillibrand: I would like your opinion on it.  
18 Mr. Tillis?

19 Senator Tillis: Just for my part --

20 Senator Gillibrand: Oh, sorry. Senator Hirono is on  
21 Webex. Senator Hirono.

22 Senator Hirono: Hello? Thank you, Madam Chair.

23 Senator Gillibrand: We can hear you.

24 Senator Hirono: This is for the panel. In Hawaii we  
25 have several cyber education programs that work

1 collaboratively with the NSA and DHS, such as the National  
2 Centers of Academic Excellence in Cyber Defense and Center  
3 of Academic Excellence in Research. However, we also  
4 struggle to retain these trained cybersecurity experts in  
5 Hawaii. One thing that we find in Hawaii is that we can  
6 have a lot of excellent people who come to Hawaii but if  
7 they do not particularly have ties to the community, they  
8 tend to cycle out.

9         So my first question is how is the Cyber Workforce  
10 Management Board, CWMB, collaborating with other Federal and  
11 state agencies, where relevant, to continue investments in  
12 education, particularly in STEM programs, to meet the  
13 growing need of cybersecurity professionals? And  
14 particular, probably, in a state like Hawaii, how do we go  
15 out and reach the local community to engage in these kinds  
16 of educational programs, because they are more inclined to  
17 stay in Hawaii once they get their education. Panel?

18         Ms. Hinton: Senator Hirono, this is Ms. Hinton. I  
19 will touch on two areas and then I will ask my colleague,  
20 Mr. Sherman, to talk a little bit about the broader  
21 interagency collaboration.

22         Through the Chief Human Capital Officers Council, the  
23 Federal Human Capital Officers Council, we look at these  
24 broad-reaching interagency challenges and work in  
25 partnership with the Federal Chief Information Officers

1 Council to identify innovative programs, solutions that get  
2 to the problems that you identify specifically, whether it  
3 is retention or recruitment. And we work together to  
4 identify those best practices, that if one agency has found  
5 a way to solve an issue, how do we share that across the  
6 interagency space?

7 We are particularly doing that as well within the  
8 national security workforce in identifying are there  
9 specific challenges associated with the recruitment and  
10 retention of, say, the cyber workforce, and how can we learn  
11 from each other.

12 To Hawaii, specifically, I would mention the  
13 Department's ability to retain our talent in some of our  
14 remote locations or locations where we have seen throughput,  
15 we have relied and leaned heavily on our authorities to  
16 offer incentives, to incentivize talent to stay in those  
17 locations where we need them. And we have found success in  
18 using those incentive programs, but we have also found that  
19 we have to go pretty close to the cap of our authority in  
20 order to retain talent in these places. So as we use our  
21 incentives more and more, we are finding that it is taking  
22 us to that 25 percent cap, which the Department is  
23 authorized to use for these relocation and retention  
24 incentives, and we can envision a future state where we will  
25 need higher authority to compete with industry to retain

1 individuals in these locations.

2 Senator Hirono: Thank you. Anyone else want to weigh  
3 in?

4 Mr. Sherman: Senator, this is John Sherman, Acting  
5 CIO, ma'am. Just to thank Ms. Hinton, who hit many of the  
6 key points, and we are proud of the five Centers of Academic  
7 Excellence within the State of Hawaii that we are able to  
8 work with through the NSA accreditation there.

9 With regard to working across interagency, Ms. Hinton  
10 talked about the Federal CIO Council, where best practices  
11 are shared. We are also doing things in terms of, say, how  
12 career succession happens. We have something called the  
13 Cyber Pathways tool that we developed in concert with DHS  
14 and VA, to show cyber professionals how they can work across  
15 different trade crafts, what their career path could look  
16 like, and that was a good interagency effort between VA,  
17 DHS, and the Department of Defense.

18 We are sharing best practices. Of course, within the  
19 Department of Defense we are very pleased to have the Cyber  
20 Excepted Service authorities you all in Congress have  
21 provided to us, and we do use those aggressively and are  
22 continuing to expand those and then share our lessons  
23 learned with some of our interagency partners. So there is  
24 an active dialogue on that, and we are trying to be forward-  
25 leaning in that regard. Thank you.

1           Senator Hirono: I am glad to hear that there are  
2 efforts to work with the other departments, because there  
3 are some common challenges with regard to recruiting and  
4 retaining a cyber-educated force.

5           How is DoD partnering or working with universities  
6 across the country to provide a pipeline to DoD's cyber  
7 workforce? Any of the panelists.

8           Mr. Sherman: Senator, this is John Sherman again, the  
9 Acting CIO. You noted the Centers for Academic Excellence,  
10 an NSA-accredited program that we advocate for here at the  
11 Department of Defense level, across many dozens of  
12 institutions all across the country, constantly adding more  
13 to that. And the neat thing about this is as schools come  
14 in, other schools can help shepherd them to get their  
15 accreditation, and it really is a truly, truly diverse  
16 grouping of schools.

17           I was noting a minute ago, it is everything from  
18 Tuskegee University to Honolulu Community College, from  
19 University of Missouri-Columbia to North Carolina A&T.  
20 There are many, many schools in this, and the goodness of  
21 this is bringing in the different institutions across a very  
22 diverse population -- rural, urban, otherwise -- to get to a  
23 broader, more diverse set of candidates and students, in  
24 places where it cannot only apply the scholarships to and  
25 get them on board through there, but to get people

1 interested in working in the Department of Defense, who  
2 might not otherwise think about a cyber career in national  
3 security.

4 So this is something we are very excited about. It is  
5 an ongoing effort. It requires effort by the schools to get  
6 the accreditation. But it is very diverse, as I said,  
7 through community colleges all the way to much larger  
8 institutions, ma'am.

9 Senator Hirono: I am running out of time. This may  
10 have been touched upon before, but are you making concerted  
11 efforts to recruit women and minority people?

12 Ms. Hinton: Senator, this is Veronica Hinton.  
13 Absolutely, and we appreciate the authorities Congress has  
14 given us, in particular around direct hiring authorities to  
15 enable us to target our recruitment to underrepresented,  
16 underserved communities. We have found that using these  
17 authorities have enabled us to expand our outreach, to go  
18 where the talent is, and to attract them into the  
19 Department.

20 We see that through these authorities, whether they are  
21 student direct hire authorities or general streamlined  
22 direct hire authorities that we have had results in  
23 increasing minority hires, in particular with our student  
24 authorities. As I mentioned earlier, we have, in the past  
25 fiscal year, 20 percent of our student cyber hires have been



1 20 percent Asian American. We have seen growth in our  
2 African American as well as our female representation.

3 So we really appreciate the authorities that enable us  
4 to diversify the workforce and really find where the talent  
5 pools are, to partner with minority-serving institutions and  
6 other colleges and universities to get at this issue.

7 Senator Hirono: Thank you very much. Thank you, Madam  
8 Chair.

9 Senator Gillibrand: Thank you, Senator Hirono.  
10 Senator Tillis.

11 Senator Tillis: Thank you, Madam Chair. I will not  
12 ask any more questions here, but Mr. Litton, I am going to  
13 offer a couple of questions for the record, particularly  
14 around the temporary promotion authority for the DDS, kind  
15 of an idea of what slots have been provided, or if none  
16 have, why not. Also on constructive credit, I think the  
17 Army is the only one that seems to be using it now. I am  
18 curious why there is a reluctance, or why it has not been  
19 implemented in the other service lines.

20 And, Mr. Sherman, I want to dig a little bit deeper,  
21 for the purposes of future considerations, the clearance  
22 issue. When we do security clearance you have got maybe a  
23 hotshot that is going to take 90 days or more to get a  
24 clearance. We had given some authority to provide, I think,  
25 unclassified workspace to onboard them. That may work, but

1 I would like to talk more, we can talk about after the  
2 hearing, give us feedback on how we can accelerate that.

3 The clearance process is a problem across the whole of  
4 government, but in this particular field, where they are  
5 highly sought after resources, we can have a lot of leakage  
6 if we do not get better at it, onboard them as quickly as  
7 possible. So we will talk about that after the hearing and  
8 make sure my staff follow up.

9 Madam Chair, thank you for the hearing. This is very  
10 important, and again, we welcome your feedback on things  
11 that we should be looking at to either tune or introduce  
12 additional authorities to tackle this, because I tend to  
13 agree with General Crall's sobering mindset. We have got a  
14 lot of work to do here if we want to get the run right where  
15 we need it. Thank you, all.

16 Senator Gillibrand: If anybody wants to answer Senator  
17 Tillis' question now, because you know the answer, please  
18 do, because I have the same question about how do we  
19 increase the time for security clearances, how do we speed  
20 it up.

21 Mr. Sherman: I would just add, ma'am, we will need to  
22 take that for the record. As we work with the Under  
23 Secretary of Defense for Intelligence and Security and the  
24 Defense -- I am sorry, DCSA; I always get backwards on that  
25 -- DCSA, to make sure we have their input on that, we will

1 take that for the record and make sure we get you a holistic  
2 answer back on that, ma'am.

3 Senator Gillibrand: Thank you. Mr. Litton, in your  
4 testimony, you mentioned that the basis eligibility criteria  
5 and screening process for Military Service is the same for  
6 recruits as it is for non-cyber military occupational  
7 specialties. Are current Military Service standards  
8 restricting our ability to fill the ranks with the cyber  
9 talent we need? If so, how do you recommend addressing this  
10 issue, and how do we balance the need for officers to  
11 possess the cyber-specific skills and knowledge necessary  
12 for their branch, but also the leadership skills necessary  
13 for them to enjoy meaningful career progression and be  
14 competitive for leadership and command opportunities?

15 Mr. Litton: Yes, ma'am. Thank you for that question.  
16 Overall, recruiting, both in the enlisted and the officer  
17 corps, in general, has been very good. I think the military  
18 incident processing command has done a tremendous job during  
19 this COVID environment, keeping the MEPS stations open and  
20 keeping that pipeline flowing for those that want to serve  
21 their country, and filling the ranks in the Military  
22 Services.

23 Right now our retention is really excellent. I think  
24 it has been a benefit, if you will, for the Department of  
25 this uncertain environment that we currently find ourselves

1 in, that all the retention numbers are well over 100  
2 percent.

3 So that being said, our recruiting and retention  
4 specifically for our cyber warriors is good. There are some  
5 specific areas in which we are below our needs. But  
6 generally those are because we have increased the  
7 requirements on the other end. So we are fighting on one  
8 end to bring in the right person, but also those  
9 requirements increasing on the other end make it a dual  
10 challenge, if you will.

11 Senator Gillibrand: Does anyone else want to add to  
12 that answer?

13 Ms. Hinton: Senator, I would echo Mr. Litton's  
14 comments. We find the same dynamic on the civilian side.  
15 Our retention rates, in particular for our cyber workforce,  
16 are generally good, and generally across the Department we  
17 see that folks are not really leaving right now, just  
18 because of the uncertain dynamic. But we find that there  
19 are pockets of challenges within the cyber workforce. In  
20 particular as we talk to Army Cyber Command and some of the  
21 very specific, very highly technical areas, we do see some  
22 churn there, that we are using in leveraging all of our  
23 authorities to close those gaps.

24 But there is a dearth of expertise in the country in  
25 some of these instances, and so we bring to bear what we

1 can, but certainly we can do more.

2 Senator Gillibrand: What are the differences -- maybe  
3 for Lieutenant General Crall and Mr. Sherman -- what are the  
4 differences between civilian versus uniformed employees in  
5 our cyber workforce? What strategic advantages do each  
6 bring, and what percentage of current cyber workforce is  
7 civilian versus military? What do you think the proper mix  
8 should be, and how do we ensure we have the proper mix 5  
9 years and 10 years from now?

10 Mr. Sherman: I will go on that first part about the  
11 current mix, ma'am. We have what is called the Defense  
12 Cyber Workforce Framework, where we capture this data. We  
13 have roughly, as we have got the skill sets coded, 65,000  
14 civilians and 67,000 military in the ranks there.

15 In terms of the mix, I will defer to General Crall to  
16 amplify this. The military brings longer consistency,  
17 longer-term time on target there. The civilians, you may  
18 have a little bit different turnover, and, of course, the  
19 different richness of skill set and experiences, perhaps  
20 from industry or academia or elsewhere.

21 My personal view, as Acting CIO, is that this is about  
22 the right mix we have now, in terms of about the half and  
23 half, to keep that modulated. And just to build on what Ms.  
24 Hinton said, we do have certain skill sets that are very  
25 applicable, as Senator Tillis was indicating at the outset,

1 out in the civilian workforce. Cyber operators, for  
2 example, is one of the coded ones. Network assessors. Jobs  
3 that could get very quickly picked up in the private sector.

4 And using this framework, blocking and tackling we  
5 have, we can watch as these get above a 10 percent rate that  
6 we need to start, when the vacancies get above a certain  
7 area, that we can start amping up the hiring and using the  
8 cyber-accepted service authorities you all have granted to  
9 us to start doing things like targeted local markets,  
10 supplement TMLS for living in the National Capital region,  
11 and so on. So we try to use that to modulate, but the mix,  
12 I believe, is about right, but I will defer to General Crall  
13 and the others for their views.

14 General Crall: I think in a generic sense the mix is  
15 about right the way it sits now. There are tradeoffs, and  
16 those tradeoffs, I agree with the Action CIO in that you get  
17 some consistency on the military side. People that make  
18 careers of it stick around, and they have a unique  
19 experience that relates very well to the combatant commands.  
20 And make no mistake, from the Joint Staff, focused on  
21 warfighting and looking at meeting combatant command needs,  
22 those relationships work out quite well.

23 What you trade, though, however, is some of the  
24 experience and currency that we tend to get from our  
25 civilian workforce, especially those who move in and out

1 from industry back to service with us. So I would probably  
2 like to keep both of those pipelines open.

3 But your most difficult question that you asked was not  
4 so much how are things working out today but what does that  
5 mix look like five years. I think that is the unknown. I  
6 do not know the answer to that. But my guess is it probably  
7 will not look like it looks today, because we have not  
8 onboarded the very capabilities that we need to employ --  
9 machine learning, autonomy, artificial intelligence, a real  
10 cloud-based environment, pushing that processing to the  
11 tactical edge, and a reformed network.

12 So the speed with which that is going to require us to  
13 operate is going to have a level of human-machine interface  
14 we have never had before, and it is hard for me to believe  
15 that the force we are looking at today is necessarily  
16 rightly aligned to that new mission set. We are going to  
17 have to lead turn this, and keep a careful eye on what those  
18 skill sets are necessary to bring this on board, and we  
19 might have to throttle that mix and that balance to get  
20 there.

21 Mr. Sherman: I am sorry, ma'am. I was just going to  
22 add one other thing to what General Crall is saying.  
23 Absolutely, on the cloud-based capabilities, data, AI, some  
24 of the things I mentioned in my opening statement. And the  
25 one thing we are going to have to get our head around is, as

1 we do, particularly on the civilian side, bringing them in,  
2 we might not be bringing them in for 30 years. Indeed, they  
3 may come in for 4 years and go out to industry and then come  
4 back to us in 5, 6, 7, 8 years, and that is not a bad thing  
5 to stay super current with industry practices, academia, and  
6 elsewhere. And with our Cyber Excepted Service authorities,  
7 we are able to operate in that space, but this is a  
8 different mindset, particular with our civilians. We may  
9 not want to hire data scientists for more than 3 or 4 years.  
10 We may want them to go back to industry, reaffirm their  
11 technological bona fides, and then come back to us later.  
12 It is a different mindset we need to get around.

13 Senator Gillibrand: Go ahead, Ms. Hinton.

14 Ms. Hinton: And we need the pathways and the pipeline  
15 to be able to do that, the authorities to be able to do  
16 that, to have the fungible workforce that gets their  
17 experience in industry, comes back into the Department, and  
18 maybe goes back out. And so --

19 Senator Gillibrand: So you are saying we do need  
20 additional authorities to do that?

21 Ms. Hinton: Correct.

22 Senator Gillibrand: Okay. So I would like everyone on  
23 this panel to write a letter to the committee what those  
24 authorities would look like, to have the flexibility we will  
25 need 5 years, 10 years out, to get people coming in and out



1 of the private sector, to keep their knowledge current.

2 Anything else? I cut you off. Did you want to say  
3 more?

4 Ms. Hinton: Nothing.

5 Senator Gillibrand: Okay. Thank you. Senator Hawley.

6 Senator Hawley: Thank you, Madam Chair. Ms. Hinton,  
7 let me come back to you, if I could, and ask you a question  
8 about our friends at the big tech companies. Just give us a  
9 sense, on the committee, have they been supportive of DoD's  
10 efforts to attract cyber talent that we need to protect our  
11 national security, or are you seeing these companies counter  
12 and compete and stand in the way of DoD's recruitment  
13 efforts?

14 Ms. Hinton: I would not couch it in an adversarial  
15 manner -- thank you for the question, Senator. Certainly we  
16 are in a competition with the big tech, but at the same  
17 time, they have also been friends to the Department. We  
18 have used the private-public talent exchange authority that  
19 Congress has given us to open up those pathways, to allow  
20 our employees to go learn from industry, and to allow  
21 industry to come learn from the Department. We are in the  
22 process of expanding that authority, based on direction in  
23 the last NDAA.

24 But certainly as we look at our compensation  
25 authorities and try to compete, we cannot compete based on

1 money, quite frankly. In some areas we can -- we do have  
2 some authorities -- but across the board, generally we  
3 cannot win the money competition, so we win the service  
4 competition, the call to service, to serve the country. We  
5 work on some incredibly advanced opportunities, and that is  
6 where we win the universities, we win the industry.

7 So I would say a mix of partnership, but also a mix of  
8 competition.

9 Senator Hawley: Very good. Speaking of universities,  
10 I am curious how the Department has used scholarships or  
11 other programs for high school students and college students  
12 to attract top quality talent.

13 Ms. Hinton: We have a mix of programs, Senator, that  
14 we use, whether it is the Cyber Scholarship Program, whether  
15 it is the STEM Scholarship Program. We have a plethora of  
16 scholarships, fellowships, internships, where we use that to  
17 go after talent. We are also looking at the Defense  
18 Civilian Training Corps, which is a new authority we  
19 received in the FY 2020 NDAA, to stand up a ROTC-like  
20 program. We use our direct hire authority. We have a  
21 student direct hire authority that enables us to reach out  
22 and directly hire students into the Department. That has  
23 proven to be a successful authority, albeit with some  
24 limitations. So we have a variety of tools available to us.

25 Senator Hawley: I am curious if there are any

1 particular regions that you have targeted or types of  
2 schools.

3 Ms. Hinton: We target a variety of universities, a  
4 variety of schools, depending on the mission sets that we  
5 need. We have a diverse network of partnerships with a  
6 variety of universities, a variety of outreach programs that  
7 help us find talent. Mr. Sherman, if you have some  
8 specifics?

9 Mr. Sherman: Sure. There are dozens and dozens,  
10 Senator, of schools, and we were talking about this a little  
11 bit earlier, from community colleges all the way up to  
12 University of Missouri-Columbia, to very large schools,  
13 everything from rural to urban. So we are aiming for a very  
14 broad swath of talent, to get these Centers of Academic  
15 Excellence accreditations to be able to do that.

16 Also, Ms. Hinton mentioned these ROTC-focused efforts  
17 we have going on. There are six institutions -- Texas A&M,  
18 North Georgia, Virginia Tech, VMI, Citadel, and Norwich --  
19 all schools that have large ROTC programs, to encourage the  
20 cadets there to focus on cyber. And within some of them,  
21 for example, Citadel, within the Charleston area, is  
22 reaching out to schools within the area, high schools and so  
23 on. So they are taking this kind of a step further there,  
24 as well.

25 So the bottom line, sir, is a pretty broad shot group

1 there of what we are trying to go after, getting the most  
2 diverse talent and folks who may not have thought of a  
3 career at the Department of Defense or national security.

4 And one of the things Ms. Hinton noted, if I can go to  
5 this, about why do people come to work, and it goes to the  
6 education piece. They can make more money in tech, but  
7 where else can you go after ISIS, or help us stand up  
8 against the Chinese, or thwart the Russians? There is a  
9 certain amount of, you cannot do this anywhere else. And so  
10 we may get them for 4 years, maybe they go off to industry  
11 and make more money. The key is getting them back after  
12 that, for the next bite at the apple, for a higher level of  
13 management or technical capacity they would have, sir.

14 Senator Hawley: Let me ask you in, in closing, when  
15 you think about the mix of programs and recruitment tools  
16 that you have just been talking about, have any proved  
17 particularly successful or effective, that you would look at  
18 and say, "That has really been good for us"?

19 Ms. Hinton: Sir, I feel like a broken record, but I  
20 really am very thankful, the Department is very thankful and  
21 appreciative of the direct hire authorities, because they  
22 enable us to get through the hurdles and the inefficiencies  
23 in some of the Title 5 hiring authorities, and really get to  
24 where is the talent, how do we bring them in, how do we  
25 attract them without having to go through the overly

1 burdensome hiring process that we had.

2 So they have proven to be effective tools, and I would  
3 couple that with the Cyber Excepted Service authority that  
4 we have, that we are growing, that has proven to be another  
5 effective personnel tool.

6 Senator Hawley: Very good. Thank you very much.  
7 Thank you, Madam Chair.

8 General Crall: Sir, if I could offer one piece to  
9 that, not often well received, but I think important to  
10 note. Not all of our talent comes from credentialed degree  
11 holders. We have a lot of talent that comes in our enlisted  
12 forces, or maybe with no degree whatsoever, that have shown  
13 unbelievable prowess and acumen in this field. And so while  
14 I would never dismiss the idea of pursuing the formally  
15 trained university partnerships, which go a long way, to  
16 some of our high-end performers, we have a lot of performers  
17 who do not hold degrees, and they have proven extremely  
18 valuable to our work.

19 Senator Hawley: That is great.

20 Senator Gillibrand: Just a couple questions on our  
21 Cyber Reserve and our National Guard. In the fiscal year  
22 2021 National Defense Authorization Act, it required leaders  
23 in the DoD to evaluate reserve models tailored to support  
24 cyberspace operations. I am interested in the possibility  
25 of creating more flexible options for personnel who want to

1 serve but want alternatives to full-time, active-duty  
2 service. We look forward to receiving that report.

3 To inform our reading of it, when it comes -- thank  
4 you, Senator -- how is the Department currently thinking of  
5 non-traditional military reserve models for service on cyber  
6 issues? What are the current military reserve options for  
7 individuals who have cyber skills and are interested in  
8 service? And then on the National Guard question, we asked  
9 for a report to evaluate the use of National Guard for the  
10 response to and recovery from significant cyber incidents.  
11 As you conduct that evaluation, what is your long-term  
12 vision for the successful integration of the National Guard  
13 into cyber incident response, and what should the  
14 collaboration be between the National Guard Bureau and  
15 Federal agencies looking like and preparing for and  
16 establishing resilience to future cyber incidents?

17 Whoever wants to address it can address it.

18 General Crall: I see everyone looking at me. So,  
19 ma'am, we certainly owe you the details in the reports that  
20 you had mentioned. You know, I had a chance recently, the  
21 week before last, to get up to Washington State and talk to  
22 one of their elite Guard units there on cyber. Incredibly  
23 impressive. Clearly they are not the only one -- those are  
24 starting to grow, both in numbers and competency. It offers  
25 the very thing that I opened up with. People want to live

1 where they want to live, and do the work that they want to  
2 do. I think it also gets after the comment that the Senator  
3 asked about, how do you retain that talent in the state? In  
4 your state, for example, Hawaii, that is certainly one way  
5 to get after that. It offers the financial incentives that  
6 go after that.

7 But nobody knows your local territory like your Guard.  
8 So if you think about, you know, election security and the  
9 infrastructure involved with that state, they know their  
10 infrastructure better than most.

11 So I think that there is a lot of room for both Guard  
12 and Reserves, to get after your comment on integrating,  
13 resilience, and that additive feature that appears to be  
14 very attractive to many. I believe we need more Guard  
15 units, specifically with a cyber competency, maybe even as a  
16 standalone entity, as a specialty, would be my opinion on  
17 that.

18 Senator Gillibrand: Can you please make sure that is  
19 addressed in the report that is forthcoming?

20 And then just one last question for Mr. Sherman and Ms.  
21 Hinton, and maybe, again, Lieutenant General Crall. This is  
22 about the private sector and just enhancing our  
23 relationship.

24 Your opening statement cited the emerging practice of  
25 private industry to create a human supply chain by

1 partnering with universities to supply a ready supply of  
2 talented and trained individuals into all our cyber forces.  
3 Should the DoD seek to establish such a reserve via  
4 partnerships like the private sector, in doing with the  
5 nation's colleges and universities, and what should that  
6 system look like? For anyone.

7 Mr. Sherman: I think we could certainly take that on  
8 board to consider how formalized that should be. As Senator  
9 Hawley was asking, I was going to pile onto one other thing  
10 there about, there is not an adversarial relationship.  
11 There is a very symbiotic relationship right now with much  
12 of industry, in terms of the tech sector and in terms of  
13 support for what we are trying to do. Now, there is high  
14 competitiveness for those very in-demand skill sets, but  
15 recognizing the national security roles, when folks come in  
16 here for a few years and then maybe go back out to industry  
17 and so on.

18 In terms of special authorities, ma'am, we will have to  
19 take that on board to think about that, but it would also  
20 just be us, back to the original point a few minutes ago,  
21 recognizing the permeability of folks coming in and out.  
22 And whether that requires special authorities or not, we  
23 will definitely take that on board, and whether that  
24 requires anything special, vis-à-vis industry, we would have  
25 to consider. So thank you for the question.



1 Ms. Hinton: Yes, ma'am. Thank you for the question.  
2 I agree with Acting CIO Sherman. We will take it for the  
3 record, to look at the authorities that we have and the  
4 authorities we may need. We have had conversations around  
5 the notion of opening up pathways for individuals to come in  
6 and out of service. You know, whether or not that  
7 translates into a civilian reserve corps of individuals to  
8 fill talent gaps is a conversation we are having right now,  
9 and we can come back to you with further information.

10 Senator Gillibrand: Thank you, everyone, for  
11 participating. Senator Tillis, do you have anything else?

12 Senator Tillis: Thank you very much. We appreciate  
13 your answers to questions, and again, we will submit a few  
14 for the record. But thank you for being here. Thank you  
15 for having this hearing.

16 Senator Gillibrand: Thank you for your dedication.  
17 Adjourned.

18 [Whereupon, at 3:53 p.m., the subcommittee was  
19 adjourned.]

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