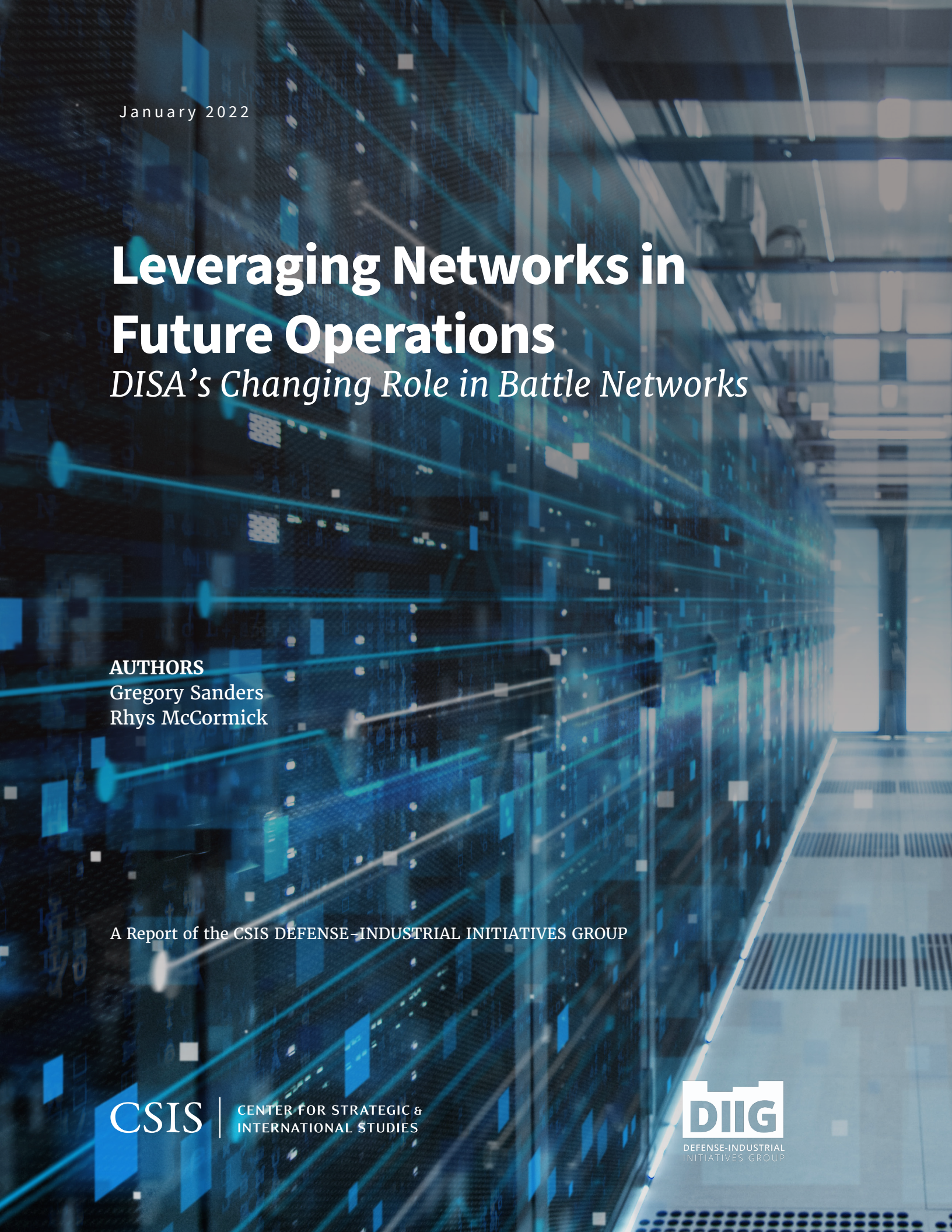


January 2022

Leveraging Networks in Future Operations

DISA's Changing Role in Battle Networks

AUTHORS
Gregory Sanders
Rhys McCormick

A Report of the CSIS DEFENSE-INDUSTRIAL INITIATIVES GROUP

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

DIIG
DEFENSE-INDUSTRIAL INITIATIVES GROUP

January 2022

Leveraging Networks in Future Operations: DISA's Changing Role in Battle Networks

AUTHORS
Gregory Sanders
Rhys McCormick

A Report of the
CSIS DEFENSE-INDUSTRIAL INITIATIVES GROUP

ROWMAN &
LITTLEFIELD

Lanham • Boulder • New York • London

About CSIS

The Center for Strategic and International Studies (CSIS) is a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world's greatest challenges.

Thomas J. Pritzker was named chairman of the CSIS Board of Trustees in 2015, succeeding former U.S. senator Sam Nunn (D-GA). Founded in 1962, CSIS is led by John J. Hamre, who has served as president and chief executive officer since 2000.

CSIS's purpose is to define the future of national security. We are guided by a distinct set of values—nonpartisanship, independent thought, innovative thinking, cross-disciplinary scholarship, integrity and professionalism, and talent development. CSIS's values work in concert toward the goal of making real-world impact.

CSIS scholars bring their policy expertise, judgment, and robust networks to their research, analysis, and recommendations. We organize conferences, publish, lecture, and make media appearances that aim to increase the knowledge, awareness, and salience of policy issues with relevant stakeholders and the interested public.

CSIS has impact when our research helps to inform the decisionmaking of key policymakers and the thinking of key influencers. We work toward a vision of a safer and more prosperous world.

CSIS does not take specific policy positions; accordingly, all views expressed herein should be understood to be solely those of the author(s).

ISBN: 978-1-5381-4057-4 (pb); 978-1-5381-4058-1 (eBook)

Center for Strategic & International Studies
1616 Rhode Island Avenue, NW
Washington, DC 20036
202-887-0200 | www.csis.org

Rowman & Littlefield
4501 Forbes Boulevard
Lanham, MD 20706
301-459-3366 | www.rowman.com

Acknowledgments

The authors of this report would like to thank the individuals from government, industry and the defense acquisition community who gave the research team their time and insight in a series of interviews carried out as part of this project. Many of these individuals also participated in a workshop held to discuss this project's findings. These engagements provided significant insight into the issues confronting DISA, as well as DoD leadership, and allowed the research team to derive additional insights from its review of contract data.

This CSIS report was made possible by the generous support of Leidos.

Contents

CHAPTER 1

Introduction

Communications are central to warfare. Communication failures have been a significant cause of military catastrophes, and advances in communications have enabled innovative concepts of operations that have delivered unexpected or rapid victories.[1] As military operations have become increasingly complex, requiring the successful coordination of a wide variety of disparate forces across vast distances, the importance of communications has only grown. This is especially true for communications across service boundaries, within allied coalitions, and across command echelons. The current focus at the Department of Defense (DoD) on Joint All-Domain Command and Control (JADC2) highlights opportunities and challenges for communications in future warfare. As U.S. military services experiment with communication approaches that can enable JADC2, the challenges confronting the DoD's current communications infrastructure must also be taken into account. The DoD's ability to implement a new communications paradigm will be critically shaped by the relationships between defense components; the organizations, policy, and personnel dedicated to the task; and the management of the DoD's evolving communications infrastructure.

A central player in the DoD's organizational approach to communications is the Defense Information Systems Agency (DISA). DISA originated as the Defense Communications Agency, founded in 1960 with a mandate to create a joint military communications network linking the systems developed separately by the military services. As the DoD's approach to communications evolved over the succeeding decades, DISA has evolved with it. Today, DISA manages the Defense Information Systems Network (DISN)—a communications network serving as the core connectivity between the various networks of the military services and defense agencies, operating around the world and across the internet with data storage systems, satellite communications, and other advanced data transport capabilities. Collectively, the DoD's overarching communications system is known as the DoD Information Network (DoDIN). In addition, DISA plays a critical role in providing security for a wide range of the DoD's computer systems.

In recent years, DISA has been involved in a broader debate about the size and efficiency of the DoD's Fourth Estate. The Fourth Estate consists of the parts of the DoD outside of the military departments (i.e., the Army, Navy, and Air Force), including defense agencies such as DISA, defense field activities, the Office of the Secretary of Defense, the combatant

[1] "The German 'Lightning War' Strategy of the Second World War," Imperial War Museum, https://www.iwm.org.uk/history/the-german-lightning-war-strategy-of-the-second-world-war.

commands, and the Joint Staff.[2] Congress and DoD leadership have both focused on limiting the size of the Fourth Estate, looking to transfer resources from headquarters or back-office functions to other defense objectives, including priorities identified in the National Defense Strategy (NDS). At one point, the House Armed Services Committee proposed eliminating DISA entirely and folding its activities into United States Cyber Command.[3] More recently, however, the Defense Business Board analyzed DISA and recommended refocusing its mission around the core functions needed to support the joint force in future conflicts.[4] In order to properly assess DISA's future size, mission, and organization, it is necessary to understand what DISA does, how it does it, and how its mission is changing.

Analyzing DISA as the Defense Business Board recommends presents challenges, though. In most cases, a DoD organization review entails a close analysis of its budget, both its recent budget execution and its future budget plans. This would typically allow for an assessment of whether the size of the agency's budget accords with the value it provides to the DoD and whether its budget plans align with the NDS. This approach suffers, however, when applied to DISA: more than 70 percent of DISA's funding comes not from its congressionally appropriated budget but through its operations within the Defense Working Capital Fund (DWCF).[5] Because of this arrangement, the lion's share of resources that DISA uses to accomplish its mission are budgeted to other parts of the DoD and sent to DISA in return for the provision of information technology (IT) and communications services.

Fortunately, there is a data source that can compensate for the unusual nature of DISA's spending. Contract data reveals the contract spend that DISA executes, regardless of whether the funding originates in DISA's budget or if it comes from another agency. In addition, contract data allows for an analysis of which agency provided funding across different categories of contract spend, as well as for a comparison to what those agencies spend on similar contracts that they execute themselves. Given these advantages, an analysis of contract data provides an illuminating perspective on how DISA carries out its mission, how this compares to other agencies, how DISA's operations are changing in the face of a changing strategic environment, and how its mission is evolving.

Contract data show that in the face of increasing threats to DoD networks and evolving operational demands, the resources required to support DISA's core functions have remained relatively constant, suggesting that the emphasis on efficiency in Fourth Estate reform efforts has served to constrain costs in these areas. At the same time, overall DISA spending has increased, largely in line with overall DoD expenditures. Growth has been

---

[2] Bradley Peniston, "Explainer: What is the Pentagon's Fourth Estate?" Defense One, February 6, 2020, https://www.defenseone.com/threats/2020/02/what-pentagons-fourth-estate/162939/.
[3] Joe Gould, "Major bill aims to slash Pentagon bureaucracy," *Military Times*, April 17, 2018, https://www.militarytimes.com/congress/2018/04/17/major-bill-aims-to-slash-pentagon-bureaucracy/.
[4] Defense Business Board, *Defense Logistics Agency – Defense Information Systems Agency Charter Review* (Washington, DC: Defense Business Board, November 16, 2020), https://dbb.defense.gov/Portals/35/Documents/Reports/2020/DBB%20FY20-03%20-%20DLA%20-%20DISA%20Charter%20Review%2020201211.pdf.
[5] Defense Information Systems Agency, *Defense Information Systems Agency General Fund Annual Financial Report Fiscal Year 2020* (Washington, DC: DISA, October 2020), https://www.disa.mil/-/media/Files/DISA/About/Legal/Budget-Performance/2020-AFR_DISA-GF-Final_v2.ashx.

driven by DISA's increasing role as a procurer of enterprise IT services to other parts of the DoD. One of the central challenges for DISA going forward will be balancing competing demands for its resources, workforce, and leadership attention between its traditional and emerging roles, so that it can operate with needed efficiency in both roles and ensure that it has what it needs to succeed in its assigned missions.

This report begins with a discussion of the rapidly evolving environment in which DISA is operating in order to provide context for understanding DISA's operations, DISA's recent changes, and the ways in which DISA's mission is likely to be transformed in the coming years, with a focus on areas that will require careful management by DISA and DoD leadership. It then examines contract data from DISA and related agencies to illustrate how these changes have manifested in DISA's spending and its organizational and operational approach. It concludes with a discussion of the choices confronting policymakers who are considering decisions on DISA's future.

DISA OVERVIEW

DISA provides, operates, and assures command and control (C2), information sharing capabilities, and a globally accessible enterprise information infrastructure in direct support to joint warfighters, national-level leaders, and other mission and coalition partners across the full spectrum of operations. DISA is a $11.4 billion organization with approximately 6,400 civilian employees, 1,400 active-duty military personnel, and 10,000 contractors. Most of DISA's work (70 percent) is carried out using resources from the Defense Working Capital Fund (DWCF). Historically, DISA has been the joint telecommunications agency for the DoD. It is a key player in nuclear C2 and has had increasing involvement in supporting communications for joint military operations in recent decades. DISA is a combat support agency.

Major Systems and Elements

- Defense Information Systems Network (DISN)
- Department of Defense Information Network (DoDIN)
- Global Command & Control System-Joint (GCCS-J)
- White House Communications Agency (WHCA)
- Secretary of Defense Communications (SDC)
- Joint AI Center (JAIC)
- Joint Spectrum Center (JSC)
- Defense IT Contracting Organization (DITCO)
- Joint Warfighting Cloud Capability (JWCC)
- Joint Force Headquarters – DoDIN (JFHQ – DoDIN)

DISA's Strategic Environment

Like every component of the DoD, DISA is operating in a changing strategic environment, which has significant implications for the agency. The NDS prioritizes the need to prepare for strategic competition—and potential conflict—with peer competitors.[6] For DISA, the NDS implies several significant challenges: a transformation in its core mission of supporting joint military communications; a need to accommodate emerging technologies, such as artificial intelligence (AI), that will shape and be shaped by how defense networks are structured and operated; and the need to secure defense networks from cyberattacks by sophisticated nation-state adversaries.[7] Alongside these changes in the national security environment, the commercial communications and IT world is undergoing a major transformation of its own, with the rise of commercial cloud technology and the spread of Enterprise IT as a Service (EITaaS) business models. These approaches have reshaped the way that IT is provided and that networks are built and supported, and they present new opportunities and challenges for how DISA operates as well.

JADC2

As the military services have evaluated their approach to future warfare in light of the missions outlined in the NDS, a degree of consensus has emerged around the idea that a new, more closely integrated approach to C2 is required.[8] This approach is currently known as Joint All-Domain Command and Control (JADC2), and it involves connecting almost every system operated by the military with every other military system, in near real time, with the goal of seamlessly integrating military force across multiple domains (e.g., land, sea, air, space, and cyber).[9] JADC2 is an overarching concept that the Joint Staff has begun to define through the formal requirements process, pursuant to the recently approved DoD JADC2 strategy.[10] Each of the military departments has developed programmatic efforts to

[6] Department of Defense, *2018 National Defense Strategy* (Washington, DC: Department of Defense, 2018), https://www.defense.gov/Spotlights/National-Defense-Strategy/.
[7] Department of Homeland Security, *Commodification of Cyber Capabilities: A Grand Cyber Arms Bazaar* (Washington, DC: Department of Homeland Security, 2019), https://www.dhs.gov/sites/default/files/publications/ia/ia_geopolitical-impact-cyber-threats-nation-state-actors.pdf.
[8] Mallory Shelbourne, "Services Looking for 'Synergy' in JADC2 Efforts," US Naval Institute News, November 13, 2020, https://news.usni.org/2020/11/13/services-looking-for-synergy-in-jadc2-efforts.
[9] Todd Harrison, "Battle Networks and the Future Force," CSIS, *CSIS Briefs*, August 5, 2021, https://www.csis.org/analysis/battle-networks-and-future-force.
[10] Kimberly Underwood, "Signed JADC2 Strategy Provides 'Teeth' to Complicated Effort," *Signal*, June 7, 2021, https://www.afcea.org/content/signed-jadc2-strategy-provides-teeth-complicated-effort.

develop networking solutions to support JADC2: the Air Force is developing its Advanced Battle Management System (ABMS), the Navy its Project Overmatch effort, and the Army its Project Convergence effort.[11] The services' technical and programmatic approaches to JADC2 are highly varied, though each of them emphasizes the need for significant experimentation in order to better define their requirements. This variation raises the question of how common standards and interfaces that integrate these systems with each other will be developed.

The JADC2 strategy reportedly includes a governance structure to lead implementation, but as of yet DISA's role in this governance structure is unclear. This question is a key one, because DISA's role in the development and deployment of JADC2 will be critical to the future of its traditional C2 communications mission. The DoD must wrestle with the question of whether and how its existing C2 infrastructure—including several systems that DISA operates today—will integrate into the structure of JADC2. As just one example of the integration issues to come, DISA today operates the Global Combat Support System – Joint (GCSS-J), a web-based system that allows commanders to access a variety of transportation and logistics databases when coordinating the movement and sustainment of operational forces.[12] In the infrastructure being developed to support JADC2, DISA could have a role in continuing to develop and support systems that provide joint commanders with access to information in the service networks, but the services could also seek to divvy up these responsibilities among themselves, with different services in the lead for various functions. Moreover, the extent to which JADC2 utilizes the DISN network infrastructure will significantly shape the demand for much of DISA's core mission infrastructure.

Artificial Intelligence

The NDS also identified AI as a significant emerging technology that will be instrumental in delivering advanced military capabilities in the near future. AI is likely to shape how DISA carries out its mission, as DISA will be a key enabler for AI adoption in the DoD. One of the most promising forms of AI for military applications is machine learning.[13] This involves training AI algorithms on massive datasets to develop militarily useful capabilities to perform missions—such as target and pattern recognition—as part of an intelligence, surveillance, and reconnaissance mission. Machine learning can also enhance predictive analytics and optimization as part of a logistics mission and play a role in cybersecurity.[14] Since DISA manages the overarching network infrastructure for much of the DoD's

---

[11] John R. Hoehn, "Joint All-Domain Command and Control (JADC2)" Congressional Research Service, July 1, 2021, https://crsreports.congress.gov/product/pdf/IF/IF11493.
[12] Rita Boland, "Military Enhances Supply Tracking," *Signal*, April 2010, https://www.afcea.org/content/military-enhances-supply-tracking.
[13] Karen Hao, "What is machine learning?" *MIT Technology Review*, November 17, 2018, https://www.technologyreview.com/2018/11/17/103781/what-is-machine-learning-we-drew-you-another-flowchart/.
[14] Lindsey Sheppard, Robert Karlen, Andrew Hunter, and Leonardo Balieiro, *Artificial Intelligence and National Security: the Importance of the AI Ecosystem* (Washington, DC: CSIS, November 2018), https://www.csis.org/analysis/artificial-intelligence-and-national-security-importance-ai-ecosystem.

information sharing, runs massive data centers storing DoD data, and handles data transport, it is a logical partner in the application of machine learning to military problems.

DISA is home to the DoD's Joint Artificial Intelligence Center (JAIC), the DoD's AI innovation hub that is working to support and develop infrastructure for the development of AI applications for military users.[15] The recommendations of the National Security Commission on AI call for the development and tagging of enterprise data sets within the DoD; they also indicate that the JAIC should serve as an AI accelerator for the deployment of AI for several business and military functions across the DoD.[16] Given DISA's broad access to, support of, and involvement with the DoD's network traffic and large data centers, as well as its organizational connection to the JAIC, the emergence of AI as a key contributor to warfighting capability is likely to significantly change DISA's strategic environment.

Cybersecurity

The priority the NDS places on peer competitors has another implication for DISA: the need to actively prepare to counter massive cyberattacks on the DoD's network infrastructure from sophisticated nation-state adversaries.[17] It is clear that adversaries such as China and Russia will target DoD networks in the case of future conflict in an attempt to slow down the DoD's decisionmaking, cripple its infrastructure, and stymie its network-dependent logistics and C2 systems. It is also abundantly clear that, at a somewhat lower intensity level, this contest is already occurring on a daily basis. The Solar Winds breach at the end of 2020 demonstrated the continuing (and often at least partially successful) efforts of peer competitors to penetrate sensitive U.S. government networks.[18] Cybersecurity has been part of DISA's mission for decades, but the NDS indicates that the DoD, and therefore DISA, must prepare for escalating challenges in the cyber domain across the full range of conflict.

Enterprise IT and Cloud Computing

Not all changes in DISA's strategic environment have roots in trends that are highly specific to the DoD. Two significant changes in the way that IT is provided in the commercial world are also altering DISA's mission area. The first is the trend of big companies outsourcing most major IT support functions rather than having an in-house element of the company dedicated to supporting IT. Companies consolidate their IT across multiple locations with a single outside provider that charges rates according to levels of service, in a model known as

[15] JAIC Public Affairs, "Build to Scale: Maximizing AI/ML Impact across the DoD," AI in Defense, November 13, 2020, https://www.ai.mil/blog_11_13_20-build_to_scale_maximizing_al-ml_impact_across_the_dod.html.
[16] National Security Commission on Artificial Intelligence, *Final Report* (Washington, DC: NSCAI, March 19, 2021), https://www.nscai.gov/2021-final-report/.
[17] Department of Defense, *Department of Defense Cyber Strategy 2018 Summary* (Washington, DC: DoD, September 18, 2018), https://media.defense.gov/2018/Sep/18/2002041658/-1/-1/1/CYBER_STRATEGY_SUMMARY_FINAL.PDF.
[18] David E. Sanger, Julian E. Barnes, and Nicole Perlroth, "Preparing for Retaliation Against Russia, U.S. Confronts Hacking by China," *New York Times*, March 7, 2021, https://www.nytimes.com/2021/03/07/us/politics/microsoft-solarwinds-hack-russia-china.html.

Enterprise IT as a Service (EITaaS).[19] The growth of EITaaS in the commercial sector challenges the way DISA has traditionally structured much of its operations, since DISA has traditionally carried out many of its functions in house—buying commercial IT products and software and integrating those commercial items together as part of a government network, with a mix of government and contractor personnel working within DoD facilities.[20] At the same time, the ascent of EITaaS has also created opportunities for DISA to adopt an EITaaS approach to providing service to its customers within the DoD. In fact, contract spend data show that the growth of DISA as a third-party IT provider, similar in many respects to an EITaaS model, has been the main driver of the recent growth in DISA's spending.

The second change in the commercial sector relevant to DISA's mission is the growth of large-scale cloud computing, where big commercial companies make high-level processing and data storage available as a commercial service. Commercial cloud offers an alternative to some of DISA's traditional functions, such as the operation of government data centers, but it also provides an opportunity for DISA to serve as a facilitator in the acquisition of cloud services for the DoD. [21] Commercial companies typically pursue EITaaS and leverage commercial cloud computing to consolidate IT functions that could otherwise be fragmented and inefficient in large, geographically spread organizations, with the aim of increasing the efficiency and effectiveness of their IT functions. DISA has historically been asked to expand its support of DoD operations in pursuit of similar goals through consolidating and better coordinating communications and IT.[22]

CHAPTER 3

DISA's Evolving Mission

The changes in DISA's strategic environment are leading to corresponding changes in its traditional roles and missions, which in turn is transforming DISA operations, organization,

[19] Keshun Morgan, "When to Move to an Enterprise IT as a Service Model," *Fed Tech*, June 12, 2019, https://fedtechmagazine.com/article/2019/06/when-move-enterprise-it-service-model.
[20] Randolph C. Hite and Nancy A. DeFrancesco, *Information Technology: Defense Information Systems Agency Can Improve Investment Planning and Management Controls* (Washington, DC: General Accounting Office, March 2002), https://www.gao.gov/assets/gao-02-50.pdf.
[21] Jared Serbu, "After years of fits and starts, DISA deploys new cloud-based office tools," Federal News Network, January 15, 2021, https://federalnewsnetwork.com/defense-main/2021/01/after-years-of-fits-and-starts-disa-begins-deployment-of-new-cloud-based-office-tools/.
[22] Katie Malone, "DISA Selected as the Single Service Provider for Fourth Estate Optimization," Meritalk, November 18, 2019, https://www.meritalk.com/articles/disa-selected-as-the-single-service-provider-for-fourth-estate-optimization/.

and relationships. The key for policymakers is to find the right balance in allocating resources and management attention to DISA's traditional missions and its emerging missions so that the organization delivers the gains in efficiency and effectiveness that it was created to achieve.

Adapting DISA's Organic Footprint to Changing Operations

DISA's traditional mission focus has been on integrating communications between the networks of the military departments into the broader DoD network, the DoDIN, which supports the DoD's global operations. DISA acquires the data transport capabilities required to facilitate the movement of data around the world through the DISN, using a combination of satellite communications and fiber optic and other transport networks.[23] DISA also operates data centers to store and process defense information. It ensures secure communications for the National Command Authority and the secretary of defense through the White House Communications Agency and Secretary of Defense Communications.

The emergence of commercial cloud operations and the development of JADC2 are likely to significantly change DISA's traditional mission. If JADC2 develops as envisioned, it is likely to become the central channel for the transmission of operational data across the DoD. Thus, DISA's role in JADC2 will be fundamental to the size and scope of its traditional mission in future years. In addition, the emergence of a secure commercial cloud capability for the DoD—currently known as the Joint Warfighting Cloud Capability (JWCC)—will impact DISA's infrastructure. The DoD's initial attempt to develop secure commercial cloud capabilities through the Joint Enterprise Defense Infrastructure (JEDI) program was dropped after it was mired in litigation over the source selection decision. DISA has been given the responsibility to manage JWCC, the successor to JEDI, with the objective of bringing on multiple cloud providers in 2022.[24] To the extent that a significant volume of information is flowing through JWCC, and utilizing the substantial infrastructure supporting commercial cloud services, DISA could expect to reduce the scale of its traditional organic infrastructure. These dynamics may well act in tandem, as JADC2 is likely to have a significant cloud component. At the same time, DoD users will likely use some DISA network capabilities to access JWCC and JADC2, so it is quite possible that these innovations will lead to substantially more data sharing—to the point where both will increase the flow of information across DISA's organic networks, rather than decreasing it.

It is essential for policymakers to anticipate the changes in demand for DISA's organic infrastructure that will result from the development of JADC2 and JWCC, and for them to identify the enduring footprint required to complement these capabilities. At the same time, it is important to keep in mind that JADC2 and JWCC are very much nascent development efforts at this point. While policymakers will want to understand how the development of

---

[23] Robert E. Levin, Cristina Chaplain, and John Oppenheim, *Defense Acquisitions: The Global Information Grid and Challenges Facing Its Implementation* (Washington, DC: Government Accountability Office, July 2004), https://www.gao.gov/assets/gao-04-858.pdf.
[24] Lauren C. Williams, "DISA takes on DOD cloud operations," *Government Contracting News*, January 11, 2021, https://gcn.com/articles/2021/01/11/disa-cloud.aspx.

these capabilities is likely to alter the demand for DISA's existing organic infrastructure in the future, it will be important to ensure that the capability to securely transmit information on the DISN does not degrade if JADC2 and JWCC falter or take longer to develop than anticipated.

DISA's Emerging Role in Providing Enterprise IT

While the upcoming transformation in DISA's traditional mission is central to its future, equally important is the rapid emergence of a newer mission for DISA: that of being a procurer of enterprise IT for other DoD components. As the data on DISA's recent contract spending demonstrate, this is where DISA's mission is already growing at a rapid pace. Historically, DISA acted as a procurer of enterprise IT for its own organizations. More recently, however, new elements of DISA have increasingly served as contracting organizations that other DoD components utilize to procure things such as enterprise software licenses from Microsoft and other commercial IT services.[25] Furthermore, decisions at the DoD to give DISA a central role in managing the IT functions for the Fourth Estate—an assignment that is only in its earliest stages of implementation—are likely to substantially grow this part of DISA's mission in the near future.[26] As a result, DISA will increasingly be acting as a third-party procurer of IT services for other DoD components. This growth will create competition for resources and management attention for other parts of DISA's mission with its leadership.

Beyond correctly scaling DISA's efforts in light of the transformations occurring in its traditional mission, DoD policymakers will need to grapple with the spread of key IT, networking, and cloud capabilities throughout the defense enterprise. The DoD has seen in the past how rapidly and haphazardly communications and networking capabilities can grow when there is no overarching management process or entity responsible for them—in fact, such uncoordinated growth is what led to the creation and evolution of DISA in the first place.[27] Given the central role of the services in JADC2 and the DoD's federated approach to cloud computing, there is significant potential for duplication and disconnects in this area. While DISA will be involved in much of this activity, its incentives and authorities to be a third-party procurer of IT services could end up taking the lion's share of DISA's resources, rather than developing an effective and efficient approach for the overall defense enterprise. It will be incumbent on DISA and DoD leadership to ensure careful management in this area.

---

[25] Department of Defense, "Joint Enterprise Licensing Agreement (JELA)," Fact Sheet, DISA, June 2019, https://www.disa.mil/-/media/Files/DISA/Fact-Sheets/Fact-Sheet---Joint-Enterprise-Licensing-Agreements.ashx.
[26] Noreen Costello and Marcus Johnson, "DISA spearheads effort to consolidate 'fourth estate' networks," Press release, DISA Strategic Communication and Public Affairs, May 16, 2019, https://disa.mil/NewsandEvents/2019/consolidate-fourth-estate-networks.
[27] "Our History: The Beginnings," DISA, Department of Defense, https://disa.mil/about/our-history.

Securing Critical Data

DISA's role in securing the DoD's critical data is also evolving as the structure of how the DoD builds and supports its IT and network operations changes. DISA's security mission grew as a logical necessity of protecting the networks it operates and the network traffic it manages. As the central node of the DoDIN, DISA's security role naturally connected it to similar efforts in the services and in other DoD components. As the DoD's approach to networking and sharing information evolves, however, DISA's security role should evolve as well. From an enterprise perspective, the focus will need to be on protecting DoD data wherever it is located, rather than on defending particular networks from penetration. As more and more systems are connected through JADC2, and as more DoD data is transmitted through commercial networks and the cloud, providing security to DISA's organic network infrastructure is an increasingly insufficient approach, and one that may in fact limit the ability to implement alternative approaches better designed for emerging operations.[28] It will be essential that DISA continue to update its approach to security to keep pace with the changes happening within the DoD.

[28] Walter T. Ham IV, "DISA delivers Zero Trust cybersecurity referenced architecture," Press release, DISA Strategic Communication and Public Affairs, May 13, 2021, https://disa.mil/NewsandEvents/2021/ZeroTrust.

CHAPTER 4

DISA's Organization, Relationships, and Workforce

As a result of DISA's evolving missions, significant changes are underway in the way that DISA is organized—and there is a mounting need for changes in relationships and workforce development.

Organizational effects of Growth in IT Contracting

As the review of DISA contract trends in this report demonstrates, the growth in DISA contract spending in recent years is almost entirely due to its increased involvement in performing IT contracting for other organizations. Two new divisions within DISA's Defense IT Contracting Office (DITCO)—the IT Contract Division (PL83) and the Scott Emerging Technology, Special Interest Contracts, and Pricing (PL84) office—have been established in the last decade. These new divisions combined represent more than $4.8 billion in obligations in FY 2020, nearly 63 percent of DISA's total. DISA is also working to incorporate employees into its organization from 22 other defense agencies as it assumes responsibility for Fourth Estate IT, a process that is slated to implement incrementally over the next five years.[29] In October, DISA reorganized its offices to carry out its new management responsibilities for JWCC, creating its new Hosting and Compute Center for this purpose.[30] These organizational changes will also change the way in which DISA relates to its DoD customers.

Evolving Relationships with Customers

In many respects, DISA's original mission was to support its counterpart communications and networking organizations that were organic to the military services and other defense agencies in a business-to-business (B2B) model of operations. Those entities in turn were responsible for interacting with the IT user communities within their organizations. However, DISA's emerging role as the IT and networking provider for the Fourth Estate and manager of JWCC puts it in a role that requires working directly with users, providing services such as help desks and other ways to solve user problems. This requires a

[29] Jackson Barnett, "IT Consolidation for Military's Fourth Estate agencies is coming next year, officials say," Fedscoop, December 1, 2020, https://www.fedscoop.com/dod-fourth-estate-modernization-initiative-disa/.
[30] Lauren C. Williams, "DISA Reorganizes Cloud Office," Washington Technology, October 4, 2021, https://washingtontechnology.com/2021/10/disa-reorganizes-cloud-office/355519/.

business-to-consumer (B2C) model that is not typical of DISA's past operations. A B2C model therefore requires a cultural shift within the organization, or at least within the part of DISA that is focused on these missions.

The DoD components that transmit data over DISA networks and the Joint Staff and combatant commands who need access to this data will be demanding increased access to large volumes of information. There has long been tension in DISA's relationship with the services over issues of DISA's rates, and battles over control of various network functions have played out.[31] With the growth of DISA IT contracting, however, DISA is increasingly dealing with the services in scenarios where they could choose to send their funding to alternative options—after all, the services have their own IT contracting organizations and their own contracts for cloud services. They can also procure many of the same IT services that DISA provides through the General Services Administration. At the same time, the services will look to ensure that they maintain operational control of their networks and operational data within JADC2, leading to the potential for conflict with each other and with DISA. DISA will therefore need to carefully manage its relationships with the services. DISA will also need to expand its engagement with the Joint Staff and the combatant commands, especially on JADC2; DoD leadership will need to clarify DISA's role in JADC2 and remain engaged in managing DISA and other joint equities under it.

DISA Funding

Most of DISA's funding comes through the DWCF. The largest element of this, DISA's IT contract spending for other DoD components, will require careful management attention from DoD leadership to ensure that it is aligned with the interests of the defense enterprise and that it remains well managed. Because this funding is appropriated across a range of offices throughout the DoD, it is challenging to manage this activity centrally; in cases where DISA is acting primarily as a contracting activity, its incentive is largely to execute the funding. Strategic buying in a consolidated fashion does bring efficiencies through economies of scale, but increased visibility will also be required for DoD leadership to manage this growing spending carefully.

The nature of DWCF also tends to limit DISA's ability to invest in the modernization of its capabilities. Including the costs of modernization as part of its charges to DoD customers could make DISA's DWCF rates unaffordable. However, DISA also has access to appropriated dollars, funding which is largely used to modernize and upgrade its organic network capabilities. This approach gives DISA flexibility in finances that allows it to modernize while focusing on efficiency. As DISA's mission shifts, however, there is likely to be increased demand and competition for DISA appropriations, especially from the JAIC and potentially for JADC2. In this respect, it is notable that very little of DISA's appropriations over the years have been in the form of research and development (R&D) appropriations.

---

[31] Sean Carberry, "DISA and DOD work through shared pain points," *Federal Computer Week*, June 14, 2017, https://fcw.com/articles/2017/06/14/disa-dod-jie-pain.aspx.

DISA Workforce

The extensive changes in DISA's mission present significant challenges for DISA's workforce development. The majority of DISA's workforce resides at its Fort Meade and national capital region locations, and the Fort Meade workforce is focused on DISA's traditional mission of operating and maintaining its organic networks.[32] As DISA is increasingly taking on IT contracting, IT customer support, AI development, and cloud management, DISA's workforce will need to develop substantial new skills and keep abreast of developments in the commercial sector. DISA's workforce development will therefore require significant investment and management attention in the coming years, as well as access to flexible hiring authorities that can allow DISA to recruit and retain the key technical talent required for its evolving mission.

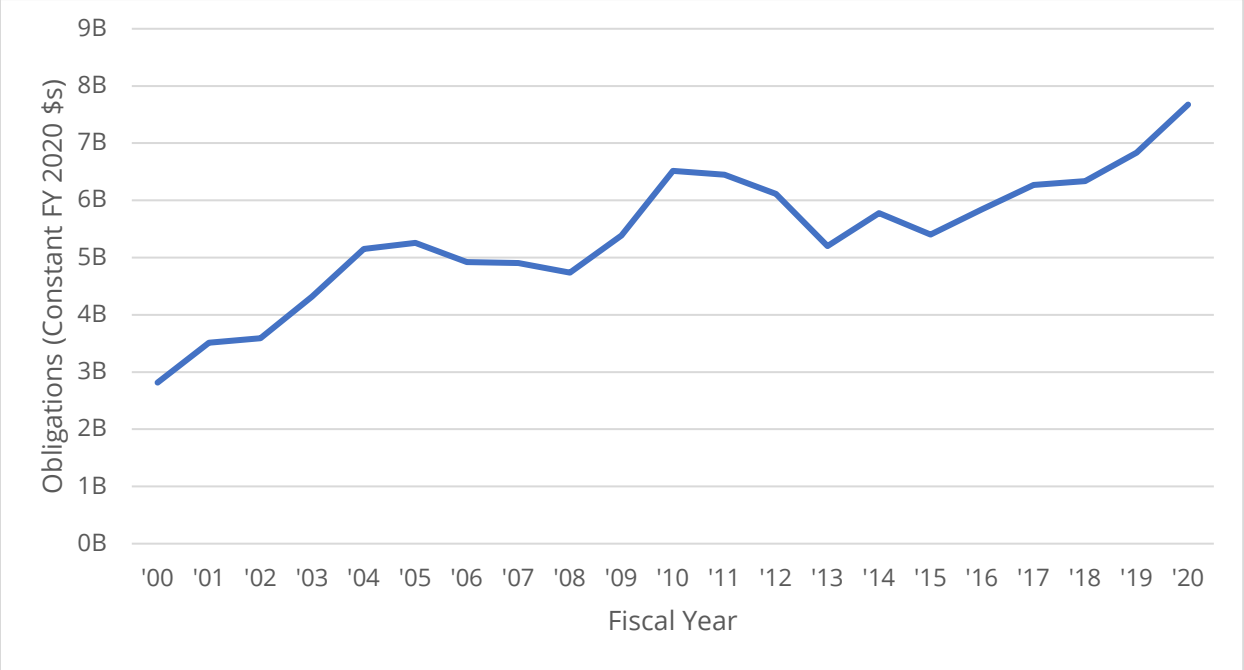
[32] DISA, *Defense Information Systems Agency General Fund Annual Financial Report Fiscal Year 2020.*

DISA Contract Trends

Top-Level DISA Trends

Figure 1 below shows the trends in DISA contract obligations between FY 2000 and FY 2020. This data is drawn from the Federal Procurement Data System.

Figure 1: DISA Contract Obligations, 2000–2020

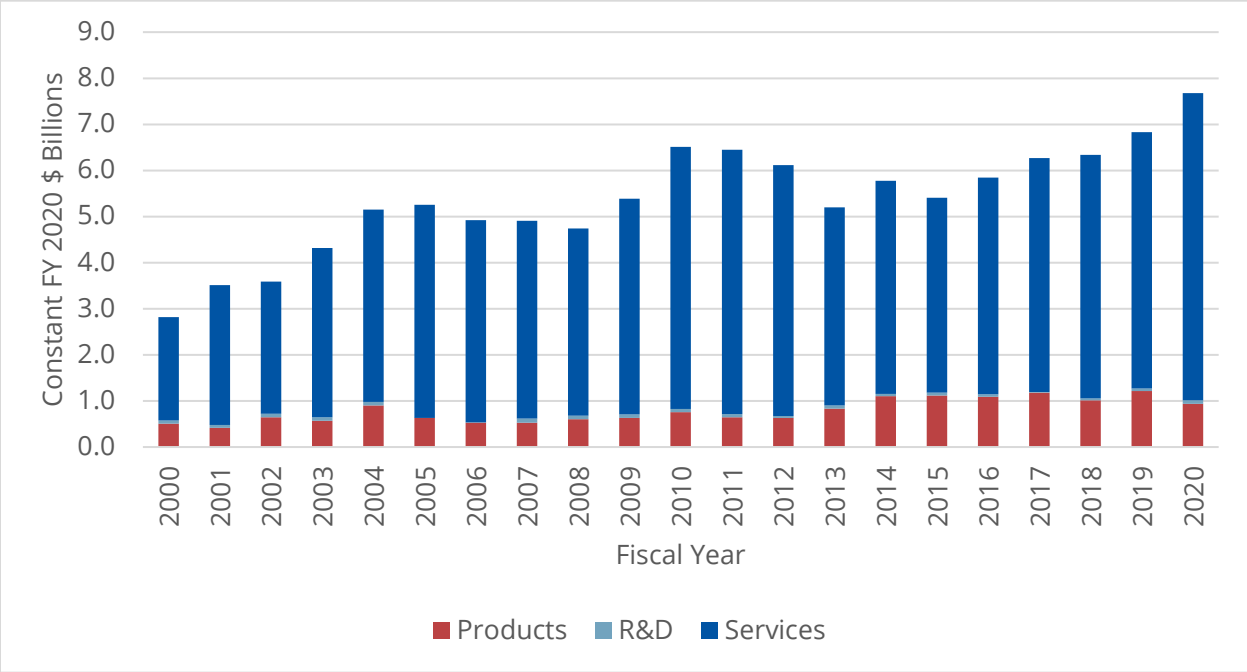


Source: FPDS; CSIS analysis.

The data show that although DISA has seen a substantial rise in contract obligations over the last 20 years, its spending has been seesawing between periods of growth and decline. Between FY 2000 and FY 2020, DISA contract obligations grew from $2.8 billion in FY 2000 to $7.7 billion in FY 2020, a 173 percent increase. DISA contract obligations grew in the immediate aftermath of the wars in Iraq and Afghanistan beginning, before peaking in FY 2005. DISA subsequently saw a decline in contract obligations between FY 2006 and FY 2008, then saw growth again around the surge in Afghanistan between FY 2009 and FY 2011. As involvement in Afghanistan slowed down and budget caps led to the onset of the defense contracting drawdown, DISA contract obligations fell between FY 2012 and FY 2015 (with the exception of one-year growth in FY 2014).

Over the last five years, DISA contract obligations have been on the rebound, in line with the contracting rebound seen across the DoD. DISA contract obligations increased from $5.85 billion in FY 2015 to $7.7 billion in FY 2020, a 42 percent increase. Last year, during a period of heavy reliance on DISA stemming from the necessity of working from home due to the global pandemic, DISA contract obligations increased by 12 percent, rising from $6.8 billion to $7.7 billion.

Figure 2: DISA Contract Obligations by Area, 2000–2020



Source: FPDS; CSIS analysis.

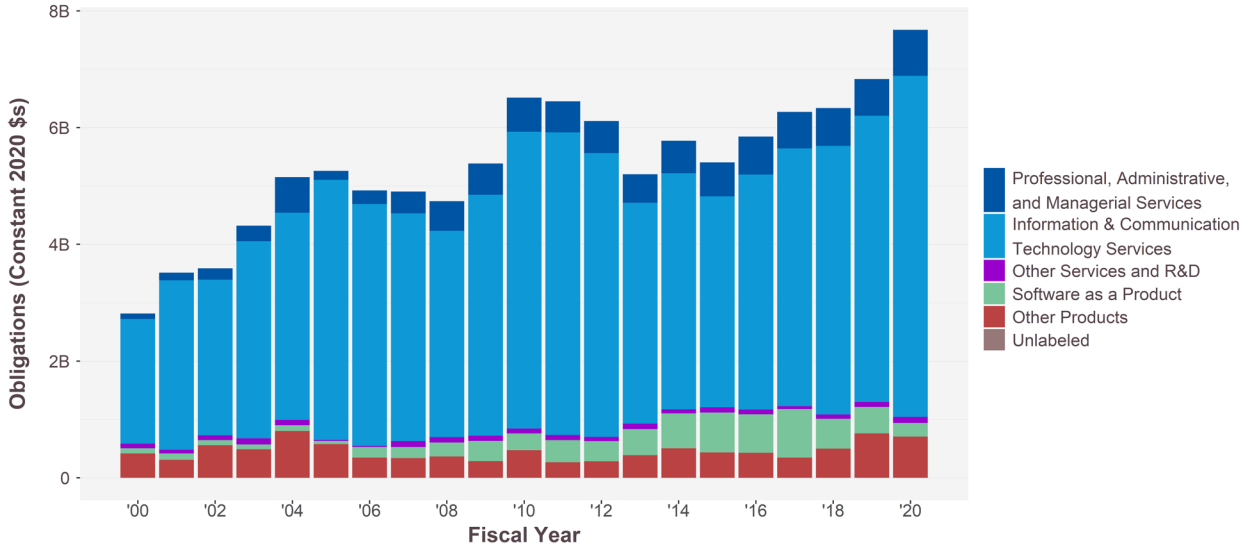
Figure 2 shows that over three-quarters of DISA contract obligations go toward services, compared to around 15 percent for products and just around 1 percent for R&D. This is unsurprising given that DISA performs a majority of IT services for the other DoD components and that there are consistently low levels of DISA budget appropriations for R&D. Between FY 2000 and FY 2020, DISA services contract obligations went from $2.24 billion to $6.66 billion, a 198 percent increase. Over the last five years, DISA services have grown at a rate faster than the overall rate of growth in DISA contract obligations, increasing by 58 percent between FY 2015 and FY 2020 compared to the 42 percent growth in overall DISA contract obligations over that same period. Finally, between FY 2019 and FY 2020, DISA service contract obligations increased by 20 percent, rising from $5.57 billion to $6.66 billion.

Between FY 2000 and FY 2020, DISA products contract obligations increased by 85 percent, going from $0.51 billion to $0.94 billion. However, over the last five years, DISA products contract obligations have been trending downward. DISA products contract obligations

declined by 16 percent between FY 2015 and FY 2020, from $1.12 billion to $0.94, and in the last year alone DISA products contract obligations declined by 23 percent. This shift away from products is consistent with the overall shift in activity at DISA toward enterprise IT contracting, with a proportionally lesser focus on provisioning its organic networks.

DISA R&D spending has largely been flat over the last 20 years and has accounted for 1 percent of DISA contract obligations between FY 2000 and FY 2020 on average. R&D contract obligations totaled $0.07 billion in FY 2000 compared to $0.08 billion in FY 2020, just a 6 percent increase. As a result, DISA is reliant on the commercial sector for performing the R&D required to advance its capabilities.

Figure 3: DISA Contract Obligations by Product or Services Category, 2000–2020



Source: FPDS; CSIS analysis.

DISA products and services are both dominated by a few categories, as shown in Figure 3. DISA services contracting is concentrated in two categories: information and communications technology (ICT) and, to a lesser degree, professional, administrative, and management support (PAMS). Between FY 2000 and FY 2020, ICT accounted for 75 percent of all DISA contract obligations and PAMS accounted for 9 percent. The three remaining services categories—equipment related services, medical, and facilities-related services and construction—all accounted for less than 1 percent of DISA contract obligations, and thus they have been grouped with R&D.

DISA ICT contract obligations grew from $2.14 billion in FY 2000 to $5.84 billion in FY 2020, a 173 percent increase. Over the last five years, DISA ICT contract obligations have been steadily rising, increasing from $3.62 billion in FY 2015 to $5.84 billion in FY 2020, a 62 percent increase. Last year, DISA ICT contract obligations increased by 19 percent, going from $4.9 billion to $5.8 billion. DISA PAMS contract obligations increased by 744 percent between FY 2000 and FY 2020, from $0.79 billion in FY 2020 to $0.09 billion in FY 2000; they fluctuated between $0.62 billion and $0.65 billion between FY 2015 and FY 2019 but

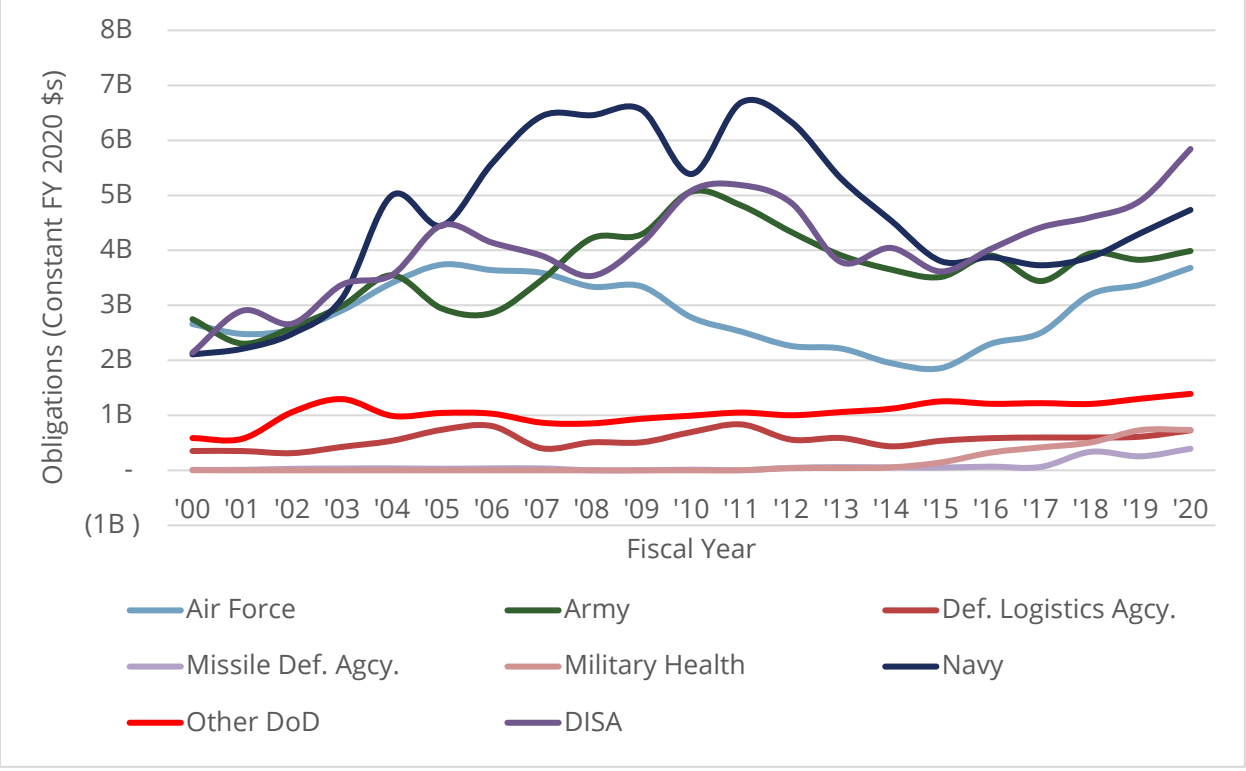
saw a significant increase in FY 2020, jumping from $0.63 billion to $0.79 billion, a 25 percent increase.

Software was the largest individual category of products contracting, accounting for 42 percent of DISA products contract obligations and 6.1 percent of overall obligations across the period. DISA spending for software as a product has grown 160 percent, from $0.09 billion in FY 2000 to $0.23 billion in FY 2020. However, this growth rate—only slightly slower than the DISA growth rate overall—masks a boom and then a collapse, with spending on software as a product peaking at $0.83 billion in FY 2016 before declining by $0.43 billion to FY 2020 levels. As will be discussed later, DISA has not left the software business behind; instead, it has increasingly acquired software as a service within the ICT category.

Who in the DoD Funds DISA and Contracts for ICT Services?

Figure 4 below shows defense ICT contract obligations by component from FY 2000 to FY 2020.

Figure 4: Defense ICT Services Contract Obligations by Component, 2000–2020

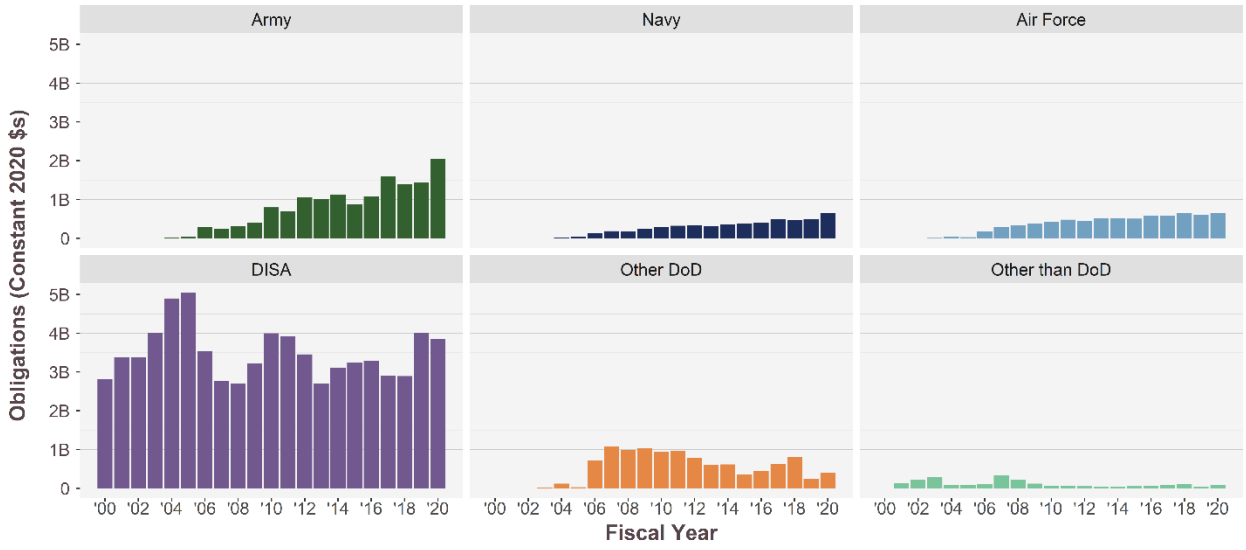


Source: FPDS; CSIS analysis.

The data show that DISA has been one of the largest spenders on ICT contract obligations among the DoD components, accounting for 24 percent of total defense ICT obligations between FY 2000 and FY 2020. At the start of the century, DISA fluctuated between being

the largest and the third largest ICT spender, but it has solidified its position as the largest spender on ICT contract obligations in recent years. Between FY 2015 and FY 2020, DISA ICT contract obligations increased by 62 percent, compared to the overall 45 percent growth across all DoD ICT contract obligations. In FY 2020, DISA ICT contract obligations increased by 19 percent while overall defense ICT contract obligations increased by just 11 percent. Of the services, the Air Force's ICT spending grew fastest during that same period, increasing by 98 percent, although its total spending is still below that of the Army and Navy. Given the transition of Fourth Estate IT management to DISA, it is expected that DISA's ICT expenditures will continue to grow, likely solidifying DISA's role as the leading spender in this field.

Figure 5: DISA Contract Obligations by Funder, 2002–2020



Source: FPDS; CSIS analysis.

Between FY 2015 and FY 2020, only a bare majority of DISA contract obligations—53 percent—were reported as having DISA as a funding office.[33] This measure does not capture all the intricacies of the working capital fund, but it is helpful for examining the extent to which the DoD is employing DISA to acquire its information needs. As shown in Figure 5, the Army is the biggest funder of DISA contract spend among the services, and this has been growing. The Army has been the largest external funder since FY 2010, and its spending increased from $0.88 billion in 2015 to $2.05 billion in FY 2020, growing a remarkable 134 percent. The Air Force is the second largest external funder, but it has not seen such a dramatic increase: its share has risen from $0.50 to $0.65 billion, demonstrating 29 percent growth—slower than above the overall growth rate for DISA funding. Other DoD is the third-place external funder over the FY 2015–FY 2020 period overall, but in the past two years it has been overtaken by the Navy, with the former funding $0.41 billion in FY 2020

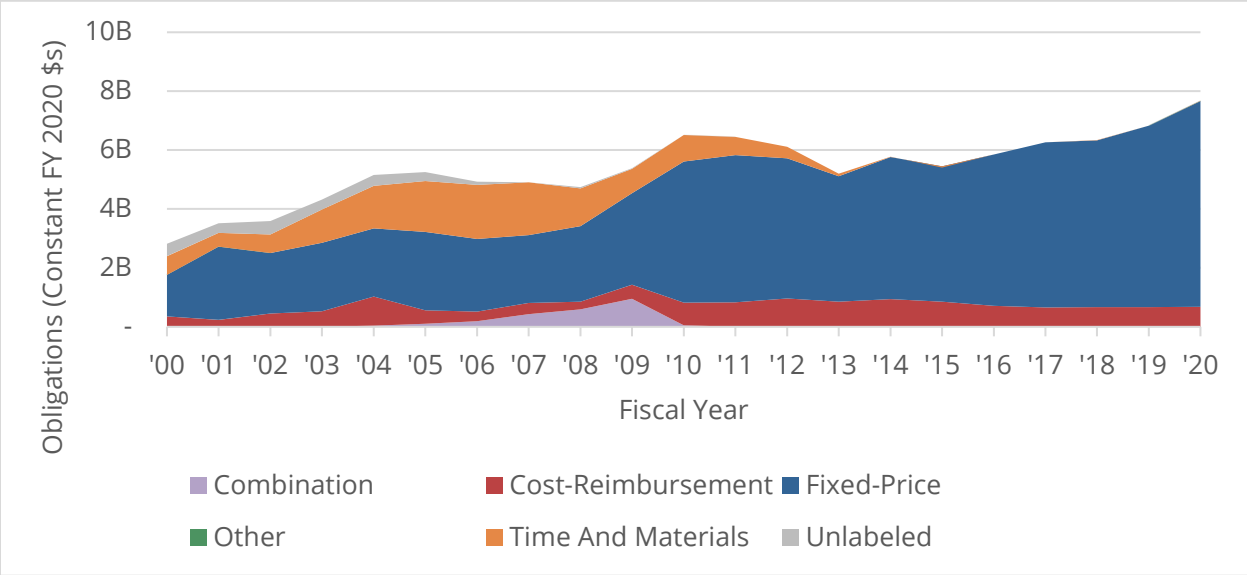
[33] Funding office reporting can be left blank to signal that the contracting office is the funder, but this does make it difficult to track missing data. The minimal outside funding levels at the start of the century may reflect data quality issues, so this analysis focuses on more recent years, which benefit from an overall increase in FPDS reporting completeness over the period.

compared to the Navy's $0.64 billion. Should the Navy continue its 71 percent growth from FY 2015 to FY 2020, it will easily overtake the Air Force as DISA's second largest external funder. DISA's organic spend has been fairly consistent, with spikes around periods of investment in core DISA capabilities.

How Does DISA Contract?

Figure 6 below shows DISA obligations by contract pricing mechanism from FY 2000 to FY 2020.

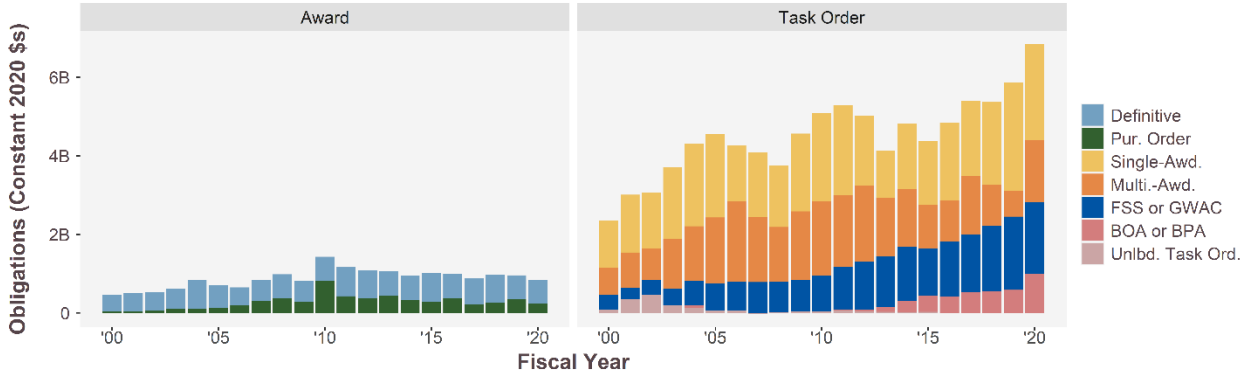
Figure 6: DISA Contract Obligations by Pricing Mechanism, 2000–2020



Source: FPDS; CSIS analysis.

The data show that DISA has evolved toward a strong preference for fixed-price contracts: between FY 2000 and FY 2020, 72.1 percent of DISA contract obligations were awarded under a fixed-price mechanism. In particular, DISA favors firm fixed-price contracting; in FY 2020, DISA awarded 88.9 percent of its obligations by that mechanism, compared to 50.6 percent for the DoD overall. Firm fixed price is often favored by commercial vendors in part because it does not require submission of government-compatible cost accounting information. Although DISA has long favored fixed-price contracting, it did make extensive usage of time and materials funding mechanisms between FY 2000 and FY 2008. However, as the times and materials funding mechanism lost favor across the DoD, DISA severely curtailed its usage. Finally, DISA used a cost reimbursement funding mechanism for 11.6 percent of its contract obligations between FY 2000 and FY 2020.

Figure 7: DISA Contract Obligations by Vehicle, 2000–2020

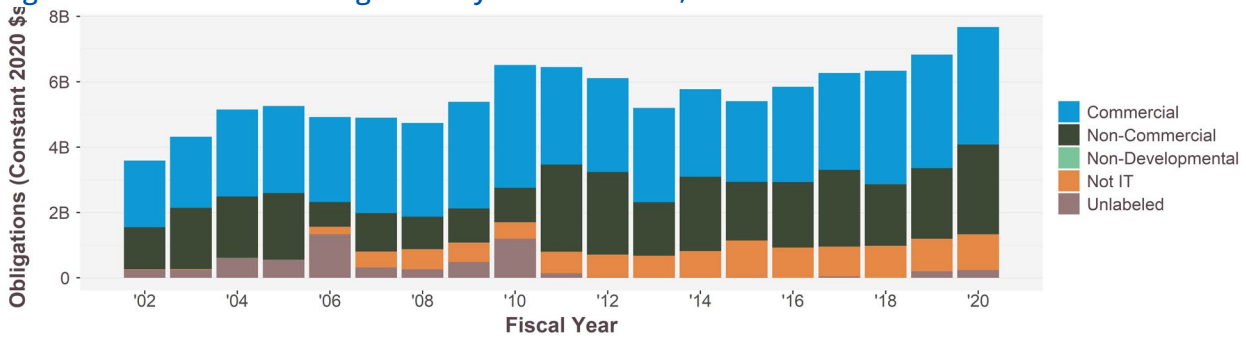


Note: Unlabeled not shown. Source: FPDS; CSIS analysis.

Most years, at least four out of every five DISA contract dollars is obligated through task order contracts. As Figure 7 shows, task order contracts have driven the growth of DISA contact spend in recent years, increasing by 56 percent since FY 2015 from $4.38 billion to $6.84 billion. By comparison, award contracts peaked in FY 2010, with 22 percent of spending and $1.43 billion in obligations. Award contracts, including definitive contracts and purchase orders, declined to $0.84 billion in FY 2020.

Across the period, the greatest growth has been in Federal Supply Schedule (FSS) and Government-Wide Acquisition Contracts (GWAC), which grew to $1.83 billion in FY 2020—a 360 percent increase since FY 2015, despite a slight decline in the last year. The Basic Ordering Agreement (BOA) and Blanket Purchase Agreement (BPA) vehicles went from being largely unused to showing substantial growth in the past decade, rising to $0.99 billion in FY 2020, a 146 percent increase since FY 2015. At their simplest, these vehicles can function like ordering from a catalog of known services and, as shown in Figure 9 below, are notably compatible with acquiring commercial products and services. The last two task order categories, single-award and multiple-award Indefinite Delivery Contracts (IDC), accounted for $2.43 and $1.58 billion respectively in FY 2020 obligations. Both experienced more cyclical growth and declines, with multiple-award contracting being especially volatile in recent years with a trough in FY 2019 at $0.66 billion followed by one-year 133 percent growth.

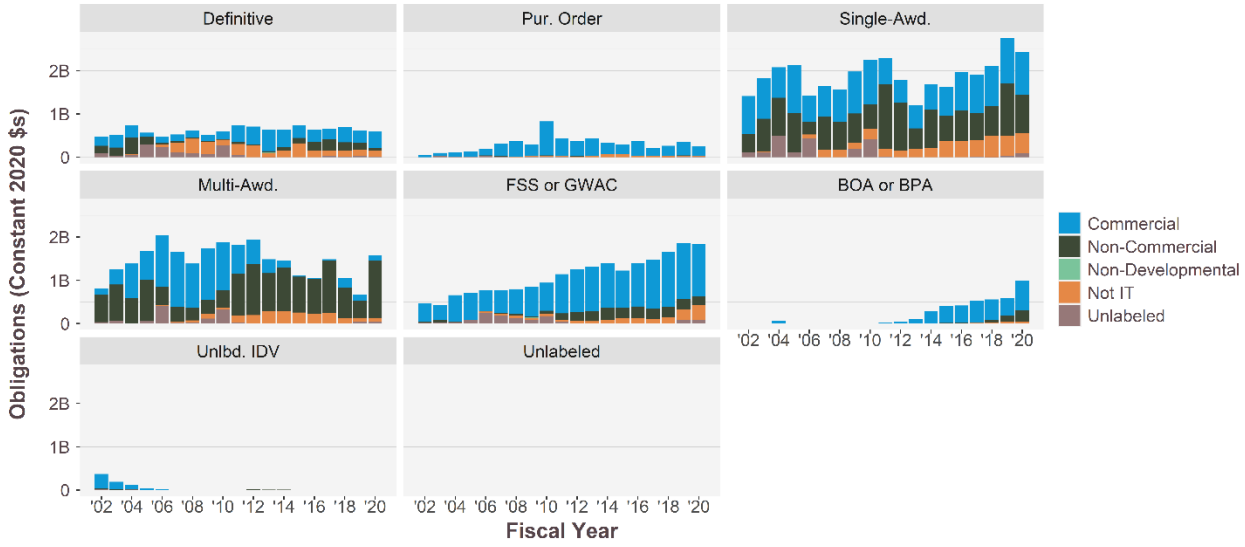
Figure 8: DISA Contract Obligations by Commercial IT, 2002–2020



Source: FPDS; CSIS analysis.

DISA both contracts for services that assist it in performing its organic functions and acts to work with vendors that are providing direct IT and telecom services, including commercial satellite bandwidth, cloud computing, and software licensing and maintenance. The federal procurement system has different sets of rules that can be applied to purchasing commercial products and services, allowing for more flexibility as the larger commercial market can play a competitive and disciplining role that does not apply in certain defense markets. As shown in Figure 8, DISA's purchases of commercial IT account for 52 percent of its contract spending over the period, reaching $3.59 billion in FY 2020. Non-development contracts, which can be used largely off-the-shelf even if they do not access a larger commercial market, are a non-factor for DISA, with only $0.1 billion dedicated to these types of contracts over the entire period. DISA spent $2.75 billion on non-commercial IT contract obligations in 2020, a 27 percent jump from the $2.16 billion spent in FY 2019 but not a larger share of spending than levels at multiple points earlier in the decade. Since FY 2015, commercial IT obligations have grown by 46 percent, slower than the 53 percent for non-commercial IT. To see DISA's growing role as a facilitator of enterprise IT services, it is helpful to take a closer look at contracting vehicles and their relationship with commercial IT.

Figure 9: DISA Vehicle Contract Obligations by Commercial IT, 2002–2020

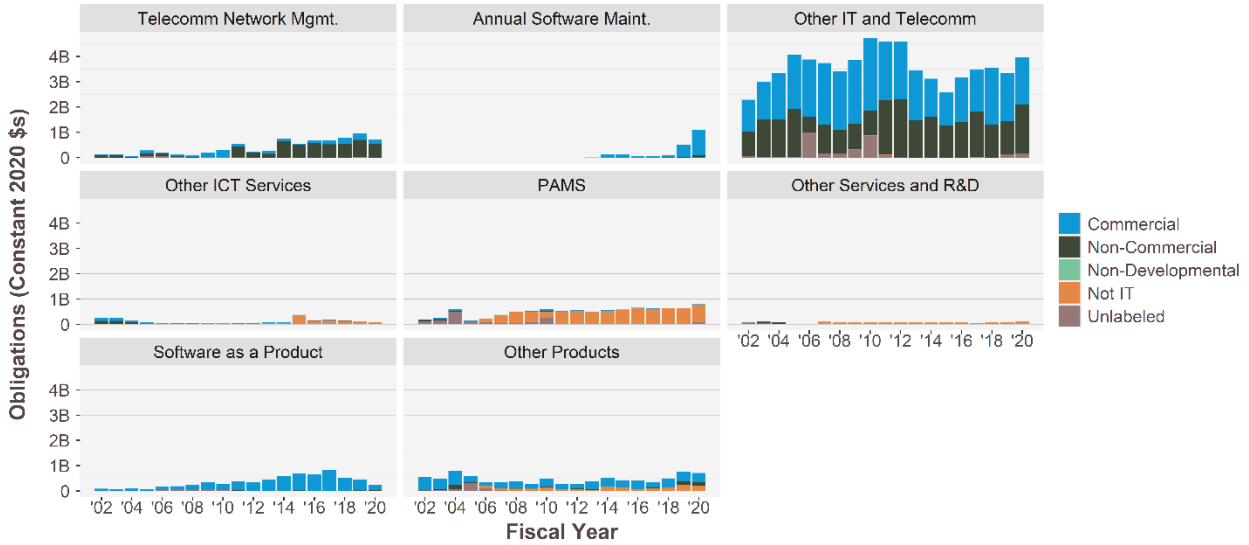


Source: FPDS; CSIS analysis.

The trends in FSS or GWAC as well as BOA or BPA growth shown in Figure 7 also capture the areas of greatest growth for DISA commercial IT contracting. As shown in Figure 9, FSS or GWAC vehicles have $1.20 billion in commercial IT obligations, a growth of 40 percent since FY 2015 despite a decline in FY 2020. BOA or BPA vehicles have $0.69 billion in commercial spending and an even larger 73 percent growth rate. However, non-commercial IT obligations have held their own, because multiple-award vehicles have gone from having a significant share of commercial contracts to being majority non-commercial every year since FY 2011., The past decade has seen a notably stronger connection between the acquisition vehicle DISA uses and the commercial or non-commercial nature of the IT products and services supplied. The exception to this shift are single-award IDCs, which

have $0.99 billion in commercial IT obligations but still show a great deal of variety in commercial status.

Figure 10: DISA Products and Services by Commercial IT, 2002–2020



Note: Unlabeled not shown. Source: FPDS; CSIS analysis.

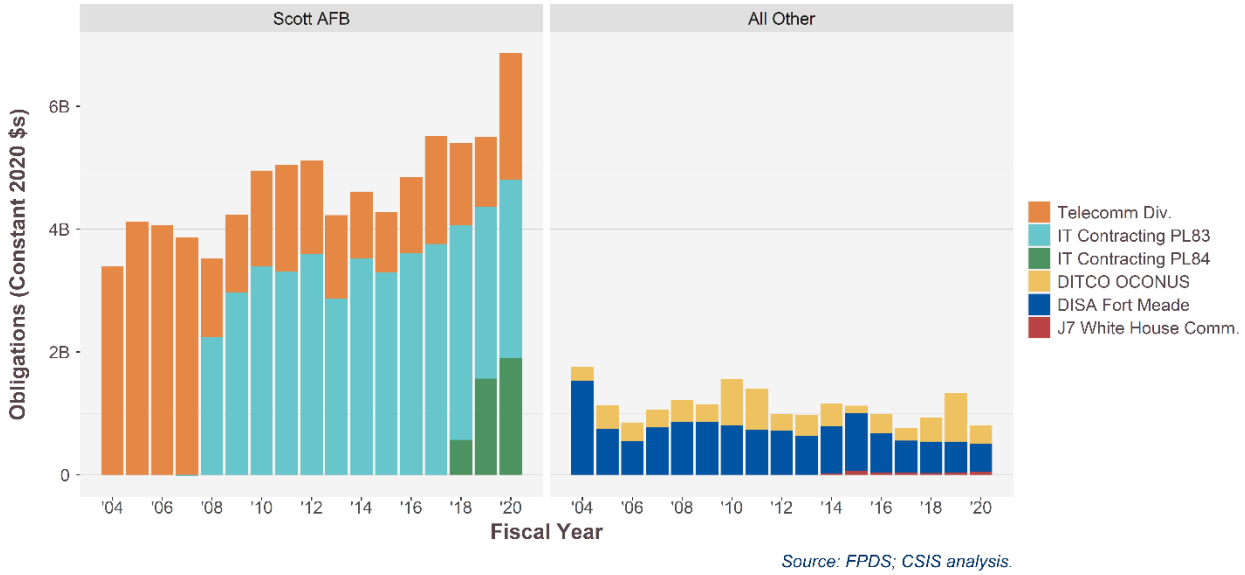
A more granular look at the product and service codes for DISA acquisitions provides partial clarity regarding what such acquisitions are available on the commercial market.[34] The most important trend shown in Figure 10 is a stark and recent shift in how DISA acquires software. There is a clear shift from software as a product to annual software maintenance contracts, that is, software as a service. This is a major area of growth. Both software as product and annual software maintenance services are more than 90 percent commercial, but the former category has fallen to $0.19 billion in commercial obligations (a 72 percent decline since FY 2015) while commercial annual software maintenance contracts have grown to $0.99 billion (a 728 percent increase since FY 2015). Many of the other IT and telecom service categories are split between commercial and non-commercial services, but the telecommunication network management category stands out with its $7.62 billion in obligations over the FY 2002–FY 2020 period, with 69 percent of those dollars going to non-commercial services.

[34] This analysis is somewhat limited by the fact that the largest service category during this period is "IT and Telecom – other IT and Telecommunication." Spending in that category has fallen off in recent years, but it remains the most prominent DISA product or service code with more than $2 billion in spending every year since 2010. Given the lack of detail regarding this category, it is grouped with other codes in the services code "D - IT and Telecommunication" category—with the exception of telecommunication network management and annual software maintenance contracts, which also fall within the "D - IT and Telecommunication" category but are more analytically interesting and involve significant spending in their own right.

DISA Structure and Contracting Approaches

Now with a greater understanding of how DISA is contracting and what DISA is contracting for, the next step is to turn to who in DISA is doing the contracting work. Figure 11 below shows DISA obligations by contracting office from FY 2004 to FY 2020.

Figure 11: DISA Contract Obligations by Contract Office, 2004–2020



Source: FPDS; CSIS analysis.

The majority of DISA contracting, in terms of total obligations, is conducted by just a few contracting offices. In FY 2020, 89 percent of DISA contract obligations were executed by three contracting offices located at Scott Air Force Base (AFB), as part of the Defense Information Technology Contract Office (DITCO): Telecommunications Division (HC1013), IT Contract Division (PL83), and the Scott Emerging Technology, Special Interest Contracts, and Pricing (PL84) office.

The Telecommunications Division (HC1013) was the largest DISA contracting office at the start of the century, and while it has lost some market share over the course of the decade, it remains one of the three largest with 34 percent of DISA contract obligations between FY 2004 and FY 2020. Its top contracts have included satellite services, the GSA's Networx network services contract, and a range of support to the DISN. In FY 2004, the Telecom Division accounted for 66 percent of DISA contract obligations, but the emergence of PL83 saw its market share decline precipitously to 27 percent in FY 2008. Since FY 2008, the Telecom Division has accounted for between 17 and 28 percent of DISA contracts annually.

The IT Contract Division (PL83) emerged in FY 2008 and quickly became the largest DISA contracting office, including issuing over $2 billion in task orders on previous Telecom Division indefinite delivery vehicles to support DISN. In FY 2008, PL83 accounted for 47 percent of all DISA contract obligations. Since FY 2008, PL83 has seen its market share

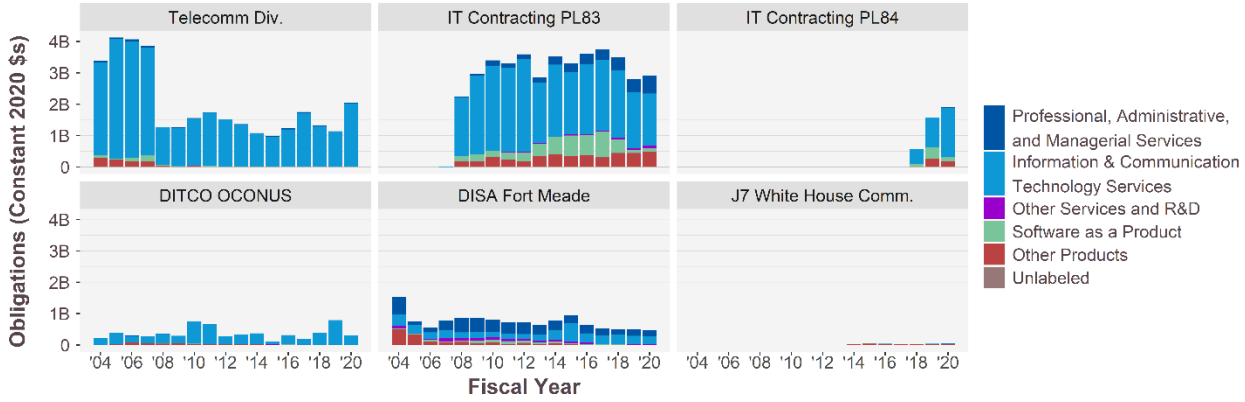
range all the way from a high of 61 percent in FY 2014 to a low of 38 percent in FY 2019, but it has remained the largest DISA contracting office in each of the subsequent years. Between FY 2004 and FY 2020, PL83 accounted for 42 percent of all DISA contract obligations. In addition to supporting DISN major contracts, PL83 is also one of the users of the Encore II IT solutions multiple-award vehicle.

Finally, the DITCO Scott AFB Emerging Technology, Special Interest Contracts, and Pricing (PL84) contracting office has emerged in recent years and has seen its share of DISA contract obligations rise quickly. In FY 2018, the first year it appeared in FPDS, PL84 accounted for 9 percent of DISA contract obligations. By FY 2019, PL84 saw its market share rise to 23 percent, and it continued growing to 25 percent in FY 2020. PL84 handles contracts with major commercial IT companies, including the CISCO Smart Net Total Care agreement and the Microsoft Joint Enterprise License Agreement. Although PL84 accounted for just 4 percent of obligations from FY 2004 and FY 2020, its rapid emergence suggests that it will be a critical contracting office for DISA moving forward.

Much of the contracting for maintaining and operating DISA's core organic infrastructure is performed out of DISA Fort Meade. This spending has been in decline over the last several years, from $0.95 billion in FY 2015 to $0.46 billion in FY 2020, a reduction of 51 percent. Given that much of DISA's organizational and leadership focus is on its organic infrastructure and traditional network mission, it is compelling that this spending represents a minority (13 percent across FY 2004–FY 2020) and shrinking share of DISA's expenditures (6 percent in FY 2020). It is likely that the growing spending at DITCO will increasingly compete for management attention and resources, particularly as DISA's Fourth Estate IT mission grows and DISA's role in JADC2 begins to emerge. At the same time, the decline in this spending suggests that DISA's network operations have found efficiencies in recent years.

Other DISA contracting offices include the DITCO offices located outside of the continental United States (OCONUS). They had a 4 percent share of FY 2020 obligations and include the Pacific office, the European office, and an office in Alaska that stopped reporting funding after FY 2013. Finally, the J7 White House Communication Agency began reporting obligations in FY 2014 and only handles 1 percent of DISA's spending.

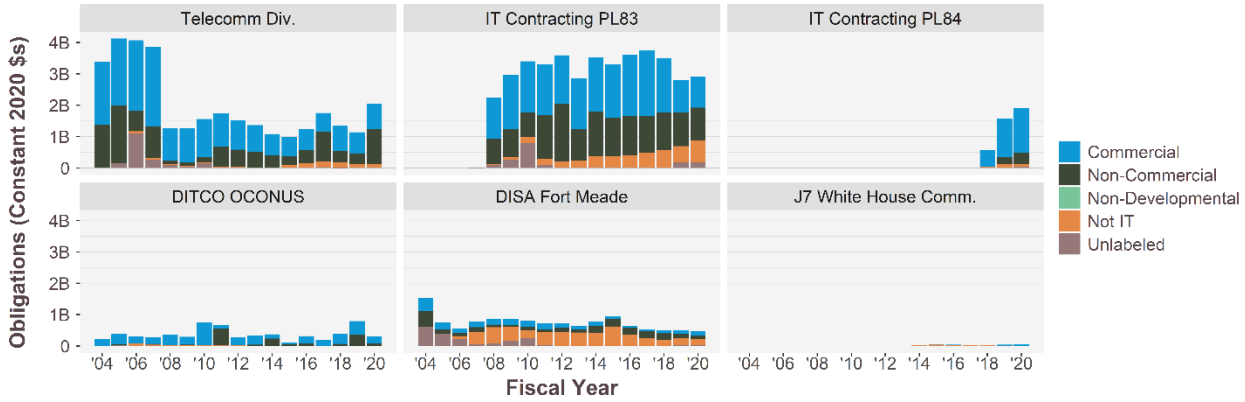
Figure 12: DISA Contract Office Obligations by Area, 2004–2020



Source: FPDS; CSIS analysis.

Figure 12 shows that IT services and software transitioned from the Telecomm contracting division to the IT contacting divisions PL83 and PL84. This appears to be where the growth in DISA's role as an acquirer of commercial enterprise IT is concentrated. In turn, software spending has been transitioning increasingly to PL84, including both software as a product and the annual software maintenance contracts contained in ICT services. DISA Fort Meade predominantly purchases a mix of ICT and PAMS services, spending $0.25 billion and $0.18 billion respectively on the two categories in FY 2020. DISA Fort Meade spending on PAMS peaked in FY 2008 at $0.46 billion, and spending on ICT peaked in FY 2015 at $0.58 billion.

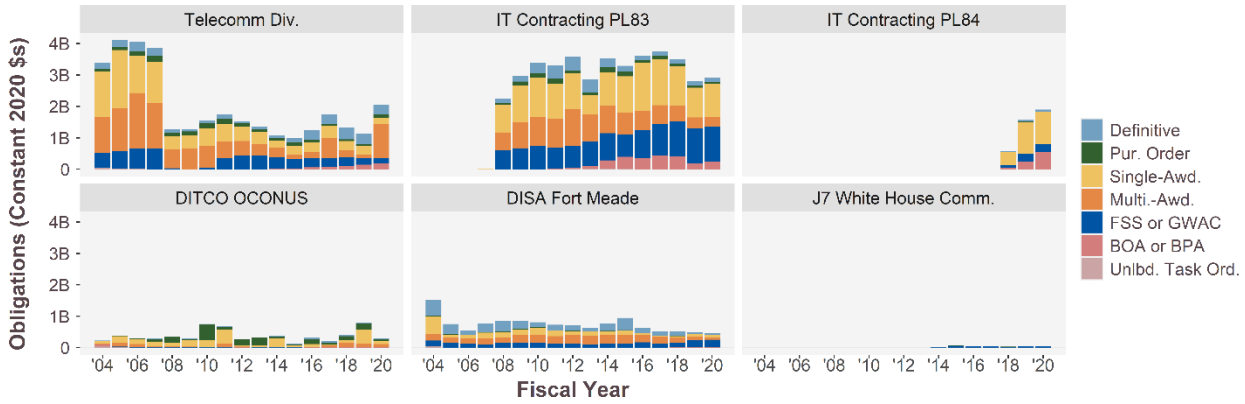
Figure 13: DISA Contract Office Obligations by Commercial IT, 2004–2020



Source: FPDS; CSIS analysis.

Figure 13 confirms that DITCO offices are where DISA's commercial contracting is taking place. Over the FY 2004–FY 2020 period, Telecom Division obligations were 59 percent commercial IT, PL83 obligations were 50 percent commercial IT, PL84 were 78 percent commercial IT, and DITCO OCONUS was 71 percent. In contrast, DISA Fort Meade only obligated 21 percent of its contracting dollars for commercial IT. The J7 White House Communication Office also spends roughly half of its obligations on commercial IT, spending $0.04 billion in FY 2020 (a 23 percent one-year increase). PL84 experienced a smaller but still impressive 16 percent annual growth, with $1.41 billion in commercial IT FY 2020 spending. That said, one of the largest jumps was not on the commercial side: the Telecom Division spent $1.13 billion on non-commercial IT in FY 2020, a 225 percent annual increase.

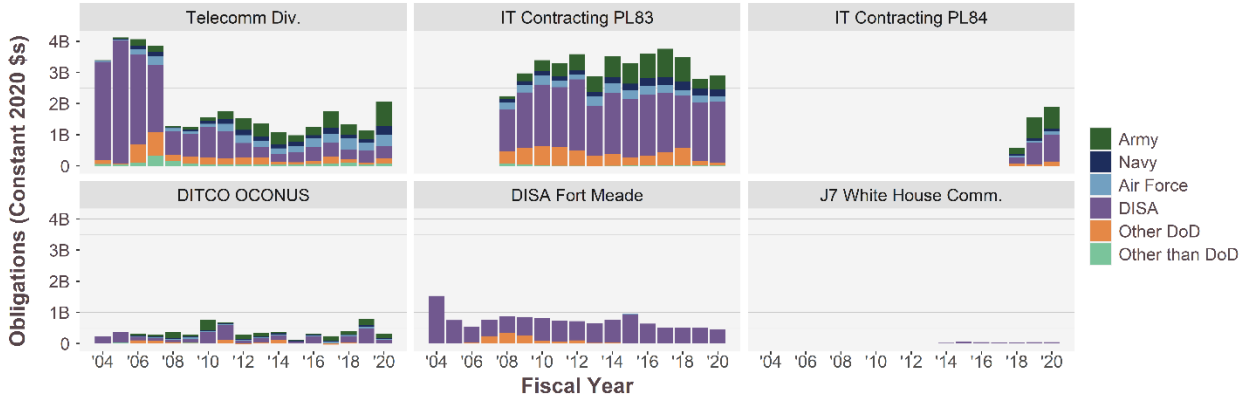
Figure 14: DISA Contract Office Obligations by Vehicle, 2004–2020



Note: Unlabeled not shown. Source: FPDS; CSIS analysis.

DISA contracting offices largely use a mix of contract vehicles, as shown in Figure 14. That said, the growth in FSS or GWAC vehicles can be traced primarily to PL83, which obligated $1.11 billion via those vehicles in FY 2020, a 56 percent growth from FY 2015. Notably, DISA Fort Meade is also making increasing use of FSS or GWAC vehicles, spending $0.24 billion in FY 2020 (slightly below PL84, which spent $0.25 billion), showing that these vehicles are becoming more widely adopted even in the more organically supporting portions of DISA. Patterns in BPA and BOA usage largely follow the purchase of software shown in Figure 12, with PL83 being an initial leader but rapid growth now having transferred to PL84 which spent $0.54 billion in FY 2020, a 116 percent annual increase. Finally, the recent non-commercial growth in the Telecom Division shown in Figure 13 matches the $1.09 billion obligated in multiple-award IDC in FY 2020, an 838 percent increase from the prior year.

Figure 15: DISA Contract Office Obligations by Funder, 2004–2020



Source: FPDS; CSIS analysis.

Funding by the services is distributed across the Telecommunications Division, PL83, and PL84, as well as DITCO OCONUS (albeit in lower magnitude). Figure 15 also shows that the Army in particular is a critical funder for PL84, being a source of 38 percent of its funding in its three years of reporting. In the other direction, DISA Fort Meade is 91 percent DISA-funded across the FY 2004–FY 2020 period, with the remainder coming from other DoD

offices; the White House Comms Office almost 100 percent relies on DISA funding. Finally, across the same period, the Telecomm Division has received $1.38 billion in funding from non-DoD sources, though only barely ever more than $0.1 billion a year after FY 2008.

Key DISA Contract DISA Takeaways

The DISA contract data revealed a few key takeaways that provide vital insights into the organization and its operations.

DISA CONTRACT LEVELS HAVE LARGELY FOLLOWED THE TOTAL DOD CONTRACTING LEVELS OVER THE LAST FEW YEARS

For the most part, topline DISA contracting trends follow topline DoD contracting trends in recent years. As defense contracting ramped up during the peaks of the wars in Afghanistan and Iraq, DISA contract trends followed suit. Strikingly, when defense contract spending declined and subsequently rebounded following the defense drawdown (41 percent growth from FY 2015–FY 2020), DISA experienced a comparable trend (42 percent growth).

SERVICES REMAIN THE PREDOMINANT AREA OF DISA CONTRACTING

Given DISA's mission, it's unsurprising that services, in particular ICT, are the predominant area of its contract obligations. Over the period surveyed, only about 15 percent of DISA obligations went to products, with software accounting for 42 percent of DISA product purchases.

DISA'S GROWING ENTERPRISE IT IS SHOWN BY SCOTT AIR FORCE BASE'S LARGE AND GROWING ROLE IN DISA OBLIGATIONS

While more than half of DISA personnel is located at Fort Meade and the national capital region, at Scott Air Force Base in Illinois, the Telecom Division, PL83, and PL84 offices are responsible for the bulk of contract spending and growth. The newest office in particular, PL84, is a center for evolving commercial enterprise IT approaches.

CONTRACT OBLIGATIONS TO DISA'S TRADITIONAL MISSION HAVE BEEN SHRINKING

As DISA takes on new roles, the contract obligations to Fort Meade, home to DISA's headquarters, have been cut in half since FY 2015. Unlike the shifts at Scott Air Force Base, this reduction is not readily explained by the transfer of old contracts to new contracting offices. Rather, it suggests that DISA has been able to achieve some efficiencies while taking on new missions.

WHILE DISA IS THE LEAD SPENDER, ICT SPENDING IS GROWING ACROSS THE DOD

DISA's $5.84 billion ICT service spending in FY 2020 is followed by the Navy's $4.73 billion, the Army's $3.99 billion, and the Air Force's $3.68 billion. While trailing the pack, the Air Force has nearly doubled its investment since FY 2015 (a 98 percent increase).

THE ARMY IS DISA'S LARGEST EXTERNAL FUNDER AND HAS BEEN STEADILY GROWING IN THAT ROLE

Only slightly over half of DISA's obligations from FY 2015–FY 2020 had a DISA funding office. The Army provided $2.05 billion in funding in FY 2020, a 134 percent increase from FY 2015. The Air Force is the second largest funder, but as mentioned above it has focused on growing its own ICT contracting. The Navy has both been increasing its own ICT contracting and funding DISA, with funding growing by 71 percent since FY 2015; this may soon move the Navy into second place.

THE WAY DISA BUYS SOFTWARE IS CHANGING TO A SERVICE-BASED MODEL

DISA spending on software as a product fell to $0.23 billion in FY 2020, a 66 percent decline from FY 2015, while annual software maintenance contracts grew to $0.99 billion, a 728 percent increase over the same period. Starting in FY 2018, the PL84 contracting office has become DISA's primary software buyer, taking over the role from PL83.

FIXED-PRICE IS THE PREDOMINANT DISA CONTRACT FUNDING MECHANISM AS TIME AND MATERIALS HAS FALLEN OUT OF FAVOR

DISA has always favored fixed-price contracting mechanisms, and in FY 2020 firm fixed-price had an 88.9 percent share of obligations compared to 50.6 percent for the DoD as a whole. Between FY 2002 and FY 2008, DISA made large usage of time and materials funding mechanisms, but as the DoD de-emphasized these funding mechanisms, DISA usage of them disappeared.

DISA MAKES HEAVY USE OF TASK ORDERS, AND IT IS MAKING GROWING USE OF FSS, GWAC, BPA, AND BOA CONTRACTS FOR COMMERCIAL IT ACQUISITION

DISA once heavily relied on multi-award indefinite delivery vehicles for commercial IT contracting, but it has changed its approach to buying commercial IT with FSS or GWAC as well as BOA or BPA vehicles, with the latter category particularly favored for software.

CHAPTER 6

Key Decisions and Implementation Priorities for Policymakers

The most critical decision for policymakers reviewing DISA is to clarify DISA's role in JADC2. The nature and extent of DISA's involvement in JADC2 will fundamentally reshape DISA's traditional mission and set the future path for its existing capabilities. Only through understanding DISA's role in JADC2 can the DoD identify and project what the enduring organic footprint of DISA's traditional network mission should be and what functions this footprint must perform. The services currently have the lead for JADC2 development, and so DISA's role will be a supporting one. However, there is a range of possible options for how integral DISA and its networks can be to the processing and transport of data for JADC2, along with issues with how DISA's existing joint C2 applications will integrate into the future solution. One of the risks of JADC2 is that it could unintentionally result in fragmented, inefficient, and duplicative information-sharing capabilities within the services. The responsibility for ensuring that this outcome is not realized must be clear.

Developing a vision for DISA's enduring organic footprint is essential to allow DISA leadership to prepare the organization for its emerging missions. This vision will help leaders manage the organization, develop its workforce, organize and posture to protect critical DoD data, support the development of AI, and accommodate DISA's growing mission as a procurer of enterprise IT for other components. Modernization of nuclear command, control, and communications is a vital mission for the DoD and a key mission for DISA. As the DoD becomes increasingly engaged with commercial IT providers, it will be essential that DISA develops the capabilities to successfully manage and hold up the government's responsibilities in these relationships, including contract oversight. Carrying out these functions efficiently as well as effectively can only be accomplished when the organizational vision and measures of success are clear.

A central part of DISA's mission is ensuring the efficiency and effectiveness in the provision of networking and IT solutions for the defense enterprise. As these capabilities are transformed to address the evolving strategic environment, policymakers should establish clear expectations and measures of success for efficiency and effectiveness for IT and networking solutions going forward. Policymakers should work with DISA to adjust its key relationships with the military services, the Joint Staff, the combatant commands, the DoD components in the Fourth Estate, and the Office of the Secretary of Defense to support its evolving roles and missions and to ensure effective partnerships.

The demands on DISA's workforce are undergoing rapid change. The greatest challenge for DISA leadership will be to develop and prepare the workforce for emerging missions. Policymakers will have to support DISA leadership with the resources and authorities needed to shape its workforce to include the talent and skills for its increasingly complex mission, including such tasks as modernization of the nuclear command, control, and communications system (NC3); cloud management; customer service; and the development of AI.

KEY DECISIONS AND IMPLEMENTATION PRIORITIES FOR POLICYMAKERS

- DISA's role in JADC2 needs clarification
    - Services have the lead for JADC2 development
    - DISA operates many of the legacy systems for Joint C2
    - Overall management of Joint C2 and roles and responsibilities must be clarified as well as how legacy systems are operated in the interim
- As cloud and JADC2 grow, DoD leadership must identify DISA's enduring organic footprint and what functions this infrastructure will provide (e.g., NC3 and key secure data and transport functions as well as contract oversight and administration)
- DoD leadership should establish clear expectations and measures of success for efficiency and effectiveness in the provision of networking and IT capabilities for DISA and across the defense enterprise
- Leadership should structure DISA's relationships with Joint Staff, combatant commands, services, the Office of the Secretary of Defense, and the Fourth Estate to promote effective partnerships as its role evolves
- Leadership should shape DISA's workforce to include the talent and skills for its increasingly complex mission (maintaining organic capability for NC3, cloud management, customer Service, and AI development)

Conclusion

DISA is confronting a changing strategic environment with significant implications for its roles, mission, and organization. This reality has already led to substantial changes in DISA's operations, but the full effect of these changes is yet to come. Policymakers will have to work closely with DISA leadership to ensure that it continues to meet the needs of the defense enterprise for IT and networking solutions and that these solutions are obtained efficiently and effectively.

About the Authors

Gregory Sanders is deputy director and fellow with the Defense-Industrial Initiatives Group at the Center for Strategic and International Studies, where he manages a research team that analyzes data on U.S. government contract spending and other budget and acquisition issues. He employs data visualization and other ways to use complex data collections to create succinct and innovative tables, charts, and maps. His recent research focuses on contract spending by major government departments, contingency contracting in Iraq and Afghanistan, and European and Asian defense budgets. This work requires management of data from a variety of databases, most notably the Federal Procurement Database System, and extensive cross-referencing of multiple budget data sources. In support of these goals, he employs SQL Server, as well as the statistical programming language R. Sanders holds an MA in international studies from the University of Denver and a BA in government and politics, as well as a BS in computer science, from the University of Maryland.

Rhys McCormick was a fellow with the Defense-Industrial Initiatives Group at the Center for Strategic and International Studies in Washington, DC.

COVER PHOTO GORODENKOFF/ADOBE STOCK

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

1616 Rhode Island Avenue NW
Washington, DC 20036
202 887 0200 | **www.csis.org**

ROWMAN & LITTLEFIELD

Lanham • Boulder • New York • London

4501 Forbes Boulevard
Lanham, MD 20706
301 459 3366 | **www.rowman.com**

ISBN 978-1-5381-4058-1