Government Business Council

Top 5 Reasons

for Government's Pivot to Wireless

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Wireless is rapidly gaining prominence in government. From the Internet of Things (IoT) to mobile network access, the government looks to a wireless future of connectivity. In fact, according to the General Services Administration (GSA), mobile data traffic will increase fivefold by 2025, exponentially multiplying demand for wireless.[1] Here are five reasons the government is turning to advanced wireless capabilities.

1 SCALABILITY

With surges in data transmission between network nodes and endpoints, network technologies face the ultimate test: will they break under pressure of traffic or maintain continuity? Government agencies have begun to introduce technologies carrying greater complexity and data volume that require networks with more traffic capacity. Air Force planes, for instance, now require improved network capabilities to deliver big data to their intended destination — and fast.[2]

Other parts of the Department of Defense (DoD) also anticipate a surge in data transmission with use of sensors that will track and manage inventory vital to the warfighter.[3] The DoD manages about 4.9 million secondary inventory items, such as repair components, that are valued at $91.7 billion in aggregate.[4] Technologies that can create accurate and effective management of these components is vital to ensure that parts are tracked and cost-savings are met; however, these technologies are only possible through advanced wireless network connections that can handle high levels of data traffic.

5G, the latest in wireless technology, allows for faster connectivity over greater distances and real-time information sharing with dramatically reduced latency on a nation-wide scale. The Federal Emergency Management Agency (FEMA) can use 5G's to create pop-up networks, enabling local connectivity and forging communications links between first-responder teams across the country.[5]

> **"5G will make wireless connectivity more flexible and better able to be tightly integrated into different functions throughout the economy. Accelerating a secure deployment will be a force multiplier for growth."**
>
> - Information Technology and Innovation Foundation: A U.S. National Strategy for 5G and Future Wireless Innovation[6]

DID YOU KNOW?

4G connectivity can handle about 2,000 connections at once compared to about 1 million for 5G networks per square kilometer.[7]

2 SPEED

In an early-2020 Government Business Council (GBC) survey, 21% of military personnel said that the timeliness of data delivery performs below expectations compared to a mere 11% who said it exceeds expectations. Speed of wireless matters, and government agencies have taken notice.

While Ethernet tends to cap at speeds of 10 Giga-bits-per-second (Gbps)[8], 5G wireless networks allow for connectivity up to twice as fast.[9] Given 5G's lower latency, the DoD plans to leverage wireless connectivity to enable Augmented Reality (AR) for its military personnel. The technology would transpose data over a warfighter's real-world view, allowing for decision making in real time for the warfighters.[10] Given that less than a third of active duty personnel think that over 50% of data reaches the appropriate analyst,[11] AR will forever change the landscape of intelligence on the battlefield.[12]

Beyond enhancing military capabilities, the U.S. Postal Service (USPS) could leverage 5G's high-speed connectivity and expanded bandwidth to more precisely track drivers and packages, ultimately improving efficiency and delivery times.[13]

3 MOBILITY

Government is on the go more than ever before. 47% of government employees in a 2017 GBC survey said that they need to collaborate daily with colleagues who are stationed in other locations, suggesting a need for wireless connectivity to collaborate and complete mission-critical tasks anywhere in the office.[15] Furthermore, 44% of federal government employees said in a recent GBC survey that a lack of wireless hinders their productivity.[16]

While supporting productivity, wireless' stronger network connections and reduced latency also provide new opportunities for healthcare. The Department of Veterans Affairs (VA), for instance, could leverage 5G to allow doctors to send high-resolution images wirelessly between one another.[17] Wireless is also becoming crucial for realistic training exercises for those on the field. A military base in San Antonio, Texas, for instance, has been tasked with experimenting with AR training that can only be enabled with wireless.[18] While older technologies require that the warfighter carry the compute power, 5G wireless removes that burden and ensures that data can travel to whoever needs it when they need it. AR utilizes lots of data and needs reliable networks with quality latency and bandwidth to transmit data to the trainee on the go.[19]

> **"5G has the ability to enhance DoD decision-making and strategic capabilities from the enterprise network to the tactical edge of the battlefield. 5G will increase DoD's ability to link multiple systems into a broader network while sharing information in real-time, improving communication across services, geographies and domains."**
>
> — The Defense Innovation Board's 5G Ecosystem: Risks & Opportunities for DoD Report[14]

DID YOU KNOW?

5G is the DoD's second research and development priority, according to Mark Lewis, the Director of Defense Research and Engineering for Modernization[20]

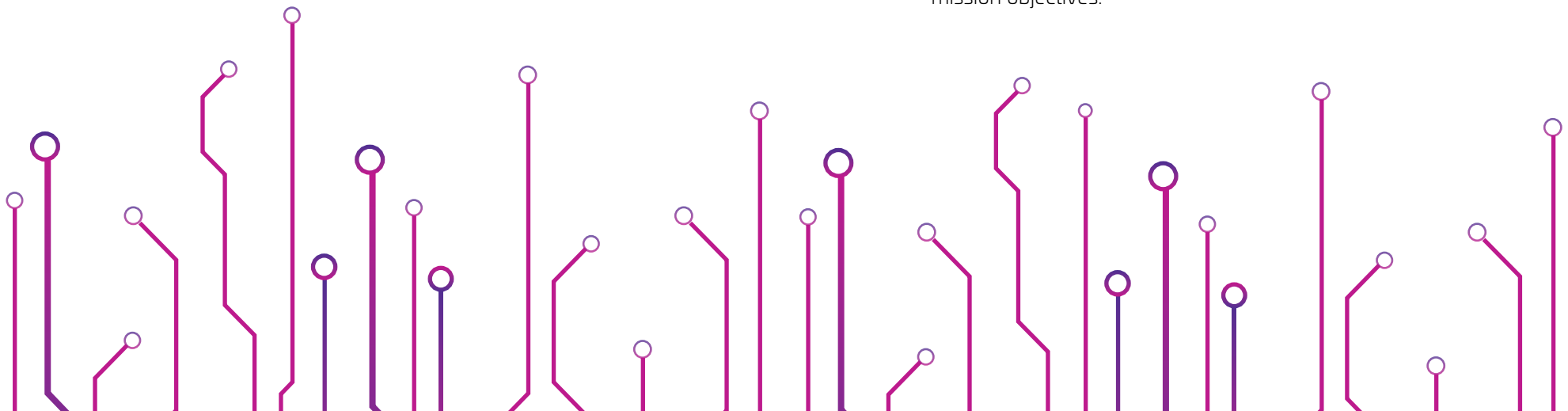
4 RELIABILITY

Low latency and high traffic capacity of wireless 5G could help the transportation industry realize its vision for automated vehicles and other future modes of transport. The Department of Transportation (DoT) released a report in January 2020, noting the importance of wireless connectivity for automated vehicles.[21] For example, automated vehicles will depend on guaranteed data rates and speeds to ensure they have the necessary data to make safe and informative decisions on the road. The Federal Communications Commission (FCC) is interested in leveraging 5G's reliability to enable vehicle-to-vehicle and vehicle-to-infrastructure communication.[22]

5 CONSOLIDATION

Wireless networks, such as 5G, have the capacity to combine several fragmented networks into one to allow for better situational awareness. This can improve communications across different geographies and domains by unifying networks that lack interoperability without compromising the speed and bandwidth of information sharing.[23] The DoD faces challenges with fragmented networks that prove to be a challenge for inter-agency collaboration, for example, between military decision makers and the Defense Intelligence Agency (DIA).[24]

The Intelligence Community (IC), however, is also looking to modernize its Joint Worldwide Intelligence Communications System (JWICS) to extend its capabilities and share its intelligence to other parts of the defense community,[25] and high-capacity networks can enable this data sharing. The need for boundless, low latency, and high bandwidth networks is more prevalent than ever before in the government, and agencies are —and should be — turning to wireless to meet mission objectives.



ENDNOTES

1. https://www.fedscoop.com/5g-air-force-bases-konieczny/
2. https://federalnewsnetwork.com/it-modernization/2019/10/gsa-looks-to-usher-in-5g-era-amid-projected-surge-in-agencies-mobile-data/
3. https://archive.darpa.mil/sc2/news/defense-department-forging-path-for-5g-adoption/
4. https://www.gao.gov/key_issues/dod_supply_chain_management/issue_summary
5. https://fedtechmagazine.com/article/2020/01/what-5g-technology-and-what-does-it-mean-federal-it-perfcon
6. https://itif.org/publications/2020/04/27/us-national-strategy-5g-and-future-wireless-innovation
7. https://fedtechmagazine.com/article/2020/03/energy-department-and-verizon-partner-5g-development
8. https://enterprise.spectrum.com/support/faq/network/what-is-the-difference-between-wifi-and-ethernet-connection.html#:~:text=A%20WiFi%20connection%20transmits%20data,connection%20transmits%20data%20over%20cable.&text=An%20Ethernet%20connection%20is%20generally,provides%20greater%20reliability%20and%20security.
9. https://www.qualcomm.com/invention/5g/what-is-5g#:~:text=5G%20can%20be%20significantly%20faster,traffic%20capacity%20and%20network%20efficiency.
10. https://www.nationaldefensemagazine.org/articles/2019/12/19/taking-the-right-steps---understanding-5g-for-the-dod
11. https://www.govexec.com/insights/reports/survey-advancing-isr-edge/166584/
12. https://archive.darpa.mil/sc2/news/defense-department-forging-path-for-5g-adoption/
13. https://fedtechmagazine.com/article/2020/01/what-5g-technology-and-what-does-it-mean-federal-it-perfcon
14. https://media.defense.gov/2019/Apr/03/2002109302/-1/-1/0/DIB_5G_STUDY_04.03.19.PDF
15. https://www.govexec.com/gbc/mobility-and-access-all/
16. https://www.govexec.com/insights/reports/boundless-government/168043/
17. https://fedtechmagazine.com/article/2020/01/what-5g-technology-and-what-does-it-mean-federal-it-perfcon
18. https://www.defense.gov/Explore/News/Article/Article/2207390/dod-announces-new-locations-for-additional-5g-testing-experimentation/
19. https://www.nationaldefensemagazine.org/articles/2019/12/19/taking-the-right-steps---understanding-5g-for-the-dod
20. https://www.nationaldefensemagazine.org/articles/2020/6/5/pentagon-reshuffles-rd-priorities
21. https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/360956/ensuringamericanleadershipav4.pdf
22. https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/360956/ensuringamericanleadershipav4.pdf
23. https://media.defense.gov/2019/Apr/03/2002109302/-1/-1/0/DIB_5G_STUDY_04.03.19.PDF
24. https://fedtechmagazine.com/article/2019/08/dodiis-2019-military-partners-need-better-interoperability-combat-threats
25. https://www.doncio.navy.mil/chips/ArticleDetails.aspx?ID=12783

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