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NGC2: Critical Changes

Honoring a Hero

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In This Edition:

U.S. Army Signal Regiment Leadership

43rd Chief of Signal and U.S. Army Signal School Commandant,

Col. Julia M. Donley

26th Regimental Command Sergeant Major,
Command Sgt. Maj. Lisa M. Gandy

8th Regimental Chief Warrant Officer,
Chief Warrant Officer 5 Willie L. Newkirk

Army Communicator

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Send articles, photos, graphics, and story ideas for the Army Communicator to the editor-in-chief at laura.m.levering.civ@army.mil.

On the Cover:

Spc. Jace Austin, 57th Expeditionary Signal Battalion-Enhanced, troubleshoots equipment as part of Operation Lightning Strike II on Fort Hood, Texas, Sept. 9, 2025. (Photo by Sgt. Gabriel Villalobos, III Corps Public Affairs)

Building Upon a Legacy through Unprecedented Transformation

The Army is undergoing a rapid transformation. Consolidations – Training and Doctrine Command (TRADOC) and Army Futures Command (AFC) into Transformation and Training Command (T2COM), Army Forces Command (FORSCOM), Army North (ARNORTH), and Army South (ARSOUTH) into Western Hemisphere Command – are occurring alongside a critical evolution within the Signal Regiment to meet the demands of the future force. Building upon a legacy that began with a single flag and torch in the Civil War Era, we are now modernizing to provide commanders with decision dominance. This evolution is Next Generation Command and Control (NGC2).

NGC2 is fundamentally changing how Signaleers support commanders, impacting personnel across the Regiment from U.S. Army Network Command (NETCOM) to the maneuver battalion. Over the next 30 months, the Army will divest legacy WIN-T capabilities from the Global War on Terrorism Era and field lighter, scalable, and more capable communications capabilities that are far more than a baseband and a transmission source. These packages will enable an intelligent, adaptive, and threat-informed network tailored to meet the commanders needs, putting them back in command and control.

The Signal School is actively reevaluating its instruction, identifying outdated material, and updating the curriculum to develop Signaleers grounded in fundamental signal concepts, rather than solely focused on specific equipment. All signal Advanced Individual Training (AIT) Soldiers, regardless of military occupational specialty (MOS), will receive a Basic Communicator Module. This module will provide a foundational understanding of routing, switching, waveform propagation, and signal flow, better preparing them to operate any communications equipment they are issued upon arrival at their first unit.

Recognizing a significant collective training gap following new equipment fielding and new equipment training (NET/NEF), we established Signal–Mobile Advanced Readiness Training (S-MART), leveraging the Regional Signal Training Sites (RSTS). This program is tailored to unit needs, reinforces both institutional and RSTS training, and utilizes newly fielded equipment to provide Soldiers with hands-on experience operating the next generation of communications gear at their home station. S-MART will expand over the next 12 months, with scheduled training for multiple divisions, bridging the gap as NGC2 becomes operational.

This year will be marked by significant and necessary changes across the Army and the Signal Regiment as we train and prepare for the challenges of large-scale combat operations. These changes reinforce the commander's critical need for Signaleers who are both proficient leaders and technical experts. Throughout its history, the Signal Regiment has consistently adapted to support commanders' communication requirements in any battlespace, and today is no different. I am confident that we will rise to this challenge, as we have continually met our Army's challenges for the last 165 years.

Pro Patria Vigilans!
Watchful for the Country!

Col. Julia M. Donley,
43rd Chief of Signal and U.S. Army Signal School Commandant

Signal Professionals are at the Center of Rapid Transformation

Team Signal,

The Signal Regiment has forever been defined by our capacity to innovate and adapt through change. For over 165 years, we have served as the vital lifeline of command and control, evolving from the flag and torch that began our legacy to the complex, global networks we operate today. Now, as our Army undergoes a period of rapid transformation, it is our collective duty as Signaleers to pivot to what's next.

The Army's Next Generation Command and Control (NGC2) system is not just another piece of equipment to field; it represents a fundamental shift in how we provide commanders with decision dominance in large scale combat operations. This evolution requires each of us – from our most senior leaders to our newest Soldiers – to accept change, remain agile, and rededicate ourselves to our fundamental mission of enabling command and control in any battlespace.

Our success in transitioning through this era rests squarely on the professionalism and technical expertise of every single Signaleer. The Signal School is leading this effort by proactively updating its courseware to develop a common set of core signal concepts, ensuring that every Soldier understands the "why" behind what they do. This deliberate shift away from platform-specific training to a foundational understanding of routing, switching, and signal flow will produce a more agile and adaptable Signaleer – one who can build upon the foundational training with a little hands-on specific equipment training, to operate any communications equipment they are issued upon arrival at their first unit.

Complementing these institutional reforms, we are actively closing the collective training gap with the Signal-Mobile Advanced Readiness Training (S-MART) program, which brings much needed hands-on experience with newly fielded equipment directly to our Signaleers at home station, tailored to their unit's specific needs. These are not merely plans to build better networks; they are plans to build better Signaleers through a "train-the-trainer" approach. These initiatives reinforce the commander's critical need for signal professionals who are both proficient leaders and technical experts, qualified to overcome any challenge the future battlefield may bring.

The history of our Regiment has proven time and again that we will answer the call, and I am certain that together, we will continue to rise to this challenge. We will continue to "Get the Message Through!" and enable our Army to fight and win wherever the nation requires.

Signal Proud! Signal Strong!

Command Sgt. Maj. Lisa M. Gandy,
26th Regimental Command Sergeant Major

Transformation in Contact: The Signal Corps' Role in Continuous Modernization

Transformation in contact (TiC) is more than a concept; it is the Army's reality. We do not have the luxury of modernizing in a sterile environment; instead, we transform while actively engaged in competition and conflict. For the Signal Regiment, this means ensuring commanders have resilient, secure, and adaptive communications capabilities that can withstand contested environments. I see every day how our warrant officers are leading this charge, balancing technical mastery with leadership to ensure mission success. Our mission directly supports the Army G-6 priorities: enhancing warfighting lethality, driving C4 and cyber transformation, and enabling commanders to make data-driven decisions at the speed of relevance.

Large-scale combat operations and multi-domain operations stretch the Army across domains, echelons, and coalitions. The information environment is congested, contested, and critical to success. Communications are no longer a supporting function; they are the backbone of joint interoperability and coalition mission command. Signal warrant officers stand at the center of this fight. By integrating tactical and strategic transport, data services, and cyberspace defense, they provide the assured connectivity commanders need to apply combat power. In contested electromagnetic and cyberspace environments, signal leaders enable freedom of maneuver, enhancing the lethality of every warfighting formation. The Army Unified Network (Unified Network Operations) and Next Generation Command and Control (NGC2) represent transformational changes in how we command and fight. The integration of zero trust principles, the Army Big Data Platform (Gabriel Nimbus), Army Unified SIEM (Security Information and Event Management), and the Army Endpoint Security Solution create a powerful ecosystem of visibility, detection, and defense. Together, these capabilities strengthen both operational resilience and cyber survivability.

Modernization is not simply about fielding new tools; it is about how leaders employ them in real time under operational pressures. Signal warrant officers are critical enablers of this process, synchronizing modernization "in stride" with operations. Their expertise ensures that modernization is not paused until after conflict but implemented as part of the fight itself, true TiC. This transformation directly supports the mandate to advance C4 and cyber capabilities while empowering commanders with trusted, real-time data for decision dominance.

Data is the new ammunition of war. The ability to sense, collect, protect, and analyze information faster than the adversary creates operational advantage. Signal warrant officers ensure commanders have access to clean, trusted data that informs decisions from the tactical edge to the strategic level. Whether enabling cloud-based operations, building resilient transport, or integrating analytics platforms, our Regiment empowers commanders to leverage data to drive tempo, precision, and adaptability in the fight. This data-centric approach is central to the priority of enabling data-driven decisions and positions the Signal Corps as the cornerstone of information advantage. Technology alone cannot transform the force, people do. Change is accelerated and sustained through leadership, mentorship, and deliberate talent management. Signal warrant officers train Soldiers, mentor junior leaders, and innovate under pressure. They are building the next generation of digital leaders who will thrive in uncertainty and complexity. Through their leadership, Signal warrant officers multiply combat power across formations, ensuring modernization efforts are enduring and tied directly to enhancing lethality.

The Signal Regiment does not wait for the future; we shape it while in contact. TiC demands bold leadership, technical mastery, and resilience – traits embedded in every signal warrant officer. By aligning with priorities to enhance warfighting lethality, transform C4 and cyberspace capabilities, and enable data-driven decision-making, the Regiment ensures the Army retains the information advantage in any environment.

As we modernize while engaged, the Signal Regiment will continue to lead from the front, ensuring that America's Army is always connected, always protected, and always lethal.

Chief Warrant Officer 5 Willie L. Newkirk,
8th Regimental Chief Warrant Officer

From the Editor …

Laura M. Levering
Editor, U.S. Army Signal School

If you are reading this, I am going to assume that you currently serve – or have served – in the military at some point. And whether you enlisted or commissioned, had extensive knowledge of the military or joined "blindly," I am also going to assume (for the sake of this editorial) that you had *some* sort of preconceived idea of what to expect. And then … reality set in.

The Spring 2026 Army Communicator theme is going to be particularly challenging for some of you, and we hope you are willing to take on the challenge. Simply put, the theme is: **Expectations vs. Reality**.

Arguably more complex than previous themes, this topic is intended to be thought-provoking with potential to lead to real change.

Think back to before you joined the military. We want to know what some of your expectations were and whether those expectations were met – from day-to-day responsibilities, opportunities for personal and professional growth, equipment assigned (or not assigned) to you as part of your job, your leadership (the good and less-than-stellar), the culture as a whole and everything in between. Think through your personal experiences. Begin by sharing what expectations you had, then reflect on how close – or how far – those expectations came to (or ended up far from) reality. Consider closing with suggestions/ideas on ways the military could change (transform) for the betterment of its people and organization. What advice would you offer someone whose service recently began and who is facing challenges of their own?

Please understand that this is ***not*** a call to complain nor the platform to air grievances. It is a call (directly from leadership) to spend time being introspective, which leads to growth. It is also an opportunity to bring forth ideas and possible solutions to leadership – right here – in the Signal Regiment. Perhaps equally important is that you have fellow Signaleers who might read what you write and have something to say in response. Professional discourse is the heart of the Harding Project and the direction in which all the Army journals are going as they evolve. If you are still unfamiliar with what this means, I urge you to bring yourself up to speed on it. Whether you joined in recent months or have decades in, you have something worth sharing. This is the time to get it out there! Now for a few admin notes …

If your article does not meet the standards outlined below in the submission guidelines, it may not wind up published. Priority will go to submissions that are most relevant to the Signal Regiment, support the Harding Project's intent to generate professional discourse, and are in line with the present quarter's theme.

To read about what some of the other branches are up to, visit Line of Departure, where you will find all of the Army's professional journals housed. If you have not subscribed to the Harding Project Substack, please take a moment to sign up. At minimum, check it out. It was created by one of the Harding Project's original founders and is currently managed by the director/deputy director of the Harding Project. The Harding Project is evolving, which means the Army Communicator is also evolving.

Submission guidelines

Articles need to be sent in Word. Photos and graphics must be attached **separately (*not embedded*** in Word**).** Include a description of each photo/graphic along with the rank, full name, and unit of person who took the photo (or created graphic). Acronyms **must be spelled out** on first reference, with the abbreviation of the term acceptable on subsequent reference. Between 500 and about 2,000 words per article is ideal. This helps ensure a minimum of one page and maximum of four pages in publication layout (depending on photos, etc.). Use **APA** format when citing sources.

Spring 2026 theme: **Expectations vs. Reality** ***Spring 2026 deadline:*** **March 6**

Soldier Care

Chaplain's Corner

Chaplain (Maj.) Glen Thompson
U.S. Army Signal School

While there is no single Army regulation that is solely dedicated to "Care for the Caregiver" and "Self-Care," the Army focuses on holistic health and fitness (Field Manual 7-22, Holistic Health and Fitness). Soldiers at all echelons often experience stress, burnout, and fatigue.

It is imperative that all Soldiers emphasize on holistic health and fitness. There can be severe negative impacts on Soldiers if neglected. Soldiers may experience physical health issues such as sleep deprivation and weakened immune systems. According to studies, mental health issues are on the rise. There have been higher rates of depression and anxiety. There can be financial strain and emotional distress. Lots of times leaders express feelings of guilt, shame, and frustration. Oftentimes, Soldiers are overwhelmed and sometimes even make poor decisions.

As the holiday season is behind us, the need to foster a supportive climate is imperative. Recognize and respond to signs of distress by ensuring access to helpful resources. Resources exist, and asking can help. Soldiers have access to their chain of command, chaplains, behavioral health services, and crisis lines such as Military OneSource and 988 Suicide & Crisis Lifeline.

Self-care must be intentional. We need to prioritize our physical, nutrition, mental, spiritual, and sleep readiness. Self-care is important because it reduces stress, improves physical health, enhances mental and emotional well-being, increases resiliency, and prevents burnout. Small acts can make a huge difference. One can take short breaks throughout the day, eat well, and stay connected with family and friends. One can go to the gym during lunch or take a walk to get the blood flowing.

Physical readiness in the military is priority. According to *FM 7-22, Physical Readiness*, "Ruck marching, running and swimming serve as the foundations of physical readiness and enable Soldiers to perform their occupational tasks and endure the physical demands of combat." Regular physical activity, eating healthily, getting seven to nine quality hours of sleep, staying hydrated, and scheduling regular medical appointments are all important. **Nutritional readiness** is key to survival. FM 7-22 stated, "Nutritional readiness is a critical component of holistic health and contributes greatly to mission success. The development of a comprehensive performance nutrition program, tailored to organizational requirements, can improve individual Soldier performance, overall unit readiness, and mission success." **Mental readiness** is a must. Learning activities that stimulate the mind, journaling your thoughts and feelings, problem solving, and saying "no" to extra commitments will help you stay focused. Soldiers must be capable of overcoming adversaries at a moment's notice. To do this, Soldiers must be mentally – as well as physically – ready. **Spiritual readiness** is included in this field manual. FM 7-22 explains, "Spiritually-ready Soldiers have developed personal qualities they need to sustain themselves during stress, hardship, and tragedies." Soldiers have the freedom to exercise their religious liberties. These freedoms are good for our formations. **Sleep readiness** is necessary to make it through the day. Sleep is essential to maintain peak performance mentally and physically. Aim for six to eight hours a night.

In conclusion, there may not be one single Army regulation that solely is dedicated "Self-Care," but the subject must be practiced. FM 7-22 takes a holistic health and fitness approach of taking care of oneself. The field manual is the foundation of individual and unit readiness, plus builds "physical lethality and mental toughness to win wars quickly and return home healthy."

Radio-Controlled Drones: Origins of UAS Program

Signal Corps' role

Susan Thompson
U.S. Army Communications-Electronics Command

Unmanned Aircraft Systems are a hallmark of the transforming mission of U.S. Army Communications-Electronics Command as it embraces the principles behind Army continuous transformation. Modern UAS technology is touted as the future of the force, capable of performing a wide array of tasks while keeping Soldiers safe from harm.

Although UAS use has been highlighted in recent news coverage of warfighting efforts across the globe, the basis for current developments begins with the Signal Corps almost 70 years ago.

The CECOM Historical Archive collection documents the use of drone technology for surveillance throughout the late 1950s and early 1960s, a natural progression of the U.S. Army Signal Corps' historic aviation and photography missions. An article in the March-April 1956 edition of "Tec-Tac," *Technical and Tactical Training Aid Nonresident Conference Course*, produced by the Signal School, Fort Monmouth, New Jersey, highlights the early development of drone technology for surveillance, written for the knowledge of signal Soldiers. That same year, a captioned photograph depicted Soldiers operating radio remote controls that could pilot a television robot plane up to 40 miles away.

The unmanned aircraft transmitted aerial views of distant sites, using lightweight television equipment developed at the Army's Signal Corps Engineering Laboratories at Fort Monmouth. The airborne TV station weighed 135 pounds – less than a human pilot. Development continued through the late 1950s and early 1960s, with the 1957 experiments of a Night Hawk drone, a nighttime photo system, and a still picture camera installed in Target Drone RP-71, the surveillance drone SD-2 of 1959 tested at Yuma Proving Ground, and the 1962 Infrared Surveillance System AN/UAS-4.

In Germany, a photograph taken in April 1960 documents the men of the Drone Section USA Surveillance Unit, Europe, lined up behind the SD-1 Surveillance Drone that flew the first and 100th Surveillance Drone flight in Europe as a demonstration for Secretary of Defense Thomas S. Gates Jr. This was the next-to-last demonstration; the last one was for AUSA members. In 1965, however, the Army chief of staff directed the Army Materiel Command that funds would not be expended on a complete drone system until formal requirements for drones were established, and a study was conducted regarding the need for drones, weighing the desired capabilities against the complexity of operations, maintenance, and training.

As the U.S. began operations in Southeast Asia in the mid-1960s, widespread testing and development of the technology vanished from the historical record, likely due to the densely forested landscape of Vietnam that limited the effectiveness of this type of developing surveillance technology. By 1966, many of the programs that were being developed and tested were declared obsolete, and the technologies and resources were reallocated to other areas across U.S. Army Electronics Command, a CECOM predecessor.

Night Hawk Drone, 1957. (U.S. Army CECOM Historical Archive Collection)

Though sidelined in the 1960s due to the mission needs and changing face of warfare, the Signal Corps' drone program laid the foundation for the autonomous systems and capabilities that continue to shape the future of military operations.

NGC2: Establishing a Mindset for the Next Fight

Decision dominance

Command Sgt. Maj. Tasha J. Wright
U.S. Army Information Systems Engineering Command

The first warning wasn't an explosion or a barrage of rockets – it was silence. Inside the brigade's tactical operations center, the hum of screens and steady chatter of data feeds faltered. The live drone video froze mid-frame; a convoy of vehicles blurred in gray static. Red icons scattered across the common operating picture like a spreading rash: "NO DATA," "LINK LOST," "AUTH FAIL."

Outside, maneuver companies were pushing into a contested zone, relying on those feeds for targeting and movement. A young sergeant in the signal section didn't wait for orders. He pulled up alternative transport options, rerouted key data packets through a mesh of vehicles on the edge of the formation, and manually authenticated sensor reports to weed out spoofed signals slipping in from the enemy. The fix wasn't perfect – bandwidth dropped, video resolution degraded, and latency lagged. But it was enough. The commander received the fire mission request in time, and friendly forces pressed forward.

What made the difference that day wasn't a shiny new piece of hardware or a flawless network; it was mindset. A Signaleer trained to expect disruption, think critically under pressure, and improvise solutions in the chaos of modern war. This kind of adaptability, resilience, and technical fluency is precisely what the Army envisions in Next Generation Command and Control (NGC2).

Defining NGC2 as a Mindset

When Soldiers hear "Next Generation Command and Control," the first image that comes to mind is often equipment: sleek terminals, resilient networks, or AI-driven dashboards. Those technologies are essential, but they are only part of the story. NGC2 is not just a kit we wait to receive; it is a mindset we must develop (U.S. Army, 2024). At its core, NGC2 is about decision dominance: ensuring commanders can see, decide, and act faster than any adversary, even in environments where communications are denied, degraded, intermittent, or limited (DDIL). Achieving that dominance requires more than advanced systems; it requires Soldiers who are trained to think critically, operate under stress, and adapt when systems inevitably fail (Rand Corporation, 2023). For the Signal Corps, this means a cultural shift. In the past, success was often measured by whether "the radios stayed green" or the network remained up. In the future fight, success will be measured by whether commanders had the right information, at the right time, to make decisions that shaped the battlefield. That shift elevates the Signaleer's role from system operator to decision enabler – professionals who bridge the gap between raw data and actionable insight (War on the Rocks, 2025).

Skills and Training Signaleers Need Now

If NGC2 is a mindset, then the question becomes: "What must today's Signal Soldiers practice now to be ready for tomorrow's fight?" The answer lies in three broad skill areas: technical fluency, cognitive agility, and collaborative leadership.

Technical Fluency Beyond Radios

Tomorrow's networks will be dynamic ecosystems connecting satellites, line-of-sight radios, cloud services, and edge devices. Signaleers need fluency in how these systems interconnect, how data moves, and how to protect that flow from attack or corruption.

Cybersecurity discipline, an understanding of application programming interfaces (APIs), and familiarity with data visualization tools will be as important as knowing how to configure a radio or lay cable. In NGC2, every Soldier is also a steward of the data itself (Alhassan et al., 2022).

Cognitive Agility Under Pressure

The modern battlefield is not neat or predictable. Enemy electronic warfare, cyber intrusions, and physical threats will constantly contest our ability to communicate. Soldiers must be trained to expect disruption and thrive in it. That means building comfort with incomplete information, developing the ability to make rapid assessments under stress, and balancing trust in automated tools with sound human judgment (RAND, 2023).

Collaborative Leadership Across MOSs

Perhaps the most underappreciated skill for the NGC2 era is the ability to collaborate and translate across warfighting functions. Signaleers must be able to explain the operational impact of technical issues to maneuver leaders, coordinate with intelligence and cyber teams on data integration, and work with sustainers to ensure the resilience of command posts in austere conditions. This requires communication skills, mission command discipline, and the confidence to step into the role of integrators, not just maintainers (Edmondson, 1999).

Training and Tools to Build the Mindset

Skills don't develop by chance; they are forged through intentional training, deliberate practice, and the right tools. Preparing for NGC2 means shifting how we train today, ensuring Soldiers are ready to operate in tomorrow's contested and data-rich environments.

Simulations That Embrace Failure

Training environments often assume systems work perfectly. To prepare for NGC2, we must design simulations where systems fail by design: comms drop, feeds are spoofed, latency creeps in, or networks are jammed. These scenarios force Soldiers to practice resilience, improvisation, and quick decision-making.

Cross-MOS Training and Exchanges

NGC2 is not the sole responsibility of the Signal Corps; it is the connective tissue between every warfighting function. Cross-training with maneuver, intelligence, fires, and sustainment units builds shared understanding of how information flows across the battlefield.

Digital Literacy and Data Stewardship

As data becomes the lifeblood of C2, Soldiers must become comfortable reading dashboards, interpreting visualizations, and spotting anomalies in real-time. Even basic exposure to data analysis and visualization tools can give a young sergeant or specialist the confidence to support commanders with insight, not just connectivity (Alhassan et al., 2022).

Leader Development for Integration

Leader development programs must encourage signal leaders to see themselves as integrators, not just maintainers. That means practicing communication with non-technical leaders, framing technical problems in operational terms, and fostering initiative when technology lags behind the fight (War on the Rocks, 2025).

Risks, Counterpoints, and Challenges

As the Army pushes toward NGC2, it is tempting to view the future as a smooth path paved by new technology. But every advance comes with friction, and every system has vulnerabilities. To prepare realistically, the Signal Corps must acknowledge the risks alongside the opportunities.

- **Overreliance on technology.** The same systems that promise faster decision-making also create the danger of dependency. Commanders must retain initiative when technology falters.
- **Pace of change versus training pipelines.** Technology often moves faster than institutional training. Adaptive, decentralized learning models will be critical.
- **Cultural resistance.** For decades, signal success was measured by "green" status icons. The shift to measuring success by decision quality will take a deliberate cultural change across the Signal Regiment. By facing these risks honestly, the Signal Regiment can prevent overconfidence, close vulnerabilities, and adapt faster than adversaries who face similar challenges.

Call to Action: Owning the NGC2 Mindset

The future of C2 will not be written by machines or software alone; it will be written by Soldiers who know how to think, adapt, and lead in the chaos of modern war. NGC2 is more than a modernization program; it is a call to the Signal Corps to prepare now for the demands of tomorrow.

Every Signaleer, from private to senior leader, has a role to play. Practicing degraded communications, building digital literacy, and learning to translate technical issues into operational impacts are not abstract goals; they are daily disciplines that sharpen readiness. Just as importantly, leaders must mentor their formations to see themselves not only as system operators, but as decision enablers who hold the keys to decision dominance.

The fight ahead will be faster, more contested, and more data-driven than any we have faced before. The Army will field new systems, but it is the mindset that will decide whether those systems are decisive or brittle. The Signaleers who can anticipate disruption, think critically under stress, and integrate seamlessly with other warfighting functions will be the ones who ensure commanders never lose the ability to command and control.

NGC2 is not waiting for us on some future fielding date. It is already here – in how we train, how we lead, and how we choose to prepare today. The question is not whether the Army will have the right equipment. The question is whether we, as Signaleers, will have the right mindset to use it.

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Why Army Signal Brigades Need a Data Office

The unconventional CDO

Nathan Slack
2nd Theater Signal Brigade

I am often asked, "Why does an Army signal brigade need a chief data officer?"

While the Army officially designates this as a chief data and analytics officer role, I prefer the industry-standard CDO title. However, the title is secondary to the critical mission at hand: fostering a data-driven culture. This effort doesn't begin at the top of the hierarchy, but at its foundation — with the Soldier and technician.

My role extends beyond delivering command briefings. It's about empowering individuals at every level to leverage data's potential fully. This drives informed decision-making and cultivates a culture in which insights translate into action and fuel innovation.

In a mission-critical environment, the CDO role is not just a title; it is a crucial bridge that translates the high-level vision into actionable, accurate data flows. This role empowers the entire organization, making it more than just a job, but a mission of utmost importance. To understand the function of this office, we need to break down the critical elements of our strategy.

1. Data-Driven Culture Must Start at the Edge

For a culture of data to truly take hold, the insight must drive decisions at the operator level. This commitment to transparency ensures our strategic analysis rests on solid ground.

- **Employee Empowerment:** We design our data products to be useful for individuals, not just the commander. By enabling employees to view their own data profiles and those of their office or organization, they gain full context. This transparency empowers employees to take ownership and promptly correct any data disparities.
- **The Upward Flow and Accuracy:** We intentionally design our data products to be mergeable and re-analyzable at higher levels. This ensures that the focused insight a team leader uses immediately contributes to the brigade's strategic analysis. Crucially, when employees use the data daily at lower levels, they are inherently motivated to ensure its accuracy, thereby guaranteeing higher-quality data for strategic decisions at the command level.

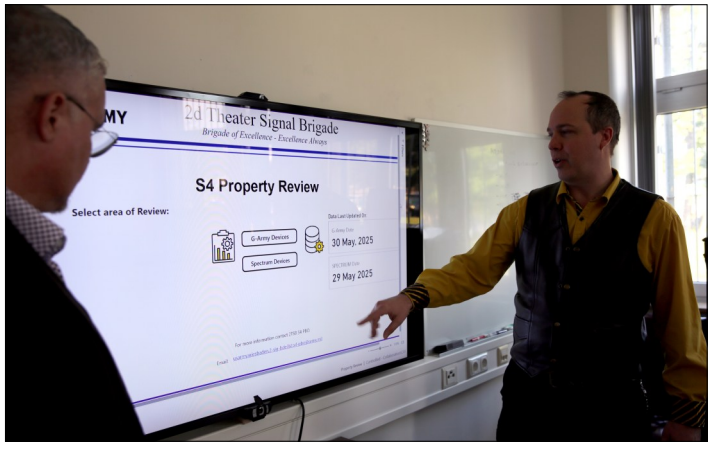
2. The CDO is a Dedicated Bridge, Not an Expert in Everything

My primary mission is to understand the leadership vision and then work diligently at the lower levels—with Soldiers and Technicians—to pull that data up, sifting through the noise to find the critical signals. Leaders in Finance, Personnel, and Operations are experts in their specific fields. The CDO's role is to bridge those fields to show how every silo impacts the entire Brigade as a single entity. It's about coherence, not command.

3. Sifting Signal from Noise Requires SMEs

You cannot do this alone. Every organization is drowning in data, and the CDO must work with subject matter experts (SMEs) to define what the data *means*. In our brigade, we formalized this partnership by establishing data council officers (DCOs). These DCOs act as our indispensable experts, reviewing and identifying the data fields that truly matter. We learned this hard lesson firsthand with our NEC Scorecard. In our V1 release, we had a focused set of fields, but by V2, we expanded the model to over 150 fields, believing that more data was better. It was a frustrating noise. We worked with our DCOs to prune the model, removing highly correlated variables (multicollinearity), leading to faster, more accurate results for V3.5. This experience taught us that getting solid data flows and identifying the precise fields required is non-negotiable. Commanders need someone dedicated to translating data into action. The CDO ensures that the entire organization is viewing the same, correct map, driving coherent strategy from the bottom up.

Does your organization empower employees with data transparency across their teams, or is insight still limited to individual performance?



Nathan Slack, CDO, 2nd TSB, explains new features of the 2nd TSB S4 Property Accountability Report and Tool to William Bravo, a supervisory logistics management specialist with 2nd TSB. (Photo by Candy Knight, 2nd TSB)

How the Army Is Putting the Commander Back in 'Command and Control'

NGC2

Maj. Gen. Patrick Ellis
4th Infantry Division

This article was originally published here in War on the Rocks. The Army Communicator received permission from War on the Rocks to republish the article.

The U.S. Army doesn't have a data problem. But it does have a "data-in-the-right-place-in-a-usable-format" problem. And that matters for decision-making in future war.

Think about all the places we have tactical warfighting information. In some cases, it's in a stovepiped, warfighting-system-specific program. In other cases, it's in a green notebook in a platoon sergeant's cargo pocket or written on a piece of cardboard. We have the data, but it's not in the hands or on the screen of the commander who needs it. Too often, we have to extract the data from the place that it's in, translate it, manipulate it in another system, use it, and then retranslate it — just to access the data required for the mission.

This complexity is not what any company would design, and it's not what our young Soldiers expect from their digital experience. And with today's technology, it's not necessary. The Army needed a "clean sheet" approach. So that's what we set out to do.

The Army's new framework for operational data, known as Next Generation Command and Control (NGC2), started from that "clean sheet" design and progressed quickly through experimentation. Now on the verge of fielding at the division scale – and aligned with the Army Transformation Initiative – this new framework will help get commanders the data they need to make more decisions faster and better than the enemy. As a member of the Army Futures Command team working on NGC2 for the last year, I'd like to explain how this will work, particularly as it scales from experimentation into the force.

Proving the Concept

"I have been a customer of the network for most of my career. Nothing is more frustrating to me in doing this and going out as a brigade commander, as a division commander, or as a corps commander and seeing people struggling more with time to get the network to work than actually fighting the enemy."
- Gen. Randy George, Chief of Staff of the Army

Most Army commanders have experienced some version of what Gen. George describes. Our current command and control systems were designed for specific functions they perform well, but they are not well-integrated or intuitive to use. And with AI and machine learning providing new opportunities to synthesize huge amounts of warfighting data at speeds we have not seen before, the Army was ready to take some risk for big change. Gen. George directed the creation of NGC2 as an experimentation effort under Futures Command. It was first demonstrated in March 2024 at Project Convergence Capstone 4, which is the Army's annual modernization experiment where units use emerging technologies in realistic scenarios and provide the Army with insights and feedback. For NGC2, that event initially focused on the design of the user interface and the types of data to deliver, which then set the stage to further develop the infrastructure behind it.

Over the next 12 months, the Army worked with industry to improve the system's capability in order to complete a larger experiment at Capstone 5, the next iteration of Project Convergence, in March 2025. This was significant because the new architecture was fielded to a combined arms battalion of Abrams tanks and Bradley infantry fighting vehicles. They used the systems in realistic operational scenarios at the National Training Center. Along with their higher headquarters at three echelons, the battalion was able to use the system to speed up decision cycles and prevail against another Army unit acting as a realistic opposing force. We identified some challenges and areas to improve with industry and our Army acquisition partners. But in short, the system worked. Soldiers and commanders were focused on the data needed for their missions and were tailoring their views and apps to execute decisions – they were not consumed with making the network work. They were faster, more successful, and more lethal.

Operational Design

Part of what makes NGC2 different from Army systems of the past is the "technology stack" approach – a concept borrowed from the commercial sector. The full technology stack is everything from data ingestion, data movement, data organization, and data-enabled applications to cloud-based data storage across all of our different warfighting areas. The old

structure was segmented by function – a total system for fires, a total system for logistics, etc. These separate components were clunky to integrate. Instead of building new stove-piped systems with complex interdependencies to be reverse compatible with old architecture, the NGC2 started with a clean sheet, bringing all of the functions together.

The framework has four layers: The transport layer moves data across the battlefield, giving commanders flexible, threat-informed communication options. The integration layer uses AI and machine learning to triage and organize massive dataflows, enabling timely, relevant, and predictive insights for commanders. The data layer creates a shared, accessible data environment across warfighting systems, enabling synchronized decisions and reducing redundant data processing. Lastly, the application layer delivers tailored, intuitive software apps for all echelons, replacing hardware stovepipes and allowing rapid updates and innovation akin to the commercial tech ecosystem.

Transport Layer

When maneuver units talk about communications, this is normally what comes to mind. This is the layer that moves the data, the 1s and 0s, around the battlefield so units can stay connected over distance and terrain.

Although the data movement problem is not completely solved, it is very solvable. With the emergence of proliferated low Earth orbit satellite communications as a viable military capability, units will soon be able to move 10 to 15 times the volume of data they did just two years ago. Radio technology has also improved to the point where radios are not just for voice – they are data transmission devices that happen to have voice as a feature. The NGC2 prototype effort will explore the use of proliferated low earth orbit satellites, private 5G networks, and existing and new radios. The goal is to give commanders diverse transport options to allow them to make threat-informed, risk-based decisions about which tool they will use to move their data at which point in the fight.

The next conversation and experimentation focus will be about how much computing power and storage will be needed to process data "at the edge." Instead of a prebuilt system or command post vehicle, the NGC2 prototype components will be modular "building blocks" that enable commanders at echelon to take apart the command post and put it in a vehicle, move it into a building, or disperse it in a tree line based on their mission and threat environments.

Integration Layer

The integration layer is the "secret sauce" of NGC2. The Army has worked toward data-centric solutions over the past few years, but in many cases, those solutions serve to display disparate datasets on one visualization or common operating picture tool. It looks integrated on the surface, but the complexity is still there behind the scenes.

The next step incorporated in NGC2's integration layer is to use machine learning and artificial intelligence (AI) to triage, organize, verify, and sort the huge amount of data that a division generates internally as well as the data the division consumes from external sources. This layer is key to triaging and curating the data to make sure it becomes useful to the commander in time to be relevant. The organized data can also be accessed by other AI tools to provide real-time operational models and predictions of potential outcomes as decisions are made.

Data Layer

"Modern warfare requires our people to be able to talk to each other over the horizon, synced with our [systems] and our sensors. And that data layer, once it is active and live – and you can do it in near real time – there's all sorts of things like generative artificial intelligence that you can start to layer in to help with decision-making for fires and air and missile defense."
–Secretary of the Army Dan Driscoll

Once the information is ingested into the coherent data layer, it becomes available for any warfighter to use. The challenge today is that, frequently, the data exists inside of a warfighting system stovepipe, only able to be used inside of that program. The NGC2 data layer places the data in a location that can be used by any of the warfighting systems. For example, a red "X" placed by the intelligence warfighting system application to depict an enemy location on the ground is the same location the fires warfighting systems application would see as it targets the enemy formation. The logistics warfighting system application will see the fires interaction, enabling predictive logistics decisions based on the decreasing round count as the enemy formation is targeted. This synchronized data layer will enable the warfighting functions to decrease their focus on ingesting, transporting, and organizing data – and instead allow them to focus on how they will interact with the data to better enable their commanders to make decisions.

Application Layer

Once sorted, the data can be accessed by all warfighting functions – now represented in software applications instead of individual system boxes with their own hardware. The information and apps are reflected in a common operating picture on multiple

form factors, from command post systems to combat vehicles to handheld devices, reaching from corps to platoon. Even with this technical sophistication on the back end, for the capability to be useful in the field, the front-end user interface has to be as intuitive as Soldiers are used to in their daily lives.

Commanders will be able to tailor their applications and views by what is valuable to them in order to augment decision-making and increase lethality. Once warfighting functions stop focusing on data ingestion, they can turn more energy to building applications that suit user needs. Some applications will be Army-wide, and some will be unit-level grassroots efforts, but all will have a place in the application layer and will be available for anyone to use.

Because the apps are not tied to stove-piped systems, they can be updated or even discarded as new, better options come online, just as they would in the commercial marketplace. This lack of a long-term vendor lock-in will foster competition and continual improvement of our warfighting tools – something that has been lacking in past command and control systems.

Faster and Better Decisions

Technology will never replace a commander's judgment, but we can absolutely use it to help them get the data they actually need at the times when and in the places and formats where they can use it to make more decisions faster and better. After seeing what the commanders and Soldiers were able to do at Project Convergence, it is clear that we are headed in the right direction. Now, as the Army starts to scale the effort and deliver prototypes to operational units, we can use their feedback to continue to improve. Taking it to a full division will increase the volume of data and the number of vehicles and aircraft we can connect. It will also bring enabling units into the architecture to pass different types of information. We know it won't be perfect. But commanders are eager to get involved and get their hands on it. They recognize the Army is finally designing a command and control system for them.

About the author

Maj. Gen. Patrick Ellis is currently serving as commanding general of 4th Infantry Division and Fort Carson, the prototype division for NGC2. He recently completed his assignment as the director for the Command and Control Cross-Functional Team at Army Futures Command. He previously served as the deputy chief of staff for operations at U.S. Army Europe and Africa.

Backbone of the Battle: Getting the Data Through

High-speed comms

Sgt. 1st Class Mark Williams,
Sgt. 1st Class Rheanna Moreno,
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5th Armored Brigade, First Army Division West

The Army has always relied on communication to win wars, but in today's environment, that communication is overwhelmingly digital. Every warfighting function (WfF) now depends on high-speed data to enable intelligence, mission command, sustainment, and fires.

Emerging capabilities such as Project Maven's AI-enabled analysis tools and commercial satellite constellations like Starshield are revolutionizing the battlefield by delivering unprecedented speed and fidelity of information. Yet, this transformation comes with risk.

While commanders have grown accustomed to the fiber-based connectivity of counterinsurgency operations, the realities of large-scale combat operations (LSCO) against near-peer threats present a different picture. In contested, austere environments, our ability to maintain persistent high-bandwidth connections is far from guaranteed. This gap between expectation and capability is straining the Signal Corps and could leave the force vulnerable at decisive moments.

The Rise of AI-Enabled Systems

As these new systems are coming to maturity (Maven, Starlink, etc.), they deliver significantly higher data rates compared to legacy, lower tactical internet (TI) platforms.

Warfighting exercises conducted at the National Training Center (NTC), Joint Readiness Training Center (JRTC), and Joint Multinational Readiness Center (JMRC) have consistently demonstrated that data and AI-enabled tools such as Maven greatly enhance effectiveness and efficiency of all warfighting functions. These tools rely heavily on low-latency, high-bandwidth connectivity to cloud-based services to deliver real-time insights.

The graphic "Achieving Cross-Domain Synergy" illustrates how AI-driven systems function best when integrated across land, air maritime, space, cyberspace, and the electromagnetic spectrum to create a unified operational effect. Without reliable access to this level of connectivity, the full potential of AI-driven systems remains unrealized, reducing them to underutilized assets rather than force multipliers on the modern battlefield. AI continues to improve battlefield decision-making by accelerating data processing, enabling faster target acquisition, and enhancing situational awareness at every echelon. However, the Army currently struggles to support due to two critical limitations: connectivity and training.

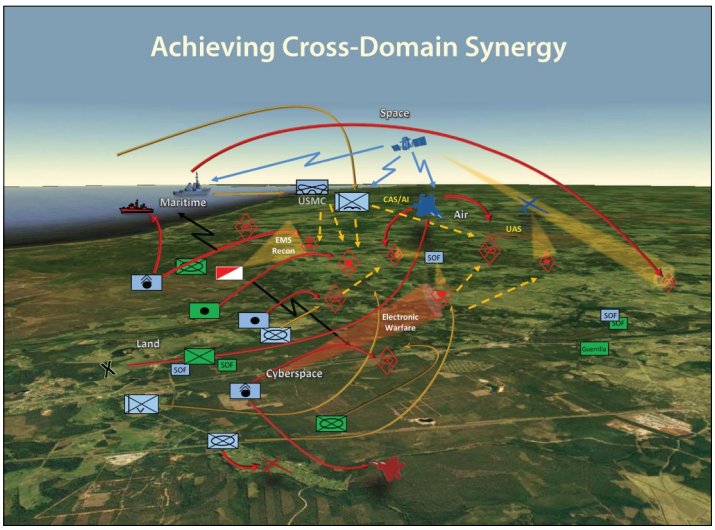
The Problem

Two critical limitations currently hinder the Army's ability to fully exploit AI-enabled systems:
Connectivity. Legacy "green" communications platforms cannot consistently deliver the bandwidth or latency needed for AI's real-time processing. During LSCO, jamming, cyberattacks, and physical destruction of infrastructure are likely, making sustained high-bandwidth connectivity difficult to achieve.
Training. No formal schoolhouse pipeline exists to train Soldiers on the operation, troubleshooting, or maintenance of AI-based systems. As a result, units often deploy with advanced technology that few can fully exploit, leaving much of its potential untapped.

Without addressing both issues, the gap between what commanders expect and what the tactical network can deliver will only widen.

Alternate Perspective

Commanders have become increasingly reliant on the speed and volume of information provided using



First published in Military Review, this graphic depicts the inherent integration and convergence of the future of multi-domain battlefield. (Graphic by Gen. David G. Perkins, U.S. Army)

fiber connection to warfighting groups, often creating unrealistic signal expectations. Much like how juries began demanding more definitive evidence following the influence of shows like Crime Scene Investigation, commanders have grown increasingly dependent on immediate, high-fidelity data to drive operational decisions. This expectation is largely rooted in experiences during warfighter exercises and operational deployments throughout the Global War on Terrorism. During that time, commanders frequently operated with access to robust, fiber-based communications infrastructure, enabling instant access to intelligence, surveillance, and mission command systems.

As illustrated in Army Doctrine Publication 3-13 (2023), achieving information advantage requires more than physical connectivity; it demands synchronization of information activities such as enable, protect, inform, influence, and attack to shape decision cycles. However, during LSCO against near-peer threats, such connectivity cannot be guaranteed due to the austere environment. This leaves commanders vulnerable when decision-making processes are built around unavailable data. This growing gap between expectation and reality places immense pressure on signal elements to deliver beyond their means, often without the necessary resources, equipment, training, or infrastructure.

Recommendations for Modernization

To prevent a critical failure in future conflicts, the Army should:

1. ***Modernize the tactical network***. Invest in resilient, multi-path, AI-optimized communications infrastructure that is capable of operating in degraded or denied environments.
2. ***Institutionalize AI training***. Establish formal training pipelines at signal and intelligence schoolhouses to produce Soldiers capable of fully leveraging AI systems in the field.
3. ***Align command expectations with reality***. Integrate degraded network scenarios into Warfighter and Combat Training Center exercises to prepare commanders for contested spectrum operations.
4. ***Doctrine and policy updates***. Revise doctrine to incorporate AI employment in LSCO, including network prioritization, bandwidth allocation, and decision-making processes under degraded conditions.

Conclusion

The increasing dependence on real-time data and AI-enabled systems has shifted the burden of mission success onto the shoulders of the Signal Corps. Without proper training pipelines or modernized infrastructure, this demand risks outpacing our capacity to deliver. Our enemies are watching. A near-peer adversary will not allow us the comfort of fiber lines or unchallenged cloud access. If we fail to adapt doctrinally, technically, and culturally, we risk blinding ourselves in the next fight. The Army must proactively modernize its communications architecture, invest in AI/data system training, and temper operational expectations with battlefield realities. The choice is clear: evolve our networks and doctrine now, or face disruption when it matters most. In the end, mission success will not be defined by how much data we can demand but by how effectively we can deliver it. Until commanders break their addiction to instant data, the S6 will remain the backbone of the battlefield. So, should we curb our addiction? Or wait until a peer threat does it for us?

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Continue to Do More With Less - By Design

Operating in the fog

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Doing more with less has been a constant refrain since I was a second lieutenant. Most organizations are perpetually undermanned and under-resourced. This is especially true in the world of Signal. Senior leaders want more data, and they want it as fast as our commercial networks provide. Yet, the modern battlefield demands a more nuanced approach. Our systems need to be leaner, more localized, and operate within intermittent and limited connectivity.

The Army's current suite of mission command (MC) systems is too bulky and requires too much bandwidth to operate optimally. Many units are still lugging around massive tactical server infrastructure stacks that demand manpower, power, and physical space to support. This is exacerbated if the unit is running multiple classifications, such as Classified and Mission Partner Environment. Additionally, leadership's insatiable demand for increased and consistent bandwidth, although understandable, does not fit well into today's battlefield setting. The elasticity and availability of a cloud environment are the right answer for stable environments (e.g., a home station's fiber-connected infrastructure). But as we have witnessed in Ukraine, this isn't reality on the battlefield. That's where fog computing comes in.

Fog computing relies on edge devices for the unit's information processing and storage, supported by a local area network. Its flat design facilitates extensive peer-to-peer connections between edge nodes, which can stand alone or connect with a cloud. This means the MC applications and the data they depend on don't need to constantly ping a remote server thousands of miles away. Instead, they stay local, fast, and resilient. Starlink and Kymeta-like transport terminals represent the future of battlefield connectivity. They deliver high-bandwidth internet that works on the move or while stationary, serving as force multipliers by eliminating the need to tow massive satellite transportable terminals. However, these connections stand out to enemy signals intelligence systems, making the unit vulnerable to long-range attacks, creating a constant tradeoff between speed and survivability. We can't always remain hidden, but we also can't afford to be deaf and blind. Fog computing closes this gap by keeping critical data and applications inside the (logical) perimeter. So, what are we really reaching back to the cloud for? What does it provide that we couldn't have locally?

The amount of small form factor technology available to us today is unprecedented. Ruggedized mini-servers, handheld processors, and low-power graphics processing unit devices can now deliver what used to take entire racks of equipment. Layer in local AI tools, and we gain the ability to anticipate, recommend, and adapt in real time. The result is a self-sufficient, decentralized network that doesn't collapse when the wide area network drops.

Next Generation Command and Control, or NGC2, is already available commercially. Instead of dragging around racks of servers and bulky communications gear, we should have a ruggedized, carry-on-sized kit with a few swappable modules (e.g., a compact server, a mesh radio, or a sensor-fusion module) all built to snap together depending on the mission. A company could drop in a sensor-fusion module to integrate drone feeds or swap it for a language-translation module if the mission shifts to working with local partners. This kit is basically a self-contained mission command node. Add in a small projector or tablet display, a mini-printer, and suddenly the unit has a fully functional ops center in a backpack. Units can reach out to the WAN when bulk updates or data dumps are needed, keeping the footprint lean and the signatures low while still tapping into the bigger fight when necessary. Meanwhile, lower tactical internet communication means (e.g., frequency modulation, high frequency, Joint Battle Command-Platform) will need to make up for the chat and email traffic we have become reliant on.

Mission command has a whole new meaning in our current age of technology. Yes, there are several caveats to this argument, including budget constraints, logistical support, and acquisition timelines. But we must leverage what we can control to its full capacity. We must continue to do more with less – but by design. It's not about adding more work to the S6's plate; it's about giving them smarter, lighter, more resilient tools that enable units to fight and win on the modern battlefield.

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Aligning Force Structure for NGC2

Decision dominance

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Lt. Col. Randolph Donathan,
57th Expeditionary Signal Battalion-Enhanced

Next Generation Command and Control (NGC2) is quickly becoming a centerpiece of the Army's modernization strategy. With its promise of data-driven decision dominance, NGC2 is designed to integrate sensors, shooters, and decision-makers into a unified network that accelerates the speed of command.

Most of the focus to date has been on developing the NGC2 concept and figuring out the materiel side of the equation — software platforms, data fabrics, and resilient transport. However, modernization cannot be divorced from the human and organizational dimensions. Without parallel adjustments in force structure and human capital, NGC2 risks becoming a collection of exquisite tools without the organizational capacity and skill sets to employ them.

The Missing Conversation

During AFCEA TechNet 2025, NGC2 discussions weighted heavily toward the concept rather than the personnel who would operate, integrate, and sustain the materiel solutions. Suppose NGC2 is treated as a set of capabilities rather than as a formation-based transformation. In this case, the Army risks creating advanced but underutilized systems. This challenge will be magnified in the return of division signal battalions (DSB) if they are not designed to employ NGC2 at scale.

Without concurrent organizational design, NGC2 risks repeating a pattern of interoperability issues between warfighting functions and depriving commanders of the decision dominance promised by the concept. Signal formations, such as the DSBs and expeditionary signal battalions-enhanced (ESB-E), are equipped to bridge gaps between legacy systems and emerging requirements. However, both remain aligned to force structure paradigms built primarily for a transport-only mission. If NGC2 is to deliver on its promise to achieve decision dominance in large-scale combat operations (LSCO), organizational design must evolve alongside the materiel.

Lessons from Past Modernization

In the past, the Army effectively combined materiel modernization with organization redesign to maximizenew capabilities. The fielding of striker brigade combat teams, modular brigade combat teams, and ESB-Es exemplifies the transformative outcomes that occur when the Army aligns technology and programs with humans and doctrine in operational formations.

The introduction of the Stryker vehicle in the early 2000s was more than a platform upgrade; it was an entirely new formation, deliberately designed to maximize mobility, protection, and networked capabilities. This demonstrated that successful materiel fielding required a tailored organizational concept to achieve its intended effect. These transformations were not without growing pains, but they revealed a critical truth: when the Army combined materiel modernization with organizational redesign, formations became far more capable than when either change occurred in isolation.

In the mid-2000s, the Army reorganized divisions into modular brigade combat teams, timed alongside the fielding of digital battle command systems such as Force XXI Battle Command Brigade and Below, Joint Network Node, and Warfighter Information Network-Tactical. The modular design created self-contained, deployable brigades with organic signal, fires, and sustainment elements that could employ emerging command and control systems at scale. The transformation demonstrated that the materiel modernization of the network had to be accompanied by an organizational redesign to achieve operational agility.

More recently, the Army has demonstrated this principle through the ESB-E initiative. Beginning with the 50th ESB pilot conversion in 2018, units shed heavy, manpower-intensive legacy equipment in favor of lighter, modular Scalable Network Nodes and smaller satellite systems.

The conversion was not just a materiel upgrade; it included a deliberate restructure of battalion manning and organization. The result was a signal formation that could provide more points of presence with fewer Soldiers, meeting the Army's emerging requirements for mobility, scalability, and resilience. These examples show that the Army succeeded when it addressed modernization as both a materiel and a force structure problem. As a concept, NGC2 is no different. To achieve decision dominance, the Army must ensure organizational design and training evolve in tandem with the equipping of new systems.

DOTMLPF-P Perspective

Doctrinally, the Army must evolve beyond communications as an enabler and instead frame data as a maneuver element and decision support as a mission.

Under the current paradigm, where DSBs and ESB-Es are relied upon solely for transport, they may be underutilized in the NGC2 construct. To remain relevant, signal formations must expand beyond this legacy role and embrace the full spectrum of C2 integration – data fusion, spectrum management, and defensive cyber. Without this evolution, they risk creating gaps at precisely the echelon where maneuver commanders require resilient, data-driven decision support.

Equipping formations with NGC2 capabilities will require Soldiers to develop skills in data integration, automation, cyber defense, and decision support – competencies already present within the Signal Corps military occupational specialty structure. Personnel development should build on this adaptability by deliberately creating space in the force structure for Soldiers to serve as data and C2 integrators at echelon.

Only by aligning doctrine, organizations, training, and people with materiel can the Army fully realize the decision dominance that NGC2 promises. This alignment underscores the central point: force structure must evolve in step with modernization, or the Army risks fielding tools it cannot fully employ. Signal formations should serve as the lead integrator, ensuring that data and capabilities from all warfighting functions are fused and delivered to commanders.

The Army has already demonstrated through ESB-E conversions that organizational design can evolve in tandem with materiel modernization. Building on that model, we can begin to imagine a notional NGC2-enabled signal formation – one that combines modular structure with the right mix of technical and leadership skills. This approach will connect today's doctrinal and organizational insights to tomorrow's operational reality.

Designing the Formation

Talent and formation-based transformation – not technology alone – turn programs into true warfighting capabilities. A notional NGC2-enabled formation reflects each of these imperatives: spectrum managers provide resilience in the electromagnetic domain, autonomous and AI-enabled tools assist with data fusion, and highly trained Soldiers form the connective tissue that transforms systems into capabilities. These teams would be supported by a cadre of data and software specialists, building on the adaptability already present in the Signal Corps and expanding it through deliberate training in coding, artificial intelligence and machine learning (AI/ML)-enabled tools, and data visualization. To ensure resilience, the formation would also include electromagnetic spectrum managers and cyber defenders, enabling the unit to fight through jamming and intrusion attempts. Leaders, for their part, require education in data-centric mission command, learning how to employ automated decision aids while maintaining the commander's intent.

Under NGC2, DSBs and ESB-Es must evolve into modular, multi-functional teams capable of providing data integration, automation, and resilient C2 at echelon. If they remain tied to a transport-only paradigm, they risk becoming single-purpose formations at a time when the Army demands signal units that contribute directly to decision dominance. The future formation should remain expeditionary, deployable in tailored packages, and capable of scaling support as required – not just moving data but making it decisive.

Considerations for Leaders

Some may argue that the Army should wait until materiel solutions are fully developed before adjusting force structure. Yet history shows that doctrine, leader development, and training pipelines cannot be bolted on after the fact. During the modular BCT transition, for example, it took years to synchronize new C2 systems with the organizational design, leaving capability gaps in the interim. Others may suggest converting signal battalions into cyber units, but NGC2 demands resilient, mobile C2 architectures – a mission best-suited to adaptable Signal Corps formations, not the Cyber Corps. By keeping NGC2 nested within signal formations, the Army preserves a force designed to integrate transport, data, and defense at echelon – ensuring maneuver commanders receive the resilient C2 they need in contested environments.

Maneuver commanders will benefit from signal battalions' higher-tiered expertise, particularly in contested training environments and LSCO, where distributed networks and resilient decision support cannot be maintained solely at the brigade level. Signal battalions are built to deliver transport and integration while adapting to new roles. Rather than creating dependency, DSBs and ESB-Es provide depth and redundancy, ensuring commanders can focus on employing combat power while knowing their C2 architecture is resilient. Waiting for materiel to mature risks fielding systems without Soldiers or organizations prepared to use them, and relying on legacy structures risks diluting NGC2 into incremental upgrades rather than the transformative change it is intended to be. By positioning the DSBs and ESB-Es as augmenting enablers – not competing headquarters or pseudo-cyber formations – the Army ensures NGC2 is both technically integrated and operationally relevant.

Call to Action

The Army must invest as much energy in the *who* and *how* of NGC2 as it does in the *what.* History shows that modernization succeeds when materiel and

force structure evolve together – as seen in Stryker brigades, modular BCTs, and the ESB-E conversions themselves. Viewed through a DOTMLPF-P lens, NGC2 requires not only new equipment but also changes in doctrine, organization, training, leadership, and personnel to make data a decisive element of warfare.

The DSBs and ESB-Es are the right echelon to carry this mission forward. They can serve as the Army's experimental formations, providing higher-tiered expertise and modular support that bridges gaps across maneuver units while remaining agile and expeditionary. Building on their adaptability, the DSBs and ESB-Es can be reshaped into the notional NGC2-enabled formations that combine multi-functional teams, cyber defense, spectrum management, and data integration under leaders trained in data-centric mission command.

Senior leaders should recognize that waiting for materiel to settle risks repeating past mistakes, while assigning NGC2 wholesale to other formations risks diluting its purpose. By positioning the DSBs and ESB-Es as augmenting enablers, the Army ensures that NGC2 will be both technically integrated and operationally relevant. NGC2 promises to transform command and control. But its success will hinge not only on technology, but on the people and organizations designed to employ it. The time to align force structure is now – before materiel outpaces the Army's ability to use it.

Col. Eva M. Millare (left) is the commander of 11th Corps Signal Brigade. Commissioned in 2002 through Saint Mary's University ROTC, she has held key leadership and staff positions across multiple echelons, including chief of staff, 311th Signal Command (Theater); G6, 1st Cavalry Division; and branch chief, United States Africa Command J6. Her operational service includes deployments to Iraq, Afghanistan, and the Horn of Africa.

Lt. Col. Randy Donathan (right) is commander of the 57th Expeditionary Signal Battalion-Enhanced at Fort Hood, Texas. A Virginia Beach native, he enlisted in 2005 after graduating from James Madison University and was later commissioned through Officer Candidate School. He has held key leadership roles in the 112th Signal Battalion (Special Operations) (Airborne), the Joint Communications Support Element, 1st Cavalry Division, and 11th Corps Signal Brigade, with multiple deployments to Iraq, Afghanistan, and Europe.

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The Written Foundations of Signal Excellence

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Professional military writing has always been central to how the U.S. Army learns, adapts, and preserves its institutional wisdom. Nowhere is this more evident than in the history of the Signal Corps, a branch built not only through technological innovation but also through the written word.

From its inception, the Signal Corps depended on leaders who could articulate ideas, codify lessons, and translate scientific discovery into doctrine. This legacy reflects a broader truth about the Army as a whole. Writing has consistently served as a bridge between innovation and application, allowing individual insight to transform into organizational capability.

Maj. Gen. George Owen Squier stands as one of the most compelling examples of this tradition. His career demonstrates that writing remains one of the Army's most enduring and influential instruments of professional development.

Origins of the Signal Corps

The origins of the Signal Corps reveal that writing was never a secondary task but a foundational requirement. The earliest history of the Signal Corps shows that Brig. Gen. Albert Myer's wigwag signaling system grew directly from his scholarly work, particularly the written "system of sign writing" he first developed in his 1851 medical dissertation. His academic study of telegraphy and his correspondence with scientific and naval experts demonstrated that the Corps' founding innovation emerged from deliberate intellectual inquiry and written conceptual design rather than field improvisation (Coker and Stokes, 1991).

Post-Civil War Expansion

The post-Civil War expansion of the Signal Corps reflected a growing reliance on written documentation to guide the Army's adoption of new communication technologies. Under Brig. Gen. Adolphus Greely, the Signal Corps introduced heliographs, field telephones, and photographic techniques into Army practice, each supported by formal instruction, experimentation reports, and published technical material that enabled Soldiers to employ emerging systems effectively. Greely institutionalized written technical guidance by adding a photography course to the curriculum at Fort Riley, Kansas, and overseeing the publication of the Army's first *Manual of Photography* in 1896, demonstrating how written doctrine translated scientific innovation into operational capability. His initiatives also standardized communication practices across the force, from placing telephones in lighthouses and life-saving stations to supervising a nationwide network of weather observatories. These developments show that the Signal Corps depended on written doctrine and technical manuals to integrate new technologies into Army operations, and that this written culture became a defining feature of its intellectual identity (Coker and Stokes, 1991).

Maj. Gen. George Owen Squier

Into this environment stepped George Owen Squier, an officer whose professional identity was shaped as much by scholarship as by field service. Squier's biography illustrates the intellectual discipline that defined his career. He became the first American military officer to earn a doctoral degree, completing a doctorate at Johns Hopkins University, Maryland, while assigned as a young artillery officer and later a signal officer (Taint, 2022). His pursuit of graduate education during an era when such academic depth was rare for military professionals demonstrated an early recognition that intellectual rigor was inseparable from operational competence. Throughout his career, Squier used writing as the primary mechanism for influencing doctrine, guiding modernization, and shaping Army thought.

Historical records show that Squier's written contributions predated many of the technological advances that now define the modern Signal Corps. His early publications in scientific journals explored wireless communication, telegraph multiplexing, and materials research, allowing him to translate emerging scientific discoveries into military applications long before World War I demanded them (Taint, 2022). During the war, Squier oversaw massive growth in Army communications capability and authored doctrinal guidance that integrated telephones, radios, and wire systems into the American Expeditionary Forces. The Army's official histories note that Squier's leadership and writing transformed the Signal Corps from a small technical specialty into a modern communications enterprise capable of supporting large scale operations (Terrett, 1954).

Importance of Professional Military Writing

Professional military writing serves several essential functions that remain vital today. First, writing preserves institutional knowledge at a depth that no briefing or discussion can replicate. Jamieson's work on the Army Library Service demonstrates that written knowledge has long provided Soldiers with intellectual resilience and a means for understanding the broader context of their service during periods of conflict (Jamieson, 1950). The ability to read, write, and reflect has historically shaped how the Army maintains its professional

identity under conditions of stress.

Secondly, writing advances the Army as a profession. Clark and Sloan's analysis of early military classrooms shows that structured reflection and written scholarship were early markers of professionalization, linking leader development to intellectual engagement (Clark and Sloan, 1964). This professional discourse continues in modern journals such as Military Review, the NCO Journal, and the Army Communicator, where writing functions as an instrument of debate, learning, and organizational renewal.

Thirdly, writing connects innovation to application. The Army's modernization efforts during the first half of the 20th century, including the development of FM radio and radar, succeeded because technical experimentation was accompanied by rigorous doctrine and detailed written instruction (Terrett, 1954). Innovation becomes meaningful only when it is communicated clearly to those who must employ it.

Army Learning Concept 2030-2040

Modern doctrine reinforces these themes. The Army Learning Concept for Training and Education 2030 to 2040 emphasizes a need for Soldiers who can think critically, communicate clearly, and engage in continuous learning to meet demands of future operational environments (TRADOC, 2024). These imperatives are not new. They reflect the same intellectual commitments that guided Squier and his contemporaries.

Writing remains an essential element of readiness because it forces leaders to interrogate their assumptions, articulate their reasoning, and offer insights others can use. This is particularly important for the Signal Corps, a branch defined by rapid technological change and complex operational requirements. When communicators write, the entire Army benefits.

Model of Excellence

Squier's legacy provides a model for today's signal leaders. He demonstrated that writing is not an optional endeavor but a professional responsibility. His publications influenced how the Army understood early aviation, wireless communication, and large-scale network integration. His work shows that the most enduring contributions of signal leaders are often found not in equipment or technical systems but in the ideas that shape their employment.

Professional military writing allows Soldiers to transform individual experience into shared understanding and ensures that lessons learned are not lost to time. It links generations of practitioners, sustains the Army as a learning institution, and strengthens the profession of arms.

The Signal Corps has always been a branch of thinkers and innovators. From Myer's wigwag manuals to Squier's scientific articles to the doctrinal writing that underpins digital networks today, the Signal Corps has advanced through the disciplined act of capturing knowledge in written form.

As the Army confronts the challenges of multidomain operations, contested electromagnetic environments, and rapid technological acceleration, the need for thoughtful professional writing has never been greater. Squier's example reminds us that communicators serve the Army not only through technical mastery but also through intellectual leadership. Writing remains the most powerful way to ensure that the Army continues to learn, adapt, and thrive.

About the author

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Network Backbone: 173rd Airborne's Strategy to Enable the Modern Fight

Tactical edge

1st Lt. Vincent Gasparri
173rd Airborne Brigade

High above the battlefield, a long-range unmanned aircraft system (UAS) silently patrols the skies. The drone maps the terrain. Its target recognition system flags a convoy of vehicles approaching a critical supply route. The UAS relays this information to the command post, where the battalion intelligence analyst recognizes the convoy as hostile.

Then, a nearby tactical leader's handheld device vibrates with an incoming alert. The live feed from the UAS appears on his screen, showing the hostile convoy's location, speed, and direction. The notification also reaches the brigade's command post, which is hundreds of miles away. The brigade's targeting team reviews the footage and identifies the enemy convoy as a high payoff target. Within seconds, the data is shared. The coordinates are sent to an artillery unit, and they prepare to engage. After the brigade analyst confirms the target, coordinates are sent directly to the firing system computer, and the fires mission is approved.

The artillery unit fires a precision-guided munition. The paratrooper watches the strike and reports battle damage assessment (BDA) from the UAS feed. The convoy is neutralized, and the supply route remains secure. The kill chain occurred in real-time: sensor to shooter in seconds. These technologies and processes are only limited by our ability to connect systems. An effective network is paramount.

Network Backbone, Strategy, Architecture

The 173rd Airborne Brigade is rapidly modernizing its battlefield network to enhance lethality and situational awareness – shorten the kill chain, watch UAS feeds, and see the same common operational picture (COP). This involves integrating new sensors and systems into its formations while streamlining command and control (C2) functions (battle tracking, fires processing, intelligence, and sustainment) to amplify soldier lethality and battlefield awareness.

Our network ultimately ensures seamless connectivity and IP-based communication for all users prioritizing survivability, resilience, and flexibility. This robust network connects tactical edge devices with the cloud, enabling real time data sharing and faster decision making.

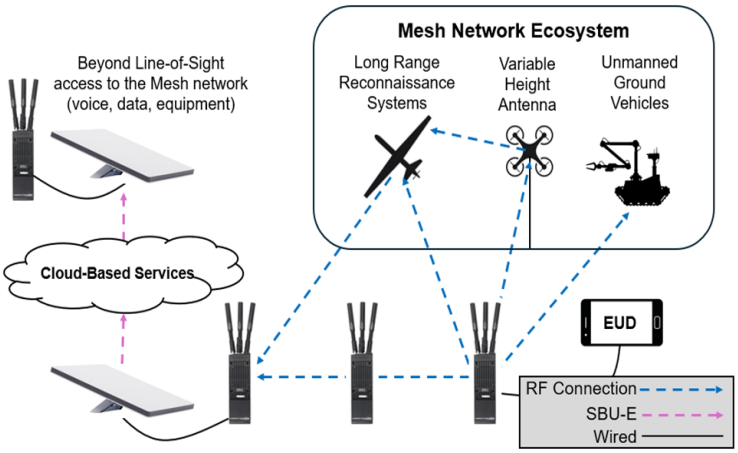
Network Strategy

The 173rd Airborne Brigade's network strategy is formed through internal research, development, training and testing.

Bottom Line: The 173rd's tactical network enables modern battlefield command and control - allowing leaders, informed by efficient data analysis and flexible connectivity, to prioritize resources and assets in real time.

Network Architecture

These end states are reached using a revised network architecture built with a robust brigade mobile ad-hoc network (MANET), widely proliferated mobile satellite communication (SATCOM) terminals, and comprehensive device integration.



Brigade MANET: A MANET is formed using mesh radios that can intelligently route data traffic, self-heal, and optimize data flow in real time. These radios simultaneously combine data, voice, and robotics onto one network. All clients connected to the network serve as repeaters. For example, a long-range intelligence, surveillance, and reconnaissance (ISR) platform can serve as a repeater for all ground radios, which greatly extends the size of the mesh. Adding systems of all types to the network allows access to their data and greatly increases the range of the network.

MANET-Internet Extension: An internet source, like a SATCOM terminal, can be added to the radio mesh and give all users in the mesh access to the internet. This "MANET-internet extension" gives end user

devices, multiple radio hops away from an internet source, access to cloud resources. It also links disparate mesh networks through the internet. Someone with a mesh radio and an internet source anywhere in the world can see, control, and communicate on the local radio network.

ROIP: To minimize paratrooper physical load and quickly integrate partner units, green radio networks and traffic can be added to the network using radio-over-IP (ROIP). By ROIPing radio nets onto the brigade MANET, all voice traffic can be accessed from anywhere. Furthermore, partner militaries, adjacent units, and platforms with legacy radio systems (army aviation, artillery firing computers, counter battery radars), are quickly integrated into the 173rd Airborne Brigade's network.

Satellite Communications Terminals: Low Earth orbit satellite communications terminals provide low-latency access to commercial internet. Platforms like the Starlink Mini are increasingly portable and provide dismounted paratroopers cloud access. The 173rd Airborne Brigade currently distributes this access to the company, and if necessary, the platoon level. MANET radios automatically route traffic to the closest terminal or terminal with the strongest connection.

Device Integration: The ability to quickly onboard new devices is a critical component of aggregating battlefield data.

Unmanned Aircraft Systems/Unmanned Ground Vehicles (UGVs): Mesh radios can serve as both the means of controlling unmanned systems and the means of integrating them into the network. If a UAS system's data link uses a mesh radio, another mesh radio can pull the video feed to an end user. This is the most seamless and reliable way to quickly share data from systems. Alternatively, data, like video, can be routed from a system's controller to the MANET and the tactical network at large. This method typically introduces latency, extra configuration, and degradation. From the mesh, data can also be sent to cloud or local repositories for historic viewing and analysis.

Ground Based Sensors: The Cursor-on-Target (CoT) based tactical assault kit (TAK) ecosystem, provides a means by which to quickly incorporate sensors. Operators with mesh radios can easily share the data from their systems across the network to TAK ecosystem software and other systems.

End User Devices: Cloud tactical network virtual private networks (VPNs) remain accessible over the MANET-extended internet access.

End-State

Maximize Battlefield Sensor Data Ingestion: Tactical artificial intelligence implementation requires efficient sensor aggregation. Artificial intelligence will maximize the utility of data collection and the speed of formations' decision-making.

Maximize Battlefield Robotics Connectivity: A network that allows any user to control robotic systems (line-of-sight, beyond line-of-sight) creates operator redundancy, increases range, and allows real time flexibility and asset delegation. An operator in one formation can control or be given control of robotics anywhere on the battlefield.

Maximize Access to Cloud and Intranet Services: Tactical edge users can access high-computation resources, sensitive but unclassified-encrypted (SBU-E) commercial intelligence, persistent chat, and fight with the same tools as higher echelons.

Provide Consolidated Network Awareness and Control: Connectivity allows leaders to visualize their network. If terrain, electronic warfare, or priorities change, connectivity requirements, assets and frequencies can be shifted in real time to accommodate. Connectivity and signature can become an active and deliberate part of planning. An operator can move a robot repeater to a hilltop to ensure connectivity for the decisive point of an operation.

Lessons Learned

A unified network is required to enable capability. Choosing one radio and waveform for communications and equipment is critical. It is imperative that interoperability is a priority for radio and waveform designs to connect existing systems and additional platforms.

While maintaining communication, there is no way to completely conceal a brigade's signature. As a mesh network grows and the network becomes stronger, specific systems become less distinguishable and are harder to target. A large network of radios and systems is more resilient against jamming as it adjusts traffic routing in real time and gives leaders the information to shift resources in response.

The 173rd Airborne Brigade's network backbone is the foundation upon which further connectivity, redundancy, and efficiency will be built – enabling advanced robotics and computation to give the brigade a tactical edge.

Where Modernization Meets Evolution

25S Capstone

Article, photo by Staff Sgt. Geoffrey Rushlau
369th Signal Battalion

Ongoing conflicts, specifically the war in Ukraine, provide clear lessons on the speed and complexity of modern warfare. Technology and tactics evolve rapidly, and our forces must adapt to survive and win. These insights have served as a catalyst for the U.S. Army Signal School to modernize how we generate proficient satellite communication systems specialists (25S).

The 25S graduates are trained to deploy globally and establish beyond-line-of-sight communication links using military and civilian satellite constellations. The newly revised 25S Capstone postures students to be better-prepared and more responsive signal Soldiers. The training is also designed to acclimate new systems as they are phased in with Next Generation Command and Control (NGC2) efforts. Commitment to realistic, modern training ensures the next generation of Army communicators are ready to provide operational commanders with flexible and resilient network solutions using any available transmission means.

In support of the chief of staff of the Army's priority "Continuous Transformation," instructors, drill sergeants, and their Department of Army civilian counterparts have transformed the 25S Capstone. Program of instruction (POI) is oriented toward stronger theory-based training, and the modernized capstone exercise ensures that knowledge is solidified through a more robust, scenario-based challenge. This final exercise mirrors real-world missions, forcing trainees to work in-parallel on multiple integrated systems. Students split into teams responsible for:

- Installing, operating, and maintaining a Satellite Transportable Terminal and Phoenix Terminal.
- Operating a Modernized Enterprise Terminal and Tech Control Facility, using control and monitoring systems to establish a multi-carrier link.
- Establishing redundant tactical-to-strategic links via a Quad-Band Satellite Emulator.
- Configuring network equipment and applying systematic problem-solving skills to troubleshoot and resolve faults.
- Assuring connectivity and data access for command posts' end-user devices.

Students achieve an end state that is a redundant link between higher headquarters and a command post's end-users, validated by successful Voice-Over-Internet-Protocol (VOIP) calls and intranet resource page access. This exercise integrates Warrior Task and Battle Drills and requires that students maintain a force protection posture, including dedicated security gate personnel, a roving quick reaction force, and duty desk responsibilities. This exercise provides students with a clearer picture of the culmination of all they have learned over six months.

Despite manning challenges and funding restraints, Charlie Company, 369th Signal Battalion cadre continues to improve and modernize capstone training through their ingenuity and dedication to the mission. The cadre uses collective experience, referencing operational commander expectations, to evolve POI. This helps ensure that students are at a higher level of preparedness when they respond to ever-changing demands placed on signal operators at their first duty stations.

A commitment to innovation extends beyond the confines of the 25S course. The intent is to re-integrate pre-graduation training across Signal School so that 25S students will train side-by-side with 25B (information technology specialist), 25H (network communication systems specialist), and 25U (signal operations support specialist) students. Large-scale capstone exercises would better reflect command post exercises in the operating force. Students benefit from a greater understanding of where they fit in the greater signal and command and control (C2) infrastructure. By advocating for and developing this comprehensive, cross-training amongst military occupational specialties, the Signal School is transforming how the Army prepares the next generation of communicators.

Modernization of the 25S Capstone ensures that lessons learned from today's conflicts are integrated into tomorrow's force. This refined exercise reinforces foundational skills necessary to adapt new tactics and technological advances within NGC2 and beyond.

By evolving the capstone validation, Soldiers graduate not only as operators, but as agile, mission-ready communicators capable of adapting their fundamental knowledge to whatever cutting-edge systems the Army fields next.

Strengthening Army Readiness for NGC2 Systems

Theory-centered training

Capt. Arinze Nwachukwu
15th Signal Brigade

The Army's pursuit of decision superiority and Next Generation Command and Control (NGC2) requires a signal and cyber workforce that can operate and defend complex network systems in contested environments. However, current training models often rely on platform-specific and procedural instruction that does not prepare Soldiers for rapid technological change.

This article advocates for a theory-driven approach to institutional training that prioritizes core principles of networking, data flow, system behavior, and cyber defense.

Instruction that is grounded in conceptual mastery equips Soldiers with knowledge that is transferable across legacy, transitional, and emerging systems. This training approach improves adaptability and strengthens the Army's ability to maintain resilient mission command under degraded conditions. By integrating foundational theory with realistic scenario-based practice, the Signal School and the Cyber School can better prepare Soldiers to meet the demands of modern operations and support the Army's transformation toward NGC2. A theory-driven model enhances readiness, improves operational flexibility, and supports the Army's pursuit of decision superiority across all domains.

The convergence of cyber, space, air, land, maritime, and electromagnetic spectrum capabilities increasingly shapes the nature of modern warfare. It creates complex operational environments where actions in one domain influence and accelerate effects in others (Marler, 2023; Nettis, 2020). As these domains become increasingly interconnected (Vassiliou et al., 2025), adversaries take every opportunity to probe networks, interfere with communications, and exploit systemic vulnerabilities with precision and persistence (Burcham, 2022; Lewis & Crumpler, 2019; Plevnik & Vuk, 2025; Radanliev, 2024; Rahimi & Jones, 2025; Safitra et al., 2023). Army senior leaders recognize that this competition is already underway. For instance, Lt. Gen. Jeth Rey, Army deputy chief of staff, G-6, notes that the battlefield exists in digital form long before physical conflict begins, stressing that adversaries challenge Army systems during periods of competition and crisis (Rey, 2025).

Despite the growing complexity of the operational environment, as noted by Montgomery (2019) and other military scholars, the Army must be fully equipped and postured to achieve decision superiority across the entire crisis continuum (Marler, 2023; Montgomery, 2019; Nettis, 2020). Military experts assert that a force achieves decision superiority by sensing, understanding, deciding, and acting more rapidly and accurately than its adversaries (Bellione, 2023; Hoadley, 2021; O'Shaughnessy, 2020).

Chief of Signal and Signal School Commandant, Col. Julia M. Donley, hosts a briefing focused on NGC2 for Signal School instructors and training developers July 22, 2025. (Photo by Laura Levering, U.S. Army Signal School)

While modernization initiatives – particularly NGC2 – are designed to deliver a resilient and integrated command architecture that enables this level of informed and timely decision-making (Pomerleau, 2025), this article argues that |these advanced C2 systems can only achieve their intended effects when operated, secured, and sustained by Soldiers who possess the knowledge and adaptability required to employ them in contested conditions.

The Army's readiness posture must demonstrate to the American people that their Soldiers possess the adaptability, training, and modern capabilities required to prevail in any environment. The force must inspire confidence by proving its readiness to fight and win the nation's wars, whether in competition, crisis, or armed conflict. This assurance depends on a force that is skilled, resilient, and capable of meeting the demands of an increasingly complex and contested operating environment (Rahimi & Jones, 2025; Rey, 2025; Wilbricht, 2025).

As Rey (2025) stressed, Soldiers must be able to

secure, maintain, and adapt complex networked environments even when systems are degraded by attack, disrupted by interference, or strained by the operational tempo. Preparing this workforce requires a shift in how Signal and Cyber Schools train future communicators and cyber operators. Curricula and programs of instruction (POI) that focus on a single device or technology are insufficient in an environment defined by rapid technological change and continuous adversary activity.

> *"NGC2 is the most accelerated program in the Signal Corps' history."*
>
> ***- Col. Julia M. Donley,***
>
> *Chief of Signal and Signal School Commandant*

A "foundations first" approach that emphasizes theory, core principles, and conceptual mastery is essential for building Soldiers who can operate confidently across generations of systems and adapt to the evolving demands of multi-domain operations.

Limitations

The current instructional model at the Signal School, for instance, relies heavily on teaching Soldiers to operate specific hardware and legacy systems. Students often spend large portions of their training learning procedures associated with equipment that reflects older generations of command and control platforms.

Additionally, POIs rooted in step-by-step device operation do not prepare Soldiers to understand the underlying principles that govern network behavior, data movement, routing logic, spectrum management, or defensive cyber operations. When Soldiers rely on memorized steps for a specific system, they struggle when presented with new or unfamiliar technologies. This equipment-centered model limits adaptability. It prevents Soldiers from transferring knowledge to dynamic network environments that evolve through software updates, virtualization, cloud integration, and data-centric architectures.

Experts have argued that instructional programs across federal cyber workforces often fail to remain relevant because technology evolves faster than curricula can adapt (Black et al., 2024; House et al., 2025; Leader, 2024; Lewis & Crumpler, 2019). This challenge is particularly evident in the Army, where reliance on legacy equipment-based POIs creates a structural lag between what schoolhouses teach and what operational units employ. Additionally, many formations field new communication systems and cyber tools far more rapidly than institutional training can keep up with. As a result, Soldiers who graduate proficient in outdated systems require significant retraining upon arrival at their units. This persistent gap undermines confidence in institutional education and slows the Army's ability to generate a ready and capable force. Furthermore, institutional laboratories frequently rely on equipment that is difficult to sustain because vendors no longer provide updates or technical support. This issue limits opportunities to incorporate cloud environments, virtualized networks, and modern defensive tools that more accurately represent today's operational conditions.

Instructors are often further constrained by curriculum designs that emphasize procedural repetition over conceptual mastery. As a result, Soldiers learn how to push buttons on specific devices rather than develop a fundamental understanding of how networks function (Lewis & Crumpler, 2019). This approach limits adaptability and leaves new graduates unprepared for the demands of modern, rapidly evolving systems.

Risks

Operational readiness depends on Soldiers who can think critically and respond effectively in contested environments. Equipment-focused training creates significant gaps in this regard. Modern multi-domain operations demand personnel who can operate through degradation and adapt when adversaries disrupt command and control through cyber intrusion, signal interference, or information operations (Bastian, 2023; Rey, 2025; Wigness et al., 2022). Soldiers trained only on device-specific procedures often struggle when systems malfunction or when unfamiliar conditions arise.

As Bellione (2023) notes, decision superiority requires operators who can restore services, reconfigure networks, and adjust rapidly under pressure. The accelerating pace of technological change exacerbates these gaps. NGC2 introduces modular and software-driven architectures that differ from legacy platforms (Pomerleau, 2025). These systems require an understanding of distributed networking, data management, and principles of resilience. Soldiers must diagnose and correct issues in environments where interfaces and tools are constantly evolving.

Training that relies solely on available schoolhouse equipment limits the Army's ability to generate a force capable of transitioning to new technologies. Narrow instructional approaches yield limited problem-solving abilities, whereas emerging threats necessitate Soldiers who understand enduring concepts that apply across diverse systems.

Insufficient foundational knowledge also weakens the Army's ability to fight and win in contested conditions. As adversaries continue to expand their capacity to disrupt communications across multiple domains (Wigness et al., 2022), Soldiers who lack an understanding of network behavior cannot maintain connectivity or restore communications during an attack. These issues place mission command at risk and slow coordinated action across complex operational environments.

Recommendations

Signal and Cyber Schools are pivotal in preparing Soldiers for the Army's transition to NGC2. There needs to be a shift in the training POIs and curricula toward a foundations-first approach that emphasizes theory, principles, and conceptual mastery. Training should ensure that Soldiers understand how to operate networks, how data flows, how to make routing decisions, and how cyber threats exploit vulnerabilities. Instruction built on core principles will allow Soldiers to operate any system they encounter, even when the interface or tool differs from what they used in the schoolhouse.

Modernization also requires increased use of hands-on and scenario-based environments. Platforms such as the Persistent Cyber Training Environment allow Soldiers to practice tasks in realistic settings that reflect modern threats and technologies (Ryan, 2022). These environments reinforce fundamental concepts and allow Soldiers to apply critical thinking under pressure.

The curriculum should also incorporate modern technologies such as cloud services, virtualization, software-defined networks, and data-centric architecture. These technologies represent the direction of NGC2. Soldiers who understand the theory behind these capabilities will be better prepared to support modernization in operational formations. Learning should also emphasize adaptability and continuous development. Certifications, advanced coursework, and cyber competitions help Soldiers maintain proficiency throughout their careers.

A shift toward theory-based instruction will also support the Army's ability to retain a talented cyber workforce. Soldiers who understand the fundamentals of their profession are more confident in their roles and better equipped to contribute to mission success. This training approach creates a more potent force prepared to operate in complex and contested environments.

Conclusion

The future of warfare demands signal and cyber Soldiers who can think critically, adapt quickly, and secure advanced systems under conditions of degradation or attack. The current reliance on legacy equipment and device-specific training limits the Army's ability to prepare such a force. Modern operations require operators who understand the fundamental principles of networks and cyber defense rather than the procedures associated with a single tool. Training built on core concepts enhances adaptability, supports modernization, and strengthens the Army's pursuit of decision superiority.

A foundations-first approach at the Signal School will ensure that Soldiers are ready to support NGC2 and capable of meeting the demands of multi-domain operations.

About the author

Capt. Arinze Nwachukwu is a cyber operations officer (17A) currently serving as the assistant operations officer for 15th Signal Brigade, where he synchronizes resources to enhance training of signal and cyber professionals. Nwachukwu has led mission planning and execution for Cyber Protection Teams, developed intelligence products as an Analytic Support Officer, and collaborated with senior command staff at U.S. Army Cyber Command. He holds a Bachelor of Science in accounting, a post-baccalaureate in enterprise resource planning, and a Master of Business Administration. He is pursuing a doctorate in digital forensics.

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Army Launches New Training Management System

ATIS

Adam Fugent
Logistics Management Institute

The Army has taken a significant step to modernize how it manages Soldiers' training data. On Nov. 15, 2025, Army Training Information System (ATIS) Training – a streamlined, intuitive platform for managing individual and unit training records – launched to every Soldier across the Army.

As the Army's authoritative enterprise training management solution, ATIS Training replaces the Digital Training Management System (DTMS). ATIS Training offers an efficient suite of applications designed to empower leaders and Soldiers by modernizing the planning, visualization and management of individual and unit training data.

Soldiers, commanders and support staff can now access real-time data on individual Soldier training records, access leader dashboards to visualize unit metrics, build training schedules and use different apps that automate manual processes, reducing the time it takes to complete administrative tasks. The ATIS team developed the new platform using Agile software methodologies and with input and feedback from Soldiers starting from day one. Since summer 2024, the ATIS team has gathered continuous user feedback across all three Army components and at all echelons – from company through division-level formations.

One Soldier noted how intuitive and efficient the system is in assigning all mandatory training to all unit personnel in 15 minutes – something that wasn't previously possible. The team also tested the platform's interoperability at scale with the Army's online HR solution known as Integrated Personnel and Pay System – Army, and other data sources.

"ATIS Training is designed by Soldiers, for Soldiers," said Lt. Col. John Nikiforakis, ATIS product manager at U.S. Army Program Executive Office (PEO) Enterprise. "We developed our software in direct partnership with training room noncommissioned officers, company command teams, and battalion leadership to deliver software that's not only easy to use but that informs decisions at all echelons."

One of ATIS Training's key objectives is to reduce the amount of time Soldiers spend on administrative tasks like data entry and allow more time for actual training. This objective aligns with the Army's readiness goal to train Soldiers as they fight, enabling them to reach their potential and maintain the Army's strategic advantage.

The launch of ATIS Training is a significant milestone, reflecting the Army's commitment to adopting modern, agile solutions to meet the evolving needs of leaders and Soldiers. Moving forward, the ATIS team will continue to release enhancements and new functionality for the platform, including the integration of Army civilians' training records.

ATIS Training is developed and managed by the U.S. Army Combined Arms Center – a major subordinate element of the Training and Transformation Command – and the ATIS product office at PEO Enterprise.

For more information about ATIS Training, Army users can visit the Army Training Network at https://atn.army.mil/atis-training-management-knowledge-base .

Paratroopers assigned to the 82nd Airborne Division qualify with the M4 carbine at Range 43 at Fort Bragg, North Carolina, March 6, 2025. Weapons qualification validates a Soldier's proficiency, ensuring combat readiness and maximizing operational effectiveness. (Photo by Pfc. Prim Hibbard, 82nd Airborne Division)

The author, Adam Fugent, is the Engagement, Adoption, and Comms manager for Logistics Management Institute for the ATIS program of record; LMI is the ATIS contractor that is the lead integrator for ATIS.

Signal Corps welcomes its 8th RCWO in Ceremony

Change of responsibility

Article, photos by Laura Levering
U.S. Army Signal School

Chief Warrant Officer 5 Willie L. Newkirk inspects a Model 1902 Officer Saber upon receiving it from Col. Julia M. Donley in a change of responsibility ceremony.

The U.S. Army Signal Corps welcomed its new regimental chief warrant officer during a change of responsibility ceremony Aug. 5.

Chief Warrant Officer 5 Chris Westbrook, the Signal Corps' 7th regimental chief warrant officer (RCWO), relinquished his duties to Chief Warrant Officer 5 Willie L. Newkirk after serving in the role since June 2021.

The 43rd Chief of Signal and U.S. Army Signal School Commandant, Col. Julia M. Donley, presided over the ceremony. Addressing an audience of all ranks and backgrounds – from Westbrook's family and friends to fellow warrant officers and members of the Signal Corps community – Donley described Westbrook as someone who spent "many years serving here in the Signal Corps pouring his heart and time into the people of the Regiment."

And like most signal warrant officers, Westbrook loves playing with gadgets, as indicated by his office, she added.

"His office is filled – well was filled – with Commodore 64s and 3D chess boards," Donley said. "But his real passion was not spent in his office playing with gadgets, but out in the classroom with brand new [warrant officers], with the [chief warrant officers], with the wide-eyed lieutenants, coaching and mentoring the next generation and providing a clear example of what a 'quiet professional' should be."

The impact Westbrook made on the Signal Corps was widespread and will inevitably be felt for years to come.

As the RCWO, one of his primary duties was to advise the commandant in current and future technologies. In Westbrook's case, that amounted to four commandants throughout his tenure – something he said he considers to be his biggest accomplishments.

Along with being instrumental in developing curriculum (for multiple data courses), Westbrook never shied away from being in front of the classroom instructing. He was also known to represent the Signal School at events that united government, industry and academia for the sake of providing operational insight on how the Signal Corps is changing the public sector.

In his farewell remarks, Westbrook thanked several people for their support throughout his career before touching on a few highlights and looking to the future.

"The changes ahead for the Regiment are very similar to what they were when we moved away from the Tri-Services Tactical solutions developed out of the Vietnam War to what we field today," Westbrook said. "The Regiment had to find a way to train new Soldiers in a small amount of time to remain relevant … We made it work then, and I know the future plans we have yet to develop will also work out. But get comfortable with being uncomfortable. Change will not stop."

Newkirk, who previously served as the Technical

Col. Julia M. Donley extends a handshake to Chief Warrant Officer 5 Chris R. Westbrook, expressing her appreciation for his dedication to the Signal Corps through the years.

Director of the U.S. Army Signal School, is no stranger to change. Donley said while some might consider change "troubling," Newkirk is the type of leader who will embrace it.

"Chief Newkirk is the right person to lead us in recognizing it as an opportunity for this Regiment to reinvent itself, evolve with technology, and continue its 165-year tradition of adaption," she said.

Having enlisted in September 1996, Newkirk brings nearly 30 years of military experience with him. In May 2005, he completed Warrant Officer Candidate School and was subsequently awarded the 251A military occupational specialty (Information Systems Technician). Newkirk has served in various critical assignments across conventional and special operations formations, to include senior information technician at Special Operations Command Korea, senior cyberspace defense warrant officer for XVIII Airborne Corps, cyberspace defense senior technical advisor to the J6 for U.S. Central Command, and command chief warrant officer of 7th Signal Command (Theater), among several other key positions.

In his remarks, Newkirk described becoming the 8th RCWO as "an absolute honor," while thanking numerous people, including his predecessor.

"I would like to extend my deepest gratitude to CW5 Westbrook for your steadfast leadership and lasting contributions to the Regiment," Newkirk said. "Your unwavering dedication to our Warrant Officer Cohort and the broader Signal Corps has set a standard that I am committed to uphold."

Insisting he wouldn't be where he is today without mentors who invested in him, Newkirk said that he is ready to continue – and build upon – the future of the Signal Corps.

"Today is not about me; it is about our Signal Regiment, our Warrant Officer Cohort, and our shared commitment to building and sustaining the Army's Unified Network, enabling Next Generation Command and Control to ensure decision dominance," Newkirk said. "Together, we will preserve traditions, embrace transformation, and deliver the capabilities our Army demands – today and tomorrow."

RCWO Charter History

The U.S. Army Regimental System concept was approved in 1981 by the Army's chief of staff "to provide the Soldier with a continuous identification to a single regiment and to support that concept with a personnel system that would increase a Soldier's probability of serving recurring assignments with his/her regiment."

This system enhances combat effectiveness through a framework that provides the occasion for affiliation, develops loyalty and commitment, fosters an extended sense of belonging, improves unit esprit de corps, and institutionalizes the warfighting ethos.

The Signal Corps was one of the first support branches to activate its regiment. The event, coupled with a change of command ceremony, was officially celebrated at the Signal Center on June 3, 1986. It was during that ceremony that Maj. Gen. Thurman Rodgers, commanding general, U.S. Army Signal Center and Fort Gordon, became the first Chief of Signal under the Army's new regimental system.

On Dec. 2, 1999, the 30th Chief of Signal, Maj. Gen. Peter Cuviello, approved the creation of the RCWO position and appointed the first RCWO, thereby recognizing the special nature and contribution of warrant officers who as warrior-technicians in a highly technical environment have different requirements from officers and noncommissioned officers in terms of personnel management, training and professional development. In keeping with the tradition, the Signal Corps retains that concept.

A group of chief warrant officers 5, past and present, gather for a group photo following a ceremony in which Chief Warrant Officer 5 Willie L. Newkirk officially accepted responsibility of the Regiment Aug. 5.

A Strategic Primer for Army Software and Automation Capabilities Development

Case study

Christopher Carver
Army Contracting Command

Disclaimer: The opinions and views expressed in this article are those solely of the author and do not represent the official position of any U.S. government agency.

In the 21st century, use of specialized software to manage everyday functions of the Army Generating Force has become essential, even critical, to managing near and long-term requirements. Where possible, commercial off-the-shelf software is utilized, but often the necessary capabilities of the specific and usually unique mission requirements are too specialized to be adapted to commercial software, and the development of customized software is required.

How this software is developed is dependent upon the complexity and resources of the unit or organization that needs and develops it. If complexity and software licensing are not a factor, the system can be developed in-house using information technology specialists (be they either Army civilians or contractors on staff). If system requirements are more extensive, an outside software vendor can be contracted to develop software for the unit/organization.

Background

U.S. Army Force Management Support Agency (USAFMSA) originally developed The Army Authorization & Documentation System (TAADS) in the 1960s -1970s, and Block II was finalized in the 1990s. Most of the data elements established by this system are still in use today and form the basis of the current Army Force Management System (FMS). TAADS was developed with a very basic user interface designed for data entry that did not even incorporate use of a mouse. The system was accurate and functional but tedious, inefficient, and time consuming. In 2002, the data tables and system architecture of TAADS was incorporated into a Windows-based user interface (i.e. WINTAADS) that incorporated use of a mouse and other basic Windows functions such as select, copy, paste, and additional useful data input-output features. The new user interface allowed manpower documentation to be much more efficient and reduced the workload for building Tables of Distribution and Allocations (TDAs) and Modified Tables of Organization and Equipment (MTOEs).

WINTAADS was created using internal personnel/resources as an intermediate measure until the FMS could be developed. The creation of WINTAADS was essential to ensuring that Army manpower documentation could keep pace with rapidly changing national military requirements in the 21st century.

The complexity of FMS required roughly a decade to go from concept to operational capability so that WINTAADs was maintained in-house far longer than anticipated. This illustrates a key lesson that must be incorporated into all public sector software system development: the time required to bring a new system online is often significantly longer than expected, and therefore resources and funding must be allocated to maintain/update legacy or intermediate software systems in the meantime. Remaining compatible with other data systems and sustaining input and output interfaces is also a challenge.

Current software systems must be maintained until newer systems become operational and continually modernized to keep pace with user needs and changing hardware-software-operating systems. This requires investment in current/legacy systems even when they are scheduled to be replaced in the near future. Some organizations may be reluctant to invest resources in a system that will not be in use much longer, however, this can lead to significant impairments to mission success.

Planners and system developers are advised to anticipate that replacement systems could be delayed for many reasons, and legacy systems must function until replaced/sunset. Development of new custom software often takes longer than anticipated. Changing environments, resources, and priorities can result in reshaping – or even cancellation of the project – forcing organizations to rely on existing software systems far longer than planned. For this reason, investment in improvements to current software is essential until such time, as the new system is operational. This challenge of balancing the need for continuous improvement, along with the need to limit expenditures on a system set to be replaced, is not as difficult as it may seem.

In order to maintain and update WINTAADS to keep up with new documentation requirements caused by Operations Enduring Freedom and Iraqi Freedom, USAFMSA used a combination of in-house contractors, Army civilians with a basic knowledge of database software, and summer hires majoring in software

development. Thereby with minimal expense, the current system, WINTAADS, could continually be improved to keep pace with Army needs over the course of a decade until the new FMS was operational. This approach works well but must also be balanced with design strategies for more robust future automation. These transitional systems modifications can also provide insight and process information for the future systems.

System Development

The development team is key to ensuring any software system is of the highest quality. One of the common reasons for delays, cost overruns, and poor quality is a "translation gap" between the software developers and primary users (i.e. a failure in effective communication and elaboration regarding system requirements). The cost of developing customized software from an outside vendor is usually significant and therefore requires approval of high-ranking officials. It is also unusual for approving officials to be among the primary users. Therefore, although ultimate authority for the new system lies with them, the role of specific design details should be placed with someone who will be a primary user and is a subject matter expert (SME).

Consider an example in the operational force of a new targeting computer for the Abrams tank. To create the most efficient system, the developer should receive most of the detailed input from the tank crew and not the senior acquisition officer in charge of the program. The same principle of the primary user being essential to the success of software development applies in the generating force.

Another example of a translation gap between software developers and primary users can occur when there is too broad a gap between the knowledge and experience of software developers and the knowledge/experience of primary users on the development team. Outside vendors are likely unaware of most (if any) of the acronyms, processes, input and output data, timelines, roles-permissions, and policies that are essential to the organization's operations. There must be a dedicated effort by both the vendor and organization to familiarize the developer with a basic understanding of data elements essential to the system as well as the procedures and processes driving the mission of the organization.

Additionally, a gap may exist between primary users and basic software development. Users may know what they want the software to do but might be unable to communicate to the vendors how they expect the software to do it. This translation gap can result in unrealistic expectations of vendors. When utilizing an outside vendor to build a software system, there can be an expectation that its developers bear the entirety of figuring out the "how" of the software's processes. This is a mistake that will lead to cost overruns, inefficiencies, delays, inadequate features/analytics, and possibly the project's failure.

Both the vendor and user equally share responsibility for determining how the system operates. The user may not know how to write code for the software; at minimum, a few of the organization's development team needs to have basic knowledge of the type of computer operations that they are asking the vendor to program. These individuals are essential to translating *what* exactly the organization needs into *how* the software should operate.

A real-world example of these principles in practice took place at USAFMSA during development of the TDA module of the FMS. The senior leader in charge of the project (TDA division chief) assembled a team of SMEs and assigned an individual who had experience in manpower documentation, database development, and programing as the team lead. Rather than dictate the minutiae of the system requirements, the TDA division chief empowered individuals who would be daily users of the software and placed SMEs on the team in key roles (in TDA documentation and software development) while retaining the authority for vital decisions. Regular updates and key decision points that would affect time and resource expenditure were brought to the division chief but otherwise authority for most of the decisions was moved to where the information was (i.e. the SMEs and end users).

The result was a manpower system that was highly efficient, user friendly, and highly adaptable to changing Army policies and guidance. These attributes should be the primary characteristics sought for any software system in development for the Army. This goal is attainable and can be achieved by adopting the design philosophy utilized by the FMS TDA module development team.

End User Participation in Development

As discussed earlier, primary system developers were ultimately end users with extensive subject matter expertise that incorporated virtually every aspect of TDA manpower documentation. This ensured all functional requirements would be reviewed and addressed in development.

The approach also promoted system efficiency due to the end user directing the system inputs required to perform any given task. As originally designed, several basic functions required multiple mouse clicks and scrolling through screens or options to complete a task. This lack of efficiency increased the overall workload. End users were able to suggest changes to

the user interface that reduced the number of steps to achieve a task because they understood what the build process entailed and what situations they would likely encounter .

Maximum Flexibility

One of the development team lead's mantras was "maximum flexibility." The manpower documentation experts often had different approaches to performing a common task. Rather than choose "one right way" to perform a function, multiple options were built into the system software.

Another example of this philosophy in was that if a built-in feature of the software was deemed unnecessary, that feature was not eliminated but rather simply turned off. This meant if a need for this feature was discovered in the future, it could easily be incorporated into the existing architecture.

Additionally, inevitable changes in Army policy/guidance were built into the system architecture so that a local administrator could alter algorithms that validated data in accordance with changing guidance – without requiring the Army to seek contractor support for minor changes – thus keeping updates in-house and reducing overall maintenance cost and time to implement needed updates.

User Interface Intuitiveness

In any software system, user interface is key to a successful product. In some cases with individuality developed systems, the end user is stuck with whatever the developer designs and leadership approves, but in the commercial industry, any software with an overly complicated and unintuitive user interface ultimately fails, as customers will not purchase software that is more difficult to use than others that are available. User interface of the TDA module of the FMS was driven by the end user's focus on efficiency and reduction of the current workload.

Among the innovations resulting in efficiency gains include:

- Allowing manual data entry into most data fields with an auto-fill function based on existing data tables used for validation
- Grouping basic functions under the same menu heading
- Reducing the number of menu screens to get to a particular function
- Use of screen formats and functions similar to commonly used commercial software
- Interoperability with commercial software (i.e. Excel) and open system architecture
- Using predictive methods and analytics to populate required data fields
- "Smart" edits to prevent any "bad data entries"

These and other innovations reduced the overall workload of data entry, analysis, and validation. The user could manage a larger dataset in less time and more accurately as a result of the new software.

Summary

There are several concepts to facilitate developing efficient, user-friendly software for Department of the Army use. These include the importance of end user participation in development of the software, ensuring that the end product was highly flexible and adaptable not only to the changing mission requirements of the Army but to the preferences of the individual user. Included in this requirement is the importance of user interface and overall intuitiveness of the system, process, and functions. An intuitive user interface leads to less training time, fewer errors, and greater productivity. When developing a new software system, the lessons learned from prior iterations of data systems must be remembered. As newer systems are developed, the trend must be toward equal or greater functionality, interface intuitiveness, and capabilities as compared to the software being replaced.

Fort Gordon Dedicated to Battle of Mogadishu Hero

Selfless service

Laura Levering
U.S. Army Signal School

Master Sgt. Gary I. Gordon was 33 years old when he made the ultimate sacrifice, and nearly 32 years later, the Army is keeping its promise to ensure that he – and his fellow brothers-in-arms – are never forgotten.

Fort Gordon was officially dedicated during a ceremony Sept. 26, honoring Master Sgt. Gary Gordon, Medal of Honor recipient. The ceremony was hosted by U.S. Army Cyber Center of Excellence and Fort Gordon Commanding General, Maj. Gen. Ryan Janovic. Gordon's widow, Carmen Drake-Owens, and son, Ian, attended the ceremony along with several national and local leaders, and members of Special Forces organizations, displaying what Janovic described as "an amazing demonstration of solidarity."

On Oct. 3, 1993, upon hearing word of downed Black Hawk "Super Six Four," Gordon and fellow elite sniper Sgt. 1st Class Randy Shughart repeatedly requested to be placed at the crash site.

Retired Col. Ron Russell, Special Forces operations officer and veteran of the battle, recounted the circumstances surrounding that day.

"I remember specifically on the radio, Gary and Randy asking to be inserted into the battlefield … I imagine now that they were flying around the battle, they could look down at the crash site, and they could see the hordes of Somalis that were surrounding the crash site," Russell said. "The pilot that inserted them has since stated that no one in their right mind would have gone, because they could see exactly what they were getting into."

Despite the imminent danger, the snipers' requests were fulfilled, and they were inserted about 100 yards from the crash site. Gordon and Shughart fought their way to the Black Hawk where they rescued one of its injured pilots, Chief Warrant Officer 4 Michael Durant; the remaining four crew members did not survive the crash.

"I believe that both Gary and Randy understood what they were seeing below them but believed they could sort that chaos into some semblance of order like they had been selected and trained to do so many times," Russell said. "I also trust that they believed passionately in the Ranger Creed and the Special Forces Creed, which state, 'I will never fail my comrades.'"

Surrounded by enemy fire, the three fought until the end. Gordon and Shughart were fatally wounded; Durant was eventually captured by the Somalis and released 11 days later.

Unable to make it to the dedication ceremony, Durant recorded a message that was played during a reception that immediately followed the ceremony. He said the following:

"[Gordon] had supported multiple missions prior to that on mission on October 3 in Somalia, all very successful. And his role was critical in providing fire support for the operators who are on the ground. On that day, not only did he do that, but he volunteered to come into my crash site and save my life. I would not be here if not for his actions and Randy's actions."

A sign bearing Master Sgt. Gary Gordon's name is unveiled during a post dedication ceremony Sept. 26. From left to right, Command Sgt. Maj. Timothy McGuire, Ian Gordon, Mrs. Carmen Drake-Owens, and Commanding General Maj. Gen. Ryan Janovic. (Photo by 1st Sgt. Stephen Barlow, U.S. Army Cyber Command)

Those actions reflect the type of person Gordon was and the type of Soldier others should aspire to

be, Janovic said. Gordon and Shughart were fully aware of the danger they were heading into, yet they insisted on going in so that the crew of Super Six Four might live.

"What we are doing today … is dedicating ourselves to live by the example set by Master Sgt. Gary Gordon – to earn the right to say that we live, work, and serve on Fort Gordon, where our watchword is 'excellence,' and we adhere to the Army Values personified in the memory of Gary," Janovic said.Gordon's widow Carmen said that her late husband was a confident but humble man who simply loved his country, his biological family, and his extended military family. Carmen shared stories of heroism from several of Gordon's comrades who fought in Somalia and have since passed away.

"I can't think of one without thinking of the other," she said. "I am always honored to be the voice of my late husband, and I think if he was here today, he would want everyone to know that even though his name is on that placard as you enter this post, it's not just for him; it's for every single Soldier that served that day."

When asked what she hopes Soldiers take away from her late husband's legacy, Drake-Owens shared a few beliefs he lived by.

"My husband always said that if you set your mind to something, to never give up – to dream big,"

Carmen Drake-Owens delivers a passionate speech that honored her late husband, Medal of Honor recipient and Fort Gordon namesake, Master Sgt. Gary I. Gordon during a post dedication ceremony Sept. 26. (Photo by David Logsdon, Fort Gordon Public Affairs)

she said. "My husband was someone who loved this country. He had morals, he was very quiet and reserved person yet very strong, and I think he set a good example to give your own life for someone else that needed you to help them … and that is probably the most courageous and biggest gift that you can give."

Janovic made a commitment to the Gordon family and urged others to join him in that commitment.

"Carmen, it's my sincerest hope your expectations are met – that we begin a relationship that honors Gary perpetually … and that we deserve to be associated with his name … that all who drive through these gates are reminded of his selfless sacrifice," Janovic said. "It is our duty to make sure that we are training the men and women that come through these gates in the memory of men like Gary Gordon and the memory of others who have served throughout our Army."

In addition to naming the installation after Master Sgt. Gary Gordon, a portion of the street at Chamberlain and Rice Road (where the ceremony was held) has been renamed Master Sergeant Gary Gordon Boulevard. The boulevard leads to the future location of the U.S. Army Cyber Center of Excellence headquarters. Three buildings nearby will surround what will later be known as Gary Gordon Plaza. A plaque, which was unveiled during the ceremony, will be installed inside the plaza.

A new street sign is unveiled during the post dedication ceremony on Sept. 26, in honor of Master Sgt. Gary Gordon who gave his life defending his fellow Soldiers during the Battle of Mogadishu, Oct. 3, 1993. (Photo by 1st Sgt. Stephen Barlow, U.S. Army Cyber Command)

U.S. ARMY

AI Solutions for Army Mission Command

From chaos to clarity

Master Sgt. Christopher Collen
Joint Multinational Training Center Operations Group

"War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty."
- Carl von Clausewitz, *On War*, 1830

"War is an art and as such is not susceptible of explanation by fixed formula."
- Gen. George Patton, *War as I Knew It*, 1947

"In counterinsurgency, communication is not just a support activity – it is the decisive operation."
- Gen. David Petraeus, *Commander's Counterinsurgency Guidance*, 2008

Quotes from military leaders underscore war's complexity and enduring need for clear communication. As the Army transitions under Transformation in Contact (TiC), one of its most consequential shifts is how it communicates – rolling back the fog of war and making it as much science as art. This paper examines how artificial intelligence (AI) can overcome the limits of current digital systems and enable faster, smarter decisions in complex environments.

From Flander's Field and Belleau Wood to Ramadi and Helmand, the Army relied on radio-based voice communications to transmit vital information and enable timely decisions. But as battlefields grew more complex, voice alone proved insufficient. The Army supplemented radio with text-based platforms, offering greater security and chat logs as data repositories. Yet these digital platforms introduced a new challenge: fragmented chat data across multiple channels, overwhelming commanders and slowing decision-making. This article proposes an AI/machine learning (ML)/large language model (LLM)-powered assistant to solve information overload. It will analyze, summarize, and visualize operational insights from chat messages, giving leaders a dynamic, real-time picture of the fight. This concept aligns with Department of Defense and Army initiatives to integrate AI into mission command, planning, and decision-making (Pfaff & Hickey, 2025). The following sections outline the problem, proposed solution, and implementation strategy.

Modern Army operations generate massive volumes of digital communication, particularly through chat-based systems like Joint Battle Command-Platform (JBC-P) and Android Tactical Assault Kit (ATAK). Commanders and staff are overwhelmed by the volume, velocity, and fragmentation of these messages, impairing situational awareness and slowing decision-making.

At Joint Multinational Readiness Center (JMRC), where I serve as an observer controller/trainer (OC/T), I've observed units using these systems – including some of the first to field the Integrated Tactical Network (ITN), the Army's latest communication platform. Despite ITN's secure, real-time data transmission and the Army's TiC initiative, commanders and staff struggle to exploit even a fraction of its potential. The technology delivers unprecedented situational awareness, yet units remain as blind as submarine skippers without sonar. The reasons are twofold.

First, radio communication is active – both parties engage to send and receive messages. Text-based communication is passive; senders have no assurance their messages are seen. High-volume chat often forces receivers to request re-sends, creating delays and confusion. Second, the Army's force structure and processes were built around radio primacy – radio telephone operators at echelon, synchronized battle rhythms, and command posts tuned to radios. While technology evolved, organizational systems did not.

The result is a surge in collected information without an ability to analyze and synthesize it for timely decisions at any echelon – operational, or strategic. The U.S. Army War College warns current staff processes cannot manage this data deluge and identifies AI as critical for transforming raw data into actionable knowledge (Pfaff & Hickey, 2025). Multidomain operations amplify this challenge, demanding rapid synthesis to maintain tempo and achieve decision dominance (Burdette et al, 2025). The Army must adopt innovative technologies to restore clarity and speed to mission command.

We propose an AI/ML/LLM-powered assistant integrated with Army-approved digital communication platforms. This assistant will ingest chat data across multiple rooms and devices, apply natural language processing (NLP) to extract key events, entities, and relationships, and visualize them on geospatial maps over time – providing commanders with a dynamic, real-time common operating picture (COP) derived from textual communications. This approach supports the "make sense" phase of the Joint All-Domain Command and Control (JADC2) cycle, where AI processes massive data volumes to enable decision-making (Pfaff & Hickey, 2025). It aligns with the Army's vision for AI-enabled mission command and operational concepts (Burdette et al, 2025). To achieve this, the assistant must incorporate key

features addressing the challenges outlined above.

Key Features

- Multi-platform chat integration
- Real-time NLP-based message parsing and summarization
- Entity recognition (units, locations, events, threats)
- Temporal and spatial mapping of key events
- Customizable dashboards for commands and staff
- Secure deployment on Army networks
- Support for mission rehearsal and after-action-review (AAR)

These features reflect the Army's emphasis on leveraging AI to enhance effectiveness, speed, and scale in decision-making (Lohn & Jackson, 2022). Existing commercial off-the-shelf (COTS) solutions like GeoBit AI and Rocket.Chat demonstrate chat-to-map synthesis and secure deployment, while SILVIA's NATO use highlights voice/text AI integration. CAMOGPT and Cyviz meet DoD security standards and offer scalable visualization, proving operational viability (CAMOGPT, n.d.; Cognitive Code, n.d.; Cyviz, n.d.; GeoBit, n.d.; Rocket.Chat, n.d.).

Platform	Chat Synthesis	Geospatial Mapping	Secure Deployment	Military Use
GeoBit AI	✅	✅	⚠️	⚠️
Rocket.Chat	✅	✅	✅	✅
SILVIA	✅	⚠️	✅	✅
Lattice	⚠️	✅	✅	✅
CAMOGPT	✅	⚠️	✅	✅
Cyviz	⚠️	✅	✅	✅

Comparison of COTS AI-Powered Assistants (Anduril, n.d.; CAMOGPT, n.d.; Cyviz, n.d.; Cognitive Code, n.d.; GeoBit, n.d.; Rocket.Chat, n.d.)

Benefits

- **Improved situational awareness**
  Operational Challenge: Commanders often receive fragmented updates across multiple chat platforms, making it difficult to form a coherent battlefield picture in real time. ***COTS Solution:*** GeoBit AI converts unstructured chat into geospatial visualizations using natural language queries. Commanders can see unit movements, threat reports, and key events mapped dynamically, improving understanding and response (GeoBit, n.d.).
- **Faster decision-making**
  Operational Challenge: Staffs spend valuable time manually parsing chat logs and compiling summaries, delaying critical decisions during fast-paced operations. ***COTS Solution:*** CAMOGPT and Rocket Chat provide AI-powered summarization tools that extract key information from chat threads, enabling rapid comprehension and timely decisions without manual synthesis (CAMOGPT, n.d.; Rocket.Chat, n.d.).
- **Reduced cognitive burden**
  Operational Challenge: Staff officers face over whelming message volume, causing fatigue, missed information, and slower responses. ***COTS Solution:*** SILVA uses voice and text command processing to streamline interaction with digital systems. Its explainable AI highlights relevant data, reducing manual filtering, allowing staff to focus on analysis and planning (Cognitive Code, n.d.).
- **Enhanced coordination**
  Operational Challenge: Units in different domains (land, air, cyber) and echelons struggle to maintain synchronized communication and shared understanding. ***COTS Solution:*** Rocket Chat integrates with geospatial tools and deploys securely across networks, enabling seamless communication between tactical units, headquarters, and coalition partners – supporting both vertical and horizontal coordination (Rocket.Chat, n.d.).
- **Scalable support**
  Operational Challenge: Modern operations require tools that scale across domains and adapt to diverse missions – from humanitarian assistance to high-intensity conflict. ***COTS Solution:*** Anduril Lattice fuses sensor data from multiple domains (air, land, sea, cyber) into a unified COP. Its edge computing capabilities allow scaling and adaptation to varied operational environments, supporting Joint All-Domain Command and Control (JADC2) objectives (Anduril, n.d.).

These benefits mirror findings in both military and civilian sectors. AI-driven systems streamline decision-making, improve data visibility, and enhance agility (Bourgeois, 2014). In military contexts, AI strengthens command and control (C2) resilience and enables adaptive mission command (Burdette et al, 2025; Jensen & Kwon, 2025).

Implementation Considerations

The proposed AI-powered assistant must comply with Army cybersecurity and data governance policies, including the VAULTIS framework (Visible, Accessible, Understandable, Linked, Trustworthy, Interoperable, Secure) (Pfaff & Hickey, 2025). Integration with existing platforms will require coordination with program managers and network authorities to maintain interoperability and security.

Initial deployment should target units slated for combat training center (CTC) rotations to support OC/T functions and validate operational utility. The U.S. Army War College recommends bottom-up refinement through operational experimentation, as demonstrated

by XVIII Airborne Corps and U.S. Indo-Pacific Command's Stormbreaker initiative (Pfaff & Hickey, 2025). Rocket.Chat's deployment flexibility and Anduril's JADC2 integration show existing platforms can support experimental rollouts and refinement (Rocket.Chat, n.d.; Anduril, n.d.).

While COTS products approximate the solution, the Army must tailor its AI assistant to meet exact requirements. Lessons from SAP GCSS-A (Global Combat Support System-Army) and Oracle IPPS-A (Integrated Personnel and Pay System) rollouts underscore the risk of insufficient customization – both faced user dissatisfaction and retraining cycles (U.S. Government Accountability Office, 2021; U.S. Department of Defense, 2023). Any chosen COTS solution must include precise specifications for functionality.

To ensure adoption and performance, we recommend an Agile Software Development Life Cycle (SDLC) approach (U.S. Government Accountability Office, 2020). This will also mitigate risk and ensure adaptability of the AI assistant.

- **Interactive Prototyping:** Deploy a minimum viable product (MVP) in pilot programs for user feedback.
- **Sprint Cycles:** Use 2–4-week development sprints with stakeholder reviews.
- **User Stories:** Frame requirements from the commander's perspective.
  Continuous Integration/Continuous Deployment (CI/CD): Automate testing and deployment to Army networks (NIPR/SIPR) for rapid updates.

Beyond technical deployment, the Army must prepare its workforce and organizational structures to fully leverage AI capabilities. This requires a deliberate transformation strategy.

Organizational and Workforce Adaptation

AI integration requires deliberate organizational transformation. The Army must codify AI-related roles through additional skill identifiers (ASIs), establish training pipelines, and create human-machine teams (HMTs) that combine human judgment with AI precision (Pfaff & Hickey, 2025). Institutions such as the Mission Command Center of Excellence (CoE) and the Army Artificial Intelligence Integration Center (AI2C) are already laying the groundwork. To guide this transformation, Kotter's 8-Step Change Model offers a practical framework for integrating AI/ML/LLM technologies into Army systems and processes (Kotter, 1996):

1. **Establish Urgency** – Use CTC OC/T observations to highlight gaps in situational awareness.
2. **Form a Guiding Coalition** – Include AI2C, Mission Command CoE, and CTC leadership.
3. **Create a Vision for Change** – "AI-Enabled Mission Command for Decision Dominance."
4. **Communicate the Vision** – Integrate into professional military education, doctrine updates, and leader development programs.
5. **Empower Broad-Based Action** – Remove barriers like lack of training; encourage commanders to adopt technology.
6. **Generate Short-Term Wins** – Demonstrate any success at CTCs with AI-assisted AARs.
7. **Consolidate Gains, Produce More Change** – Expand to division and corps-level exercises.
8. **Anchor New Approaches in Culture** – Codify AI roles, update doctrine, ensure strategic alignment.

Although Holistic Health and Fitness (H2F) doctrine did not involve IT, it provides a model for integrating new capabilities through doctrine, leadership, and training (Department of the Army, 2020). The Army's experience with digital transformation in logistics and personnel systems reinforces the need to align technology with organizational culture and workflows (Burdette et al, 2025). With organizational alignment underway, the next priority is ensuring long-term sustainment and resourcing.

Sustainment and Resourcing

AI-powered requires sustainable funding and acquisition pathways . The War College study emphasizes flexible mechanisms such as Other Transaction Authorities (OTAs) and Programs of Record for rapid prototyping, iterative development, and scalable deployment (Pfaff & Hickey, 2025). Cost estimates range from $60,000 annually for basic models to several million for advanced LLMs, plus infrastructure and data preparation costs (Pfaff & Hickey, 2025).

Leveraging mature COTS platforms like Cyviz and Rocket.Chat can reduce development costs and accelerate timelines through OTAs. However, long-term sustainment demands more than initial savings. It requires lifecycle planning, vendor partnerships, and user-centered design, as shown by Army experiences with enterprise systems like Microsoft Dynamics 365 and Lightspeed POS (Bourgeois, 2014).

Lifecycle plan includes:

- **Phase 1 – Pilot Deployment (Year 1):** Deploy an MVP to units scheduled for CTC rotations. Collect feedback from OC/Ts and end users to refine functionality.
- **Phase 2 – Operational Expansion (Years 2–3):** Scale deployment to division and corps-level exercises. Integrate with mission command systems and conduct interoperability testing.
- **Phase 3 – Full Operational Capability (Year 4-plus):** Achieve full integration across tactical,

operational, and strategic levels. Codify AI roles, update doctrine, and embed into Army-wide training and planning cycles.

Funding strategy:

- **OTAs –** Enable rapid prototyping and iterative refinement
- **Programs of Record –** Provide long-term sustainment and institutional support
- **Vendor Partnerships –** Ensure tailored solutions, ongoing technical support, and alignment with evolving requirements

Strategic Alignment and Future Outlook

This concept aligns with the Army's evolving approach to AI-enabled warfare. RAND's analysis highlights mass, deception, mission command, and cyber resilience as critical for future success (Burdette et al, 2025). AI tools that enable decentralized execution and strengthen C2 network resilience are valuable in contested environments (Jensen & Kwon, 2025). Ethical and governance challenges must also be addressed. The National Security Commission on Artificial Intelligence stresses that responsible AI requires transparency, accountability, and alignment with democratic values (National Security Commission on Artificial Intelligence, 2021). The Army must ensure AI tools uphold professional ethics (Wong & Gerras, 2015). Any COTS product selected for customization must meet strict standards:

- **Explainable outputs –** Manufacturers must clearly show how the assistant functions and link inputs to outputs.
- **Human-in-the-loop –** Humans remain accountable for all critical decisions. AI may generate the COP but operators must retain responsibility.
- **Alignment with Army Values –** Solutions must reflect National Security Commission on Artificial Intelligence-stated principles that: "…use of AI by officials must comport with principles of limited government and individual liberty (National Security Commission on Artificial Intelligence, 2021)."

By aligning technology, ethics, and governance, the Army can ensure AI integration strengthens mission command without compromising core values.

Conclusion

The Army stands at a critical inflection point. As warfare becomes increasingly complex, data-saturated, and multidomain, the limitations of legacy communication systems are no longer acceptable.

This article has identified a clear and present problem: commanders are overwhelmed by fragmented digital communications, impairing their ability to make timely, informed decisions. Through firsthand OC/T observations at JMRC and alignment with strategic initiatives like TiC and JADC2, we have demonstrated that the current force structure and processes are misaligned with the capabilities of modern communication platforms.

Our proposed AI-powered assistant offers a transformative solution – one that synthesizes chat data into actionable insights, visualizes operational dynamics in real time, and restores decision dominance to commanders at every echelon. This concept is not speculative; it is grounded in existing COTS technologies, validated by operational use cases, and supported by both military doctrine and civilian digital transformation best practices.

Implementation must be deliberate and disciplined. We recommend an Agile SDLC approach, phased deployment, and integration with Army networks and training cycles. Organizational adaptation is equally critical, requiring new roles, training pipelines, and cultural change – guided by Kotter's 8-Step Model and informed by successful doctrinal shifts like H2F.

Ethical alignment is non-negotiable. Any AI solution must be transparent, accountable, and consistent with democratic values and Army professional standards. Human-in-the-loop safeguards and explainable outputs are essential to maintaining trust and legitimacy. The cost of inaction is measured not in dollars, but in lost tempo, missed opportunities, and diminished battlefield effectiveness.

About the author

Master Sgt. Christopher Collen currently serves as the Operations NCO with Grizzly Team, JMRC Operations Group at Hohenfels Training Area, Germany. He enlisted in the Army in 2002 in Lincoln, Nebraska, as an armor crewman (19K) and completed One Station Unit Training at 2nd Battalion, 81st Armor Regiment, Fort Knox, Kentucky. Collen has served in a variety of leadership and instructional positions. His operational deployments include: Operation Iraqi Freedom II, Operation Iraqi Freedom 06-08, Operation Iraqi Freedom 09-10, Operation Enduring Freedom 11-12, and Operation Inherent Resolve 14-15.

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U.S. ARMY

AESMP Transforming IT Support Across the Force

Service management

Edward Jones
Army Enterprise Service Desk

The Army is evolving its enterprise IT service management through continued expansion of the Army Enterprise Service Management Platform (AESMP), a ServiceNow-based IT Service Management (ITSM) system.

Combined with the Army Enterprise Service Desk-Worldwide (AESD-W) as the primary IT Tier 0/1 provider, this platform represents the Army's commitment to providing cutting-edge technology solutions that support mission success across all components and Army organizations.

Transforming Army IT Operations

Since its kickoff in 2022, the AESMP has evolved into the Army's single point of contact for enterprise and installation-level IT services support. This represents the largest user-base of any ServiceNow deployment to date. Available 24 hours a day, 7 days a week, and 365 days a year, the platform serves as a unified system supporting IT service delivery on both classified (SIPR) and unclassified (NIPR) networks while providing organizations unparalleled IT management capabilities at echelon.

The platform's function focuses on integrating and consolidating AES operations to increase efficiency, efficacy, and responsiveness across the Army and its mission partners.

At its core, the AESMP program offers several key features aimed at optimizing IT service delivery and providing robust reporting and dashboard capabilities to commanders and key communications staff:

- **Unified Service Desk:** A centralized service desk (AESD) to handle all tier 0/1 service inquiries and issues.
- **SaaS Solutions:** Leveraging cloud-based services to deliver flexible and scalable IT support.
- **Platform Analytics:** Tools for identifying, tracking, and reporting on performance metrics and trends.
- **SIPR Services:** Dedicated classified support services across various components and installations.

Advanced Technology Capabilities

AESMP leverages ServiceNow's Customer Service Management (CSM) professional platform, providing a cloud-based solution that streamlines workflows and automates processes. The system has progressively expanded its capabilities since establishment:

- **2022:** Platform establishment.
- **2023:** CSM, IT Service Management, and IT Operations Management deployment.
- **2024:** Addition of IT Asset Management, Process Mining, Security Operations, Field Service Management, and Strategic Portfolio Management.
- **2025:** Implementation of Workforce Optimization, ServiceNow Voice, and Predictive Intelligence.

The implementation of these capabilities has significantly enhanced the Army's ability to deliver supported services, including ICAM/EAMS-A, Army 365, AUDS, Procurement, AITP, and Mobility. As the platform evolves and integrates new technologies, its Service Management capabilities continue to expand, further strengthening its ability to provide comprehensive and efficient support services.

Comprehensive Asset and Security Management

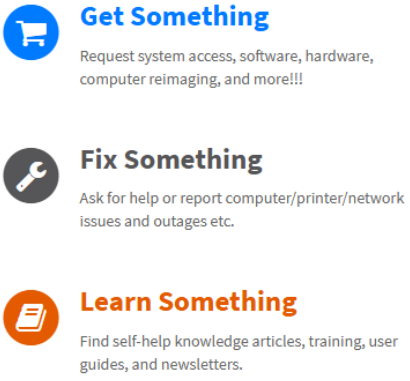
One of AESMP's most impressive achievements is its asset discovery and management capabilities. The platform uses more than 50 Management, Instrumentation, and Discovery (MID) servers across NIPR and SIPR networks, tracking over 1 million devices with more than 135 million installed software packages. This comprehensive visibility enables hardware asset managers to track equipment lifecycle from "cradle to grave" while supporting software license management and compliance. Asset management provides Army leadership with robust visibility of IT assets globally, enhancing asset accountability and resourcing controls.

The Security Operations (SecOps) component provides a single pane of glass for threat and vulnerability management, enabling Army cybersecurity teams to coordinate and centrally manage security incidents. The system integrates with the Army's Unified Security Information and Event Management (USIEM) system and other critical security platforms.

Revolutionary Virtual Assistant Technology

A standout feature of the AESMP portal is the "Army IT Assistant" (RITA), an intelligent virtual agent that enhances customer experiences through automated support capabilities. RITA provides virtual

agent portal interface capabilities for incident and access requests, access to knowledge articles, and automated notifications for outages, degradations, and changes via email delivery to customers globally. Future capabilities will include access to the platform via Army's 365 TEAMS environment, further enhancing the customer's experience.



Extensive Knowledge Management

AESMP's knowledge management system has become a cornerstone of self-service support, featuring:

- 14 knowledge bases
- 1,500 knowledge articles
- 73,000 agent views per month
- 120,000 user views per month
- 85 percent average helpful rating

This knowledge repository enables users to resolve technical issues swiftly with access to continuously updated technical guidance. It is accomplished via continuous process improvement practices designed to enhance knowledge management strategies, tools, workflows and practices.

Global Reach and Support

The platform supports installations across multiple theaters, including:

- **Continental United States:** 93rd and 106th Signal Brigades covering installations from Fort Belvoir, Virginia, to Redstone Arsenal, Alabama, to support IT and communications services support from coast to coast.
- **Europe**: 2nd Signal Brigade operations providing IT and communications services across European Theater.
- **Korea:** 1st Signal Brigade in coordination with 516th Signal Brigade ensuring robust Army communications and IT services to customers on the Korean peninsula.
- **Pacific:** 516th Signal Brigade covering locations from Fort Shafter, Hawaii, to Camp Zama, Japan, and after-hours support to 1st Signal Brigade customers.

Training, Professional Development

AESMP University, available through the Army Training Information System (ATIS), offers more than 12 distinct training modules with knowledge checks and certificates of completion. The training is customized for specialized roles supporting commands at all levels, Network Enterprise Centers (NECs), and information management officers (IMOs). Training is on-demand, web-based, self-paced and available to customers globally.

Cybersecurity Excellence

The platform strictly adheres to NIST 800.53 R4 Risk Management Framework (RMF) cybersecurity compliance requirements for Moderate x3 categorized information systems. All personnel supporting the platform hold Secret security clearances and undergo comprehensive Information Assurance training.

Using the Enterprise Mission Assurance Support Service (eMASS), cyber teams manage system accreditations for three NIPRNET and one SIPRNet packages. These teams also maintain security artifacts, oversee annual IAT and IAM personnel training requirements, ensure the security of facilities and systems, and conduct regular system scans and updates for the system owner.

Looking Forward

As AESMP continues to evolve, the platform serves as more than just a service desk; it functions as a cyber sensor linked to the Army's Global Cyber Center, providing proactive cybersecurity monitoring across all operational theaters. The system's strategic roadmap includes continued expansion of artificial intelligence, machine learning, and automation capabilities to further enhance service delivery.

The successful implementation of AESMP represents a transformational achievement in Army IT service management, providing Soldiers and civilians with the reliable, efficient, and secure IT support they need to accomplish their missions worldwide.

For more information about AESMP services, visit www.aesmp.army.mil or contact AESD-W at: 1-866-335-ARMY (2769).

Photos that did not make the cover but we believe are cover-worthy!

(TOP) Staff Sgt. William Ansong, a network communication systems specialist, 44th Expeditionary Signal Battalion-Enhanced, representing 2nd Theater Signal Brigade, attaches a blasting cap to a simulated M18 Claymore mine during Day 2 of the U.S. Army Europe and Africa Best Squad Competition on U.S. Army Garrison Bavaria in Grafenwoehr, Germany, Aug. 21, 2025. (Photo by Pfc. Kadence Connors, 21st Theater Sustainment Command)

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Photos should be ***at minimum*** 1MB (higher is better) and feature at least one Soldier. Include Soldier's **rank, full name**, and **unit** along with brief **description** of photo. Due to the publication's format, vertical shots have a greater chance (over horizontal) of being considered for the cover.

Send to: Laura.M.Levering.civ@army.mil

(RIGHT) Pfc. Gavin Oliver, 57th Expeditionary Signal Battalion-Enhanced, creates an ethernet cable as part of Operation Lightning Strike II on Fort Hood, Texas, Sept. 9, 2025. (Photo by Sgt. Gabriel Villalobos, III Armored Corps)

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- Word document, between 500 and about 2,000 words.
- Use **APA** format when citing sources.
- Photos/graphics must be **separate attachments** (not embedded in Word)**.** Each needs a **brief description** along with the **rank, full name**, and **unit** of person who took photo (created graphic).
    - Acceptable formats: **.jpg** or .**png**
- **Spell out acronyms** on **first** reference followed by acronym in parenthesis; use acronym on subsequent reference.
- Include **short bio** and **photo** if possible (see other published articles for example).
- ***Still have questions***? Reach out: laura.m.levering.civ@army.mil

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The **Spring 2026** theme is:
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