

Maritime Networks

Full-lifecycle engineering that keeps the fleet ready, secure and connected in any environment.

For over two decades, the U.S. Navy and joint partners have entrusted Sigma Defense to modernize, maintain and secure both their afloat and ashore networks. Our team brings deep, hands-on experience designing afloat and expeditionary networks built for modern Navy demands, keeping fleets connected, secure and ready when it matters most.

We engineer capabilities that perform at sea, under stress, and under any operational condition. With our sustained delivery to the U.S. Navy, U.S. Coast Guard, Military Sealift Command, and allied partners, Sigma Defense is the trusted partner for modernizing the fleet's networks today, and shaping the naval force of tomorrow.

What We Do

- **Deliver full-lifecycle system engineering** that includes design, deployment, and sustainment.
- **Architect shipboard and tactical routing** that governs data flow across maritime, enterprise, and mission networks, applying traffic engineering and QoS to optimize throughput in contested, bandwidth-constrained conditions.
- **Enable software-defined maritime networking** through automated orchestration, resilient intent-based routing, and programmable, dynamically reconfigurable fabrics.
- **Engineer and sustain both afloat and shore network infrastructure** to include layer 2/3 routing and switching, SATCOM transport, cabling, and rapidly deployable flyaway kits, which all extend resilient connectivity to disconnected and expeditionary forces.
- **Integrate Azure Cloud, edge, and afloat compute to extend the ship's boundary into the cloud** to deliver scalable mission capability, interoperability, and rapid software delivery across distributed forces, while sustaining operations in DDIL environments.
- **Modernize combat system software delivery** with DevSecOps, automated CI/CD, continuous testing, and Modular Open Systems Architectures (MOSA), supporting programs such as the Forge, Consolidated Afloat Networks and Enterprise Services (CANES), Tactical Information and Data Environment (TIDE), Zumwalt Operating Environment (ZOE), and Combined Enterprise Regional Information Exchange System (CENTRIXS) across both afloat and ashore environments for U.S. and foreign military commands.

How We Do It

- **Engineering Discipline Across the Full Lifecycle.** We apply rigorous systems engineering principles at every phase, from concept to sustainment. We've refined our approach over decades of Navy and Joint program delivery, allowing us to reduce risk, enforce quality, and ensure every system we field is built to last and built to fight.
- **DevSecOps & Modern Software Delivery.** DevSecOps is a discipline, not a buzzword. We have long experience delivering CI/CD pipelines, continuous testing, and MOSA for programs like The Forge, TIDE, and ZOE. This reflects mature, proven software delivery practices grounded in security, automation, and modularity.
- **Mastery of Network Engineering.** We bring 25+ years of expertise in Layer 2/3 routing and switching, SATCOM transport, traffic engineering, and Quality of Service design. Our team applies disciplined network design principles, proven installation standards, and structured testing methodologies to deliver connectivity that holds up under real-world operational stress.
- **Mission-First Architecture Principles.** We engineer to the mission, not the technology. Every design decision is tied to specific operational outcomes: resilience under contested conditions, survivability in DDIL environments, interoperability across joint and coalition partners, and assured performance at the tactical edge.
- **Automation & Software-Defined Discipline.** We treat infrastructure as code, bringing software engineering discipline to network operations. Through automated orchestration, intent-based networking, and software-defined fabric design, we replace manual, error-prone processes with repeatable, version-controlled engineering workflows.
- **Cloud & Edge Engineering Expertise.** Our team brings proven experience in Azure cloud, edge, and afloat compute integration. We apply hybrid architecture principles, Zero Trust security, and DDIL-aware design patterns to extend the ship's boundary into the cloud while sustaining operations across the full spectrum of connectivity conditions.



Proven Performance

Our credibility is earned, not claimed. We deliver across the Navy's most demanding programs—supported by exceptional CPARS ratings, sustained customer trust, and a track record of fielding capability that performs in the harshest operational environments:

- **NAVSEA PMS500 Zumwalt Operating Environment (ZOE).** Modernizes the Zumwalt-class destroyers through the first shipboard system integrated into Azure GovCloud. Partnering with NAVSEA, we deliver cloud migration, systems architecture, and DevSecOps expertise that accelerate software delivery and enable 24/7 support from any location. Our engineers develop, install, test, and sustain every element of the ZOE network, reducing risk and increasing uptime.
- **The Forge.** Advances the U.S. Navy's Forge software factory from prototype to full production in support of Program Executive Office Integrated Warfare Systems (PEO IWS) X's Integrated Combat System (ICS).
- **CANES to TIDE.** Supports the Navy's transition from hardware-centric networks to software-defined, automated, and cloud-aligned environments, engineered to perform across the full spectrum of operational conditions, including DDIL environments.
- **Repeatable Engineering Workflows for NextGen Deployments.** Standardizes engineering practices to accelerate fielding and reduce sustainment risk.
- **Fly Away Kits (FAK).** Designed, fielded, and sustained Fly Away Kits supporting Foreign Military Sales (FMS) across multiple allied nations, including Standard Type 1 and Commercial Solutions for Classified (CSfC) variants for ship and submarine platforms.
- **Automated Digital Network System (ADNS).** Supports ADNS and related afloat networking efforts by managing the networking and routing configuration layers responsible for directing data packets across shipboard, tactical, and enterprise networks. This includes configuring and sustaining routing services, optimizing data flow across constrained or contested communications paths, and supporting interoperability between platforms, sensors, and command systems operating at sea.
- **NATO Information Services Platform (ISP).** Architecting and deploying the NATO ISP across every U.S. Combatant Command, establishing a unified, interoperable foundation for secure mission collaboration across NATO and coalition partners.



Sigma Defense Systems LLC
1812 Macon Road
Perry, GA 31069

p: (478) 238-9090
e: info@sigmadefense.com
w: www.sigmadefense.com

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