Case Study

Rebuilding Readiness Through Connectivity: A Digital Transformation at Sea

Enhancing Digital Readiness for Force Readiness

A U.S. Defense Command operates more than 100 civilian-crewed vessels that serve as the logistical backbone of the U.S. Navy and Marine Corps. Ships such as oilers, underway replenishment ships, hospital ships, repair vessels, and special mission platforms all ensure that combatant forces receive the fuel, supplies, equipment, and humanitarian support required to stay in the fight. Staffed primarily by civilian mariners, this fleet delivers critical effects across every theater where the Joint Force operates.

These mariners spend four to six months at sea at a time and the ability to sustain operations, maintain morale, and remain connected to life ashore is vital to the command's readiness mission. Yet for years, unlike their military counterparts, these mariners deployed without reliable onboard connectivity.

Readiness at Risk

In 2024, the agency's leadership raised an urgent concern: the command could not consistently meet its 80% fleet readiness target. The issue wasn't mechanical, it was manpower. The command struggled to recruit and retain qualified mariners willing to serve multi-month rotations without basic digital access.

The average age of a civilian mariner had risen to 47, signaling a shrinking pipeline of younger sailors. Many vessels, particularly oilers and older support ships, had gained reputations as undesirable assignments, limiting the command's ability to crew and float essential platforms. Without a modern morale, welfare, and recreation (MWR) network onboard, mariners were disconnected from family, finances, entertainment, and daily life. In the digital age, extended isolation was driving attrition and threatening the global sustainment mission.

A Modern, Secure Shipboard Connectivity Architecture

Swish, HPE Networking, and other mission partners such as Booz Allen Hamilton were engaged to architect and deploy a secure, ship-wide digital experience purpose-built for the command's operational environment. What began as a two-ship pilot rapidly evolved into a full-rate production program expanding across more than 40 vessels.

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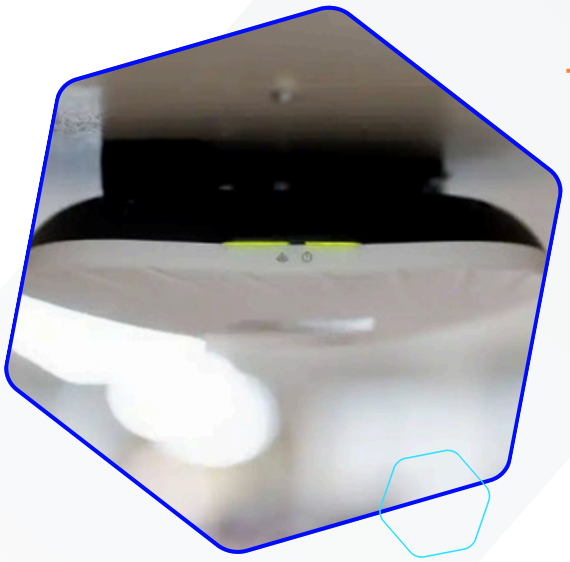

The Solution Integrates:

- **HPE/Aruba Networking access points and Aruba EdgeConnect switches** to deliver resilient wireless coverage throughout each ship.
- **802.1X network access control,** enabling each mariner to register up to five personal devices such as laptops, phones, tablets, gaming systems while preventing unauthorized endpoints.
- **A dedicated, isolated network architecture** engineered to avoid touching any shipboard operational systems.
- **StarShield satellite connectivity**, a variant of Starlink.
- **5G Cradlepoint offload** capability when ships pull into port, reducing satellite bandwidth load and enhancing performance.
- **Cloud-based management in Azure,** ensuring centralized visibility and rapid configuration across a globally distributed fleet.

Retrofits typically take only a few weeks per ship, even when performed across international ports from Singapore to Croatia.

Renewed Morale, Stronger Recruitment, Higher Readiness

The impact was immediate and mission-changing. Mariners gained dependable access to their digital lives ensuring communication with family, entertainment, education, and personal business, dramatically improving onboard quality of life.

The command saw:

- A measurable drop in the average age of mariners joining the fleet.
- A surge in recruitment, driven by word-of-mouth that the “new-generation ships” kept crews connected.
- A tenfold increase in sailor requests to be assigned to modernized vessels—especially vessels that once struggled to fully crew.
- A path back toward consistent 80% readiness rates required to support combatant operations worldwide.

Implications for the Broader Defense Community

The command’s transformation highlights a critical truth: digital connectivity is force readiness. The same architecture enabling mariner quality of life at sea can be adapted for combatant ships, forward operating bases, expeditionary teams, humanitarian missions, and mobile command centers.

As DoD components pursue unified wireless strategies, the Swish and HPE Networking model offers a scalable, secure blueprint for delivering connectivity anywhere the mission demands.

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To learn more,
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