

Joint Marine Corps - Navy C4 Interoperability

Command, control, communications, and computers (C4) interoperability is key to improving naval expeditionary effectiveness in the 21st century. Naval Power 21 and EMW require naval expeditionary forces that can respond quickly and effectively across the spectrum of warfare, which in turn requires networked C4 systems that are integrated, interoperable, robust, seamless, and secure. C4 systems must support joint and combined operations while facilitating the movement of information and situational awareness across the naval force – as far down as the individual rifleman or sailor, pilot, or mechanic.

Development of naval FORCENet capabilities, in conjunction with near-term enhancements to the Marine Corps Enterprise Network (MCEN) and improved oversight and governance of IT, provide a framework for improving Marine Corps and Navy C4 interoperability. FORCENet is the operational construct and architectural framework for naval warfare in the information age. It integrates warriors, weapons, sensors, control, and platforms into a networked, distributed combat force, scalable across the spectrum of conflict from seabed to space and sea to land. FORCENet is the implementation of network-centric warfare in the naval services and will provide the means for an exponential increase in naval combat power.

This network infrastructure will allow common and consistent data to be disseminated throughout the force, leading to greater shared awareness and naval integration into the broader joint information network. As an enabler of EMW, FORCENet supports joint and multinational operations,

strategic agility, operational reach, tactical flexibility, and sustainment of deployed forces.

Enhancements to the MCEN will provide a significant contribution to FORCENet and the Global Information Grid (GIG). An enterprise network that supports all of the data and information exchange requirements for Marine forces worldwide, the MCEN consists of the Navy-Marine Corps Intranet (NMCI), IT-21, and the MAGTF Tactical Data Network (TDN). Our MAGTF TDN plan calls for providing increased wideband capability pushed to the lowest practical level, along with TDN gateways and servers that improve our ability to “close the digital divide.” MCEN is not just systems, however – it is a mix of integrated systems, Marines, and training programs that support a total-force solution for the Department of the Navy.

Other systems that support Marine Corps network-centric operations include the Common Aviation Command and Control System (CAC2S), the Unit Operations Center (UOC), the Extremely High Frequency (EHF) Satellite Communications (SATCOM) terminal, the Lightweight Multi-band Satellite Terminal (LMST), the Global Broadcast System (GBS), the Joint Network Management System (JNMS), the Tactical Handheld Radio (THHR), the Tactical Data Network gateway, and mobile SATCOM antennas for Ultra High Frequency (UHF) SATCOM on-the-move communications. Future interoperability solutions include the earliest possible operational introduction of the Joint Tactical Radio System (JTRS), and the introduction of capabilities required by the Transform-

mational Communications Systems (TCS) Architecture. These transformational C4 initiatives, in concert with fielding of a Deployable Joint Command and Control (DJC2) capability, will vastly improve our joint-force integration.

The Marine Corps also aims to increase situational awareness and data connectivity down to the “last tactical mile.” We will improve over-the-horizon (OTH) communications by using airborne relays and unmanned aerial vehicles (UAVs). OTH relays will facilitate ship-to-objective-maneuver and provide access to the global networks. Additionally, standardized hosting, display, and distribution of information within the MAGTF will aid collaborative planning and information management.

Recent events also highlight the interoperability challenges that exist between DoD, federal, state and local authorities involved with Anti-Terrorism/Force Protection (AT/FP) operations. Recognizing this challenge, the Marine Corps is pursuing an interoperable rapid response Enterprise Land Mobile Radio (ELMR) solution set. The combined affect of the above initiatives will generate a three-fold increase in our ability to access the global network, thereby enhancing Marine Expeditionary Force, joint, multi-agency, and coalition interoperability.

Improved oversight and governance of information technology (IT) will speed the transformation from legacy, stove-piped networks to a common IT environment. This environment will be built on a single integrated data structure with common user interfaces and interoperable applications. Increased oversight will reduce duplication of effort and improve overall efficiency. These efficiencies will be achieved through the reduction of legacy applications, establishment of enterprise licensing agreements, and enforcement of data standards. These efficiencies will lead to lower costs and increase the interoperability of Marine Corps C4 systems. Improved oversight and governance also will facilitate the identification of authoritative data sources for improved data management and interoperability. Continued efforts to consolidate data centers, application hosting, and centralized software procurement provide economies of scale and improved business processes.

The modern warfighting environment requires fully integrated and interoperable networks. The MAGTF expeditionary network provides the foundation upon which FORCENet C4 capabilities will be built. The transformation from today’s MAGTF network to FORCENet capabilities of the future will rely upon persistent IT governance, naval enterprise architectures, and clearly defined data standards.