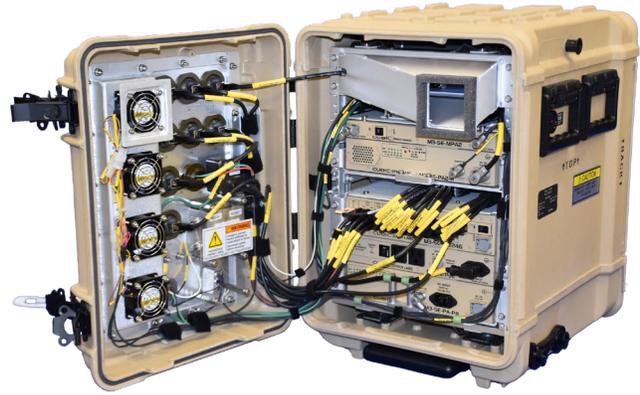


# Small Form Factor Command & Control (SFF C2) Node

*“Ready-Now” Solution for Expeditionary Advanced Base Operations C2*



Compact, multi-domain C2 solution that integrates real-time, near real-time, and non-real time data

Virtual environment and virtual machines provide flexibility and agility for growth or upgrades

Low SWaP tactical edge node computing, storage, and network infrastructure

Designed to MIL-STD-810G for tactical environment and operation in closed transit case configuration in austere environment

Platform agnostic solution expands deployment options

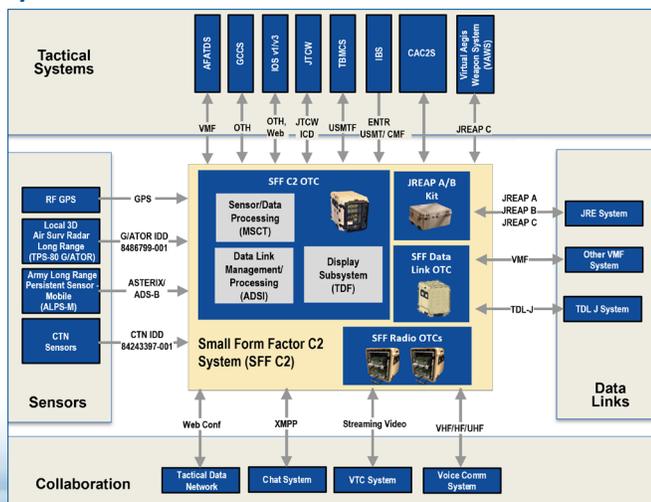
## Overview

As the “ready now” solution for the Expeditionary Advanced Base Operations command and control, the Marine Corps has conducted numerous experiments and user assessments of the Small Form Factor Command and Control (SFF C2) node. The SFF C2 provides the Marine Corps virtualized, platform agnostic, highly deployable C2 nodes that are COTS-based and designed to military standards with battle-tested hardware capabilities. The SFF C2 integrates customer developed software architectures and proven enablers to scale to any mission need.

## Key Features

- **Full-Spectrum Command & Control**
  - Tracker and real time display functions
  - Data link gateway and management
  - Local passive and active sensor interfaces
  - Closely integrates fires and C2
  - Interface to Cooperative Engagement Capability (CEC)
- **Modular Design**
  - Compact 9U half-rack composite transit case
  - Shock isolated rack for internal mounted equipment
  - 2-man lift, 129 lbs
- **Environmental**
  - Integrated direct air cooling
  - Fan speed controller for active thermal management
  - Pre-cabled system with Signal Entry Panel with critical interfaces to external systems
- **Embedded Simulation and Training**
  - FAST vs. FLAMES Simulation
  - Unit generated, tailored scenarios
  - Ability to federate using DIS and HLA

## System Interfaces



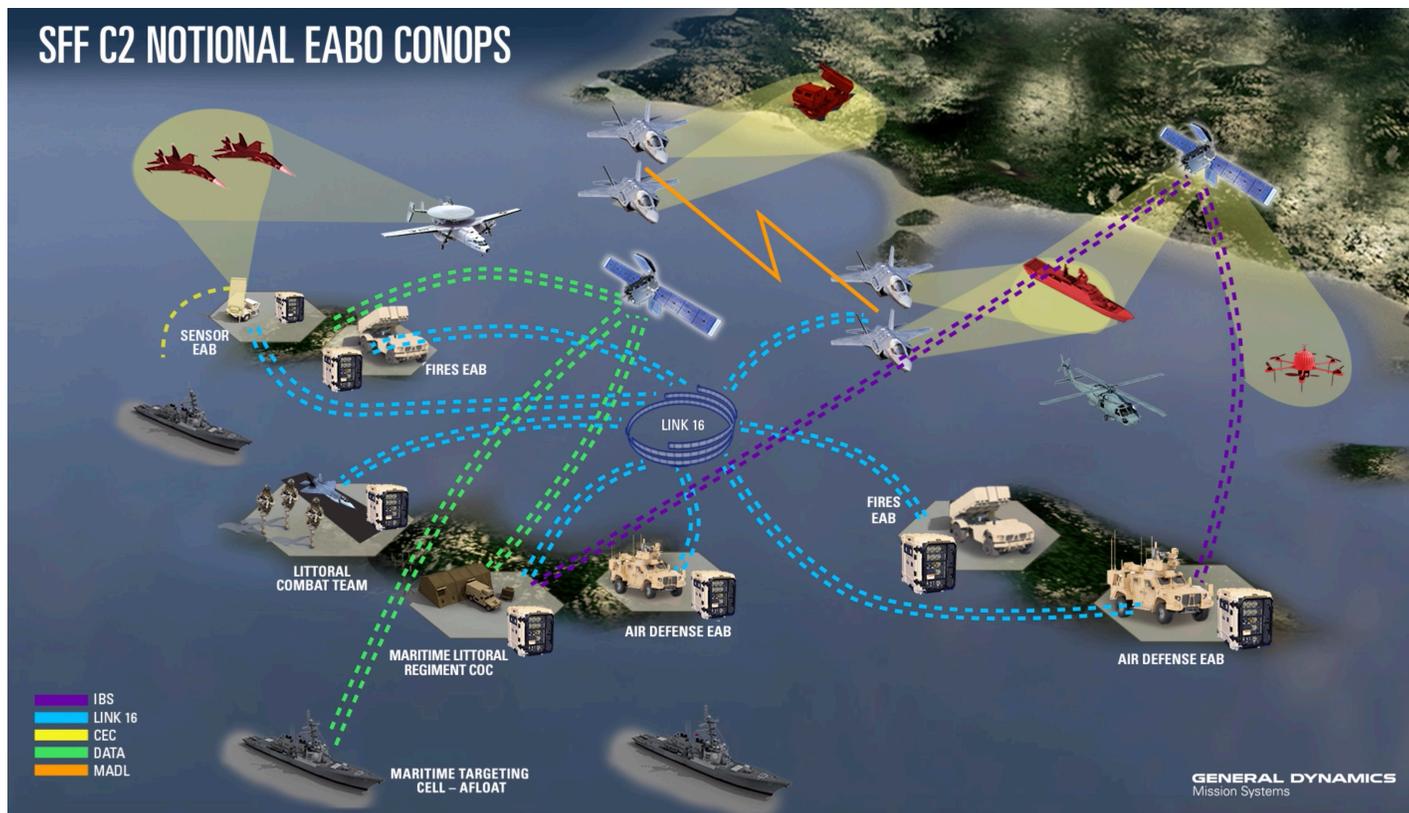
# Small Form Factor Command & Control (SFF C2) Node

## Technical Specifications:

- **Compute**
  - 1.3-2.1 GHz Xeon D 16 Core Processor
  - 128GB RAM
- **Storage**
  - 10x removable 2.5in SSD's
  - 1x 64GB removable Flash drive
- **Networking**
  - Cisco ESS3300 Switch with PoE capability
  - Cisco CSR1000v virtual router option
- **Secure WAN Encryption**
  - Integrated Type 1 TACLANE
- **Size**
  - 24.0"D x 15.7"W x 22.3"H (5 cubic feet)
- **Weight**
  - 129 lbs
- **Power**
  - 120/240 VAC Input
  - 472W (max)
  - Integrated UPS with minimum 15 min backup
- **Interfaces**
  - External SEP
    - (6) 1GbE Switch Port, MIL RJ-45
    - (1) 1GbE TACLANE Cipher Text Port, MIL RJ-45
    - (1) 100Mb-FX Fiber Port, MIL TFOCAII
    - (1) 10GbE 10G-LR Fiber Port, MIL TFOCAII
    - (1) Switch Serial Console Port, MIL RJ-45
    - 120/240 VAC Input, MIL
    - Single Ground Stud
- **Internal Single Ground Stud for expanded capability in TOC environment**
  - (12) 1GbE Switch Port, RJ-45
  - (1) 10GbE Switch Port, RJ-45

## Tailorable Options:

- **Tactical Cross Domain Solution**
  - Meets NSA's Phase 1 Raise the Bar Requirements (TS certification planned)
- **ED-3 Assured PNT**
  - M-code ready for greater protection from jamming and spoofing
- **ProtecD@R® KG-204 Multi-Platform Encryptor**
  - The only NSA Certified Data at Rest encryptor for unattended operations
- **MLS/MILS**
  - Driving towards integration using proven enablers



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