C4IT Service Center

C3CEN

Product Lines, Core Technologies, Command Logistics

Command, Control & Communications Engineering Center

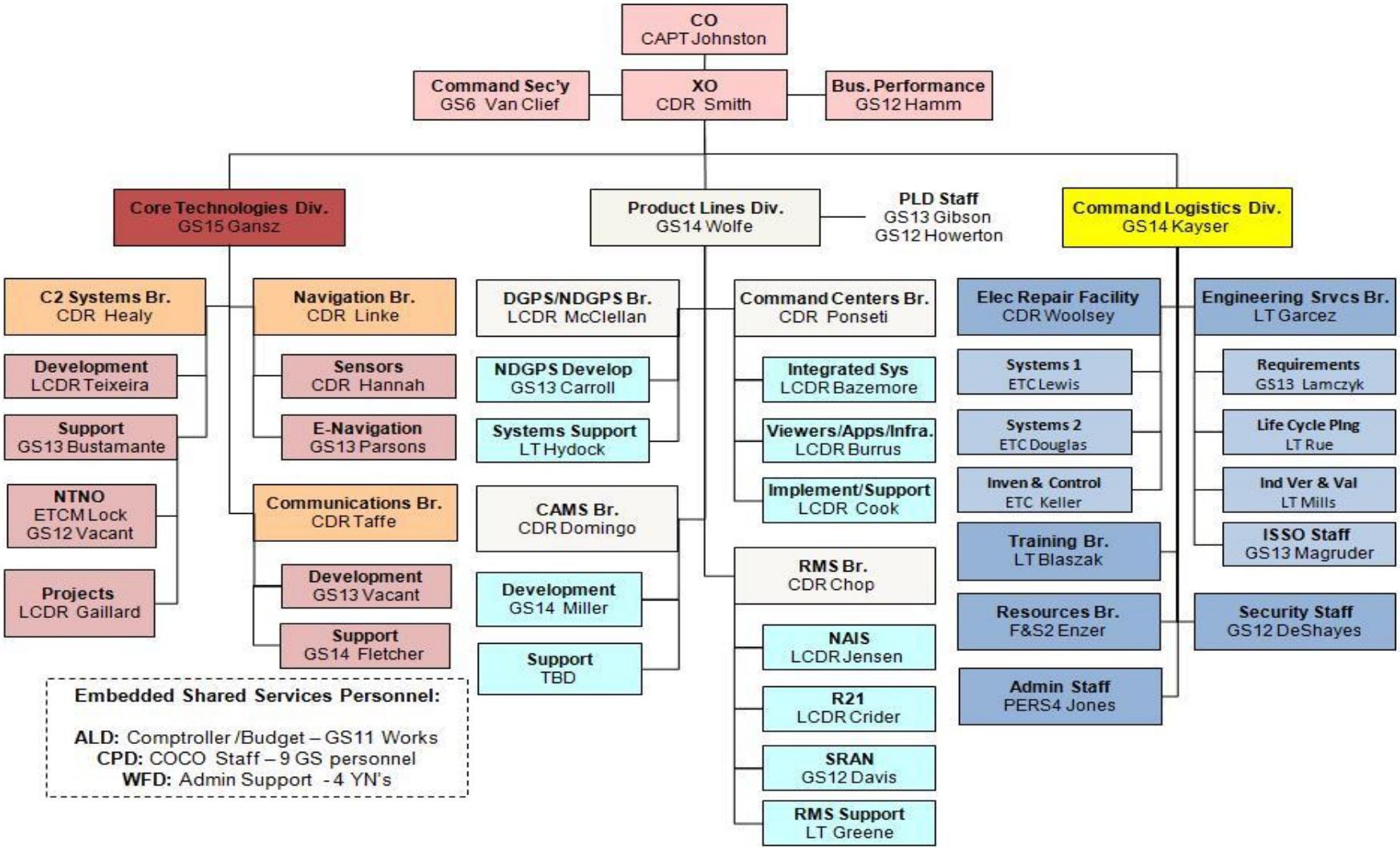
Captain Michael J. Johnston, Commanding Officer

17 AUGUST 2011

OVERVIEW OF TOPICS

- **C3CEN Organization**
- **CL Division Organization** (Mr. J. Kayser)
  - System Support Agent (SSA)
  - System Development Agent (SDA)
  - Systems Life Cycle Management Plan (SLCMP) and Project Management Process (PMP)
- **PL Division Organization** (Mr. D. Wolfe)
- **CT Division Organization** (Mr. L. Gansz)

Command, Control & Communications Engineering Center



C3CEN Command Logistics Division (CL)

CL Division is the C3CEN shared services division providing the business operations needs to the Product Lines and Core Technologies Divisions

Division Chief – Mr. Jeffrey Kayser

Administration Branch (CL-A) – CWO4(PERS) Jones

Security Branch (CL-CS) – Mr. DeShayes

Engineering Services Branch (CL-ES) – LT Garcez

- **Requirements Section**
- **Life Cycle Planning Section**
- **IV&V Section**
- **ISSO Section**

Resources Branch (CL-R) – CWO2(F&S) Enzer

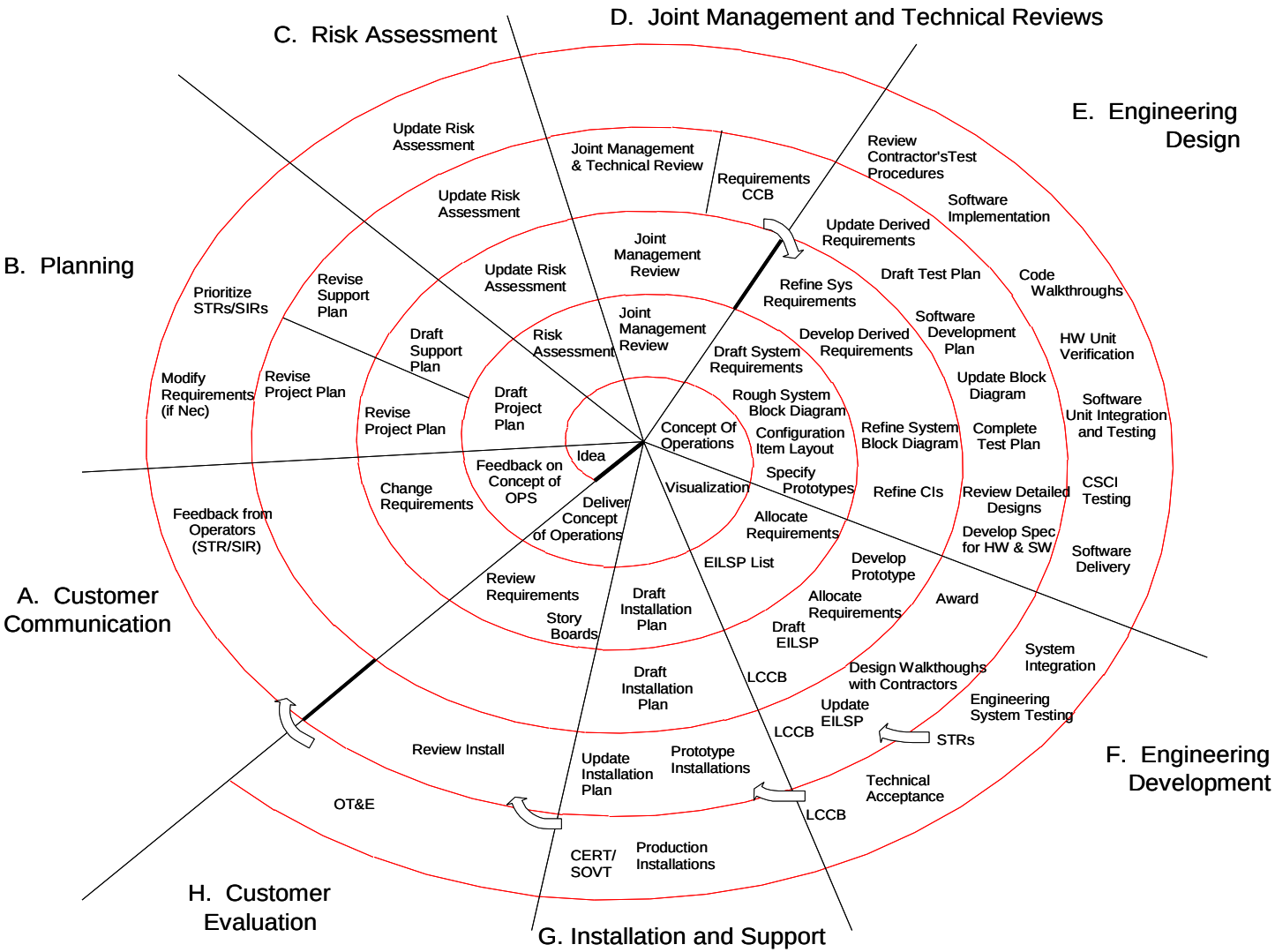
Training Branch (CL-T) – LT Blaszak

Electronics Repair Facility Baltimore (CL-ERF) – CDR Woolsey

Systems Develop Agent/System Support Agent

- Ensures Configuration Management – SSA
- Orchestrates Engineering Changes – SDA
- Establishes integrated logistics support – SSA
- Provides "last stop" Technical Assistance – SDA/SSA
- Establishes operator/maintenance training – SDA/SSA
- Conducts Quality Assurance testing of modifications prior to fielding – SDA
- Maintains equipment baseline systems – SSA
- Maintains technical documentation & drawings – SSA
- Tracks system trouble & improvement reports – SSA

Spiral Development Process



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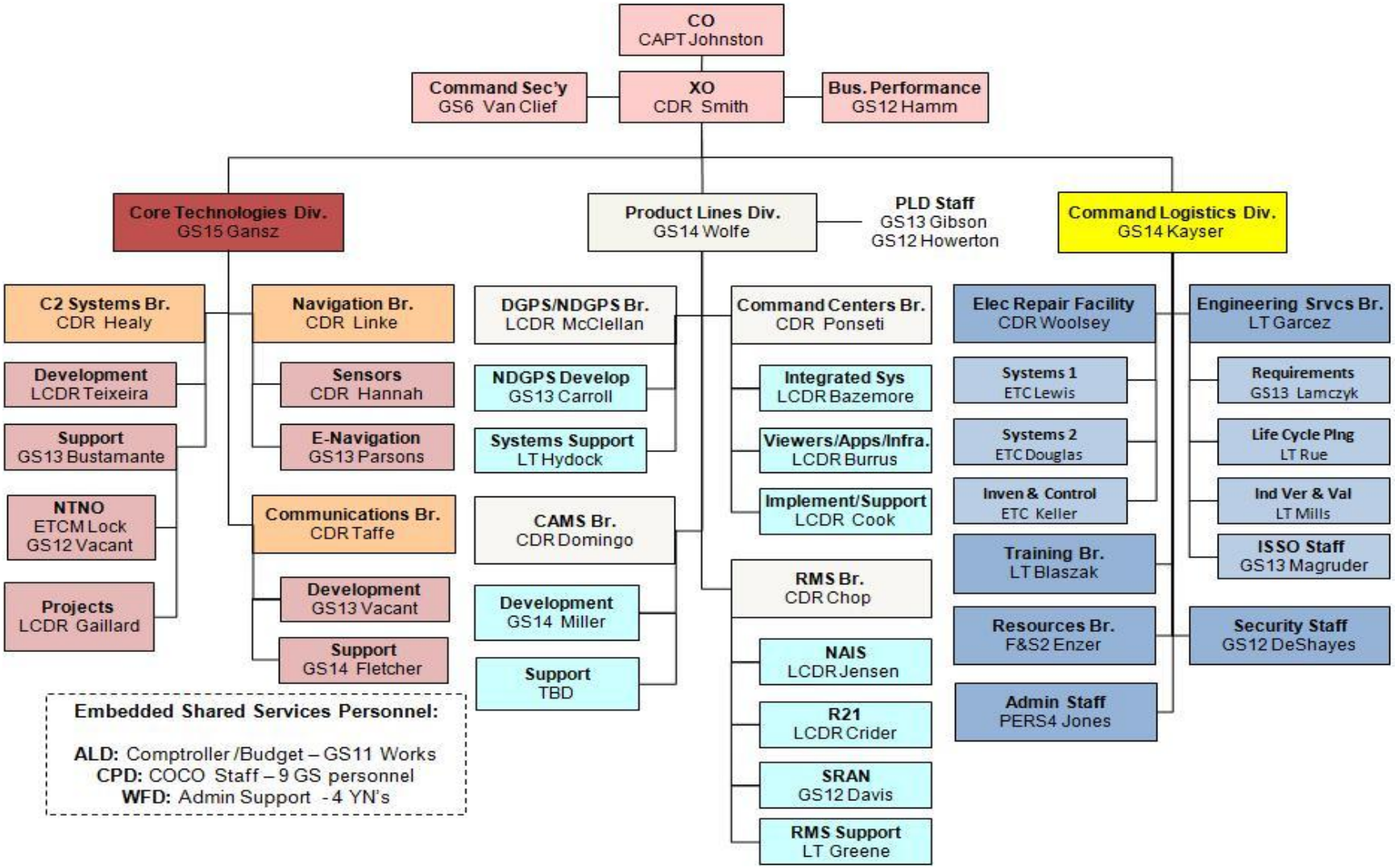


Command Center Product Line

Command Center Product Line

Command Center Product Line

- **Product Line Manager:** CDR Joe Ponseti
- **Product Line Goals**
  - Continued development & deployment of WatchKeeper Segments 1 & 2
  - Upgrade/consolidate COP hardware & software
  - Leverage service bus data delivery to facilitate hardware convergence
- **Future Focus Areas:**
  - GIS Consolidation
  - SOA
  - Expanded delivery/consumption of standardized data across enterprise service bus

Command Center Products

GCCS-J
C2PC
WatchKeeper
SAROPS
CCDS
COP
CWSS
CGVTS
PAWSS
PCSS

GIS Consolidation Project - CG OneView

- **Project Lead** - **Travis Gibson / Robert Netsch**
- **Project Goals:**

  - Implement standard-based GIS framework with core services and common tools to support majority of CG's C2 and geospatial needs
  - Align with DHS Geospatial Information Infrastructure to accommodate code sharing
  - Load Balanced Network Architecture, Virtual Servers
  - Designed to Accommodate:
    - Enterprise GIS Viewer - Maps, charts, imagery, layers
    - Command Center Capabilities - Search & Rescue Planning, COP features, MISLE features, Watchkeeper, …
    - Status and Monitoring – Centralized widget that exposes status of CG communication systems such as dGPS, R21, NAIS, navigation aids, and network.
- **Future Focus Areas:**
  - Incorporate capability modules and widgets from DoD Joint Command & Control (JC2)
  - Expand scope to include wider CG geospatial needs
  - Expand CG monitoring service

CG1V Components

Technologies:

ArcGIS API for Silverlight

ArcGIS Server

Core GIS Services:

Map Control

Messaging

Geocoding

Documentation

Common GIS Tools:

Draw Tool / Overlay Editor

Measure Tool

Table of Contents

Import and Display of Geo-Data (kml, csv)

DGPS Product Line

DGPS

DGPS
Differential Global Positioning System
Whidbey Is (1)
(1) Robinson Pt
George
Spokane (3)
Appleton (3)
(1) Fort Stevens
Polson (3)
Havre
Seneca (3)
Klamath Falls (3)
(1) Cape Mendocino
Middletown
Chico (2)
NAVCEN West
Lincoln (2)
Austin (3)
Fallon
(1) Pigeon Point
(3) Bakersfield
(3) Essex
(1) Lompoc
(1) Point Loma
Searchlight
Flagstaff (3)
Myton (3)
Pueblo (2)
Albuquerque (3)
Las Cruces
Billings (3)
Gillete
Medora (2)
(2) Clark
Whitney (2)
(1) Omaha
(2) Topeka
Boise City
Summerfield (3)
Sallisaw (1)
Baudette
Wisconsin Point (1)
(2) Pine River
(1) St. Paul
Upper Keweenaw (1)
Sturgeon Bay (1)
Mequon (2)
Rock Island
St Louis (1)
Dana
(1) Louisville
Hartsville (2)
Dandridge (3)
Bobo (3)
Vicksburg (1)
Millers Ferry
Grangeville
Angleton (1)
Aransas Pass (1)
Raymondville
English Turn (1)
(1) Mobile Point
Eglin (1)
Malone
Hackleburg (2)
(3) Macon
Savannah (2)
Tampa (1)
Jupiter
Card Sound (2)
Key West (1)
Isabela (1)
Cape Canaveral (1)
Greensboro (3)
New Bern (2)
Carolina Beach
Kensington (2)
Driver (2)
Hagerstown
St. Mary's
Hawk Run
Reedy Point
LSU
Annapolis (2)
NAVCEN East
Youngstown (1)
Detroit (1)
Saginaw Bay (1)
Cheboygan (1)
Rickford (1)
Seneca
Hudson Falls (3)
Nantucket
Acushnet (2)
Moriches (1)
Sandy Hook (1)
Brunswick (1)
(2) Penobscot
Caribou
Port Clarence
Tok
Potato Point (1)
Cape Hinchinbrook (1)
Kenai (1)
Gustavus (1)
St. Paul
Kodiak (1)
Narrow Cape
Biorka (1)
Level Island (1)
Shoal Cove
Annette Island (1)
Cold Bay (1)
Attu
(1) Kokole Point
(1) Upolu Point
Pahoa (1)

Differential GPS

- **Product Line Manager:**

  LCDR Tim McClellan

- **Product Line Goals:**
  - Bring DOT sponsored remote sites up to same technology level as USCG sponsored remote sites
  - Align current control and monitoring system with over-arching CG command centers system architecture
  - Improve all-weather performance of MF broadcast system
- **Future Focus Areas:**
  - Alternatives for remote site primary/secondary power sources
  - Alternatives for communications with, and monitor and control of remote sites
  - Provide corrections for other GNSS signals in addition to GPS L1

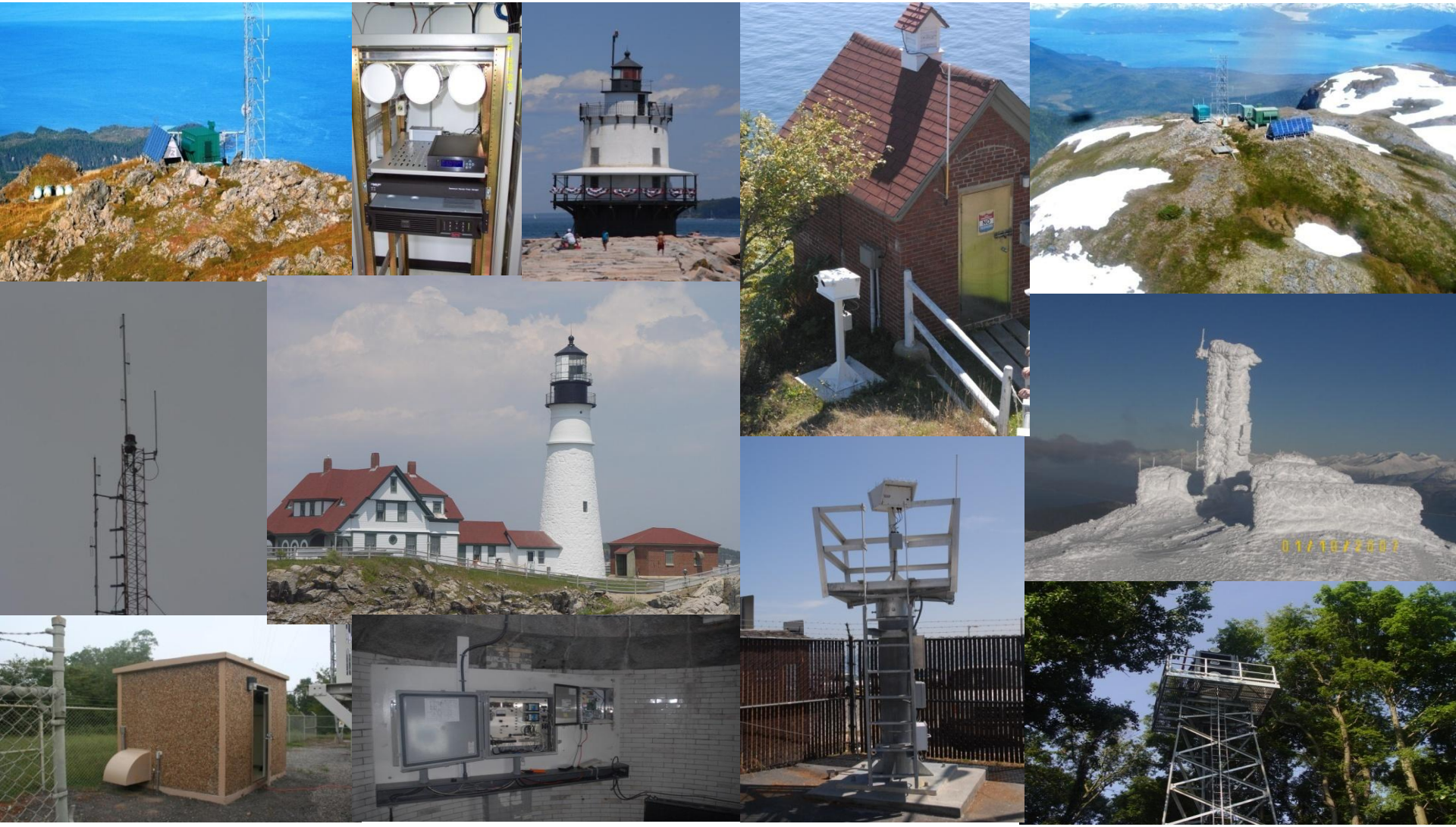
dGPS Components

86 Remote MF Broadcast Sites

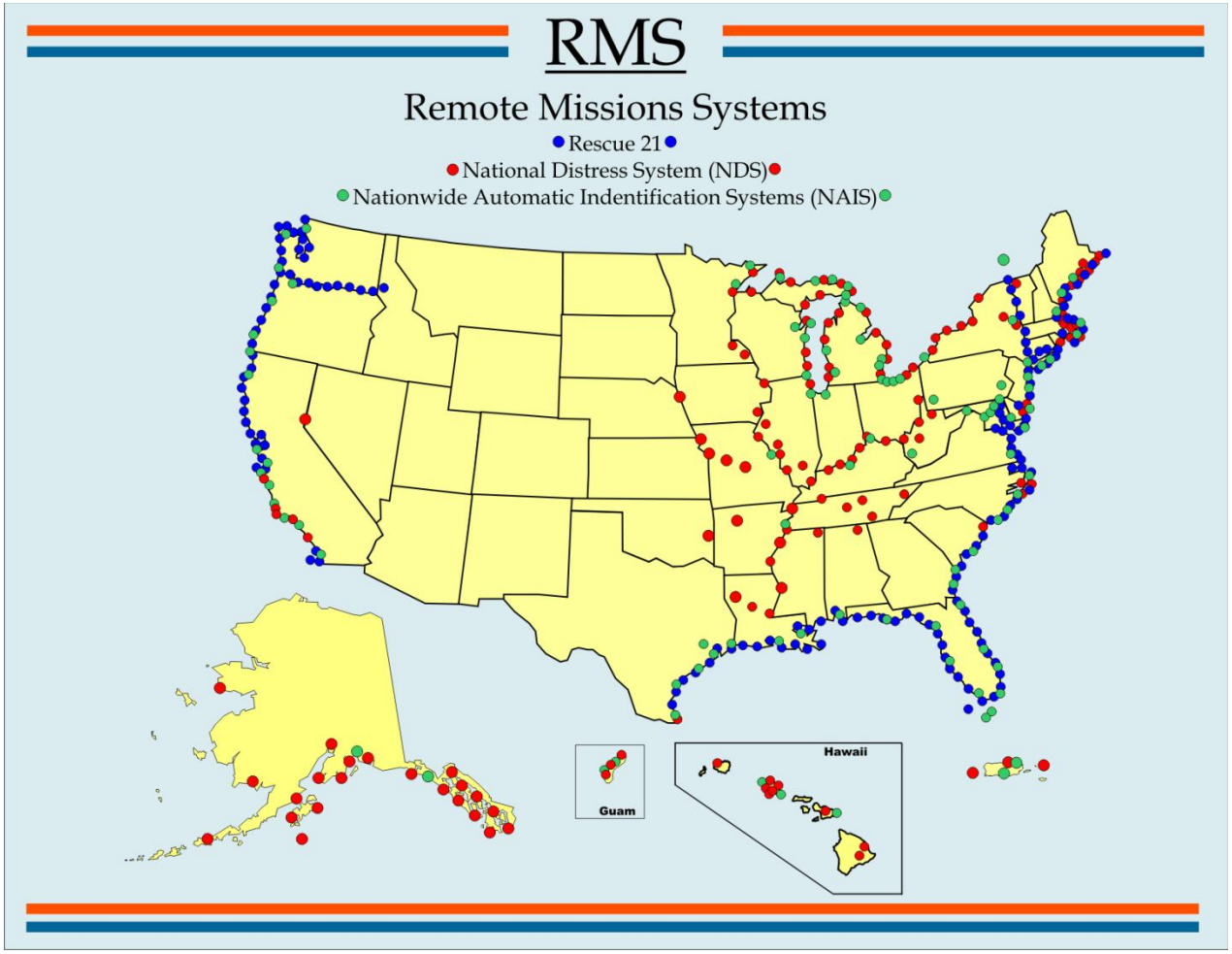
2 Operate Control System Suites

Support and Engineering Baselines

Remote Mission System Product Line



Remote Mission System Product Line



Remote Mission System Product Line

Remote Mission System Product Line

- **Product Line Manager:** CDR Joseph Chop
- **Product Line Goals**
  - Deliver, & maintain fixed facility VHF communications
  - Provide Nationwide automatic identification of vessels in harbors and harbor approaches
  - Provide electronic aids to navigation in support throughout the Coast Guard
- **Future Focus Areas:**
  - National deployment of Rescue 21 capabilities
  - Replacement/Relocation of aging Western Rivers and Alaska remote NDS sites
  - Fabrication and Installation of Remote Sound Signal Controls
  - Alternate power sources for remote sites. (Wind/Solar/Fuel Cells/etc)

RMS Products

R21: Rescue 21

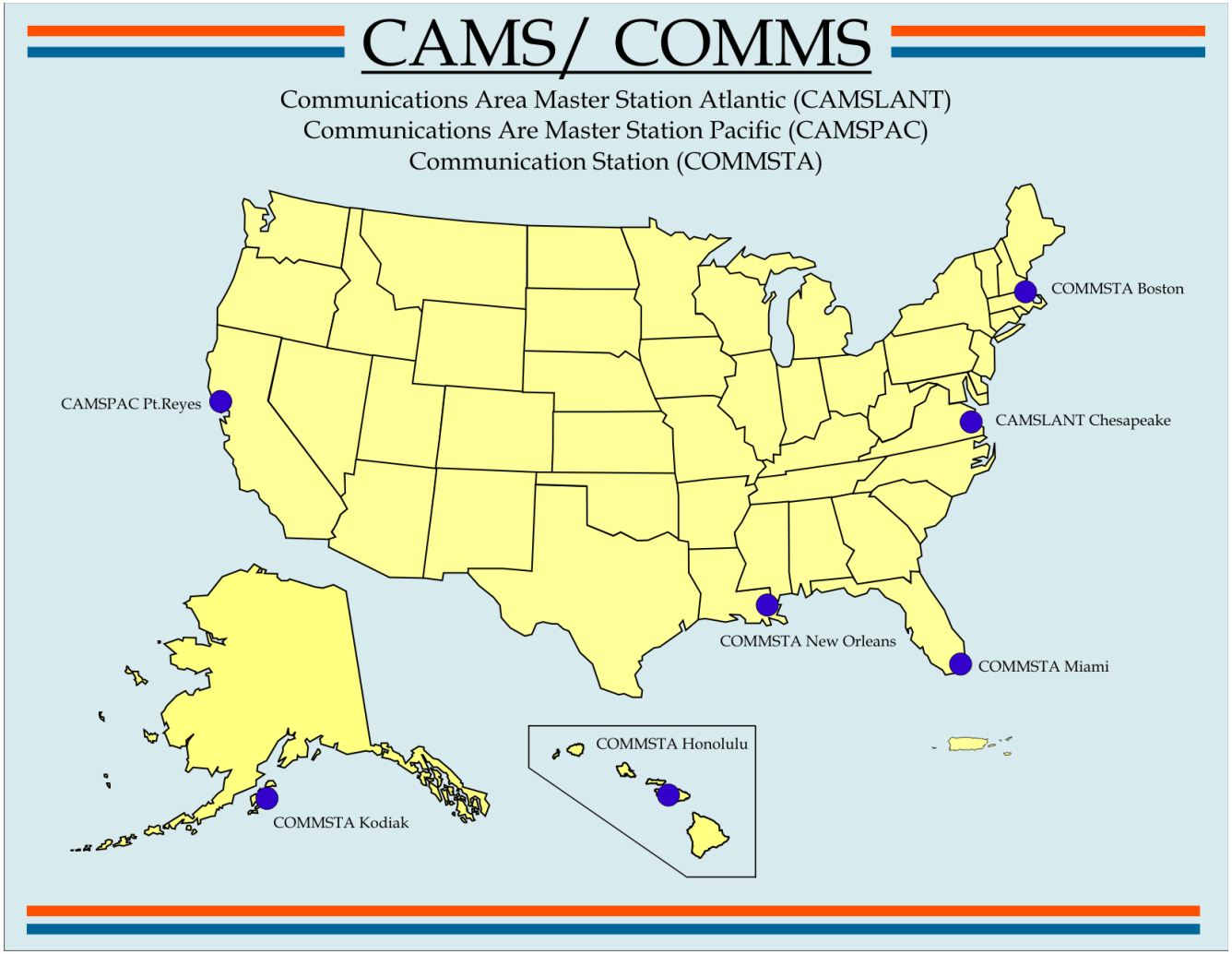
NDS: National Distress System

NAIS: Nationwide Automatic Identification System

SRAN: Short Range Aids to Navigation

CAMS Product Line

CAMS Product Line



CAMS Product Line

- **Product Line Manager:**

  CDR Romy Domingo

- **Product Line Goals**
  - Provide full life-cycle asset or system management of long range communications equipment and systems.
  - Recapitalize aging antennas, cabling pathways, towers and foundations which have exceeded anticipated life expectancy and risk failure
  - Establish engineering baseline of all assets at CAMS and COMMSTAs.

- **Future Focus Areas:**
  - Telecommunications infrastructure & remote communications site connectivity
  - New High Power Transmitter Technology
  - High Frequency Communication Coverage Gaps

CAMS Products

Mobile Contingency Communications

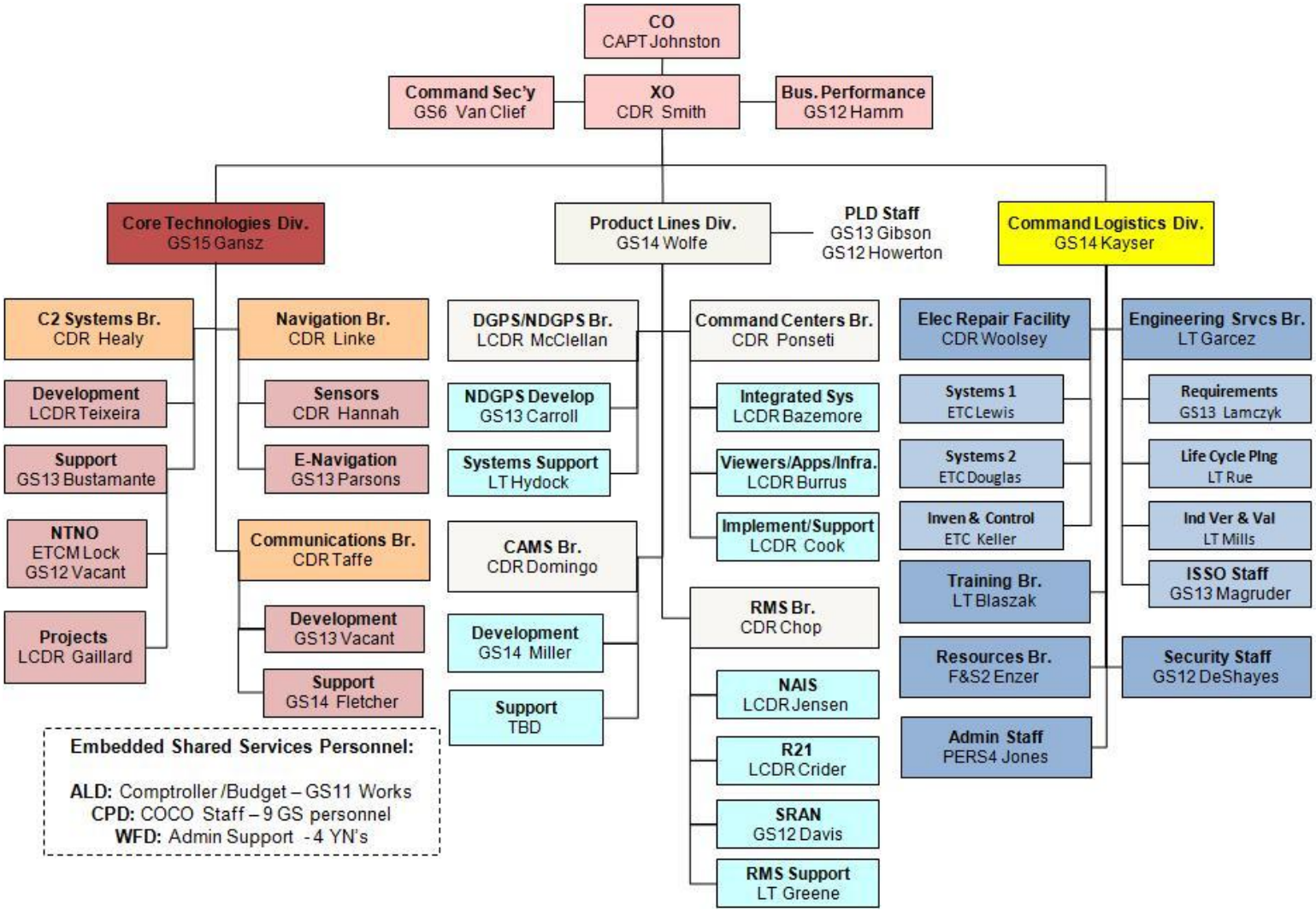
Antenna Systems for Long Range Communications

Satellite Systems

High Powered Transmitters and Receivers

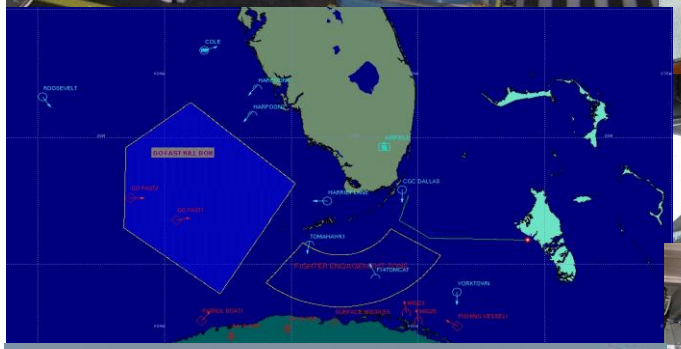
Automation, Antenna Matrices, Modems, Control Heads, Wide Area Networking

Command, Control & Communications Engineering Center



Command and Control Core Technology

SCCS-210 2X Upgrade



Command and Control Core Technology

- **Product Line Manager:** CDR Joe Healy
- **Product Line Goals**
  - Deploy SEAWATCH to in-service fleet
  - Sustain Deepwater Assets organically
  - Sustain Biometrics At Sea System (BASS)
- **Future Focus Areas:**
  - Align systems for maximum interoperability
    - Standard GIS protocols
    - DOD programs of record
  - Maintain open architecture standards within system designs

C2 CT Products

Seawatch-FRC

Seawatch-378, 270

NSC CGC2 Segment 1

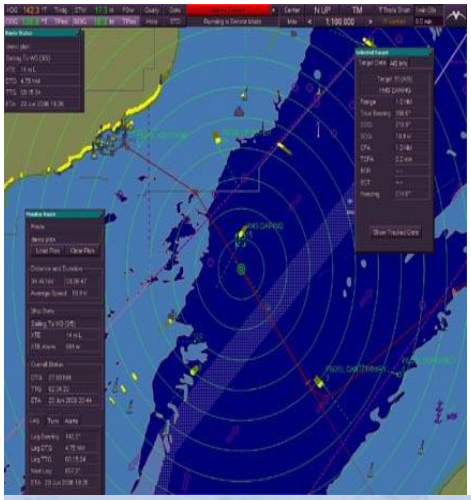
BASS

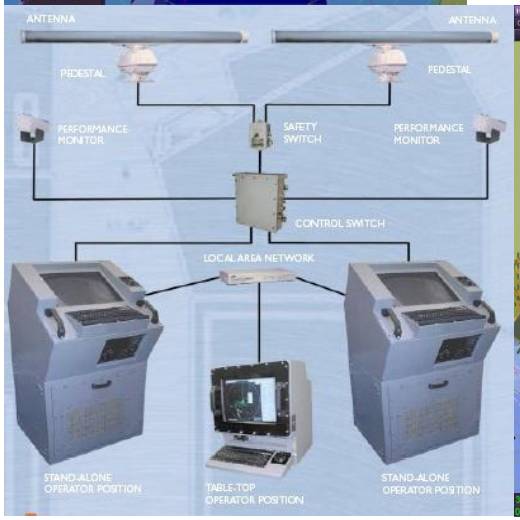
SCCS-378, 270, 210, 110

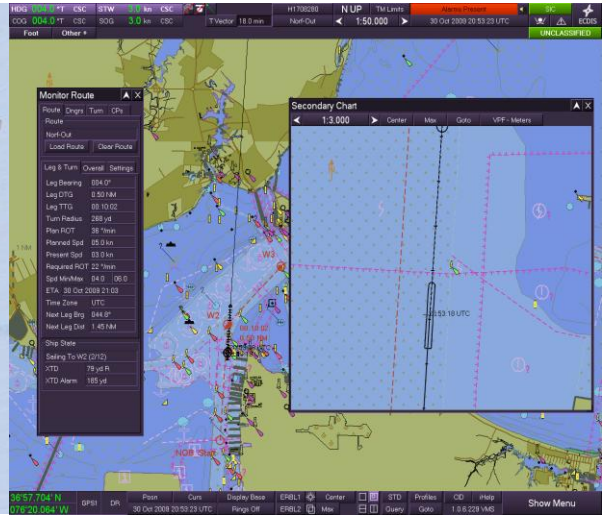
Navy Type Navy Owned Systems

Mission Systems Pallet

Navigation Core Technology







Navigation Core Technology

- **Product Line Manager:** CDR T. Linke
- **Product Line Goals**
  - SSR refresh entire fleet w/combo of military AN/SPS-73 and commercial IMO-compliant AN/SPS-50 radars
  - VEGA-ECDIS/ECS: field VEGA ECDIS on CG buoy tenders; complete 5th gen VEGA-ECS development.
- **Focus Areas:**
  - Continued evaluation and use of COTS-based IMO compliant nav equipment for CG
  - Identify next generation SINS package for CG small boat navigation
  - Continued advocacy of industry open architecture for sensor integration (NMEA)

Nav CT Products

SSR Maritime Surface Search Radars

SINS Scaleable Integrated Navigation System

EAIS Encrypted Automatic Identification System

NVEO Night Vision Electro-Optical Systems

CG ECS Electronic Charting System

CG ECDIS Electronic Chart Display Info System

CG DDS LAN/CG Data Distribution Systems

Communications Core Technology

Communications Core Technology

- **Product Line Manager:** CDR Mike Taffe
- **Product Line Goals**
  - Upgrade short range communications to Narrowband & Advanced Encryption Standard (AES) capabilities
  - Upgrade USCG MILSATCOM to Integrated Waveform(IW)
  - Upgrade HF systems to Automatic Link Establishment (ALE) capable radios
- **Future Focus Areas:**
  - Research, procure & implement next generation short range communications interoperability solutions
  - Field Joint Tactical Radio Systems (JTRS) radios and move MILSATCOM to Multiple User Object System (MUOS)
  - Increase HF availability/reliability by adding frequencies and infrastructure to the Customs Over The Horizon Enforcement Network (COTHEN)

Comms CT Products

VHF/UHF systems

MILSATCOM

MF/HF Systems

Ancillary Systems

Closing

- Process, Program and Life Cycle Management Skills
- Open Architected, Modular Systems
- Standard interfaces & easy integration (GIS, Mobile devices, IA & TEMPEST standards)
- Reliability, supportability, (high: Ao & MTTBF) & easily upgradable.
- Committed partners.