Maritime Domain Awareness
National ConOps

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A Maritime Nation

Land: 7,000 miles
Shoreline: 95,000 miles
A Maritime Nation

World’s Largest EEZ
A Maritime Nation

- 95% of U.S. foreign trade
- 8,000 foreign vessels, 50,000 port calls/yr
- $800 Billion in freight per year
- 361 commercial ports
- 186 Million passengers per year

- 17 Million recreational vessels
- 70% of population is coastal
- Key Infrastructure & Services
A Maritime Nation
Why MDA is Essential

Value of transparency
  • Deter, Detect, Prevent, Respond

All Threats/ All Hazards/ All Missions
  • Asymmetric Threats
  • Safety, Security, Stewardship
  • Many Partners

Coalition Warfare/ Unity of Effort
Essentiality of Awareness
Maritime Governance Strategic Triad

- Regimes
- Awareness
- Operations

Unity of Effort

Across the Maritime Domain

Global Commons
Approaches

Foreign Ports

U.S. Ports
MDA Pre-9/11

- 1998 - Coast Guard 2020 -- Strategic Plan
- 2000 - Special Interest Vessel Program
- 2001 - NSC involvement and Interagency MDA TF
- 2001 - Maritime Security Strategy and MDA White Papers
- 2001 (Aug) - ADM Loy article on MDA
MDA Post-9/11

- 2002 - USCG MDA Project Officer
- 2003 - Competing USCG Projects
- 2003 - USCG MDA PIO & Steering Committee
- 2004 - National MDA Summit & Senior Steering Group
- 2005 - NSMS & National Plan to Achieve MDA
- 2006 - GMII Director, 2007 - GMSA Director
- 2007 - DoD Executive Agent for MDA (SecNav)
Important Terms & Concepts

- Maritime Domain Awareness
- Global Maritime Intelligence
- Global Maritime Situational Awareness
- Common Operational Picture
- User Defined Operational Picture
- Services Oriented Architecture
- Federal Governance Structure
- Enterprise Hubs
“...the effective understanding of anything associated with the global Maritime Domain that could impact the security, safety, economy, or environment...”
**Maritime Domain Awareness (MDA)**

MDA = GMI + GMSA

**GMI: Global Maritime Intelligence**
- Predictive threat warning and cueing
- Response to decision maker requests

**GMSA: Global Maritime Situational Awareness**
- Unclassified
- Identify/understand trends
- Anomaly detection
- “Maritime Normal”

UNCLASSIFIED
**COP vs UDOP**

**Common Operating Picture**
- One picture/view
- Central analysis
- High bandwidth
- Point to point sharing
- Difficult to modify

**User-Defined Operating Picture**
- Standard data, infinite pictures/views
- Access to raw data/Everyone an analyst
- Only needed info transmitted
- Community data sharing
- Easy to add users, applications
Current Point-to-Point Data Sharing

Source
- AIS Data
- DSC MSG, voice, LOPs
- Radar, Video, other Sensors
- SANS Data
- IRVMC Data
- Deepwater assets, Sensors, cameras
- NOAA VMS
- DOD data
- DHS data
- NTM data

Collection
- NAIS
- R21
- Sector Systems: Hawkeye C4I Suite PAWSS CG VTS
- SANS
- IRVMC
- DW C4ISR
- CG VMS
- DOD Systems
- DHS Systems
- Intel Systems

Processing
- MISLE
- GCCS
- CGC2
- MAGNET

Customers
- Sectors
- Area
- Districts
- MIFC
- ICC
- DHS
- DOD

This is an oversimplification to show basic context and not to be mistaken for system architecture.
Services Oriented Architecture

DATA INPUTS
- Commercial Vessels
- Government Vessels
- Recreational Vessels
- Cutters and Deepwater Assets
- Aids to Navigation
- Aircraft

ENTERPRISE SERVICE BUSINESSES
- Business Activity Monitor
- Business Process Management
- Communication, Data Movement
- Event and State Monitoring
- Integration Broker
- Intelligence Routing
- Process Manager
- Transformation
- Messaging, Gateways, File Transfer
- Metadata Management
- Development Tools
- Management Tools
- Security Directory

SYSTEMS
- Coast Guard
  - MISLE
  - COP
  - MAGNET
  - NAIS
  - R21
  - C21
  - LRIT
- Partners
  - Intelligence Community Systems
  - DoD Systems
  - DHS Systems
  - DHS
  - SMCs
  - DoD
  - OGA
  - COI

END-USERS
- Coast Guard
  - HQ
  - ICC
  - MIFCs
  - Districts
  - Sectors
- DHS
  - DHS
  - SMCs
  - DoD
  - OGA
  - COI

Legend
- Service Consumer
- Systems
- Service Provider
- User Group
“Maritime Domain Awareness… a key national security requirement… requires integrating all-source intelligence, law enforcement information, and open-source data from the public and private sectors…”
National Plan to Achieve MDA

Goals

- Enhance transparency
- Enable accurate, dynamic and confident decisions and responses
- Freedom of navigation and flow of commerce

Objectives

- Persistently monitor the global maritime domain
- Access and maintain data on vessels, cargo, facilities, people and infrastructure
- Collect, fuse, analyze, and disseminate information
- Access, develop and maintain MDA-related mission performance data
At a minimum the CONOPS will detail:

- Interagency Coordination
- Shared Situational Awareness
- Support MOTR
- Integration with GMII
A federal, interdepartmental and interagency leadership structure

Global Maritime Intelligence Integration
Director: RADM Rich Kelly

Maritime Domain Awareness Stakeholder Board

Global Maritime Situational Awareness
Director: RDML Lee Metcalf
Deputy: DHS  COS: DOT

Vessels
ICC/NMIC

Cargo
NTC/CBP

Architecture
DoD/Navy

Infrastructure
NICC/DHS

People
NTC/CBP
Enterprise Hubs

Inventory & Catalog
Facilitate Sharing

Coordinate Information Flow
Identify Gaps
The Goal – Level 3

Understand:
1. What happened
2. What is happening
3. What will happen next

National Maritime Picture
Questions?