



**Program Executive Office  
Command, Control, Communications,  
Computers and Intelligence (PEO C4I)**

# **Maritime Domain Awareness (MDA)**

**Oct, 2007  
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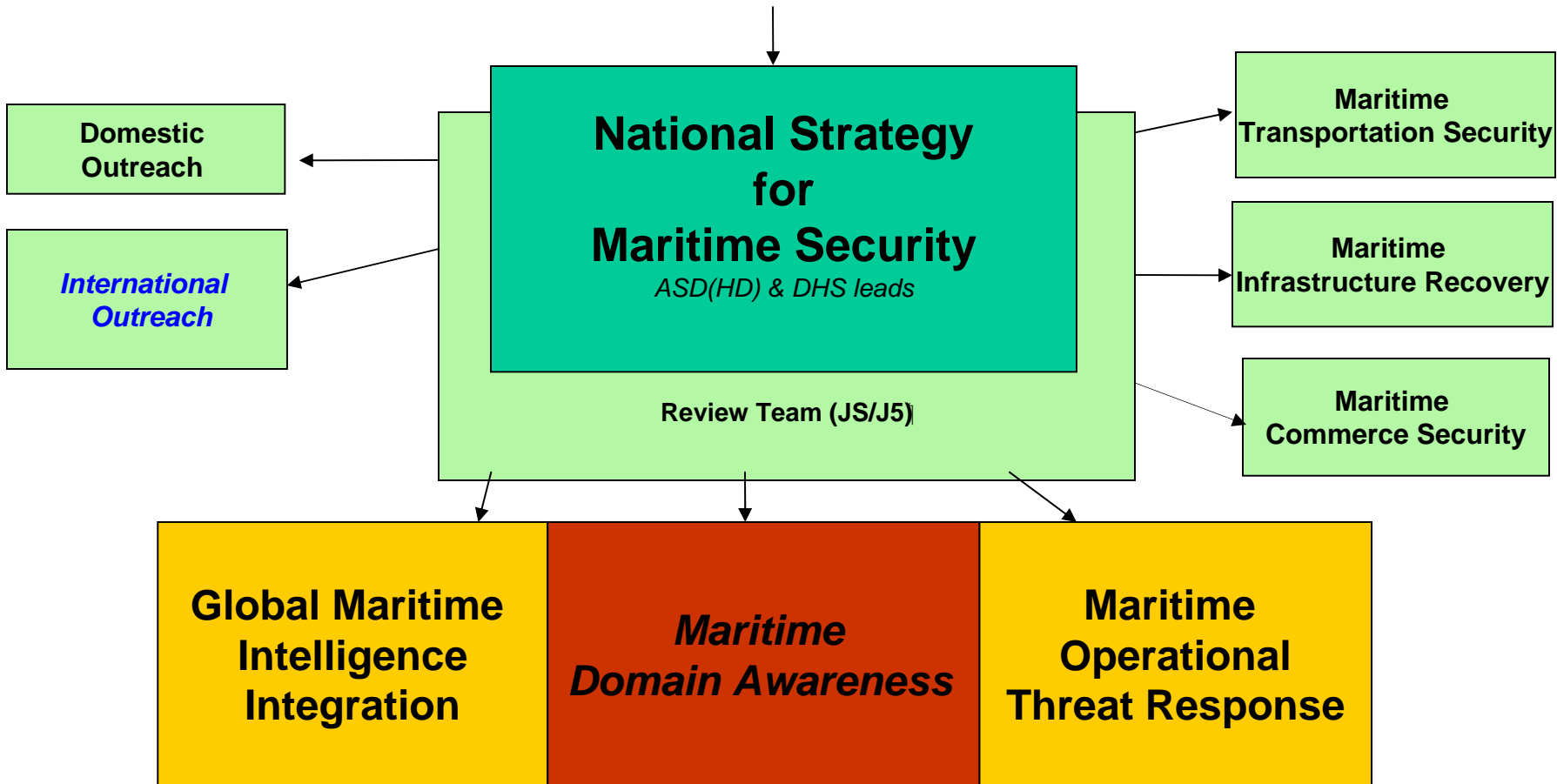
**PEO C4I**





# Maritime Domain Awareness Strategic Concept

**NSPD 41 / HSPD 13  
Maritime Security Policy**





# MDA Defined

- *Maritime Domain Awareness is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy, or environment of the United States.*
  - National Strategy for Maritime Security
- *“No one nation has the resources required to provide safety and security throughout the entire maritime domain. Increasingly, governments, non-governmental organizations, international organizations, and the private sector will form partnerships of common interest to counter these emerging threats”*
  - A Cooperative Strategy for 21<sup>st</sup> Century Seapower



# MDA Requirements


- Persistently Monitor in the global maritime domain:
  - Vessels and Craft
  - Cargo
  - Vessel crews and passengers
  - All identified areas of interest
- Access and maintain data on vessels, facilities and infrastructure
- Collect, fuse, analyze and disseminate information to decision makers to facilitate effective understanding
- Access, develop and maintain data on MDA-related mission performance

*Source: National Plan to Achieve Maritime Domain Awareness*



# DON/DOD MDA Acquisition

- 17 May 07 SECNAV memo laid out objectives for expeditiously fielding a prototype MDA capability
- 13 July 07 ASN RDA ADM established PEO C4I as MDA Acquisition Lead
- 03 August 07 SECNAV identified as MDA EA for DOD

  
 THE SECRETARY OF THE NAVY  
 WASHINGTON, D. C. 20380-1000  
 May 17, 2007

MEMORANDUM FOR CHIEF OF NAVAL OPERATIONS  
 COMMANDANT OF THE MARINE CORPS  
 VICE CHIEF OF NAVAL OPERATIONS  
 ACTING DEPUTY UNDER SECRETARY OF THE NAVY  
 ASSISTANT SECRETARY OF THE NAVY (RESEARCH,  
 DEVELOPMENT & ACQUISITION)  
 DIRECTOR, NAVAL CRIMINAL INVESTIGATIVE SERVICES

SUBJECT: Maritime Domain Awareness (MDA) Capability

For the past several months, we have been discussing MDA Capability. At the beginning of April, OPNAV and I met to discuss developing a plan. In doing so, Navy staffs at interested departments and agencies within the U.S. Government, in discussion with the Vice Chief of Naval Operations, and others, I believe that the Department of the Navy is in a good position to lead the effort in developing, operational MDA Capability.

As we set about this task, it will be important to ensure that Presidential Directive 41 (NSPD-41) establishes the security, and protecting our interests in the Maritime Domain that "Maritime Domain Awareness" efforts be undertaken.

To develop an enhanced capability to identify threats early and as distant from our shores as possible, surveillance, observation, and navigation system picture accessible throughout the United States.


As the NSPD makes clear, MDA is an issue of national security, and it is to disseminate MDA down into actionable information at once, our focus will be on creating a list of the most immediate threats/issues faced by the United States across a well-defined, geographically-limited area.

Because of pressing operational needs, we will provide capability to the CENTCOM and PACOM as the US Coast Guard, JFET-West, and select Port of Call friendly and allied nations. This first spiral will achieve this by August 2008. Subsequent spirals of effort will be directed to the United States, the Caribbean, and friendly nations in Africa), and will add additional capabilities.

The 30 April MDA plan, developed by the O-7, will provide improvements at the tactical and operational level and use of all maritime data and for Maritime Operations. Further, there will be significant enhancements at the

To support the implementation of the MDA program, the following actions are required:

- Establishment of a C4I MDA Program Management Team (PMT) from appropriate SPAWARs.
- Architectural studies, analysis, and development of baseline architecture for the prototype.

  
 THE ASSISTANT SECRETARY OF THE NAVY  
 PROGRAM EXECUTIVE OFFICE FOR C4I  
 WASHINGTON, D.C. 20380-1000  
 JUL 13 2007

MEMORANDUM FOR PROGRAM EXECUTIVE OFFICER FOR COMMAND,  
 CONTROL, COMMUNICATIONS, COMPUTERS AND  
 INTELLIGENCE

SUBJECT: Maritime Domain Awareness Acquisition Decision Memorandum



In response to SECNAV memorandum of May 17, 2007, on Maritime Domain Awareness (MDA) Capability, I am establishing PEO C4I as the MDA Acquisition Lead. PEO C4I will be responsible for developing a prototype solution, in accordance with applicable law and regulation, to meet the requirements of the MDA program. The prototype solution should have growth potential, as appropriate.


The initial MDA spiral shall be focused on port threats. Additionally, MDA data shall be exchanged at Partner and coalition partner using appropriate methods and need-based deployment. MDA acquisition efforts from programs of record, Joint Capabilities Technology (JCT) program, Commercial Off-the-Shelf (COTS) Deployment Capabilities that support the SECNAV MDA program.

The MDA prototype implementation shall use and process in accordance with SECNAV instruction 3000.2 of May 12, 2005, to exact the urgent operations (UO). As such, I direct you to establish an MDA program which shall include, at a minimum, the following (but not limited to): logistics; deployment; system engineering; of

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 DEPUTY SECRETARY OF DEFENSE  
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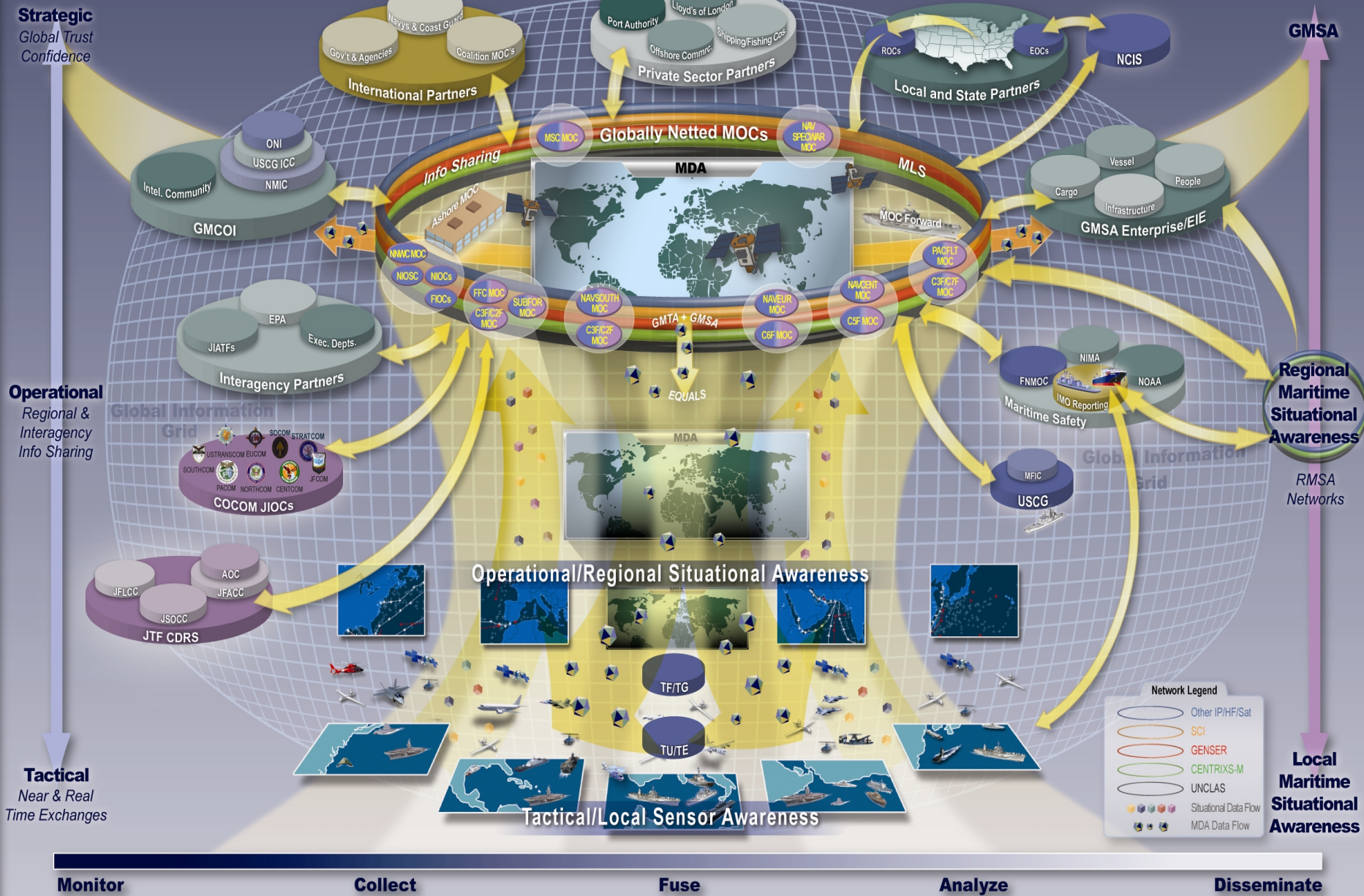
MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS  
 CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
 UNDER SECRETARIES OF DEFENSE  
 COMMANDERS OF THE COMBATANT COMMANDS  
 ASSISTANT SECRETARIES OF DEFENSE  
 GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE  
 INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE  
 DIRECTOR, ADMINISTRATION AND MANAGEMENT  
 DIRECTORS OF THE DEFENSE AGENCIES  
 DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Implementation of Maritime Domain Awareness

Maritime Domain Awareness (MDA) will improve the Department of Defense's ability to collect, fuse, analyze, display, and disseminate actionable information and intelligence to operational commanders. This memorandum provides initial implementation guidance to the Department to implement the Presidentially-approved National Plan to Achieve MDA and its accompanying National Concept of Operations and Interagency Investment Strategy. Effective immediately:

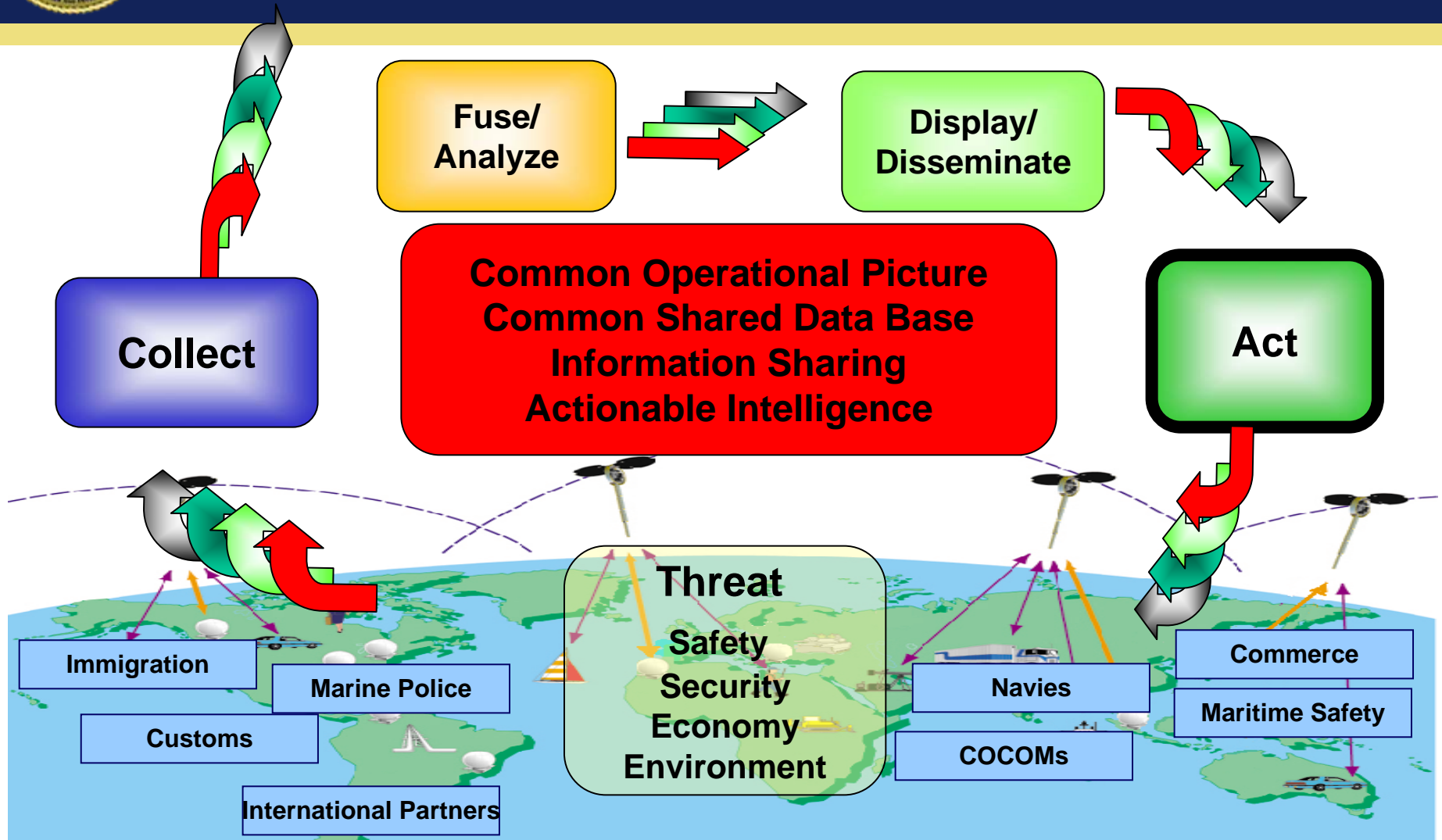
- The Secretary of the Navy is designated Department of Defense Executive Agent (EA) for MDA in accordance with DoD Directive 5101.1. In executing the responsibilities contained within DoDD 5101.1, the EA will:
  - Execute MDA initiatives within the Department and coordinate on MDA policy with the Principal Staff Assistant (PSA).
  - Ensure continuous, global, and sustainable support for the implementation of MDA, coordinated with the DoD Components.
  - Identify MDA requirements and resources, coordinating closely with the Chairman of the Joint Chiefs of Staff (CJCS) in the (1) consolidation of Combatant Commander requirements, (2) performance of required operational evaluations, (3) validation of requirements through the Joint Capabilities Integration and Development System, and (4) proposals for an MDA Program Operational Memorandum.
  - In coordination with the OSD PSA and CJCS, establish liaison with appropriate interagency partners in conducting the duties of EA, and provide support to the OSD PSA on interagency and DoD MDA policy initiatives.

# Navy Maritime Domain Awareness OV-1





# The MDA Concept



Source: NORTHCOM



# MDA Capabilities

- Collect, Fuse, and Monitor/Visualize
  - Vessels, Cargo, People, and Infrastructure
- Analyze
  - Detect anomalies, trends, and patterns
  - Predict behaviors
- Identify threats to the U.S., U.S. forces overseas, or U.S. partners and Allies
- Identify illegal activities
- Collaborate across departments, agencies, coalition and non-traditional partners
  - Collect & Disseminate data from & to the tactical edge
  - Across and at multiple security domains





# Spiral 1 Prototype Goals

- Establish foundation for lasting MDA capability
- Leverage ongoing JCTDs, RTTs, and RDCs
  - Technology maturity is critical
- Use technologies ready for Fleet introduction
- Deploy a select set of MDA capabilities to a limited number of locations
  - CENTCOM & PACOM AORs
  - Interagency Partners
  - Domestic and international port data
- Share data with international strategic partners
- Share data with additional interagency partners
  - USCG, NORTHCOM(\*CMA feed), JIATF-W
- Achieve IOC by August 2008

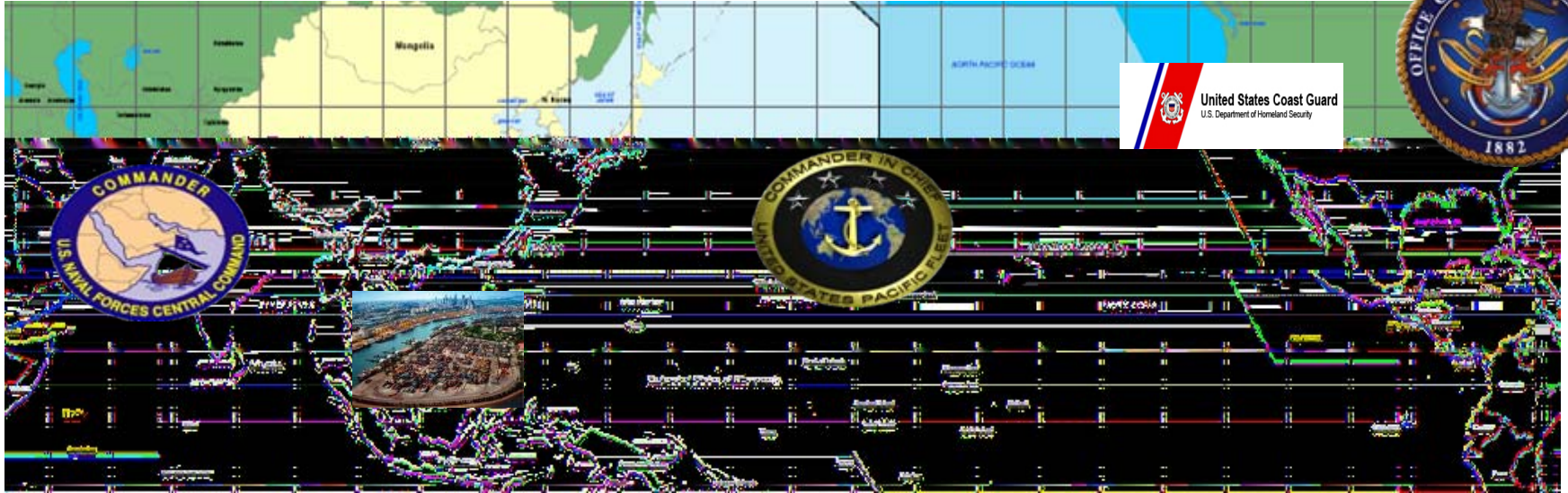


# Spiral 1 Capabilities

- Enhanced Vessel Tracking
- Initial situational monitoring and threat detection
  - Automated monitoring, anomaly detection, and alerting
- Enhanced Extended Maritime Intercept Operations (E-MIO)
- Enhanced sharing of port and coastal data
- Broad collaboration and data sharing capabilities between analyst and agencies, as well as with coalition and non-government organizations
  - CENTRIXS
  - Geospatial visualization tools
  - Collaborative tools – Google, NCES, etc



# Spiral 1 Capabilities/Nodes



## NAVCENT, MIFC-PAC and PACFLT (C3F/C7F\*)

- Limited Anomaly Detection
- Vessel Tracking
- Initial Threat Assessment
- Regional Maritime Data Archives
- Non-Navy Maritime Data Access
- Maritime Data Archives
- Collaborative Toolset

## U.S. Port Data - San Diego

- Integrated port transit & sensor data
- Collaborative toolset

## NCIS Field Sites

- MTAC data fusion-analysis
- Expanded Regional SMEs
- Collaborative toolset



## Initial AOR Deployers

- Automated Afloat Maritime Data Collection (E-MIO)
- Improved wireless transmission of Biometric data
- Collaborative toolset
- AIS, GCCS-M, HF-IP, SNR



## International Partners

- Collaborative tool set
- Port transit data
- Coastal AIS data\*

## JIATF-W

- Regional Maritime and Law Enforcement Data Archives
- Expanded Regional SMEs
- Collaborative Toolset



## NMIC/ONI

- Global Maritime Data Archives
- Limited Anomaly Detection
- Vessel Tracking and Threat Assessment
- Non-Navy Maritime Data Access
- Collaborative Toolset
- Integrated EMIO data capture and distribution

\* some locations will use remote access



# Questions



# Backup



# Acronyms

AIS – Automatic Identification System	JTAA – Joint Test Asset Activity
BTR – Below Threshold Request	MAGNET – Maritime Awareness Global Network
CAS – Collaboration At Sea	MASS – MDA AIS Sensor Server
CENTRIX-M - Combined Enterprise Regional Information Exchange System for the Maritime Environment (CENTRIXS-M)	MDA – Maritime Domain Awareness
CFT – Cross Functional Team	MHQ/MOCs – Maritime Headquarters/Maritime Operations Centers
CMA – Comprehensive Maritime Awareness	MIO – Maritime Interdiction Operations
COP – Common Operational Picture	ONI – Office of Naval Intelligence
DT – Developmental Testing	POR – Program of Record
E2E – End-to-End	QRA – Quick Reaction Assessment
E-MIO – Expanded - Maritime Interdiction Operations	RTT – Rapid Technology Transition
FASTC2 AP – Fast Connectivity for Coalition Agents Program	RDC – Rapid Development Capability
FDCE – Federated Development & Certification Environment	SCC-J – Sector Command Center-Joint
GCCS-M – Global Command and Control System, Maritime	SIMEX – Simulation Exercise
GCCS-I3 – GCCS Integrated Imagery & Intelligence	SMS – Sensor Management System
GMSA – Global Maritime Situational Awareness	SSAA – System Security Authorization Agreement
IOC – Initial Operating Capability	TAANDEM – Track Assessment and Anomaly Detection Maritime
JCTD – Joint Capability Technology Demonstration	TTP – Tactics, Techniques, and Procedures
JIATF – Joint Inter-Agency Task Force	TW 08 – Trident Warrior 08