



MDA Data Sharing Community of Interest

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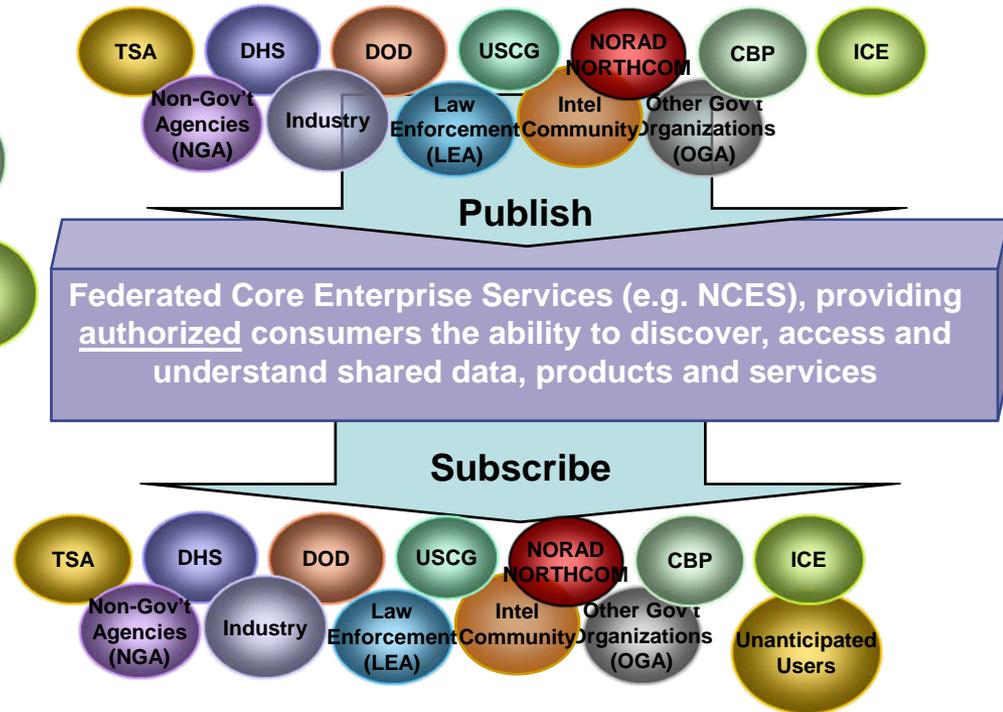
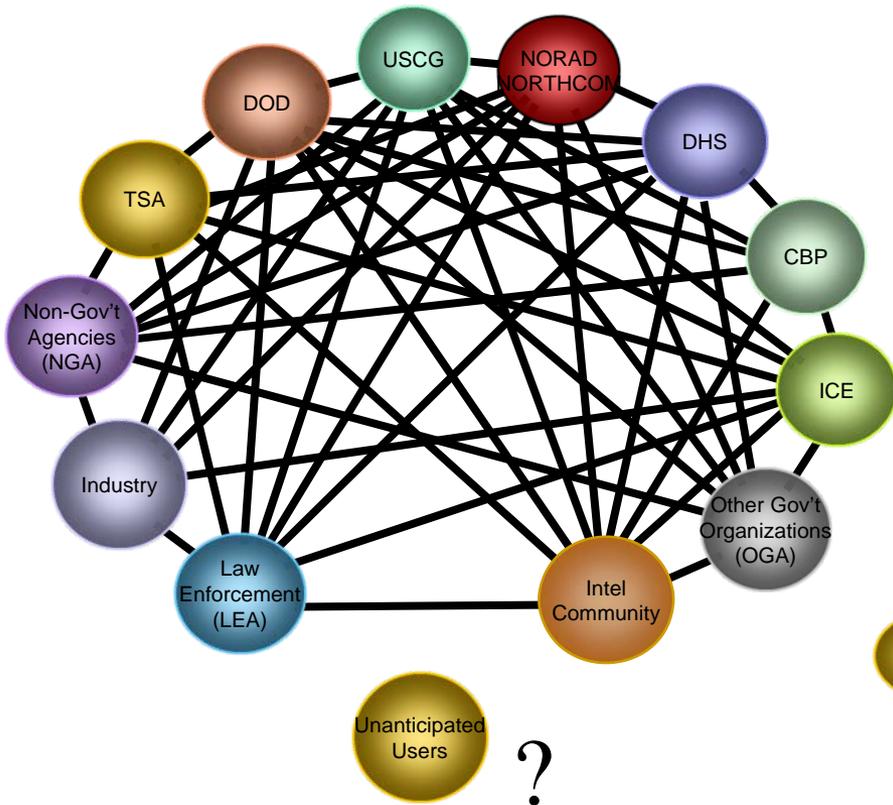
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Changing the Paradigm



... Point-to-point (coupled) data sharing ...
 ... Not extensible, agile or flexible ...
 ... Grows exponentially in both complexity and expense ...



... Net-Centric data sharing ...
 ... Decouples data providers and consumers ...
 ... Extensible, flexible and responsive ...



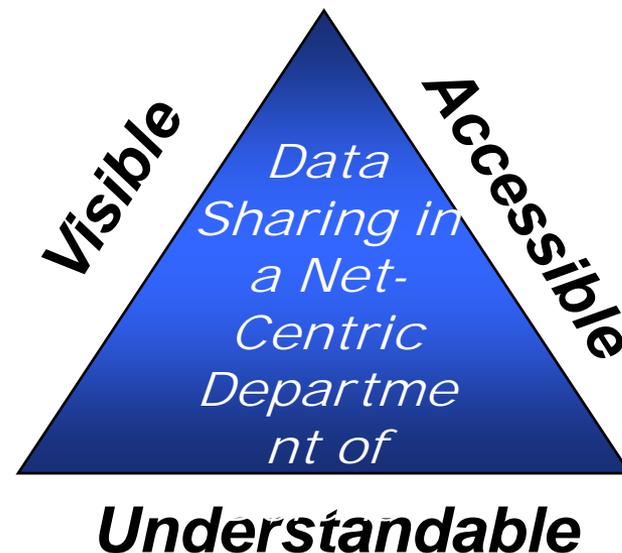
Net Centric Data Strategy

- Starts with an understanding and implementation of DoD Directive – **Data Sharing in a Net-Centric Department of Defense - DoDD 8320.2**, December 2004
 - Make data discoverable, accessible and understandable
 - DOD Guidance – “Guidance for Implementing Net-Centric Data Sharing” - **DoD 8320.02 – G**, April 2004
 - Creating an MDA Community of Interest
 - Education: Understanding the concept...



Communities of Interest

- A collaborative group of people that must exchange information in pursuit of its shared goals, interests, missions, or business processes and therefore must have a shared vocabulary for the information it exchanges ... **DOD Directive 8320.2**

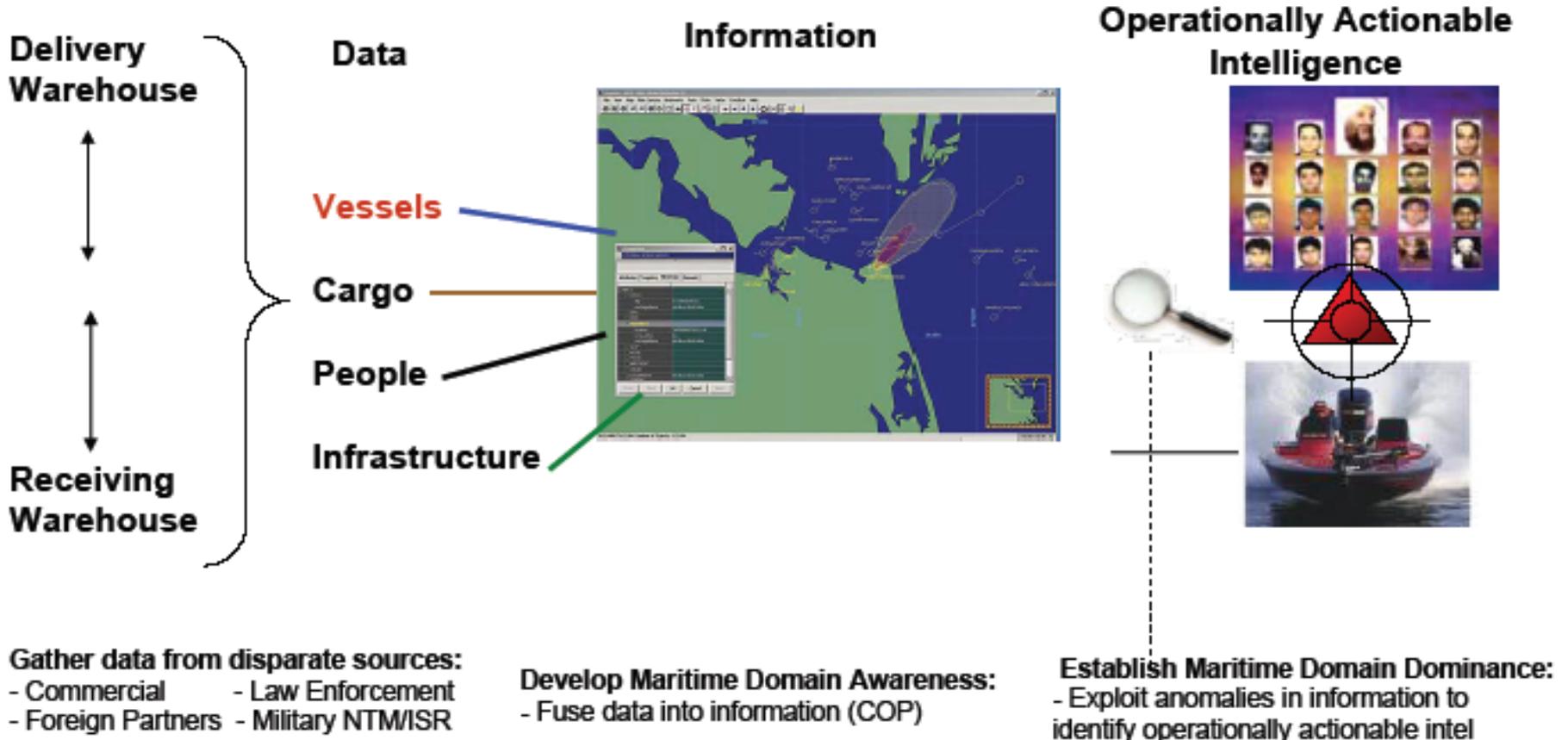


MDA DS COI
formed in
February 2006



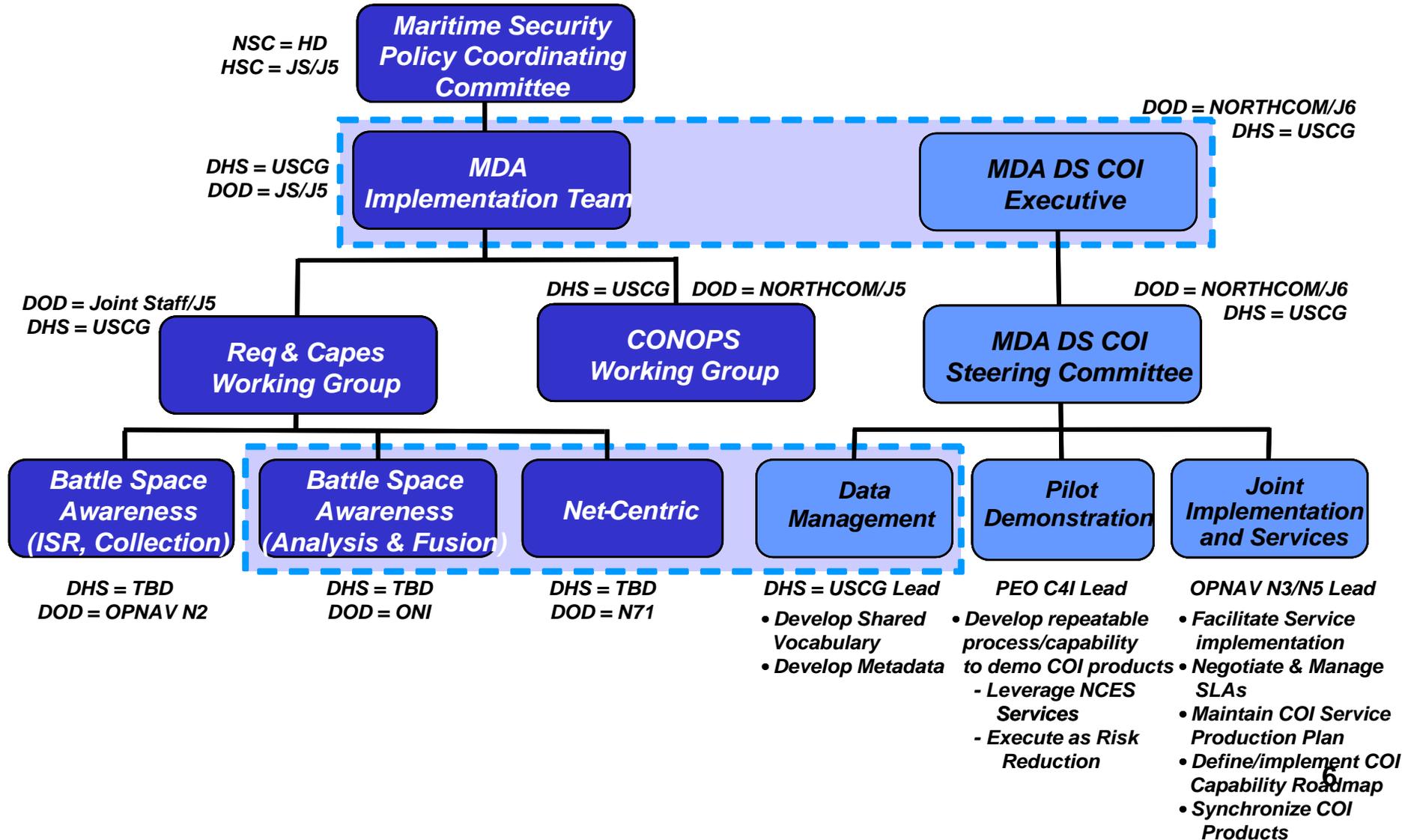
The MDA Challenge

Current Tasking: Corresponds with MDA Essential Tasks: Find, ID, track





MDA DS COI Governance





Net Centric Data Strategy Goals

Visible

Is an information resource discoverable by most users?

Accessible

Is it connected to the network(s), and are tools readily available to use it?

Understandable

Can it be intelligibly used? Are the semantics well documented?

Trusted

Is the source, accuracy and currency of the resource available to users?

Interoperable

Can it be easily combined or compared with other information or mediated?

Responsive

Is the resource answering user needs? Are robust, direct user feedback mechanisms in place to guide development?



Step 1: Vocabulary

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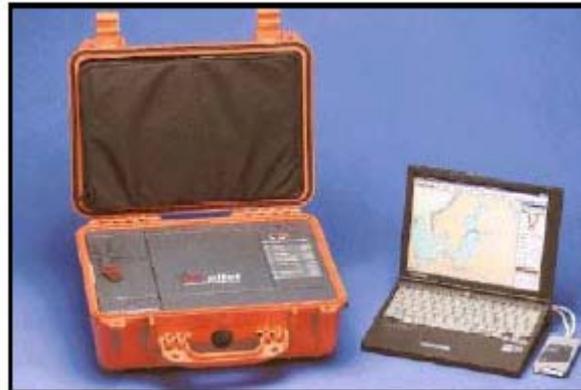
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What MDA Data First?

- The Automatic Identification System (AIS) is a shipboard broadcast transponder system operating in the Very High Frequency (VHF) maritime band that is capable of sending and receiving ship information, including Navigation (Position, Course, Speed ...), Identification (Name, Call Sign, Length, Beam ...), and Cargo (Draft, Type, Destination ...).



Portable AIS Equipment

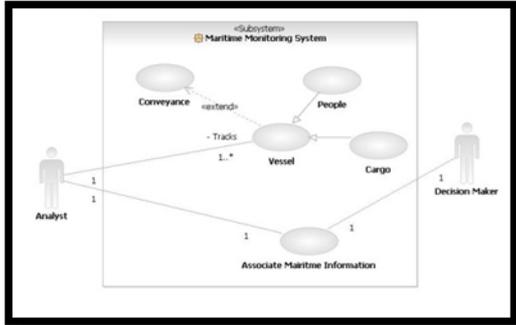


Data Management WG

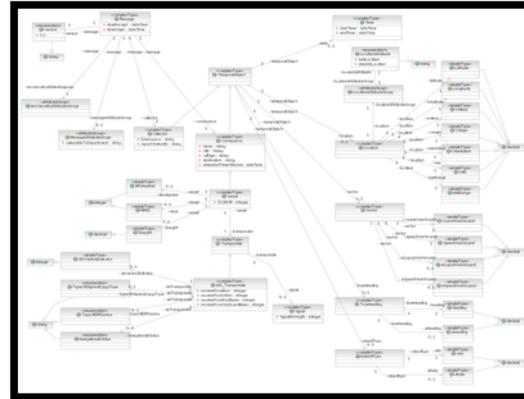
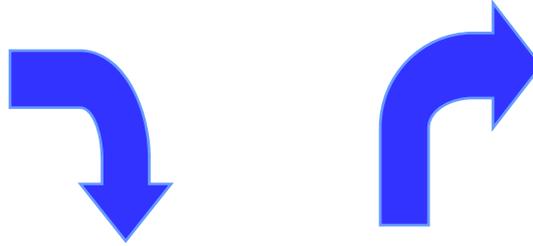
- The goal of the DMWG was to produce an MDA community defined vocabulary based on:
 - Needs of MDA DS COI stakeholders
 - And the existing schemas within the organizations of the stakeholders
 - Initiatives interested in our activities
 - International Maritime Organization (IMO) specification for Automatic Identification System (AIS)
 - Objectives of the MDA DS COI pilot
 - Future plans to accommodate data fusion and aggregation



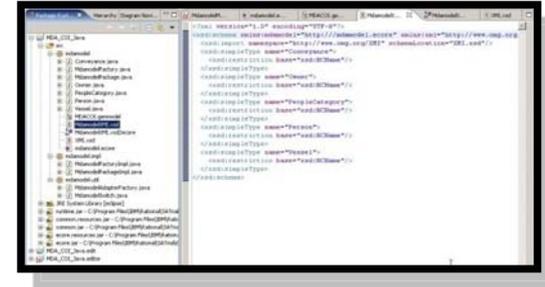
Vocabulary Development Process



2. Develop Use-Cases



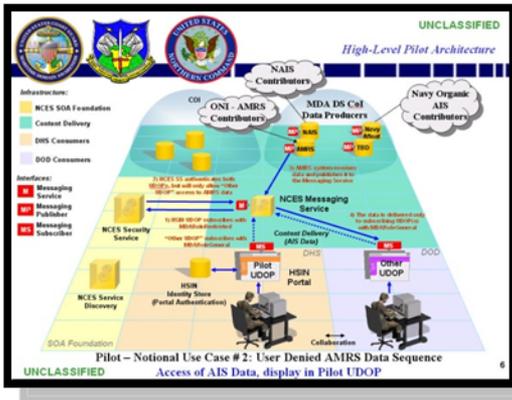
3. Develop Conceptual Model



4. Develop Schemas



5. Vocabulary Handbook
6. Register artifacts in MDR



1. Determine Pilot Demonstration



Step 2: Pilot Demonstration

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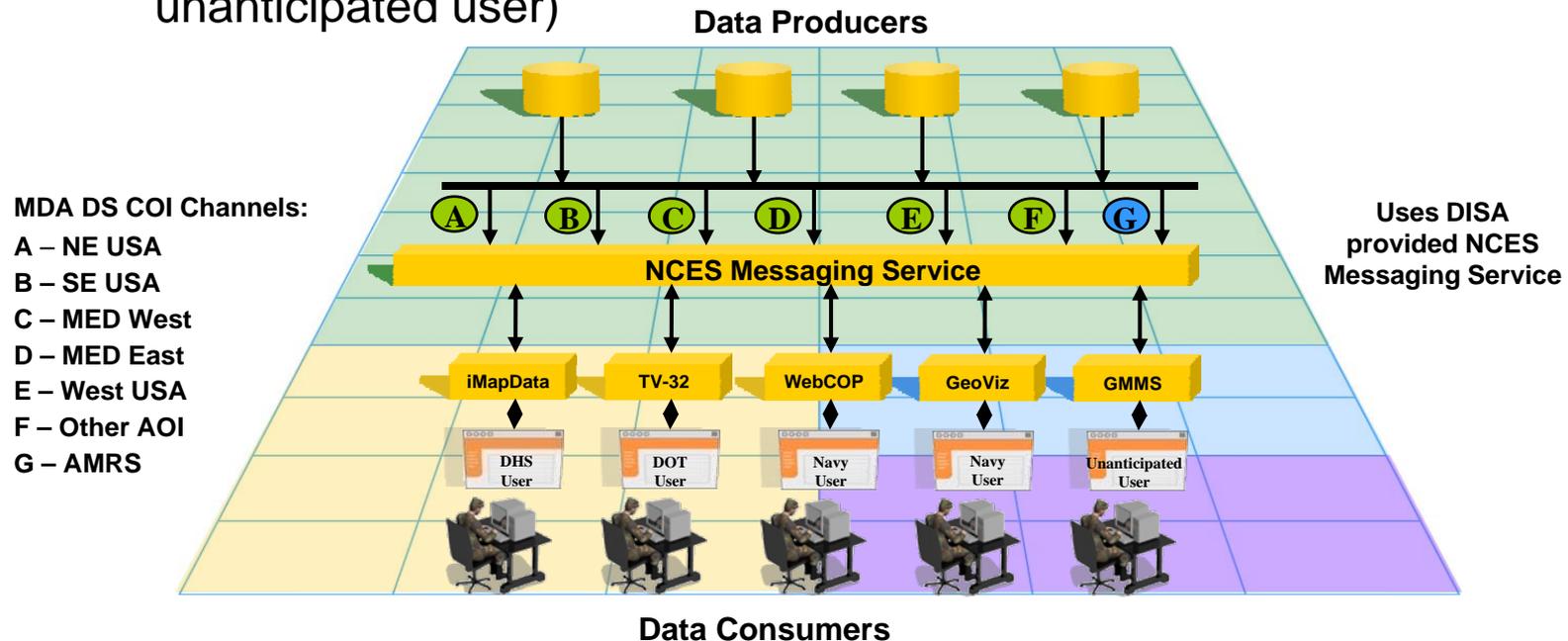
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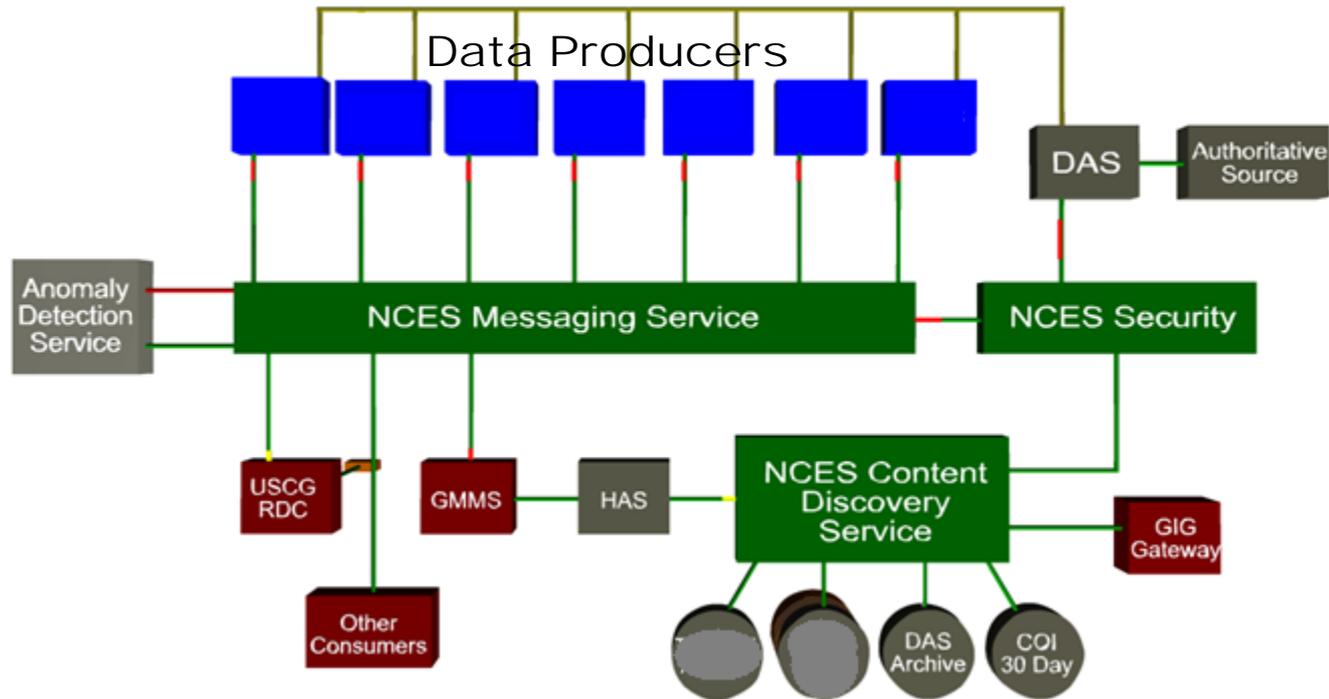
MDA DS COI Spiral 1

- Spiral 1 demonstrated in October 2006 was first instance of cross federal net-centric information sharing:
 - Data Producers: Navy, USCG, IC, DOT
 - Data Consumers: **iMapData Viewer, Google Earth, TV32, GeoViz, WebCOP, and Google Maps Mediation Service** (to support unanticipated user)





MDA DS COI Spiral 2

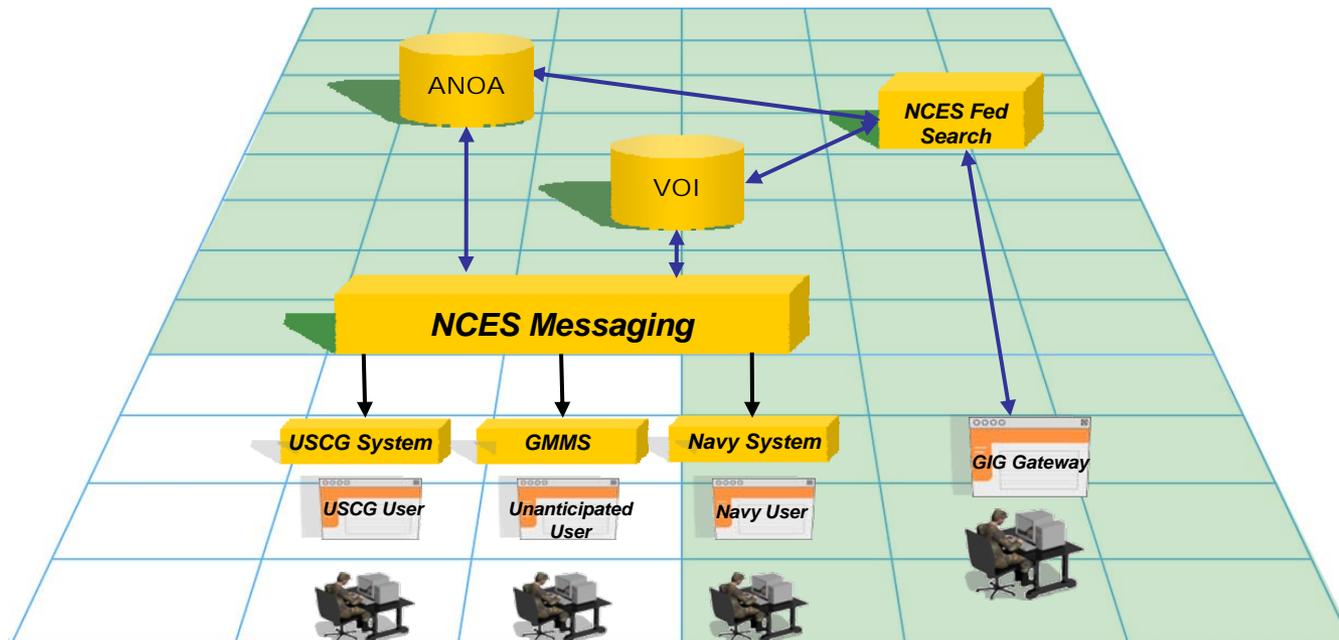


- Increase number of MDA data producers and consumers
- Develop Value Added Services
- Develop, expand, and enhance MDA data schemas
- Initiate transition of services to operational capabilities



MDA DS COI Spiral 3

- Expose new data sources:
 - USCG Advanced Notice of Arrival (ANOA) data
 - Vessel of Interest data
- Pilot an Attribute Based Access Control (ABAC) framework to allow authorized sharing of this restricted data (e.g., Personally Identifiable Information (PII))
- Support international net-centric information sharing efforts





MDA DS COI Strategy

- Use a common vocabulary and emerging core enterprise services to make data visible, accessible, and understandable.
- Facilitate a net-centric information sharing process.
- Leverage existing systems, don't build new ones.
- Enhance existing tools by providing a richer information environment.
- Create a “coalition of the willing.”

Considered an exemplar by DoD CIO



Net-Centric Coalition of the Willing

Spiral 1	Spiral 2	Spiral 3
Navy USCG DOT IC Google Maps Mediation Service	SeaHawk NORTHCOM SMS/SCC-J	Vessels of Interest USCG OSC ANOA Military Sealift Command
Operational		
R&D		
Geo Viz TV-32 WebCOP	RMAC MASTER CMA MIDAS TACSAT DRDC-Atlantic TRANSCOM - IRRIS	DRDC-Valcartier DHS iCAV Auto. Maritime Navigation JUMPS TENCAP RAGE NAVAIR SAIL PANDA DSTL UK – Telesto STRATCOM – ISPAN



What Have We Learned?

- Technical:

- NCES and other SOA infrastructures (Consolidated Afloat Networks and Enterprise Services (CANES), etc) are still evolving.
 - Strong partnership with NCES was basis of MDA DS COI's success.
- Tiered security model is required to support non-classified data as well as maritime military information.
- Enterprise wide identity management infrastructure is vital to dynamic information sharing policies.

- Governance:

- Most government net-centric information sharing is done only when driven by senior leadership.
- Effective governance is crucial to promoting common services and schemas across the enterprise.
- High level support can be leveraged to break down policy barriers.



What Have We Learned?

- Cultural:
 - DoD policy mandates net-centric information sharing, but provides no enforcement mechanism.
 - Net-centricity involves much MORE than posting information to a portal or providing portal access.
 - PoRs are systems oriented and not resourced to support information sharing.
 - MDA involves more than just Navy + Coast Guard.
- Implementation
 - Organizations need support to shift to the net-centric information sharing paradigm.
 - Coordination and collaboration is required between data producers, consumers, and core enterprise services providers.



***Thank you for your time
and attention***



Questions?