



OSD AT&L M&S CO M&S Asset Visibility and Re-use: Strategic Directions

**Presented to NDIA M&S Subcommittee
April 20, 2011**

The DoD Office of Security Review has cleared
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(Case No. 11-S-2142)



Agenda

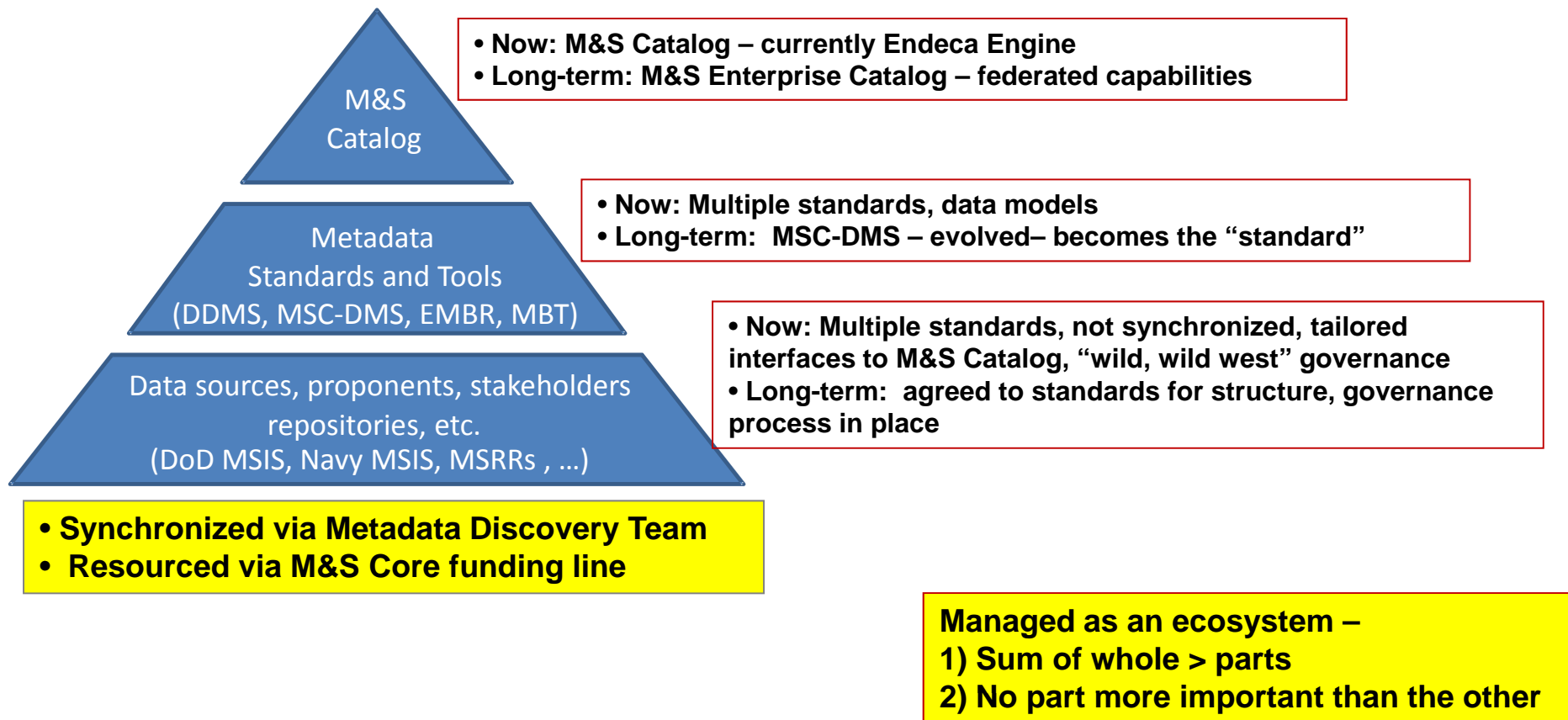
- **Sea Changes:**
 - DoDI 5000.59 M&S Asset Visibility (draft language)
 - M&S Core
 - M&S COI
- **Status Updates:**
 - M&S Enterprise Catalog Transition
 - M&S COI DMWG Meta Discovery Team Leadership

This is a unique opportunity to synchronize multiple programs – those resourced by the M&S CO Program Element and others – to support asset visibility and re-use within those programs as well as across the DoD M&S Enterprise.



OV-1: M&S Asset Visibility Tenets

First Cut





DoDI 5000.59 (Draft) – Overview of Draft Language on Asset Visibility



DoDI 5000.59 (*Draft*) and Visibility

- **It is DoD policy that:**

- a. M&S tools, data, and services, including models and simulations, and Data Assets (hereafter referred to collectively as “**M&S Assets**”) shall be visible and accessible within and across the DoD Components.
 - (1) M&S discovery metadata shall **conform to Department of Defense Discovery Metadata Specification (DDMS) and M&S Community of Interest Discovery Metadata Specification (MSC-DMS)** and be discoverable, searchable, and retrievable using the **M&S Enterprise Catalog and federated DoD discovery metadata search capabilities**.
 - (2) Visibility shall be accomplished by creating and associating discovery metadata per DoD Directive 8320.02, Data Sharing in a Net-Centric Department of Defense.
 - (3) When intellectual property considerations and restrictions apply to M&S Assets; all restrictions on use and reuse will be clearly noted in discovery metadata.
 - (4) USD(AT&L) may grant waivers to accommodate legacy discovery metadata.
- b. The development, use and reuse of government-owned, non-proprietary M&S tools, data and services shall be encouraged.
- c. The M&S Enterprise Catalog shall be used in assessing potential reuse.



DoDI 5000.59 (*Draft*) and Visibility

- **AT&L Responsibility**

- b. In coordination with DoD components, develop and implement the M&S Enterprise Catalog.
 - (1) Develop governance and **configuration management for the M&S Enterprise Catalog and MSC-DMS.**
 - (2) Develop and implement **minimum required discovery metadata** for all M&S Assets in accordance with the MSC-DMS.
 - (3) Develop and implement **process rules and procedures** to populate the M&S Enterprise Catalog with M&S Asset discovery metadata in accordance with the MSC-DMS.
 - (4) Coordinate with DoD Components to expand M&S Asset discoverability via **federation of authoritative data repositories with the M&S Enterprise Catalog.**
- e. Establish, manage the membership of, and chair (delegation authorized) the M&S SC. The M&S SC shall:
 - (7) **Advise and assist the USD(AT&L) in governance and configuration management** for the M&S Enterprise Catalog and the MSC-DMS



DoDI 5000.59 (*Draft*) and Visibility

- **The Heads of the DoD Components shall:**
 - a. Develop and maintain current discovery metadata on M&S Assets they are developing, managing or maintaining in accordance with this Instruction and Reference (c). M&S discovery metadata shall:
 - (1) **Conform to References (d) and (e).** **DDMS/MS-C-DMS**
 - (2) Identify intellectual property considerations and use restrictions, information protection (or security) guidance, and verification, validation, and accreditation documentation.
 - (3) Be visible in the M&S Enterprise Catalog. If a DoD Component has a waiver from the USD(AT&L) for compliance with Reference (e), then **metadata federation** with the M&S Enterprise Catalog for the purpose of M&S Enterprise discovery and visibility of component M&S Assets is required.
 - b. Review the M&S Enterprise Catalog for reuse opportunities prior to initiating development of M&S tools, data, and services (including models and simulations).



DoDI 5000.59 (*Draft*) and Visibility

- **DoD M&S discovery metadata specification policy exception and transition process**
 - a. Policy Compliance Options: The USD(AT&L) is the exception approving authority for DoD M&S discovery metadata. The USD(AT&L) can approve requests for exception to policy for using non-DDMS and MSC-DMS compliant discovery metadata environments, IAW the process and procedures in DoD Directive 8320.02, Data Sharing in a Net-Centric Department of Defense. The USD(AT&L) will consider the below options for continued operations of legacy M&S repositories, catalogs and warehouses which do not comply with this policy:
 - (1) A **waiver** may be granted while transitioning to compliance with the DDMS and MSC-DMS if the DoD Component discovery metadata for a legacy M&S repository, catalog or warehouse, if the DoD Component provides a transition plan to compliance with the DDMS and MSC-DMS within the waiver period. Such a waiver shall not exceed three year duration.
 - (2) A waiver will not be granted to a DoD Component that does not provide a **transition plan**.
 - b. To accommodate legacy discovery metadata implementations under approved waiver from the USD(AT&L), the USD(AT&L) shall, as much as practicable, **federate the M&S Enterprise Catalog with such M&S Asset sources** for M&S Enterprise visibility.
 - c. The USD(AT&L) may designate **subordinate boards and committees to develop procedures and processes** to implement provisions of this Instruction relating to approval or disapproval of discovery metadata policy compliance.



Why M&S *Enterprise* Catalog?

- A capability that enables the discovery of metadata about M&S Assets to facilitate visibility into the resources available across the DoD M&S Enterprise and within other federal and non-federal agencies engaged in M&S, and federated with the DoD M&S Enterprise.
- Sources of the M&S Assets described by the discovery metadata are maintained by DoD Components and other authoritative data and software repositories.
- Visibility into the discovery metadata enables a user/developer of M&S tools, data, or services to identify potential reuse opportunities relative to their requirements.

Not just the current version of the M&S Catalog



Why M&S Asset Visibility?

- **Our focus is more than M&S Catalog, or metadata, or data source integration, or MSIS, or metadata tools, or Metadata Discovery Working Group - its all of it, together**
- **M&S Asset Visibility, M&S Enterprise Catalog, Metadata standards, federation of M&S repositories are all key parts of the draft DoD Instruction 5000.59 – and this is the group that turns the instruction into reality**
- **We have to get this to a sustainable – and affordable – process**
 - Minimize curation / enrichment of data at M&S Catalog [metadata only]
 - Put onus for data quality, completeness, and relevance on those providing metadata on M&S assets
 - Establish standards and process from bottom– to–top
 - Provide help and resources to get there from top-to-bottom
 - Establish a road-map: without one, any road looks like a path to asset visibility and re-use



M&S Core



What's the M&S Core

- Portfolio of M&S Enterprise-level support capabilities resourced by the M&S CO PE
- Managed by Deputy, M&S CO with technical oversight of M&S Core subtasks by M&S CO Associate Directors
- Capabilities are those deemed to be in sustainment – development will continue to be resourced by High Level Task competed funding. A primary source of capabilities to be sustained via the M&S Core are capabilities developed via HLTs (“HLT off-ramps”)
- M&S Core tasks projected on 2-year basis, reviewed annually



2011 M&S Core Tasks

- **Standards Management and User Support**
 - M&S COI Discovery Metadata Specification (MSC-DMS)
 - High Level Architecture (HLA) Testing and Help Desk
 - SEDRIS
 - Develop and Maintain Standards using SDOs (SISO and INCITS)
- **Enterprise Support Tools (Sustainment & Integration)**
 - Maintain M&S Standards Profile & Data Warehouse
 - Maintain Web Based M&S Tools
 - M&S Standards Vetting Tool (SVT)
 - VV&A Documentation Tool (VDT)
 - Project Information Management Systems (PIMS)
 - Capabilities Requirements Tool (CRT)
 - M&S Catalog (Technical/Extension Support)
- **Project Management: JTIEC Program Manager**



M&S COI DMWG



COI Definitions

What is a COI?

“It’s all about the data.”

Community of Interest: A collaborative group of users that must exchange information in pursuit of its shared goals, interests, missions, or business processes and therefore must have shared vocabulary for the information it exchanges. – DoD Directive 8320.2

What is the Mission of the M&S COI?

“M&S data.”

M&S Community of Interest: To make M&S data and data-related tools & services viable and visible to M&S Communities and Components; align M&S with the DoD Net Centric Data Strategy; and provide a collaborative forum to influence, advise, and educate the global community with regard to M&S Enterprise Data issues.

What is the Mission of the DMWG?

M&S COI Data Management Working Group Mission: To focus on persistent M&S enterprise data issues and coordinate data requirements, standardization, and best practices within the M&S COI and among other COIs.

COIs address data organization, management, & maintenance



M&S COI Status

(What gives evidence that it will work?)

- **Formed and registered with NII with M&S CO as Lead (2005)**
 - Established a M&S Namespace in the DoD Metadata Registry (DMR)
 - Established Working Groups for Metadata and Mediation
- **Produced M&S COI Discovery Metadata Specification (MSC-DMS)**
 - Version 1.3.1 released (Mar 2010)
 - Version 1.4 in adjudication (Dec 2010)
- **RDG Implementation Plan Approved by M&S SC (Summer 2010)**
 - Specifies creation of Data Management Working Group
- **Updated entries in the COI Directory on the DMR (Oct-Nov 2010)**
 - <https://metadata.ces.mil/mdr/viewByCOIs.htm>
 - DoD CIO (NII) guidance on COIs is being followed
- **MSC-DMS in use by M&S Catalog product (IOC Jan 2011)**

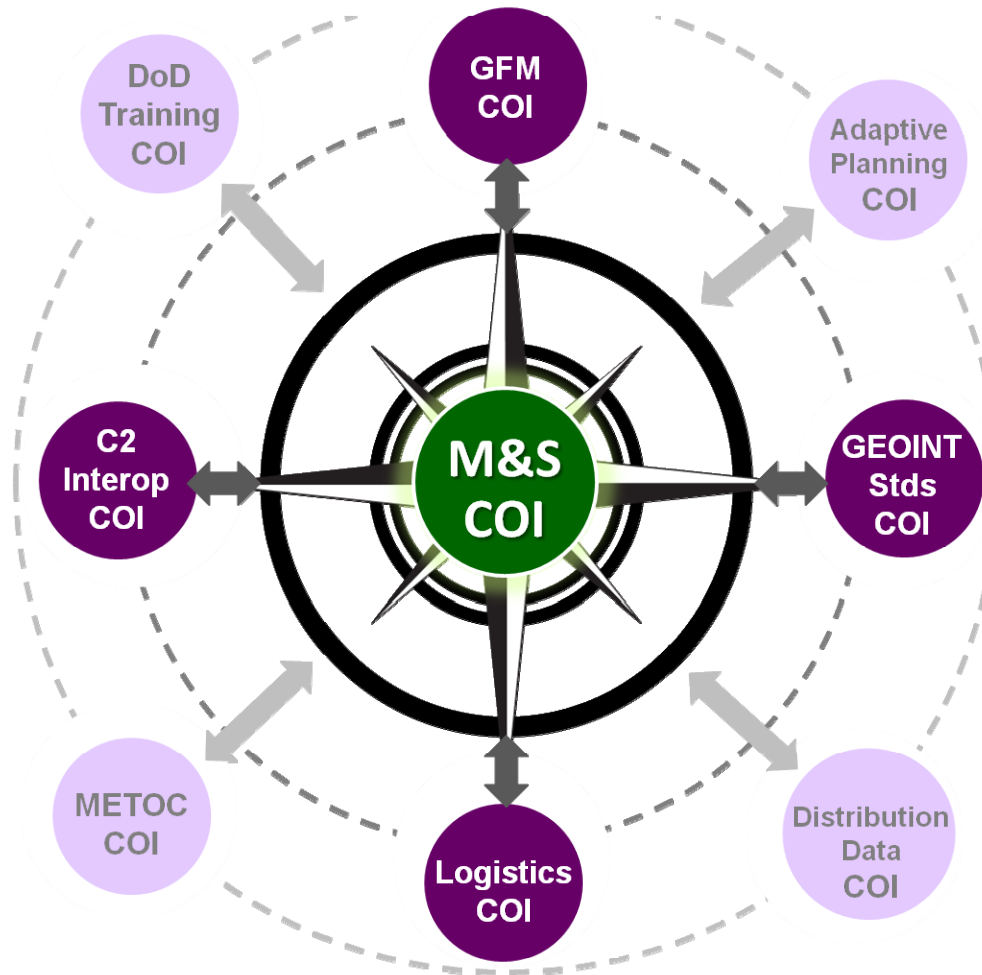
M&S COI is an active and effective COI focused on Enterprise Data



Collaboration with other COIs

(What is new in our approach?)

The M&S COI and its WGs will collaborate with related active and effective COIs and their WGs



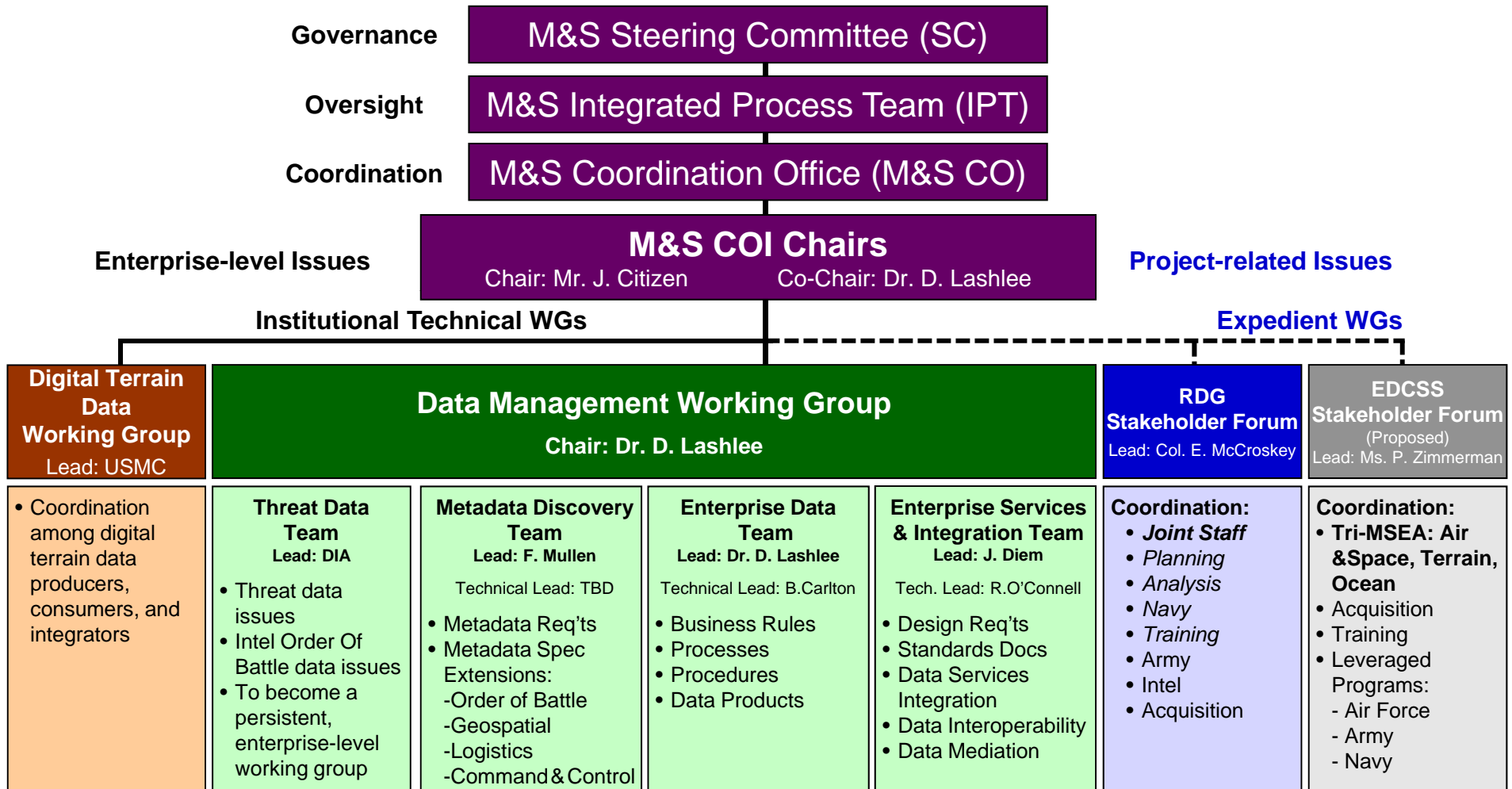
M&S COI approach is high payoff, low risk



M&S Community of Interest

Data Focused Working Groups

(How are we doing it?)



Introduce New Efficiencies to the DoD M&S Enterprise



M&S Catalog Transition Status



M&S Catalog Transition Plan

As Of: 6 Apr 2011

<u>Tasks</u>	<u>Status</u>	<u>Remarks</u>
Final SPAWAR Contract Support, due 15 Feb	Y	In progress
MSIAC Support Staff in place, due 11 Jan	G	
Hosting/Server Decision, due 15 Apr	Y	Working w/ M&SCO, MSIAC, OSD, CAPE IT teams
Hosting Migration, due End FY11	Y	Depends on plan
Final HLT Closeout Deliverables, due 15 Apr	Y	Coordination w/ CAPE, SPAWAR
Outreach / Source Integration	Y	MSIAC staff understudy w/ CAPE
Staff Training, Community Coordinators, etc	Y	Brown Bag held, more to come

- G** Proceeding as expected or complete
- Y** Needing to be watched
- R** Needing active attention



M&S Catalog Integrated Sources

Sources	Format Submitted	Last Update	# of Records
AFAMS	Database	2-Mar-11	242
AF Space	MSC-DMS 1.2 (1 file multi records)	28-Jul-10	72
ADTC	Database	7-Feb-11	467
Army	MSC-DMS 1.2 (1 file 1 record)	7-Nov-10	864
CAPE	Database	10-Jan-11	84
DVDT	MSC-DMS 1.2 (1 file 1 record)	4-Jun-10	34
IW M&S Sr Coord Grp	Database	1-Nov-10	5
IWS	MSC-DMS 1.2 (1 file 1 record)	4-Jun-10	83
LVC-AF	Database	6-Jan-11	7
MFS	MSC-DMS 1.2 (1 file 1 record)	4-Jun-10	53
DoD MSIS	MSC-DMS 1.2 (1 file multi records)	15-Mar-11	3280
Navy	MSC-DMS 1.2 (1 file 1 record)	7-Nov-10	753
NPS	MSC-DMS 1.2 (1 file 1 record)	4-Jun-10	663
OAML	Database	3-Jan-11	61
RDG	MSC-DMS 1.2 (1 file 1 record)	3-Nov-10	26
VVA Doc Archive	MSC-DMS 1.2 (1 file 1 record)	28-Dec-10	417



Way Forward



M&S CO Way Forward

- **M&S CO Roles:**

- Associate Director, Tools will lead the Metadata Discovery Team in support of the M&S COI / DMWG
 - Concurrently, has technical operations oversight of the M&S Catalog and integration efforts with metadata and data source capabilities (heretofore, call M&S Asset Visibility working group)
- Director, M&SCO and Associate Director, Data will chair the M&S COI and Data Management Working Group
 - Close association with Rapid Data Generation High Level Task
- Deputy Director and JTIEC PM provide portfolio management for M&S Core
 - Synchronizes requirements, on and off-ramps
 - Allocates budget (est. \$2M / year)
 - Contract management and oversight

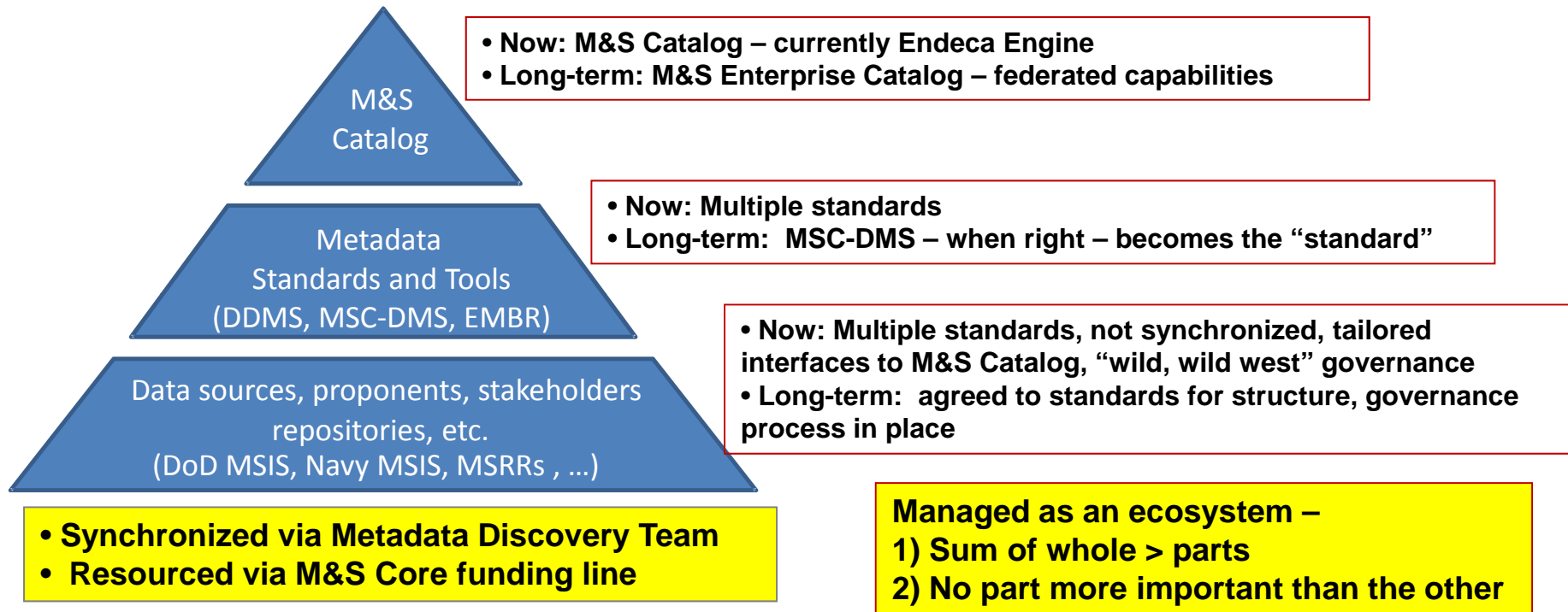
- **Requested JTIEC PM Roles**

- Assist in synchronization across HLTs
- Identify on-ramps: support to HLTs from other HLTs, M&S Core
- Project and guide off-ramps: HLT-derived capabilities that will wholly or partially transition to M&S Core for sustainment



M&S Asset Visibility OV-1 Tenets

First Cut



WAY FORWARD: Make this work. Get capabilities delivered, on-line, transitioned. Leverage the M&S COI and MS Core as a viable method to work across HLT, M&S Core boundaries.



Back-up