Making Installation Geospatial Information and Services (IGI&S) an Authoritative Source

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Topics

• What is Authoritative?
• New and Emerging Requirements for Authoritative IGI&S
• IGI&S Policy - Authoritative Data Source (ADS) Requirement
• The Concept of the ADS as Geospatial Library
• ADS Metrics and Measures – a Maturity Model Approach
• Questions
What We Mean by “Authoritative”

- DoDD 8320.02: “A recognized or official data production source with a designated mission statement or source/product to publish reliable and accurate data for use by customers…may be the combination of multiple, separate data sources.”
  - Has an organizational element
  - Is mission-based; relies on SME governance
  - Requires certain completeness & quality characteristics

- USAF Guidance: “ADSs should be discoverable, trustworthy, and designated authoritative by the Air Force.”

Expect new DoD Chief Management Officer (CMO) to establish a Chief Data Officer in near future
The Perspective from the Top

- DoDI 8130.01, “Installation Geospatial Information and Services” is three years old → implementation expected

- The Office of the Secretary of Defense (OSD) needs IGI&S to be visible, accessible, understandable, trusted, and interoperable

- OSD, COCOMs, and IC are using IGI&S for strategic planning and situational awareness

- Growing need for IGI&S to support emergency response, homeland defense at the enterprise level

- OSD Reorganization and DoD Reform Efforts
  - New Chief Management Officer
  - AT&L split into Acquisition and Sustainment (A&S), and Research and Engineering (R&E)
  - Real Property Reform Initiative – one of eight lines of business
OSD Level Requirements for IGI&S

• Current Requirements
  – Business mission planning, Impact analysis of current events
  – Financial Improvement and Audit Readiness (FIAR)
  – GEOINT Visualization Services (GVS) and Map of the World (high side data sources)
  – Mass Warning and Notification
  – WebEOC, etc. (common operating picture)
  – Real property categorization and sustainment cost modeling

• Emerging Requirements
  – Explosives Safety Siting (ESS) – web-based system
  – Mission Assurance Risk Management System (MARMS)
  – Global Force Management Data Initiative (GFM DI)
  – Real Property Management Reforms
Implementing DoDI 8130.01, *Installation Geospatial Information and Services (IGI&S)*

- **Key actions triggered by DoDI 8130.01**
  - Army officially tasked to manage the technical development of SDSFIE
  - IGI&S Governance Group (IGG) established and empowered to:
    - Develop IGI&S standards (mandated by ASD(EI&E))
    - Establish guidelines for portfolio management of IGI&S investments
    - Recommend CIP content and related processes to ASD(EI&E)
  - Components must implement an IGI&S authoritative data source (ADS) for each installation
  - Common Installation Picture (CIP): annual data call
  - DISDI PM becomes the EI&E Geospatial Information Officer (GIO)

*NOTE: Change 1 to DoDI 8130.01 issued 25 October, 2017*
DoDI 8130.01 requires an ADS for each installation

- ADS should include Common Installation Picture (CIP)
- ADS should include mission-driven data, such as:
  - Installation Master Plan
  - INRMP
  - E-9-1-1 CAD
  - AICUZ
  - NEPA Studies
  - DERP Documents
  - JLUS
  - ESS Plans
The ADS must provide mechanisms to make data visible, accessible, understandable, trusted, and interoperable.
ADS: The Geospatial Library for Each Installation

• The ADS is intended to be the “Geospatial Library” for each Installation

• Contents of the library are **curated**

• Contents of the library are **cataloged**

• The Librarian is the ADS Manager
  – A gatekeeper for contents
  – Performs curation
  – Maintains catalog

• Libraries contain English language materials – SDSFIE is the language for IGI&S

**Content Curation** is the act of discovering, gathering, and presenting digital content that surrounds specific subject matter.
ADS Dataset Workflow (notional)
**The ADS Maturity Model: Process Areas**

<table>
<thead>
<tr>
<th>Process Area</th>
<th>Description</th>
<th>Example Process Areas</th>
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</thead>
<tbody>
<tr>
<td><strong>Data Management Strategy</strong></td>
<td>Best practices for establishing, communicating, justifying, and funding a collaborative vision for data management.</td>
<td>Data Management Strategy</td>
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<tr>
<td><strong>Data Governance</strong></td>
<td>Best practices for ensuring broad participation in the practice and senior oversight of the effectiveness of data management.</td>
<td>Metadata Management</td>
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<td><strong>Data Quality</strong></td>
<td>Best practices for defining and implementing a collaborative approach for detecting, assessing, and cleansing data defects to ensure fitness for intended uses in business operations, decision making, and planning.</td>
<td>Data Profiling, Data Quality Assessment, Data Cleansing</td>
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<td><strong>Data Operations</strong></td>
<td>Best practices for specifying data requirements and managing implemented data across the entire supply chain.</td>
<td>Data Requirements Definition, Data Lifecycle Management, Provider Management</td>
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<tr>
<td><strong>Platform &amp; Architecture</strong></td>
<td>Best practices for establishing methods and standards that ensure the implemented data management platform successfully integrates, archives, and retains corporate data assets to support business objectives.</td>
<td>Architectural Approach, Architectural Standards, Data Management Platform, Historical Data, Archiving, and Retention</td>
</tr>
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*DISDI analysis and IGG feedback used to select “best fit” process areas from the CMMI Data Maturity Model*
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<th>Purpose</th>
<th>Defines the mechanisms, rules, processes, and methods used to validate and correct data according to predefined business rules.</th>
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<td>Capability Level 3 - Defined</td>
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</table>
| Capabilities | 3.1 Data cleansing occurs on ADS data prior to or during ingest process.  
3.2 Providers are directed or required to conduct data cleansing driven by the output of data quality assessments. |
| Products | • Data cleansing processes and best practices exist in QMP  
• ADS data has been cleansed according to Component QMP. |
| Measures | • 100% of CIP data in an ADS has been cleansed.  
• 90% (or greater) of Component CIP data in an ADS has been cleansed. |
| Capability Level 2 - Managed |  
| Capabilities | 2.1 Data cleansing occurs on ADS data prior to or during ingest process. |
| Products | • Data cleansing processes and best practices exist in QMP.  
• ADS data has been cleansed according to Component QMP. |
| Measures | • 90% (or greater) of CIP data in an ADS has been cleansed.  
• 75% (or greater) of Component CIP data in an ADS has been cleansed. |
| Capability Level 1 - Performed |  
| Capabilities | 1.1 Data cleansing occurs on ADS data. |
| Products | • Data cleansing processes and best practices exist in QMP.  
• ADS data has been cleansed according to Component QMP. |
| Measures | • 75% (or greater) of CIP data in an ADS has been cleansed.  
• 50% (or greater) of Component CIP data in an ADS has been cleansed. |
Our Vision

“To provide authoritative, cost-effective defense installation geospatial information and services for fact-based decision making across the DoD spectrum of operations.”

“In god we trust, all others must bring data”
- W. Edwards Deming