



# **A Metadata Standard for IGI&S: Spatial Data Standards for Facilities, Infrastructure, and Environment - Metadata (SDSFIE-M)**

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ESRI IUC



# Agenda

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- Overview and history of SDSFIE Metadata
- Description of SDSFIE-M
- Description of SDSFIE-M Implementation Schema
- Status and Description of SMIS Metadata Style for ArcGIS 10.1
- Next Steps



# SDSFIE Metadata (SDSFIE-M) 1.0

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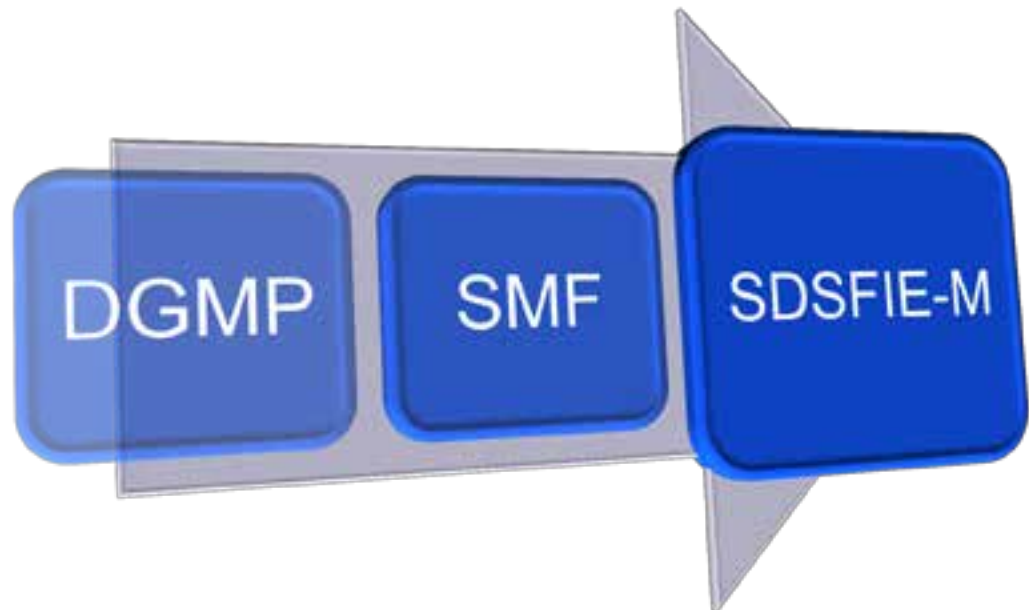
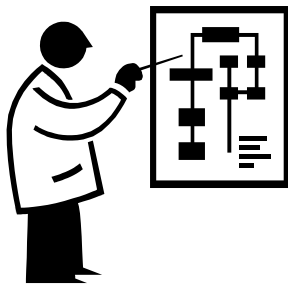
- Geospatial Metadata is required for all SDSFIE data, per OMB Circular A-16 and DoD Directive 5105.6 (GEOINT Functional Management)
  - Current SDSFIE metadata is compliant with old standard developed by Federal Geographic Data Committee (FGDC)
  - New ISO-based standards were finalized by NGA and FGDC in 2012
- DISDI Group developed a profile of ISO 19115 known as SDSFIE Metadata(SDSFIE-M) v1.0
  - Compliant with NGA and FGDC requirements as well as DoD Discovery Metadata Specification (DDMS)
- SDSFIE-M v1.0.1 (specification) is now complete and DISDI Group is drafting implementation guidance



# Evolving Names of SDSFIE-M

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- 2008-2011 à DISDI Geospatial Metadata Profile (DGMP)
- 2012-13 à SDSFIE Metadata Foundation (SMF)
- 2014 à SDSFIE Metadata (SDSFIE-M) and its implementation schema (SMIS)

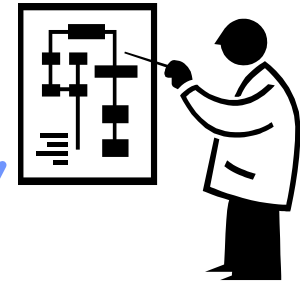




# What is SDSFIE-M?

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- SDSFIE Metadata (SDSFIE-M)



SDSFIE-M is a Class-2 profile of ISO 19115 and ISO 19115-2. Extensions to ISO 19115 adopted by DoD via the National System for Geospatial Intelligence (NSG) Metadata Foundation (NMF) are included, as are extensions from the North American Profile of ISO 19115 (NAP). SDSFIE-M will be updated in the future to be a Class 2 profile of ISO 19115-1, 19115-2, and 19115-3.



# What is SDSFIE-M? (Cont.)

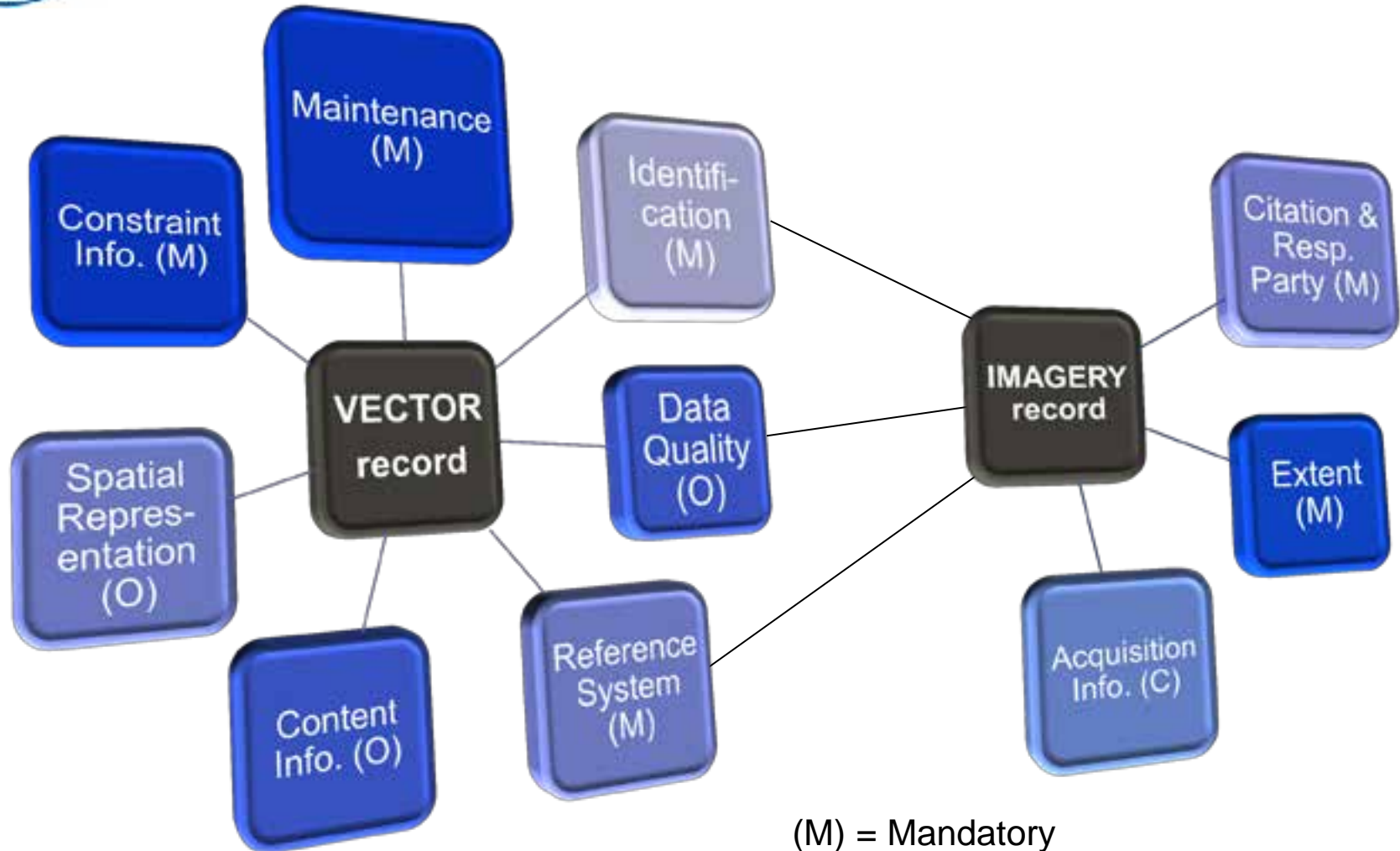
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- All extension elements from National System for Geospatial Intelligence Metadata Foundation (NMF) Parts 1, 2 and 3 are included except `MD_Distribution` and `NMF_DataIdentification`
- All extensions from North American Profile of ISO/TC 19115:2003 are included
- `SV_ServiceIdentification` from ISO/DIS 19115-1 is included
- A small number of extension elements related to SDSFIE application schemas and UNCLASS handling element are included
- Version 1.0 approved by the DISDI Group on 12 June, 2013
- Version 1.0.1 approved by the DISDI Group on 16 May, 2014



# The Elements of SDSFIE-M

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(M) = Mandatory  
(O) = Optional  
(C) = Conditional



# SDSFIE-M “Packages” (Elements)

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Name	Obligation	Description
<b>Metadata Entity Set</b>	Mandatory	The Metadata Entity Set Information provides the overview descriptions necessary to establish understanding and use of the metadata entity.
<b>Identification</b>	Mandatory	Identification information is used to specifically identify the data being described by the metadata.
<b>Constraints</b>	Mandatory	Constraint information is used to describe legal and security constraints placed on the resource to support access and use requirements.
<b>Data Quality</b>	Optional	Data quality information.
<b>Maintenance</b>	Mandatory	Maintenance information provides a clear understanding of how the resource is managed.
<b>Spatial Representation</b>	Optional	Spatial representation information reports the spatial mechanisms of vector and gridded resources.
<b>Reference System</b>	Mandatory	Reference system information provides the necessary data to identify how a spatial resource is positioned relative to the earth.
<b>Content</b>	Optional	Content information captures details relevant to a feature catalog and the description of the coverage.
<b>Application Schema</b>	Optional	Application schema information provides the means to report details regarding an application’s use of the metadata.
<b>Imagery Acquisition</b>	Conditional	Designations for the measuring instruments, the platform carrying them, and the mission to which the data contributes.
<b>Extent</b>	Mandatory	Extent provides for various descriptions of the geographic, temporal, and vertical extent of the resource
<b>Citation</b>	Mandatory	Citation provides for description of authoritative reference information, including responsible party and contact information.





# SDSFIE-M 1.0.1 Specification

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- Changed the name from SMF to SDSFIE-M.
- Fixed one typographical error.
- Add `PresentationFormCode` code list that was inadvertently left out of 1.0 specification
- Remove `ResourceAssociationType` code list that was duplicative of the `AssociationType` code list and unused in the remainder of the specification
- Remove the `UnclassHandlingCode` code list as it duplicates many of the entries in the IC ISM.
- Add a free text `handlingDescription` element to allow for additional information about the restrictions on handling the resource or metadata
- Updated the `SMF_Feature` data type to allow for alias name, model name, description, and note from SDSFIE.
- Reintroduced `BrowseGraphic` element after discussions with the Metadata Working Group.



# SDSFIE Metadata Implementation Specification (SMIS)

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- SMIS is the implementation specification for SDSFIE-M
  - The structure is expressed in XML Schema
  - Schematron rules implement the content validation that (e.g., restriction of elements to codelist values, enforce mandatory elements, implement relationships between elements, valid day, date, time elements)
  - Many tools can handle the XML Schema structural validation
  - Tools like <oxygen/> XML Editor can handle content validation
- SMIS includes a document, XML schemas, Schematron files, code lists
- Draft completed on 16 May, 2014



# SDSFIE Metadata Implementation Specification (SMIS)

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- SMIS Document
  - Based on NSG Metadata Implementation Specification, Part II: XML Exchange Schema
  - Technical description of how the SMIS schemas were created as a profile of ISO 19139 and 19139-2 schemas with extensions from National System for Geospatial-Intelligence (NSG) Metadata Implementation Specification (NMIS), North American Profile of ISO 19115:2003/Cor. 1:2006 (NAP), XML Data Encoding Specification for Information Security Marking Metadata (DES.ISM), and XML Data Encoding Specification for Need-To-Know Metadata (DES.NTK)
- DISDI Group comment period is 18 June to 18 July, 2014



# SMIS 1.0.1 Schemas Posted to DSE

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- Schemas that correspond to SDSFIE-M 1.0.1 are posted to the DSE
  - <http://metadata.ces.mil/dse/ns/DISDI/smis/1.0.1>
- Lacking Schematron updates until Beta stage of SDSFIE-M Metadata Style is complete (after 1 August)
  - Need to ensure DSE codelists and Metadata Style codelists align
  - Issue is due to the way metadata is handled internally in ArcGIS; mismatches may result when converting existing metadata to SDSFIE-M unless the codelist alignment is done



# SDSFIE-M 1.0.1 Adoption

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- 16 May, 2014 à The DISDI Group concurs to adopt SDSFIE-M 1.0.1
- July, 2014 à DUSD(I&E) signs action memo directing implementation across I&E community
- June-July, 2014 à Comment period for SMIS
- August, 2014 à Submit SDSFIE-M 1.0.1 and SMIS to GEOINT Standards Working Group (GWG) Metadata Focus Group for approval in the DISR 14-3 cycle
- September, 2014 à Voting session for GWG, DISR Cycle 14-3 (tentative)



# SMF Metadata Style for ArcGIS 10.1 SP1

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- January, 2014 à DISDI Program developed an ArcGIS metadata style
  - Alpha state and is undergoing testing
  - DISDI Group members conducted limited user tests
  - Several comments received
- The beta version should be ready before end of FY14



# Summary

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**“The Standard”**

**SDSFIE-M**

**Documents**

SMIS (Implementation Specification)

SDSFIE-M  
Conceptual  
Schema

**Implementation  
Tools**

SMIS  
Metadata  
Style

Schematron  
Files

Code Lists

XML  
Schemas

# SDSFIE Metadata Implementation Guidance (to be)



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- Describes the “what” and “how” of SMF 1.0 implementation
- Defines Component (e.g., Army, Navy, Air Force, Marines, WHS, Army Corps) implementation plans
- Defines rules concerning the collection of metadata
- Describes the use of the SMF Metadata Style
- Describes how to publish metadata
- Outline developed, draft document later in 2014





## Questions?

The SDSFIE Metadata v 1.0.1 conceptual schema document can be downloaded at SDSFIE Online:

<http://www.sdsfieonline.org/>