



Whitemarsh
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*Understanding-Based Data Interoperability
Engineered via Army Data Management Program*

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Topics

- Net Centric Data Goals
- Data Management and Net Centric Goals
- Key Components of a Data Management Architecture
- Key Metadata Models Critical for Data Management
- Reverse Engineering to Achieve Interoperability
- Forward Engineering to Manufacture Interoperable Systems
- Way Ahead to Success (More for Less, Faster & Lower Risk)



DoD Net Centric Data Goals	
Goal	Description
Make data visible	Users and applications can discover the existence of data assets through catalogs, registries, and other search services.
Make data accessible	Users and applications post data to a “shared space.” Data assets, are made available to any user or application under security, etc.
Institutionalize data management	Data approaches are incorporated into Department processes and practices.
Enable data to be understood	Users and applications can comprehend the data, both structurally and semantically.
Enable data to be trusted	Users and applications can determine and assess the authority of the source because the pedigree, security level, and access control.
Support data interoperability	Many-to-many exchanges of data occur between systems, through metadata enhanced.
Be responsive to user needs	Perspectives of users are incorporated to ensure satisfaction.



Understanding Based Data Interoperability	
DoD NC Data Goal	Data Management Support
Make data visible	Identifies data assets within natural contexts of mission, organization and function. Standardizes taxonomies, ontologies and classification schemes to view data semantics including where and how implemented
Make data accessible	Includes Discovery Metadata definition in every data asset. Standardized names, definitions and structures
Institutionalize data management	Standardizes strategies for data definition. Multiple layers to ensure define once use many times. Use of ISO standards 11179 for data elements and SQL for data models.
Enable data to be understood	Standardizes vocabularies, commonly inherited semantics, commonly used data model templates, automatic names and definitions based on well defined words. Automatic abbreviations where necessary.



Understanding Based Data Interoperability	
DoD NC Data Goal	Data Management Support
Enable data to be trusted	Contains consistent semantics, standard reference tables, completely mapped data models across multiple levels of abstraction.
Support data interoperability	Standardizes data structures, well engineered data transactions, automatic XML wrapping of data, supported by accessible data definitions and contexts.
Be responsive to user needs	Supports reuse of already defined data assets metadata, central knowledge of all data assets and distributed access to same.

