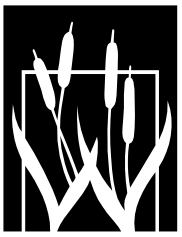

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Data Management Program: Work Breakdown Structures

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1.0 Communities of Interest (COI)

a. Establish and manage COI Infrastructure
   i. Create Prototypical Concept of Operations
   ii. Create Metadata Repository Environment
   iii. Create Methodology for COI Efforts
   iv. Create Data Asset Product Specifications
      (1) Create Development Guides
      (2) Create Metadata Repository Export and Import Templates
      (3) Create Data Asset Product Assessment Guides

b. Create Metadata Infrastructure in Metadata Repository
   i. Mine and load the 11179 Data Element Metadata Components from the DDDS
   ii. Mine and load the conceptual data model Metadata Components from the DDA
   iii. Acquire and load appropriate Ontologies and Taxonomies into 11179 Data Element Metadata Components
   iv. Acquire and load appropriate data management metadata into the metadata repository

c. Discover Communities of Interest (COI)
   i. Create the Resources of the Enterprise
   ii. Create Resource Life Cycles for each Enterprise Resource
   iii. Identify inventory of Automated Information Systems (AIS) within the enterprise
   iv. Allocate AIS to Resource Life Cycle Nodes
   v. Identify/Characterize Database Objects within each AIS
   vi. Allocate non-redundant set of Database objects to the Resource Life Cycle Nodes
   vii. Allocate the CRUD indicator to the intersection of Database Object and RLC Node
   viii. Allocate the CRUD indicator to the intersection of AIS and RLC Node
   ix. Perform an Affinity Analysis of the AIS & Database Object with respect to the RLC Node
   x. Propose COIs for the highest affinity levels
   xi. Organize Institutional COIs as those that are organizationally related
   xii. Organization Joint COIs as those that embrace multiple services
   xiii. Organization expedient COIs as those that are not institutional nor joint

d. Establish and Manage Mission Area COIs
   i. Build Enteprise Mission Area metadata within the Metadata Repository
      (1) Create Enteprise Mission Area Mission Models
      (2) Create Enteprise Mission Area Organization Models

(3) Create Enteprise Mission Area Function Models
(4) Create Enteprise Mission Area Information Needs Models
(5) Create Enteprise Mission Area Resource Life Cycle Models

ii. Interrelate Mission Area metadata with other mission areas
iii. Evolve and maintain Mission Area metadata

e. Establish and Manage Domain Area COIs
i. Build Domain Area metadata within the Metadata Repository
(1) Create Domain Area Domain Models
(2) Create Domain Area Organization Models
(3) Create Domain Area Function Models
(4) Create Domain Area Information Needs Models
(5) Create Domain Area Resource Life Cycle Models
ii. Interrelate Domain Area metadata with other Domain Areas
iii. Interrelate Domain Area metadata with Mission Area Metadata
iv. Evolve and maintain Domain Area Metadata

f. Establish and Manage Function based COIs (e.g C2 COI)
i. Build Function based COIs metadata within the Metadata Repository
(1) Create Function Based COI Infrastructure Metadata Models
(a) Create Function based COIs Mission Models
(b) Create Function based COIs Organization Models
(c) Create Function based COIs Function Models
(d) Create Function based COIs Resource Life Cycle Models
(2) Evolve and maintain Function Based COI Metadata
(3) Create Function Area IESS Models
(4) Evolve and maintain IESS Models

ii. Interrelate Function based COI metadata with other function area COI metadata
iii. Interrelate Function based COI metadata with Domain Area Metadata

g. Harmonize COI Data Asset Products
i. Harmonize Function Area Models with Joint Models
ii. Harmonize Function Area Models with Service Models
iii. Harmonize Function Area Models with Federal Models
iv. Create Policies, procedures, and documentation regarding COIs

h. Establish and Manage Data Management COIs
i. Build Data Management metadata within the Metadata Repository
(1) Create Information System Models
(2) Create Business Event and Calendar and Cycle Models
(3) Create Information System Models
(4) Create Information System Planning Models
(a) Create Mission Area Information System Planning Models
(b) Create Domain Area Information System Planning Models

(c) Create Functional Area Information System Planning Models

ii. Interrelate Data Management Metadata with Mission and Domain are metadata

iii. Evolve and maintain Data Management metadata

2.0 Authoritative Data Sources

a. Identify ADS Requirements
   i. Identify ADS Classes

      (1) Identify Requirements for Reference Data ADS
         (a) Identify timeliness requirements
         (b) Identify quality requirements
         (c) Identify distribution alternatives

      (2) Identify Requirements for Actual Fact ADS
         (a) Identify timeliness requirements
         (b) Identify quality requirements
         (c) Identify distribution alternatives

      (3) Identify Requirements for Meta Fact ADS
         (a) Identify timeliness requirements
         (b) Identify quality requirements
         (c) Identify distribution alternatives

   ii. Identify Metadata Requirements for ADS Classes

b. Create Metadata Infrastructure for ADS
   i. Identify ADS Metadata
   ii. Design ADS Metadata Database
      (1) Prototype ADS Metadata database
      (2) Iterate until acceptable
      (3) Implement ADS Metadata database

c. Identify and Acquire ADS instances
   i. Identify location of ADS

   ii. Identify ADS acquisition mechanism
      (1) Physical relocation of ADS
      (2) Virtual relocation of ADS

   iii. Load ADS Metadata Database

d. Create Scenario to transform databases and information systems to use ADS
e. Create Scenario to employ Translator use of ADS
f. Create Scenario to evolve and maintain ADS
g. Create Scenario to refresh distributed ADS
h. Create Policies, procedures, and documentation appropriate for ADS

3.0 Enterprise Identifiers

a. Create Metadata Infrastructure for EIDs
   i. Identify EID Metadata
      (1) Identify EID Seed Metadata
      (2) Identify EID Increment Metadata

   ii. Design EID Database
      (1) Prototype EID database
      (2) Iterate until acceptable
      (3) Implement EID database

b. Identify EIDs
   i. Determine Initial set of EID seeds
   ii. Determine IT Assets that will contain EID incrementors
   iii. Load EID Database
      (1) Acquire and Load EID Seed Data
      (2) Acquire and Load EID Incrementor Data
   iv. Estimate Effort to Accomplish all EID Assignments
   v. Develop EID Assignment Work Plan

c. Create EID Generation and Maintenance Environment
   i. Create Seed Generator
   ii. Create Incrementor Generator
   iii. Prototype EID Generator and Maintenance Environment
   iv. Iterate until Acceptable
   v. Implement EID Generator and Maintenance Environment

d. Create EID Assignment Environment
   i. Create IT Environment Modification Scenarios
   ii. Create Scenario to Modify Databases and AIS that can accommodate modification
   iii. Create Scenario to "Bolt-on" EID translators to Databases and AIS that cannot handle modification
   iv. Prototype Scenarios and iterate until successful
   v. Implement IT Environment Modifications

e. Create Asset Discovery for EID Assignment Scenario
   i. Identify how to discover assets
   ii. Identify how to access assets
   iii. Identify how to affix EID to asset
   iv. Identify how to record asset EID into Databases and Information Systems

f. Create EID Employment Scenarios

i. Create Agents to traverse Databases and Information systems for EID based assets.
ii. Create supporting IESSs for each EID search
iii. Create strategies for Asset Assembly presentations

g. Create Policies, procedures, and documentation regarding EIDs

4.0 Information Exchange Standard Specifications

a. Create IESS Model
   i. Import physical data models
   ii. Employ and/or Modify Mission, Organization, and Function Models
   iii. Employ and/or Modify Information Needs Models
   iv. Employ and/or Modify Resource Life Cycle Models
   v. Identify common information needs
   vi. Inventory Community of Interest Member Business Information Systems
      (1) Identify COI Member Business Information systems that are related to COI Resource Life Cycle Nodes
   vii. Build COI Business Event, Calendar, and Cycle Information
   viii. Create IESS logical data model
   ix. Inductively build IESS at the Implemented Data Level based on Information Needs of the COI
   x. Resolve any logical data model table column conflicts for physical data model Schemas
   xi. Fully develop database object models
   xii. Map logical data model to Resource Life Cycle Model
   xiii. Create, Map, or Modify conceptual data model
      (1) If Create or Map, then perform conceptual data model changes
      (2) If Update, then harmonize with other COI owners of conceptual data model
   xiv. Create, Map, or Modify 11179 Data Element Metadata
      (1) If Create or Map, then perform 11179 Data Element Metadata changes
      (2) If Update, then harmonize with other COI owners of 11179 Data Element Metadata
      (3) Build the ISO 11179 Data Element upper layer metadata
      (4) Determine the value domains for all ISO 11179 Data Elements
      (5) Determine the value domains for all attributes, columns, and DBMS columns
      (6) Resolve value domain conflicts
   xv. Create, Map, or Modify data integrity rule models
      (1) If Create or Map, then perform Data Integrity Rule Model changes
      (2) If Update, then harmonize with other COI owners of Data Integrity Rule Models
   xvi. Generate the IESS physical data model from its logical data model
   xvii. Generate Prototype application to validate IESS
   xviii. Validate and Iterate IESS Model
   xix. Create Business Event Models
   xx. Create View Models for IESS to AIS import and export
   xxi. Formulate complete IESS Report
   xxii. Audit IESS Model

xxiii. Cycle Lessons Learned

b. Create Information System Plans for the IESS
   i. Identify the view models for intersecting COI member system with the IESS System
   ii. Identify the Business Event, Business Cycle, and Calendar Cycles models required for the IESS to successfully operate.
   iii. Create specification for the Export and/or Import of COI member AIS process to/from the IESS.
   iv. Create the specification of the Import and/or Export from the IESS to the COI member AIS.
   v. Review and revise all Business Event, Business Cycle, and Calendar Cycles models across all the COI member AISs to ensure that there is proper data synchronizations.

c. Evolve and maintain IESS Models
   i. Receive requests for change
   ii. Evaluate change requests
   iii. Accomplish change requests if possible
   iv. Update all IESS Models
   v. Republish IESS Report
   vi. Configuration manage IESS use across its lifecycle
   vii. Audit IESS Model
   viii. Cycle Lessons Learned

d. Create Policies, procedures, and documentation regarding IESS

5.0 XML

a. Create Metadata Infrastructure for XML

i. Support Metadata Catalog data
(1) Identify metadata infrastructure requirements for metadata catalogs
(2) Design metadata repository changes
(3) Prototype metadata repository changes
(4) Iterate until acceptable
(5) Implement metadata repository changes

ii. Support XML schemas
(1) Identify metadata infrastructure requirements for metadata
(2) Design metadata repository changes
(3) Prototype metadata repository changes
(4) Iterate until acceptable
(5) Implement metadata repository changes

iii. Support XSLTs
(1) Identify metadata infrastructure requirements for metadata
(2) Design metadata repository changes
(3) Prototype metadata repository changes
(4) Iterate until acceptable
(5) Implement metadata repository changes

iv. Support Generation of XML wrapped data
(1) Identify metadata infrastructure requirements for metadata
(2) Design metadata repository changes
(3) Prototype metadata repository changes
(4) Iterate until acceptable
(5) Implement metadata repository changes

v. Support Generation of other types of tag wrapped data
(1) Identify metadata infrastructure requirements for metadata
(2) Design metadata repository changes
(3) Prototype metadata repository changes
(4) Iterate until acceptable
(5) Implement metadata repository changes

b. Identify requirements for programs to generate metadata catalog data
i. Create Scenario for metadata catalog generation
ii. Create prototype
iii. Iterate until acceptable
iv. Plan for Enterprise-wide implementation

c. Identify requirements for programs to automatically create XML schemas for every IESS
   i. Create Scenario for metadata catalog metadata generation
   ii. Create prototype
   iii. Iterate until acceptable
   iv. Plan for Enterprise-wide implementation

d. Create requirements to assess effectiveness and utility of XML implementation
e. Create Policies, procedures, and documentation appropriate for XML