Recommended Data Management Strategies

Fundamentally every DMS function must be developed and managed with best practices suited for the unique DHS business culture to ensure compliance during periods of change. DMS functions can be performed by DHS personnel or by a DMS contractor under close DHS oversight. Table 1 provides a summary of EDAMSA DMS recommendations.

EDAMSA DMS recommendations position DHS to assume command and control of data management in advance of IT changes.

EDAMSA Implementation recommendations are designed to ‘ramp up’ the governance and data modeling by Tiers.

EDAMSA DMS recommendations incorporate with DHS 5 Year MITA Roadmap (EIAM) activities underway or that are being planned. Details are explained in Section 5.1.

EDAMSA DMS recommendations align with DHS MITA Maturity and 7S&C

The EDAMSA DMS recommendations below fall into three categories:

1. CAT 1, Recommendation DHS should be completed in parallel with MMIS Procurement;
2. CAT 2, Recommendation DHS should be completed as part of MMIS Procurement;
3. CAT 3, Recommendation DHS should be completed post-MMIS Procurement.

Table 1: EDAMSA DMS Strategy Recommendation Summary

<table>
<thead>
<tr>
<th>EDAMSA – DMS Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. EDAMSA Framework</td>
<td>CAT 1, Cognosante recommends adopting and integrating the EDAMSA framework into the existing DHS Enterprise Information Asset Management (EIAM) framework. The EIAM is further detailed in Section 5.1. The frameworks are complimentary and support governance planned activities. Data management strategy will evolve over time to keep up with business demands and the introduction of technological innovation.</td>
</tr>
<tr>
<td>2. Formalize DMS Governance</td>
<td>CAT 1, Cognosante recommends working within the DHS DMSC (Data Management Steering Committee) to formalize a Data Governance Office (DGO) would provide shared leadership and perform analysis to enable data stewards to make informed and effective decisions. Central to the all DMS components getting traction is Data Governance as it exercises authority and control of planning, monitoring and enforcement over the management of data assets.</td>
</tr>
</tbody>
</table>
| 3. Data Identification | CAT 1, Cognosante recommends DHS would begin to take a greater role in the daily management of its enterprise data. It would begin to actively manage or perform many of the DMS functions that have historically been performed by system administrators and vendor technical teams. The following subsections identify a set of DMS functions that would be performed by DHS or a DMS contractor under close DHS oversight.  
  - Data Classification   
  - Data Dictionary   
  - Data Catalog   
  - Data Access   
  - Data Sharing   
  - Data Retention   
  - Data Archiving |
<table>
<thead>
<tr>
<th>EDAMSA – Data Management Strategy Recommendation Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Data Destruction</td>
</tr>
<tr>
<td>These DMS activities are embedded in the management of and compliance with data standards of the EDAMSA Framework Data Functions, including Data Architecture, Data Development, Data Operations, and Data Security. Cognosante recommends DHS Data Stewards have oversight of these activities in all Framework Data Functions. This collective Data Steward responsibility is further explained in Section 5.1.1.2.</td>
</tr>
</tbody>
</table>

4. Data Model

CAT 1, Cognosante recommends that as part of planning, DHS Data Stewards establish the practice of ensuring the development of data models as a data management activity when the Data Architecture and Data Development functions are performed. This practice can be performed by DHS DMS staff or a contractor or vendor under close DMSC and DHS oversight. This data modeling methodology would apply to Data Domain Layer design activities and to any data modeling activity associated with the ongoing procurement of MMIS modular systems. This activity will support the MITA SS-A IA capability scorecards in that it will reflect DHS proactive data modeling processes.

5. Enterprise Architecture

CAT 1, EDAMSA recommends the development of a DHS Enterprise architecture, which is a key DMS component in the EDAMSA Framework. As DHS considers the recommended move toward Data Domain Design and begins the implementation of new and enhanced MMIS systems, enterprise system architecture management will be of critical importance.

6. Database Management

CAT 1, EDAMSA DMS recommends the formal establishment of database management activities, which involve the development, maintenance, and support of structured data repositories to maximize the value of the enterprise’s data assets. The recommended move toward the Data Domain Design model would bring substantial data management benefits. It would also create the need for an enhanced level of DHS and DMSC management over this domain’s databases.

7. Metadata Management

CAT 2, Cognosante recommends DHS consider implementing a metadata environment. The recommended move toward the Data Domain Design model would also create the need for greater DHS and DMSC management over enterprise metadata.

8. Enterprise Data Warehouse

CAT 2, Cognosante proposes a Data Warehouse (DW) Strategy that involves a series of data warehousing techniques that leverage both proven and emerging technologies and should be adopted as a future project. The EDAMSA DW recommendation supports the DHS Data Warehouse & Analytics Committee objectives to improve the quality and cost-effectiveness of services provided to DHS customers.

9. Enterprise Business Intelligence/Analytics

CAT 2, Cognosante recommends that DHS implement a set of fully-featured and extensible Commercial-Off-the-Shelf (COTS) tools that would provide historical, current, and predictive views of Wisconsin DHS program data. This recommendation fully supports the objectives of the DHS Enterprise Data Warehouse & Analytics Committee Charter and helps achieve user community needs that were identified during DHS needs assessment meetings. This recommendation requires utilizing the EIAM Framework Business Project process discussed in section 5.1.
<table>
<thead>
<tr>
<th>EDAMSA – Data Management Strategy Recommendation Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10. Implement DMS Governance and Data Layer</strong></td>
</tr>
<tr>
<td>CAT 3, It is recommended that DHS implement EDAMSA DMS Governance and Data Layer recommendations starting in 2016.</td>
</tr>
<tr>
<td>The EDAMSA implementation strategy is an iterative, phased approach to enterprise DMS implementation. The implementation strategy covers the data governance and data management methods described within the EDAMSA framework.</td>
</tr>
<tr>
<td>The deployment timeline for all EDAMSA components includes DMS Governance and a multi-phased Data Layer development project. The implementation of EDAMSA will support MMIS takeover/enhancement and Modules 1 and 2 (Data Warehouse and BI/A).</td>
</tr>
<tr>
<td><strong>11. Tier 1</strong></td>
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<tr>
<td>CAT 3, Cognosante recommends that Tier 1 systems be implemented first.</td>
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<tr>
<td>Tier 1 includes 45 systems, and the iC family of systems is the most significant as it relates to DMS strategies. Section 5.1 addresses an approach to ramp up DMS efforts by formalizing the EDAMSA Framework DMS functions necessary for iC data management, aligning resources and Data Stewards to govern the DMS functions for iC MMIS takeover and integrate the Data Management Professional supporting the iC products in the DHS DMS Governance.</td>
</tr>
<tr>
<td><strong>12. Tier 2 and 3</strong></td>
</tr>
<tr>
<td>CAT 3, Cognosante recommends that DHS utilize the EDAMSA DMS methodology to implement Tier 1 systems for Tier 2 and 3 systems</td>
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</table>
EDAMSA Category 2 - CAT 2 Activity Timeline
Complete as part of MMIS Procurement

- EDAMSA Framework – Upgrade EIAM Framework to include 10 DM Functions
  - Define Data Lifecycle and Document Context Diagrams for each Additional DM Function
- Formalize EDAMSA DMS Governance
  - Charter Revisions, Appoint Data Stewards
  - Data Management Training for Data Stewards and Data Management Professionals (Data Architects, etc.)
  - Revised Structure with Shared Responsibilities in 3 Tiered DGO
  - Establish Data Project Portfolio Approval and Change Control Processes
  - Launch Data Steward teams to formalize data policies, standards for all activities in the Data Architecture and Data Development Management Functions
- Launch Data Steward Teams to Document for Steering Committee Approval
  - Data Architecture Management
    a) Metadata Management
    b) Enterprise DWH
    c) Enterprise BI/A
  - Data Development Management
    a) Metadata Management
    b) Enterprise DWH
    c) Enterprise BI/A

![Timeline Diagram]