



Illumination Works

Strategic Data Plan

A Blueprint for All Data Initiatives

Jon Mitchell
8/7/2009

Introduction

A Strategic Data Plan (SDP) should be part of an overall Strategic Data Initiative. As a guidebook, it should encompass the direction and process for an organization to build, maintain and evolve its data perspective. It can also provide the roadmap for how an organization will manage the migration processes for their enterprise IT transformation initiatives. This includes but is not limited to: the business processes that are managed by the organizational community, the current state of the supporting IT systems data including standardization, normalization and other data quality activities, the evolution of an organization's data vocabulary, the plans, processes and architectures for supporting data transparency and exposure to the greater business community as well as operational and predictive reporting. The purpose of this white paper is to communicate what a SDP should include and why it is important.

Definition

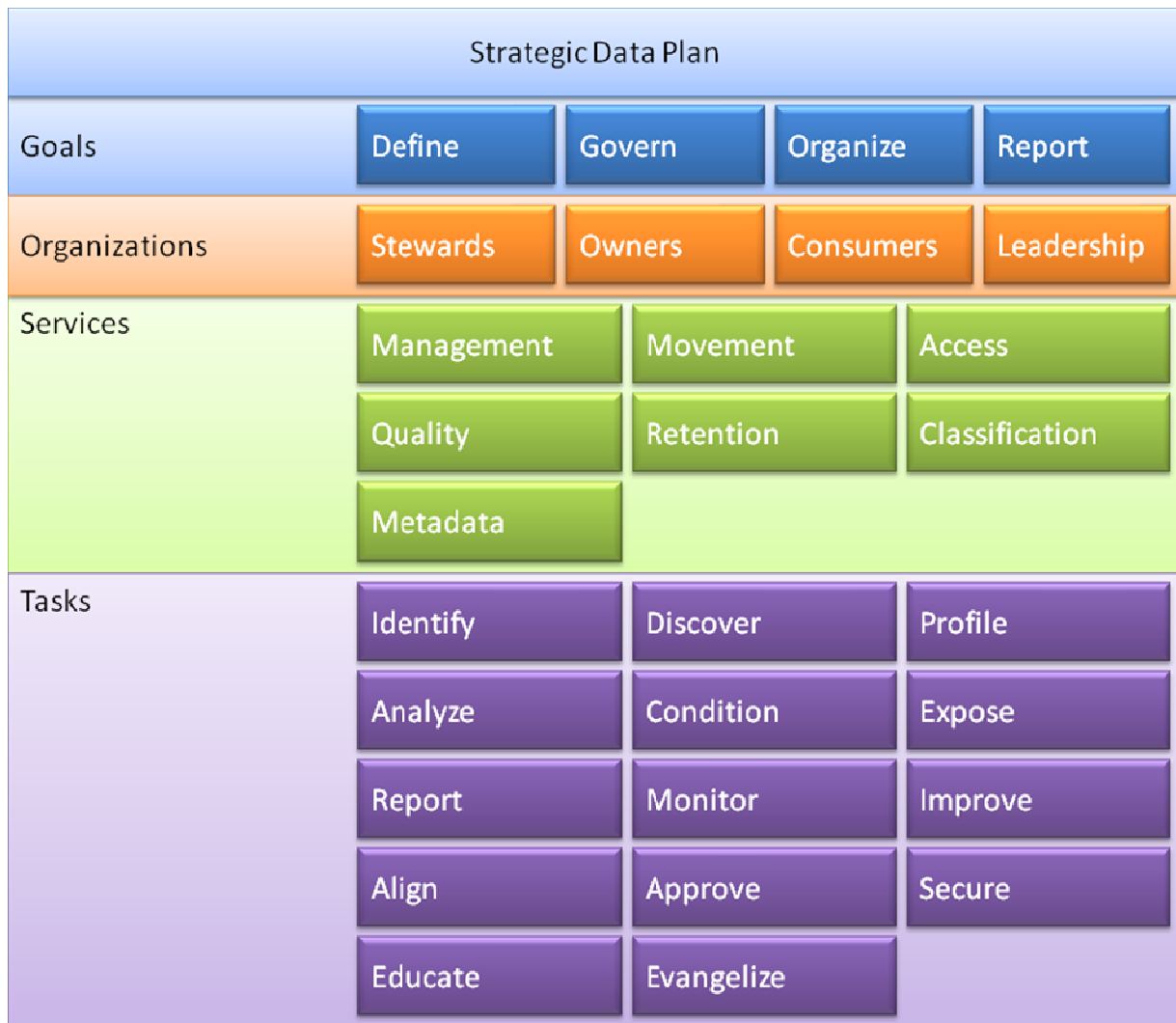
In order to focus an organization on evolving its data perspective, a SDP must be outlined and then implemented with concrete goals, processes and outcomes. A SDP should define, at the enterprise level, the goals of the organization and the services, organizational structures and processes required to implement those goals.

A SDP starts by defining an initial set of directives that are the enterprise or community driven strategic goals of the organization. It is important to document and gain consensus on these goals so that services and structures required to support them can be aligned correctly. This allows an organization to tactically drive to executable services and organizational structures to support and achieve these goals.

A SDP must account for flexibility so as the business or organization changes, the plan allows for the transitions inherent in any organization. New systems, evolving requirements, and updating goals must be accounted for in the overall planning as an organization implements the services and structures to support the SDP. While the inputs and outcomes of the SDP can change, the overarching strategy must be adaptable to those changes.

The following chart outlines the template which has been successfully leveraged in the formation of a SDP. This template can be customized to leverage existing data quality and management processes as well as industry-leading or custom developed tools for Data Exploitation Management and Data Transformation Management to construct a tailored plan that enables an organization to execute its data initiatives.

Figure 1 Strategic Data Plan Components



Components

A strategic data plan is organized into four levels.

Goals

The first and highest level of a SDP is the goals level. The items in this level should be identified and sanctioned by the organizational leadership and provide the guidance and requirements that must be addressed and managed by the SDP. The following subcomponents are typically refined through an iterative process with senior leadership to frame up scope and direction.

Define

An organization must know what data assets are in its domain. Key to accurately leveraging data assets is the ability for the business to understand what its data is, where it is and how it is used.

Govern

Data management processes define the organizational constructs necessary for approval processes, security, definition management and overall ownership responsibilities for data assets within an organization. A common data governance construct is a Community of Interest (COI) that defines standards for a particular functional area and reviews and adjudicates any new system or proposed changes that impact that enterprise function.

Organize

Data assets must be aligned with business processes both as-is and to-be. Data organization includes relationships, quality, classification, lineage, metadata organization and data retention.

Report

Data assets are a consumable resource for any organization. Reporting functions may take the form of ongoing data quality and metrics reporting as well as end-consumption of those data assets.

Organizations

The goals of the SDP should be achievable by the organization or sub-organizations to which responsibility is delegated. The four components of the organization section of the plan comprises of Stewards, Owners, Consumers, and Leadership. Organizations are responsible for implementing services and executing tasks as they relate to the goals of the plan.

Stewards

Data stewards provide the functional ownership for definition, quality and usage of data assets within an organization.

Owners

Data owners are typically the producers of the data assets and can be responsible for legacy infrastructure, ERP systems or other data producers including the underlying system developers that provide data assets to the enterprise.

Consumers

Data consumers are the end-users of the source information both in raw /un-conditioned form and in a conditioned/ standardized form. Consumers can also represent the group of users that perform ongoing data quality measurement and reporting.

Leadership

Organizational leadership sets goals and direction for the plan, provides sponsorship to process changes and provides final decision authority for all tasks and services that compose a SDP.

Services

Data Strategy services are the functional components that must be defined, implemented and maintained in order for an organization to meet its goals and objectives. These services are supported by discrete tasks and subtasks that produce the tangible data and process artifacts for the enterprise.

Movement

Data assets can be shared or moved. This movement can occur within an organization or to outside consumers. Movement defines how that data can be transported including technical mechanisms and architectures.

Access

Security processes, practices and controls need to be put in place to secure the access of data assets within an organization as well as outside consumers of the data assets.

Quality

The processes to Profile, Analyze, and Report on data quality using business specific metrics are essential in building a data foundation. The Quality service encompasses these tasks.

Retention

Data retention and historical data asset management including formats, functional rules and architectures are essential components of an overarching data strategy. Historical reporting, trending as well as legislative requirements all impact the data retention service.

Classification

The classification of data, particularly the relationships between individual elements and the alignment of data assets to business processes form the basis for providing accurate and correct information to the business. A comprehensive top down alignment ensures data is where it should be and is performing as the business expects.

Management

Roles, responsibilities, and organizational structures that establish the hierarchy of data ownership is essential in enabling accurate and timely data visibility. The management structures for data assets are an often overlooked yet critical component of a data strategy.

Metadata

Metadata is the artifact creation and maintenance of the data flows, definitions, relationships, movement of all data assets within an organization.

Tasks

A SDP task is a series of interactions between work artifacts, resources and decision points. The tasks describe the discrete processes to perform work as it relates to the overall Strategic Data Plan. The tasks work together to provide the services required for the organization to meet its goals. The task section describes the tasks and outputs that are necessary to deliver the services. The outputs of each of the tasks are artifacts, documents, or decisions. Process diagrams will be drafted to illustrate each task and define the actors or organizations that have a stake or role in the task.

Identify

Identify and catalog data assets to be analyzed into a data dictionary.

Discover

Baseline assessment of data assets, understand where they are, what roles they play in the enterprise.

Profile

Inventory the data assets and get both a technical and functional view into the contents.

Analyze

Discover the characteristics of the data at the field and transaction level. Determine the semantic types, data types, null values, unique values, field lengths and much more “on the fly”.

Condition

Transform the data into its “desired” state so that it can become more useful to the business or mission process.

Expose

Make the data available to the approved exchange partners in an open standards format.

Report

Provide single source of conditioned and unconditioned data to the enterprise.

Monitor

Understand what must be monitored, what thresholds should be applied, report on data metrics in a timely manner.

Improve

The continuous process improvement activities required to leverage data quality metrics and thresholds to improve the quality of enterprise data assets on a continuous basis.

Align

The process to map data assets to as-is and to-be business processes. Gap analysis and quality assessments provide quantifiable measures as to current data reliability and future capabilities.

Approve

Management process to govern and approve all data assets within an organization must be established in order to maintain control and enforce governance.

Secure

Process and technical controls put in place to ensure reliability, integrity and access controls for data assets.

Educate

Processes for informing the organization at large and the external consumers of the data on the contents, functionality and processes around the SDP are essential to gain support for strategic data initiatives.

Evangelize

Process and plans for communicating the value of the SDP, its processes and artifacts to the organization as a whole will assist in the execution of the business transformation initiatives.

Sample Service Alignment

The following section is a sample initial implementation of a service layer. An initial mapping of was performed based on the known functions of that organization. A more detailed service and task alignment was undertaken with the drafting of the actual SDP. As part of its strategic data initiative, this organization established the discrete services and tasks necessary to plan and manage its data initiatives.

Process Panels

The business process teams aligned to the Classification, Movement and Metadata services. The following specific organizational tasks are a sampling of the activities required to support the Process Panels:

- define business process as-is environment
- refine business processes with details and supporting data semantics
- document to-be business processes
- Analyze, Define and Recommend legacy migration

System Analysis (Functional to Technical Alignment)

The system analysis process aligns to the Movement, Retention, Quality, Access and Metadata services. The following specific organizational tasks are a sampling of the activities required to support System Analysis:

- analyze business process blue-printing for alignment to legacy infrastructure
- analyze legacy infrastructure for current modularization as it relates to Business Process Analysis (BPA)
- recommend transitioning legacy modules, in a phased approach, to commercial off the shelf (COTS based solution)

Data Vocabulary Development

The data vocabulary development process aligns to the Metadata, Classification, Quality and Management services. The following specific organizational tasks are a sampling of the activities required to support the Data Vocabulary Development:

- Develop Technical data glossary
- Align Technical data glossary to data quality metrics
- Work with Functional Subject Matter Experts (SMEs) to establish data ownership and review processes
- Conceptual and Logical data model construction.

Data Quality (Data Analysis, Reporting, Cleansing and Transformation)

The data quality process aligns to the Metadata, Classification, Management, Movement, Quality, and Retention services. The following specific organizational tasks are a sampling of the activities required to support the Data Quality task:

- Perform initial data profiling and analysis
- Establish semantics for required data sets
- Work with functional SMEs to establish metrics and compliance reporting requirements and Dashboards
- Provide corrective and transformational input to BPT, System Analysis and Vocabulary
- Work with SMEs and other teams to establish review, approval and overall data governance processes from a data quality perspective
- Iterative analysis and action

Conclusions

The SDP should provide the iterative framework and guidance to the services and supporting tasks to enable tangible and actionable benefit to the organization as a whole. This benefit should manifest itself in aligning an organization's data initiatives to accomplish the directives set forth by an organization leadership. By approaching all of the discrete tasks with a concentrated focus on the iterative interaction of the individual work artifacts, a complete and cohesive data strategy can be established and maintained.