Chapter 10
Coordinating Enterprise Services and Data: A Framework and Maturity Model

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ABSTRACT
The critical inter-dependencies between Enterprise Services and Enterprise Data are often not given due consideration. With the advent of Cloud Computing, it is becoming increasingly important for organizations to understand the relationships between them, in order to formulate strategies to jointly manage and coordinate enterprise services and data to improve business value and reduce risk to the enterprise. Enterprise Services encompass Service-driven applications deployed on-premises in the enterprise data centers as well as in the Cloud for the “extended enterprise.” Enterprise Data Management encompasses the cross-application enterprise-level perspective of data in an information-sharing enterprise, and the critical business data that is created, maintained, enriched, and shared outside the traditional enterprise firewall. This chapter discusses and proposes best practice strategies for coordinating the enterprise SOA & EDM approaches for mutual success. Primary coordination aspects discussed include: Service & Data Governance, Master Data Management, Service-driven & EDM Architecture Roadmaps, Service Portfolio Management, Enterprise Information Architecture, and the Enterprise Data Model. It recommends a facilitative Service-driven Data Architecture Framework & Capability Maturity Model to help enterprises evaluate and optimize overall effectiveness of their coordinated Service-driven & EDM strategies.

INTRODUCTION
Strategies for Service-driven & Enterprise Data Management (EDM) architectural approaches have traditionally been treated as separate, disparate programs and initiatives in organizations, from a business requirements perspective as well as from an information technology (IT) implementation perspective. Yet there are critical overlapping and interdependent components, processes, and quality checkpoints of each strategy for which coordination becomes necessary to ensure mutual success.
Pursuing these strategies as unrelated approaches with disconnected objectives and measures of success may risk failure of both strategies and cause an organization’s Service-driven & EDM initiatives to execute poorly and fall short of delivering the expected business results. However, the tendency for organizations to address their Service & Data strategies in isolation is evolving to a more enlightened perspective.

A study by the Data Warehousing Institute (CIO CSG, 2008) found that poor data quality costs U.S. businesses hundreds of billions of dollars annually. If data trapped in silo applications is “bad data,” then imagine the issues when, via enterprise services, bad data from many applications is commingled. Bottom line, applications connected via a Service-driven integration strategy are not worth much if data in them is flawed. Data integration projects account for a growing percentage of the overall integration market, especially as enterprise services projects take hold; but such projects may fail if they don’t incorporate an EDM strategy to address complex and expensive data problems in the enterprise (CIO CSG, 2008). With the advent of Cloud Computing, it is increasingly important for organizations to understand the relationships and interdependencies between Enterprise Service & Data so that strategies for leveraging and growing these assets are jointly managed and coordinated for mutual success.

With Cloud Computing, Enterprise Services comprise an organization’s Service Oriented Architecture (SOA) as well as its evolving Cloud Services Architecture to make up the organization’s “extended enterprise.” Similarly, EDM encompasses the cross-application enterprise perspective for data management needed in any large information-sharing enterprise, but gains additional significance and business impact when its critical data is created, enriched, maintained, and shared outside its enterprise firewall, the case when Cloud Services are part of the organization’s extended enterprise.

A positive trend in recent years has been for rational organizations and consultancies to increasingly realize the need to better coordinate their Service-driven & EDM strategies. The more progressive organizations readily understand such strategy coordination as a necessary foundation from which to improve its overall organizational effectiveness. Even risk averse and slow-to-change organizations know their existing SOA & Master Data Management (MDM) strategies and initiatives need coordination if either is to be successful (Dreibelbis et al., 2008). MDM addresses designated Master Data (MD) of the organization, and thus the most highly governed subset of its enterprise data (i.e. business-critical data in the enterprise warranting highest levels of enforced quality). Thus, reach of EDM, and MDM, is evolving necessarily as organizational strategies include Cloud Services, and they must appropriately manage critical data assets across the extended enterprise (Thoo, 2009).

While SOA & MDM strategy coordination is an important step for most organizations, it is only a starting point towards more comprehensive strategy coordination necessary to successfully support robust Service-driven & EDM approaches (Chandras, 2011). But this can be a reasonable and meaningful early step in the necessary evolution of strategic planning and execution that this chapter represents and hopes to accelerate within IT industry thought leadership, and in particular, among organizations pursuing Service-driven strategies. Organizations that coordinate their Service-driven & EDM strategies can go beyond mitigating their risks of bad data propagation via enterprise services to realize opportunities for optimizing their:

- Business value of both Enterprise Services and Enterprise Data, leading to:
  - Decreased business services development and maintenance costs.
  - Increased utilization of business services and data services (i.e., process efficiencies).
  - Increased information asset quality and reuse.
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