

# What's Your Strategy for Master Data Management?

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## Summary

Making a decision today to invest in Master Data Management (MDM) has long-term ramifications. A trending towards convergence of data warehousing, business intelligence and service-oriented architecture suggests that islands of MDM applications are untenable. Instead, a central, robust MDM service capability must be developed to support all of the 'business processes that matter' given an organization's value configuration - the organizational strategy, structure and business processes that create value for a given company.

This circumstance increases the importance of business semantics – the emerging action language of business that enables collaboration, including system-to-system business process executions that cut across organizational boundaries. Consequently, MDM services strategy must consider the role of semantics. Since semantics are volatile (especially in the context of global enterprises and inter-organizational collaborations), *context-aware* MDM services are critical.

Context-awareness implies that MDM services possess a viewpoint capability that takes into account implicit background knowledge. Those services use internal operations to address environments within which right-time published information can convey unambiguous meaning. Consider a sub-assembly that needs to be described differently depending on the product in which it will be embedded. Or a business intelligence report that for some users may need to reflect that a product was renamed or moved to another business unit - but for other user environments, the reflection of such changes makes no sense.

Another example involves system-to-system or people-to-system exchanges between organizations. When the meaningful vocabulary or semantics for those collaborations is updated, context-aware MDM services must step up to the plate and deliver - without requiring costly modifications to the host of applications that might be involved.

Naturally, context-awareness varies with different organizational configurations. For example, a **value chain** configuration emphasizes visible and manageable end-to-end inter-organizational business processes, so context relates to the semantics of automated, collaborative exchanges. A **value shop** emphasizes professional service business processes that enhance problem-solving capability and reputation, and context relates primarily to the semantics of the professional domains relevant to a problem at hand. Finally, a **value network** focuses on business processes that link network members through a mediating platform, and context relates primarily to the semantics corresponding to the services provided to membership segments - and the employee constituencies dedicated to delivering those services. For most organizations, value configurations exist as hybrid blends of chains, shops and networks.

For all configurations, when the semantics of business change and an organization can quickly evolve, that's agility. Agility is a key ingredient for success in today's dynamic business world.

**What specifically are the 'business processes that matter' for different value configurations, and what are the roles of MDM services for these configurations?** These questions are addressed by taking an in-depth look at value chains, shops and networks. Examples of organizations engaged in MDM services decisions are addressed including **Intel** (chain), **Boeing** (chain), **American Express Global Card Services Business Intelligence Group** (shop), **Lowe's** (hybrid chain/shop) and **Safeco** (network). For each configuration, there are appropriate strategic choices. A strategy blueprint can help reduce the pain points in building a long-term MDM services capability.

## Foundations for MDM Strategy Formulation

Let's assume you already have one or more data warehouses. By implementing Master Data Management (MDM), you could see improved decision-making quality, enhanced transparency to meet increasing regulatory scrutiny, as well as cost savings associated with report generation. MDM solutions also are an effective means of consolidating data dispersed throughout an organization's infrastructure and systems.

But, an MDM solution doesn't operate alone, so it makes sense to consider the alignment of MDM strategy with convergence on two complementary planes: active data warehousing (ADW) and service-oriented architecture (SOA). These elements represent a trifecta of influences that need to be aligned with organizational strategy.

Aligning these three factors allows companies to maximize agility. That means companies can meet increasing technological sophistication on the part of competitors, focus on business-process management, and pursue sourcing strategies that can quickly assimilate new partners, best-of-breed talent, technologies, opportunities and innovation.

**Some say that MDM is an old problem receiving renewed attention. However, when considered in the context of convergence, MDM represents a new opportunity to enhance an organization's agility.**

## An Agile Enterprise Based on Convergence

Service-oriented architecture is causing organizations to embrace a new paradigm related to business processes, collaboration and e-business. SOA means addressing the complexities of collaborative business processes that extend across a federation of enterprises.

It also means there is a need for federation interlingua — or agreed-upon semantics — that can support collaboration. Those semantics also can support the collection of

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federation-wide performance metrics that facilitate value chain management.<sup>1</sup>

For example, in a simple logistics network, orders come in from a store, then they're validated by the supplier. Next, the supplier engages an independent carrier to ship the goods to the store and collect payment, which is then processed by the supplier. Afterwards, the supplier may order more merchandise from its manufacturing source to replenish inventory. Additionally, the supplier's manufacturer may need to order more raw materials to produce the new inventory.

In this model, the business processes at each entity extend beyond their organizational boundaries. Additionally, they must be flexible enough to support a variety of transactions, and they must wait for responses from other entities. What's more, some interactions occur between people, and some happen automatically between systems.

Because of these collaborations, both humans and systems must understand and comprehend each others' communications. Agility in this context means that the store in our example must be capable of ordering from a different supplier when necessary. The supplier should be able to acquire inventory from different manufacturers if quality isn't adequate or inventory can't arrive in time. And, different carriers should be tapped if one supplier's available resources can't meet demand. Likewise, manufacturers should even be able to change their business strategy to deal directly with stores, if that is desirable.

In this paradigm, agility means the ongoing ability to configure, on-the-fly, the execution of business processes across the landscape of a federation of enterprises to minimize costs, maximize revenues, ensure quality or address some equally important objective.

Agility stems from automated and dynamic decision-making tied to sourcing, flexibility, federation performance, timely information or alerts, as well as business-process executions. All of these elements rely on common, often volatile federation semantics and SOA.

Constraints like business-partner lock-in evaporate in this ideal. With such a business process focus, the traditional aspects of SOA, e.g., discovery, protocol, etc., take a back-seat to the need for implementing processes that are visible and manageable from end-to-end. In addition, execution patterns can become increasingly difficult to define up-front, because automated entities are equipped to make proactive decisions on inter-enterprise sourcing options. This flexible, process-centric view of SOA — a view that sees SOA as conduit to dynamically linking enterprise federations — has been termed the "service-oriented enterprise."

"A service-oriented enterprise (SOE) is an enterprise that implements and exposes its business processes through an SOA and provides semantic frameworks for managing its business processes across an SOA landscape."<sup>2</sup>

The very nature of SOE presumes the availability of reliable, accurate and timely data to enable proactive, dynamic sourcing decisions and engagement transactions. Current approaches to active data warehouse (ADW) are consistent with the needs of SOE.

## Harnessing Enterprise Intelligence

The phrase "active enterprise intelligence"<sup>3</sup> refers to scenarios where strategic users and operational users share the same active data warehouse. That allows managers to align back-office strategy with front-line operations through consistent semantics surrounding metrics, priorities and insights. Similarly, shared semantics inherent in active enterprise intelligence can support operational decision making for sourcing and partner engagement within dynamic SOE business-process executions.

SOE decision points are event-driven. They rely on historical trends and contextual insight, i.e., what has happened over time. An active data warehouse for SOE needs to provide information services in such a way that they can be directly and quickly consumed at the time of a business-process execution.

For that reason, a key capability must include a mechanism for transforming internal enterprise semantics into federation interlingua. This is required in order for an enterprise to speak the language of the federation using the appropriate semantics. Conversely, the enterprise must be able to construe meaning from federation semantics. These two translation points are where an expanded role for MDM comes into play.

## MDM Redefined

Everyone seems to be in agreement that there is no single definition of MDM, but a prevailing notion is expressed as follows:

"MDM is a set of processes to create and maintain a clean, accurate and consistent view of reference data shared across systems (e.g., lists or hierarchies of customers, suppliers, accounts or organizational units). It is used to classify and define transactional data using a centralized integration manager, sometimes referred to as a hub. It leverages policies and procedures to access, update and manage this central resource and its coordination with other participating systems across the enterprise."<sup>4</sup>

**In the context of convergence, it is appropriate to adopt a broader, more strategic definition of MDM.** Let's define MDM as an enterprise 'service' as opposed to a 'set of processes.' Further, an effective MDM service is one that delivers reliable, scalable, secure, efficient and accurate cleansing, authorizing and publishing of information assets. Finally, published information assets must have the necessary and sufficient semantic relevance to enable

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subscribing people and/or systems to harness information and deliver business value.

## Context-Aware MDM

Enterprise MDM services that provide the capabilities described above can be referred to as 'context-aware MDM enterprise services.' Context awareness means that information assets support co-production. That is, they are understandable, unambiguous and functional for all systems, users and process participants.

Continuing our logistic network example, if a store supplier needs to order more inventory from a manufacturer, the data warehouse must be consulted for information detailing the manufacturers' contracts. It must be able to address past manufacturer performance trends. And, it must provide right-time information relevant to the order. There may be a decision to contact several manufacturers before making a final choice in order to cut prices and secure the fastest delivery times.

Context-aware MDM services provide the right information at the right time, expressed in terms that clearly represent the desired order and that can be understood by each manufacturer. The system also must support more traditional MDM capabilities, such as managing master-data updates when manufacturers reply with a new part number for the item being ordered.

SOE capabilities must support the communication of the order requests to the manufacturers and return the results to the decision-making entity. Upon return, the MDM service must derive the internal semantics for each response in order to provide necessary information to decision-making humans and/or systems.

**MDM services are the hub of the enterprise brain, sending and receiving signals to and from other parts of the system, even the data warehouse. Consequently, MDM services must evaluate and enact a response appropriate for stimuli, and services must target that response to the right nervous system components and/or partners in the environment. In so doing, the response must be customized to the semantics that recipients understand so they can perform appropriate actions, regardless of whether that recipient is human, a system, or some combination of both.**

## Generalizing Context-Aware MDM Enterprise Services

'Communication-enabled business processes' is the phrase coined by Gartner in reference to a value-chain in which several organizations collaborate through a fairly typical product manufacturing lifecycle.<sup>5</sup> Similar types of context-aware MDM services are important for different organizational value configurations. Let's refer to them as "shops" and "networks."<sup>6</sup>

Examples of where value shops are the primary configuration are professional service firms as found in medicine, law, architecture, accounting and engineering. An organization that is primarily a value shop is different than a value chain in that business processes occurring between organizations are not the major value-creation activity. The shop centers on problem solving and resolving customer problems. Its major recognition of value is related to reputation, as opposed to product cost or quality, as in the value chain. However, shops can be important cogs in value chains - for example, those shops dedicated to delivering high quality pre- and post-sale and/or maintenance services.

The value network focuses on adding new members to the platform it manages. Examples of firms primarily operating as value networks include cell phone companies, retail banks, insurance companies and postal services. Members gain value through their relationships with the network. For instance, people with insurance gain value through shared risk, as well as through the reduced costs negotiated by an insurance company. Like shops, however, networks can be key parts of other primary value configurations. Shops may include networks for supporting innovation, and chains may actually engage customers in networks to build brand loyalty.

Table 1 summarizes the three primary value configurations from four different perspectives. Each configuration is characterized by how value is created, the significant business processes involved in creating value, the characteristics of the business action languages (semantics) relevant to those business processes and the requirements for MDM enterprise services to support those business processes. These requirements can be merged for organizations where multiple value configurations are strategically important. Such combinations are referred to as 'hybrid configurations.'

## Convergence Strategy Choices

Whether your organization's major source of competitive advantage can be placed into the context of a value chain, shop, network, or some hybrid configuration, developing a master-data management services strategy is critical, especially given its likely convergence with active data warehouse and service-oriented architecture. That convergence will manifest itself over time. There will probably be a fair amount of false turns and frenzy along the way.

Consider the evolution of personal mobile telecommunications. First, there were pagers, digital cameras, miniature tape recorders, electronic calendars and address/phone books. Then, cell phones came about. Next came all-in-one cell phones with cameras, calendars, address/phone books and internet access built in. Later, iPods became the rage, and cell phones with video players/ recorders emerged.

What personal mobile devices have you purchased along the way? When deciding what to purchase, your strategy

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	Chains	Shops	Networks
<b>Major value creation activities and bases for differentiation</b>	Federated performance management through agreed-upon semantics; Adaptable, dynamic business process executions that cross organizational boundaries while engaging people, systems and ad hoc combinations of both; Differentiation based on agility - dynamic configuration and execution of business processes across a federation with dynamic decision making tied to sourcing and federation performance measurement; Key business processes become manageable from end-to-end	Problem solving; Resolution of customer/client needs-driven issues and/or service requirements; Differentiation based on reputation	Links clients/customers to facilitate and/or mediate exchanges (e.g., transfer of information, goods or services); Differentiation strategy balances service quality, volume and quantity in a manner that generates a premium price while maintaining cost-effective capacities
<b>Business processes that matter</b>	Fully automated (system-to-system) and partially automated (people-to-system and vice versa) collaborative exchanges	Co-production of solutions; Temporary induction of client data, information, and/or knowledge; Matching client situation with a case-base to reuse knowledge; Case-base search and relevancy matching are key to productivity	Multi-tasking on many concurrent processes; Searching for new clients/customers; Admitting the 'right' members; Monitoring exchanges to ensure adherence; Managing client contracts; Managing the price tag for adding new members; Linking to other networks to enhance member value
<b>Business 'Action Language' characteristics</b>	Requires federation inter-lingua, i.e., agreed-to federation semantics to support visible end-to-end processes; Semantics must be sufficiently grounded to enable expressions of computable federation performance management metrics that are rich enough to support human and automated decision making	Associated with standards of practice adopted by professional organizations; Follows standards expressed in regulations or laws; Conforms to semantics that bridge federations of professional constituencies/governments	Member and service management semantics must be meshed with capacity management semantics; Inter-network semantics must be reconciled (when applicable); Human and system semantics must be synthesized (particularly for system-based platform networks)
<b>Context-Aware MDM Services value propositions</b>	Translation of organizational semantics to federation semantics (and vice versa) when necessary; Customization of semantics to people and/or system recipients engaged in collaborative exchanges	Facilitate temporary induction of client information assets into shop semantics; Support information asset translations to professionally standard semantics; Support delivery of findings using the client's semantics	Most significant when tied to active data warehousing to enable up- or cross-selling during a client service provision or offer customization; MDM Enterprise Services can deliver consistent semantics to customer segments as well as employee constituencies

probably centered on the value you attached to different capabilities provided by available devices. Your timing would have depended on what you needed to get your life in harmony with those around you and how quickly you saw different paths converging.

Did you anticipate the convergence? Did you pinpoint what type of converged device you wanted — and guess what bells and whistles it would have — before the convergence took place? If you're like most of us, you selected vendors along the way, only to switch devices and providers a few times as you figured out what you really wanted and needed. If you'd followed the prudent path and had a strategy, you probably did a better job than the rest of us in transitioning through the intervening frenzy, and you probably saved a great deal of money.

## Bringing It All Together

Figure 1 shows the MDM, ADW, and SOA convergence landscape in the form of a triangle. At the center is the true and complete convergence of the three into combined business benefits, methodologies and platforms that will realistically remain at the conceptual stage of development for some time to come. As in the personal mobile telecommunications example above, an organization can choose to independently invest time and resources into each

of the three without an overall strategy for convergence. The labels 1, 2 and 3 in Figure 1 show this disjointed investment strategy.

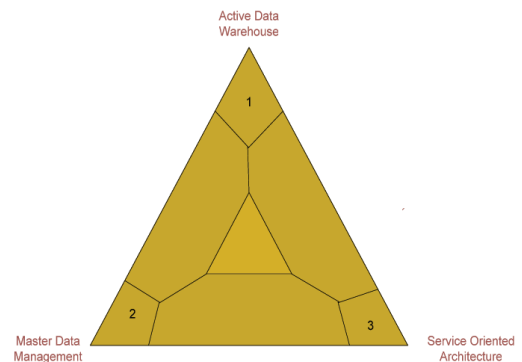


Figure 1: Independent ADW, MDM & SOA Strategies

With this approach, an organization relies on disjointed strategies to address distinct problems and issues where, at the time, they independently make sense. Employees learn the technologies and how to apply them to problems independently, and silos of expertise result. After specific groups have adapted systems to their specific needs, there is bound to be wasted effort once a convergence strategy is feasible.

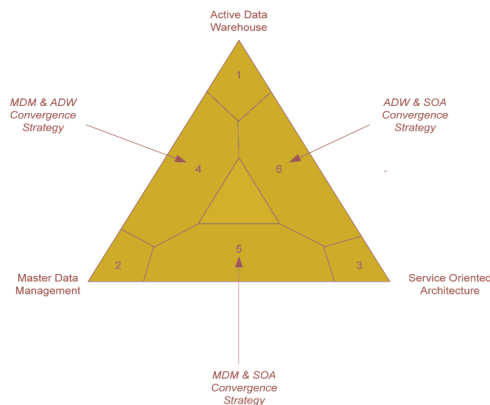
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Let's go back to the analogy of mobile-telecommunications devices. You might have been the one to own the pager, the miniature tape recorder, the early digital camera, an electronic organizer and an electronic address/phone book all at once. After reading all of those manuals and purchasing all the right batteries or power converters, a cell phone with integrated features probably did wonders to simplify your life. Plus, you probably could buy a smaller brief case since you didn't have to carry around all those outdated gadgets. Some might refer to this change as the minimization of platform proliferation, and it's a smart strategy for MDM services, ADW and SOA convergence.

As an alternative to independent investments in MDM, ADW and SOA, it might make sense to consider them in binary combinations. In **Figure 2**, strategies labeled 4, 5 and 6 combine MDM & ADW, MDM & SOA and ADW & SOA respectively.

When developing a convergence strategy through one of these binary combinations, it makes sense to consider determinants based on the nature of your business. That is, what is the main source of profit as derived from your primary value chain, shop or network?

In our personal mobile telecommunications analogy, this approach means making an adoption decision when you see that two critical but previously independent capabilities have been effectively merged. For example, you purchase the cell phone when it replaces both a pager and electronic address book because the synergies of these features make sense to you based on how you will use the device. At this point, if you keep the electronic address book, you add the complexity of managing duplicate data. And, if you keep the pager, you'll pay for a redundant service.



## Intel's Collaborative Business Processes Approach

Suppose the nature of your business is primarily a value chain. In the value chain and the services-oriented enterprise, business processes are exposed throughout a federation that relies on SOA and common business semantics for collaborative business-process communications and executions. Therefore, SOA capability is an inherent

assumption about the ability to execute business processes across organizational boundaries.

If an organization doesn't have SOA capability, then collaborative business processes are likely being routed through rigid, direct communication links. Federation semantics may change or the organization may join other federations that use different semantics. In either case, the federation's semantics must be translated for internal consumption, and context-aware MDM services support such capabilities. For this reason, the appropriate binary convergence strategy for value chains is through the area labeled 5 in **Figure 2**: the MDM & SOA convergence strategy.

In considering investments for this capability, organizations should consider solutions that expose the results of MDM services as SOA services for other applications. Sourcing flexibility and adaptation to federation semantics reinforce agility in this convergence. ADW capabilities also contribute, and they should be added when feasible to further improve dynamic business process sourcing and execution. **Exhibit One** summarizes this strategic choice from a recent project at Intel.

### Exhibit One

**Organization:** Intel

**Industry:** Semiconductors

**Focus:** Collaborative Business Process Management

**Project Value Configuration:** Chain

**Description:** Intel sought to enable inter-organizational, executable business processes using:

- Third-party semantics provided by the "value-chain group."
- Service-oriented architecture and associated reference models for federations of organizations.
- An active data warehouse for collecting historical business process execution trends and making them available in dynamic resource provisioning.

**Convergence-Strategy Focus:** Employ context-aware MDM services to manage inter-organizational semantics and internal interpretations of them. Use SOA as a key enabler of inter-enterprise collaboration.

**Key take-away:** MDM, SOA and ADW enable the service-oriented enterprise.

**References:** 7-11

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## Boeing's New Way of Doing Business

Boeing is making a radical change to the way it builds jets, beginning with its upcoming new flagship 787 Dreamliner. Now, the company is undergoing a major business transformation that centers on collaborative business processes associated with value-chain partners.

Instead of having myriad parts, built to complex blueprints and then delivered for assembly in one of Boeing's warehouses, partners are designing parts and examining their 'fit' in what is referred to as 'virtual assembly.' Testing occurs in a complex computer-based model that resides outside Boeing's firewall. Partners are concurrently building different aircraft pieces by creating data that is assembled and checked in real-time. At some point, major sections of a jet will be picked up from sites around the world, and those sections will be assembled at a facility in Everett, WA.

The collaboration involved in Boeing's new approach cuts a great deal of time and, therefore, provides significant cost savings. While Boeing still makes pieces of the planes they sell, they have "moved up the value stream" to become a large-scale systems integrator.<sup>12</sup>

Competitive advantage may come from honing business processes of design partners. The computing infrastructure centers on a product-lifecycle-management (PLM) application provided by Dassault Systems. The SOA version of the application supports collaborative partner services, whereby the 'clashes' between virtual parts are indicated by a big red blotch that shows up, in real-time, on a partner's screen.

The data warehouse to manage this complex environment employs SOA to support partners' concurrent business processes. Context-aware MDM issues will arise as designers work on multiple jobs simultaneously.

The Boeing scenario is one where SOA and MDM are central to a convergence strategy. ADW is secondary, although supporting design processes while referencing a case-base — as in a value shop approach — would appear to be an appropriate extension.

### **Exhibit Two**

**Organization:** Boeing

**Industry:** Jets

**Focus:** Collaborative Business Process Management

**Project Value Configuration:** Chain

**Description:** Boeing altered its traditional value-chain management approach to adopt an entirely new way of building a jet. The company gives partners access to a computer model that virtually tests parts' compatibilities. This virtual assembly makes use of an SOA-based PLM application and supports concurrent design at multiple sites. Constantly changing semantics are likely to be a major issue as the overall design unfolds.

**Convergence Strategy Focus:** SOA to manage partner collaborations and concurrent design is a key capability; context-aware MDM services

are likely to be a major issue as the overall design evolves.

**Key Take-Away:** Boeing's vision of the service-oriented enterprise, while different than Intel's, is also enabled by MDM, SOA and ADW convergence.

**References:** 12

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## American Express' Streamlined Value Shops

Context-aware MDM services also are critical for value shops. When coupled with ADW capabilities, they can support almost all of the crucial value-shop business processes. For this reason, value shop convergence should proceed through the area labeled 4 in Figure 2: MDM and ADW convergence.

Coupling ADW and context-aware MDM services delivers the right information at the right time to dynamic, professional-services business processes. This can help reduce errors of omission, while applying relevant lessons learned in new client engagements. In addition, this configuration enables one set of specialists to communicate with one another using the appropriate semantics. It also supports client data-induction strategies where client semantics are converted to value-shop semantics in accordance with industry or professional standards.

The value of ADW rises in value shops for a few reasons. Namely, there is more standardization of processes, cycle

time is key, and best practices need to be inserted into business practices "just in time."

For example, a professional-services call center, such as one providing customer support for a technically sophisticated product, will use ADW capabilities tailored to quickly access relevant prior solutions to known problems in order to provide the highest level of client service.

Disseminating inter-problem learning efficiently through the ADW is essential in this context because it can convey solutions throughout the value shop almost as quickly as problems arise and professionals solve them. The main synergies between context-aware MDM services and ADW for value shops lies in the ability to efficiently promote specialist coordination and apply solutions using the semantics appropriate to each relevant professional and their client interactions. Exhibit Three provides a snapshot of a project for American Express Global Card Services Business Intelligence Group that demonstrates this strategy.

### Exhibit Three

**Organization:** American Express

**Industry:** Financial services

**Focus:** Business Intelligence Professionals

**Project Value Configuration:** Shop

**Description:** American Express Global Card Services' Business Intelligence (BI) Group sought to streamline processes through groups of professionals — inside and outside of the company — who participated in BI projects. Key challenges included:

- Developing a common semantic framework for project management that incorporated the respective efforts of each professional-service group.
- Translating each group's professional semantics to the common semantics.
- Coordinating performance metrics to enhance overall project-development cycle times.

**Convergence Strategy Focus:** Context-aware MDM services enable management of semantic transformations between professional groups. In addition, American Express viewed ADW as the key to providing groups with timely performance information, particularly in respect to project scaling based on historical data, as well as initiation of necessary rework at the earliest opportunity to reduce cycle time. SOA enables the linking of project workflows with external company partners.

**Key Take-Away:** Value shops can streamline processes and enhance coordination — even with external partners — with MDM, ADW and SOA.

**Reference:** 7-11

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## Lowe's 'Project-Based' Philosophy

Combined value shop and chain hybrids are becoming an important competitive force. Few companies can maintain a “shop” approach to providing top-notch, professional service while simultaneously managing a complex value “chain.” Exhibit Four shows how Lowe's Corporation has been evolving its “total closed loop” model — offering both sales and professional services — to shift its focus from being a “product-based seller” to becoming a “project-based seller.”

Lowe's excellence at managing its value chain has been well documented<sup>9,10</sup>. For customizing services, a long-term effort has been underway. ADW capabilities can support the targeted operational decisions. It seems apparent that MDM will be a major aspect to both the business processes associated with the chain (e.g., collaborative business process executions) and business processes associated with shops (e.g., supporting professional design and custom-order services). In such hybrid situations, the strategy for MDM is very important, as MDM services concurrently enable both value configurations.

### Exhibit Four

**Organization:** Lowe's

**Industry:** Home Improvement Retailer

**Focus:** Supply Chain and Customer Service

**Project Value Configuration:** Shop and Chain (Hybrid)

**Description:** Lowe's is shifting from being a 'product-based' seller to be a 'project-based' seller. They are relying on their Total Closed Loop (TCL) selling model intended to:

- Simplify the process of selling specialty items and store services for store associates.
- Manage communication and processes with their service-provider network.
- Provide tools to improve the customer experience throughout the entire selling process.

**Convergence Strategy Focus:** MDM is a key to Lowe's combined value-chain and value-shop business processes. Integrating these roles into one MDM services strategy is a significant challenge for the retailer. ADW is vital to the customer services strategy. MDM is crucial to keeping chain semantics consistent with service semantics so that projects sold match those available through the chain at the times promised.

**Key Take-Away:** A hybrid shop/chain requires significant focus on MDM service strategy to align business processes. MDM enables both value configurations.

**References:** 13, 14

## 'Safeco Now'

Value networks, such as insurance companies, have to support business processes that achieve controlled growth of the company's client base. At the same time, they have to deliver services to maintain the existing client base.

ADW can access historical data that provides the support it takes to close a deal with prospective members. Since, operating the infrastructure and delivering services to current members are concurrent processes, the ADW could also facilitate targeted service offerings to current members - right when they're using older services and are most open to an upgrade.

Context-aware MDM services support constantly changing member profile hierarchies. In addition, a growing value

network requires ways to segment members. Combining ADW with MDM services is a natural way to keep track of evolving clientele rosters, contracts, service offerings and infrastructure performance. The goal: rapidly tailoring services to a client.

SOA can be important, as well. If the value network relies on a technology-based platform to service clients, combining SOA and MDM capabilities will be essential. SOA facilitates scaling processes for both adding clients and delivering services when heterogeneous infrastructures are virtually linked in a common platform.

Exhibit Four spotlights the “Safeco Now” initiative, which includes a tool called ‘Policy Change’<sup>11</sup> that cut Safeco's policy-change process from seven days to two minutes. The

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Safeco Now program relies on SOA via web services and XML to link 9,000 independent agents and brokers.

To some extent, there are two value networks at play in the organization: one for the agents and brokers, and one for insurance customers. For brokers and agents, SOA has facilitated development of InsuranceNoodle: an electronic quoting system for commercial insurance. Overall, Safeco's approach has been one of introducing 'once-and-done' transactions for agents, allowing them to provide better customer service while increasing operational efficiencies.<sup>12</sup> In the meantime, data warehousing aids in addressing the

questions insurance companies must answer given their business model. For instance, what were the average settlement costs and times for claims last month? Or what were these costs as separated out by adjuster? By coverage line?

Value networks also must consider membership and platform questions. What new customer acquisitions trends are we seeing by communication or channel type? How is the channel-event behavior changing over time?

Right time answers to these types of questions become feasible given a combined SOA, MDM and ADW strategy.

## Exhibit Five

**Organization:** Safeco

**Industry:** Insurance

**Focus:** Adding Network Partners and Providing Service Excellence

**Project Value Configuration:** Network

**Description:** Safeco has deployed information systems using SOA to link more than 9,000 brokers and agents who manage complex policies and customer-service updates in real-time. Data warehousing facilitates managing dual networks of agents/brokers/adjusters and customers. Critical value-network processes include adding the right kinds of customers, managing complex policy offerings, maintaining reserve accounts and monitoring channels.

**Convergence Strategy Focus:** Context-aware MDM services can help Safeco manage policy, regulatory or platform updates and performance. SOA has been a significant

enabler of the partner (broker/agent) network. ADW approaches can improve up-selling opportunities and enhance agent/broker operational decision-making during client interactions.

**Key Take-Away:** Value networks, using SOA-based portals that align a variety of heterogeneous platforms/infrastructures, need MDM, SOA and ADW convergence to enrich partner and customer services, scale customer-service processes and customize experiences, where applicable. Such convergence simultaneously balances high-quality service for complex offerings with platform and channel capacities.

**References:** 15, 16

## Conclusions

Master Data Management (MDM) is more than some hub-like application that you can choose to insert somewhere into your enterprise architecture. There are many implications to an MDM solution decision, especially the lock-in associated with making the wrong choice. Wrong choices could result in:

1. Platform proliferation.
2. Limited scalability, which builds in a single point of failure.
3. Complicated enterprise architecture.
4. A decentralized data-governance strategy.

5. Duplication of data.
6. Limited ability to embed business-intelligence results into business processes using the semantics that process owners understand.
7. Lack of semantics in supporting collaboration between professional groups, across enterprises and through networks that see value in forging new links.
8. Scaling and/or local adaptation roadblocks to globalization strategies.

Developing an MDM strategy in an era of likely convergence with active data warehousing and service-oriented

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architecture is complex. Depending on the primary value configuration(s) in your enterprise, different convergence paths are likely to have some benefits over others. Each value configuration can benefit from overall convergence based on the critical business-process orientations that provide organizations with competitive advantage.

In addition, what has been referred to above as context-aware MDM services also highlight a key benefit related to semantics. They're becoming increasingly relevant to value-chain federations, professional-service organizations and value networks. This is just one area where MDM value propositions are currently under-addressed.

Organizations today are seeking agility, but steps taken to gain agility for one value configuration may not be the same as those for another configuration. Chains need be able to source business processes through partners in an agile way. Shops need streamlined coordination with both clients and other shops. Value networks need to be able to rapidly evolve services and customize them, to the extent possible, to enhance member linkage capabilities. Nevertheless, for each of these configurations, MDM, ADW and SOA convergence will provide transformational capabilities.

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## Biography

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