Where Will Enterprise SOA Matter Most in Your Organization?

Enterprise Information Management Is Key to Optimizing Your Enterprise SOA Efforts

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Enterprise service-oriented architecture (enterprise SOA) promises organizations the agility required to quickly and intelligently react to changes in the business environment so they can maximize value as defined and prioritized by their mission and strategy. Without efficient and effective enterprise information management (EIM), however, the business case for enterprise SOA quickly deteriorates. This relationship will become more obvious as I examine the definition, role, and value of EIM in more detail. I will also explain the SAP NetWeaver EIM architecture and ways that you can leverage existing assets as you transition to enterprise SOA.

EIM Defined

The major analyst firms have supplied us with a wealth of definitions for EIM, along with visions of what it should be. For the purposes of this discussion, I will use a broad definition of EIM — much like analysts' vision of what it should be — but I will focus mainly on what it actually means to most of us today, and what it will mean in the immediate future:

Enterprise information management (EIM) is an integrative discipline for structuring, describing, and governing information assets, regardless of organizational and technological boundaries, to improve operational efficiency, promote transparency, and enable business insight.[1]

Breaking EIM down into its relevant technologies involves looking at how an organization creates, maintains, and delivers information assets ranging from traditional, highly structured information to less structured text, voice, and video formats.

In today's business climate, data volumes are multiplying by the minute, data quality is under intense corporate and regulatory scrutiny, and increasing numbers of users need access to critical business information. EIM must therefore be at the center of any IT organization's overall strategy — especially for enterprise SOA efforts.

Use EIM to Build a Strong Business Case for Enterprise SOA

The business case for enterprise SOA is based almost entirely on the concepts of agility and reuse. Organizations can create value through their ability to respond quickly to changes in the business environment. Through the reuse of components, objects, and services, they can also reduce TCO for the IT solutions that enable their business processes.

EIM Helps You Understand Your Organization's Major Value Drivers

It's interesting: The benefits side of the business case is generally mute on the subject of what constitutes value. You can't quantify the value of enterprise SOA unless you first know what your strongest value drivers are. Adapting business processes to produce a higher quality product is not inherently better or worse than doing so to make your organization the easiest to do business with, or the lowest-cost provider.

While corporate performance management (CPM) and holistic performance management solutions can help you to understand the value drivers for your organization,[2] you still need to develop your EIM capabilities to provide a single, consistent view of all relevant information assets and metrics. EIM must be

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[1] Gartner (2006).

[2] To learn more about SAP's solutions for performance management, see "Your Competitors Are Taking Steps to Maximize Business Performance — Are You?" by Mindy Fiorentino in this issue of *SAP Insider* (www.SAPinsideronline.com).

able to provide robust and adaptable access to all relevant, quality-related information in the context of your business processes on one day, and then seamlessly switch to a cost optimization or a customer experience view on the next. This illustrates the critical role EIM plays by providing access to the reliable performance information and metrics required to optimize business processes.

EIM Opens Up the Path to Reduced TCO

In addition to the role EIM plays in guiding business process agility, it must also be able to provide rich, context-aware information access at the service, composite, task, and process levels. Decoupling information access from the composition and orchestration layers helps promote reuse, eliminating substantial obstacles to TCO reduction.

Historically, the cost of integrating information has accounted for a disproportionately high percentage of the overall costs of new solution implementations, application enhancements, and maintenance. Enterprise SOA promises to drastically reduce these costs. This depends to a large degree on the EIM layer of the enterprise SOA platform or business process platform (BPP). Unified tooling, integrated metadata, and consumer information services are required to achieve these cost reductions, along with proper governance processes and information lifecycle management[3] — and this is exactly what EIM provides.

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[3] See "From Data Management to Information Lifecycle Management" in this issue of *SAP Insider* (www.SAPinsideronline.com).

SAP Architecture for EIM

To help determine how EIM fits into your organization, and to understand what can be done to prepare to support the agility and reuse promised by enterprise SOA, let's examine the components of the SAP NetWeaver EIM platform.
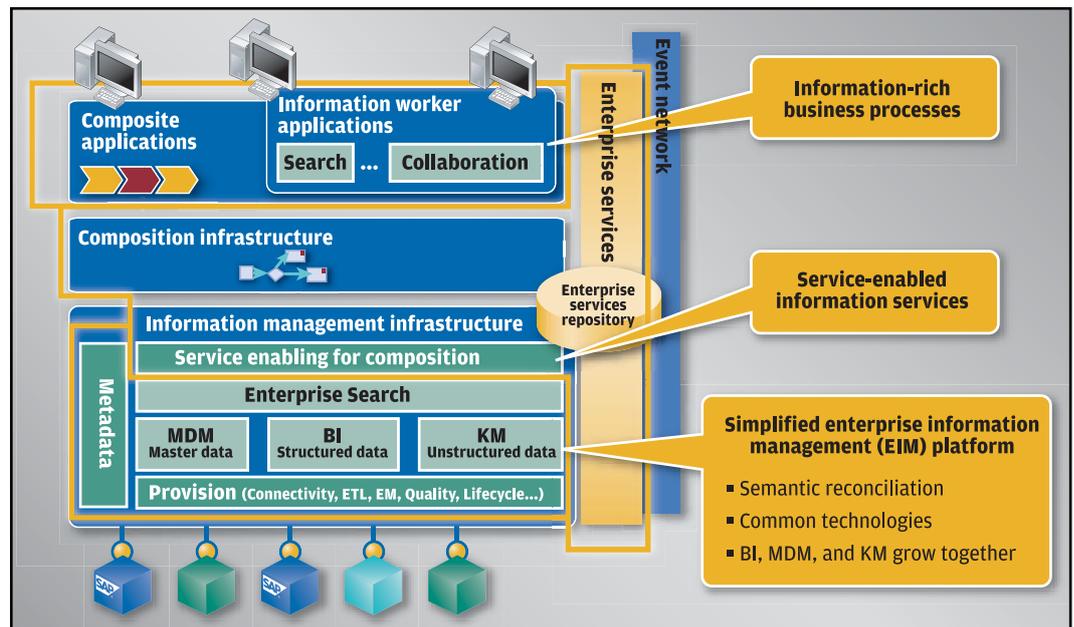
Figure 1 shows the basic components of Business Intelligence (BI) for structured data, Master Data Management (MDM) for master data, and Knowledge Management (KM) for unstructured or semi-structured data (see sidebar on page 36). Additionally, Enterprise Search services ensure efficient information access across these data types. These components are unified through a common metadata layer and made available through the EIM consumer services (BI, MDM, and KM) layer (see sidebar on page 34). Finally, data integration — including extract, transform, and load (ETL); enterprise application integration (EAI); and enterprise information integration (EII) capabilities; along with data quality and information lifecycle management — constitute the necessary provisioning infrastructure.

How to Prepare for EIM and Enterprise SOA

Step #1: Take Inventory

Since none of us will likely have the luxury of starting with a clean slate in terms of either information sources or targets, it will be extremely helpful to create an inventory of existing sources, targets, and interfaces. This inventory should include transactional and analytic information, as well as third-party information

services, Software as a Service (SaaS) applications, and partner applications. It is important to collect both technical and business information for each entity. This inventory will be very helpful when designing your EIM standards and governance model.

Step #2: Determine Standards and Governance

The success of SOA and EIM largely depend on how well you choose and implement a set of standards and a governance model that fit your specific situation. *Standards* are the guidelines that must be followed in the absence of a business case to do otherwise. *Governance* is the process by which you ensure that the standards are adhered to, and analyze the business cases for deviations from (and changes to) the standards.

This process must address the technical and business aspects of these decisions while also accommodating the politics of the organization. Accordingly, one of the most important aspects of the governance
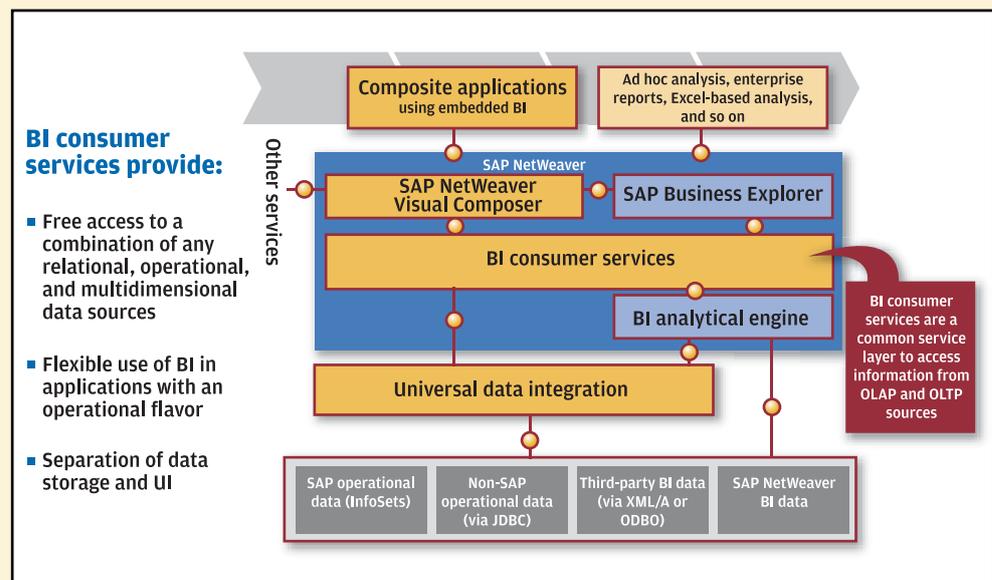
Consumer Services

Service-Enabled Access to Enterprise Information

Understanding EIM consumer services is key to fully leveraging SAP NetWeaver EIM functionality. For example, BI consumer services (see figure below), one of the subsets of EIM consumer services, will:

- Enable SAP Business Explorer, SAP NetWeaver Visual Composer, planning applications, and Java applications to access relational and multidimensional data in a unified manner, supporting OLAP user interactions like slice and dice

- Provide access to data that is stored in SAP NetWeaver BI, as well as in other sources, including SAP transactional systems, third-party applications, and homegrown systems

- Provide UI-client support and enable exception reporting, list calculation, and document integration; this means that BI consumer services go beyond data access APIs (SQL and MDX)[4]

The beauty of consumer services, though, is that information workers using them during their business day – to gather all information about a client, for example – don't have to know about any of these underlying business semantics and systems. It can all be embedded within applications and business processes, and is transparent to the end user.

BI consumer services provide:

- Free access to a combination of any relational, operational, and multidimensional data sources

- Flexible use of BI in applications with an operational flavor

- Separation of data storage and UI

Composite applications using embedded BI

Ad hoc analysis, enterprise reports, Excel-based analysis, and so on

Other services

SAP NetWeaver

SAP NetWeaver Visual Composer

SAP Business Explorer

BI consumer services

BI analytical engine

BI consumer services are a common service layer to access information from OLAP and OLTP sources

Universal data integration

| SAP operational data (InfoSets) | Non-SAP operational data (via JDBC) | Third-party BI data (via XML/A or ODBO) | SAP NetWeaver BI data |

▲ Consumer services bring backend BI information directly into the business user's work environment and processes

[4] At this time, pilot projects for BI consumer services programming APIs are in progress.

Set the Right Scope for Your EIM Strategy

Depending on where your company is with its current information management efforts, you may need to adjust the scope of any early-stage EIM programs to make them more viable and successful. The challenge posed by the exploding volume of structured data alone is formidable and should be addressed as a foundational element of your EIM strategy.

This certainly doesn't mean that you should neglect unstructured data altogether. But if you have not yet determined the best ways to provide the right structured information to the right users in the right place at the right time, then unstructured data is likely not your top priority. Plus, the principles for leveraging unstructured information in an enterprise SOA environment are much the same as those for structured information — they require you to collect and generate additional rich metadata to classify and analyze these sources.

function is to provide a clear history of the decisions made, the assumptions and reasons for these decisions, and the actual results. This history allows the organization to learn from experience and see when it is being agile or when it is just reacting.

Step #3: Build Momentum

Find ways to show results early. Be sure to mention the EIM strategy when results are achieved, even at a project level. Citing examples of how EIM allowed IT to identify new business opportunities or respond more quickly to changing business requirements — in compliance or merger and acquisition (M&A) activity, for example — will go a long way toward getting the rest of the business on board. For instance, if you can demonstrate that you were able to successfully respond to a regulatory audit because of your EIM strategy, your efforts will quickly win favor among decision makers.

Conclusion

Making good on the promised benefits of enterprise SOA requires you to provide the right information to the right users at the right time. Without an effective enterprise information management strategy — and the IT architecture to support it — companies will not be equipped to fully reap the benefits of their enterprise SOA efforts. When you consider adopting an SOA approach, make sure that you have a cohesive EIM strategy and that the proper business case and governance methods are in place. Otherwise, you may end up with agility, but agility that doesn't add value — and can even cost you in the long run. ◻

Additional Resources...

...from SAPinsider

- "The ROI of SOA: Reusing Services Is Cost-Effective" by Adolf Allesch (*SAP NetWeaver Magazine*, Spring 2007, **www.NetWeaverMagazine.com**)

- "5 Business Reasons to Service-Orient" by Jason Bloomberg and Ron Schmelzer (*SAP NetWeaver Magazine*, Winter 2007, **www.NetWeaverMagazine.com**)

- "Improve your enterprise information management (EIM) processes and activities with SAP NetWeaver Master Data Management" by Keith Mullins (SAP NetWeaver/BI and Portals 2007 conference presentation available on take-home CD, **www.sapnetweaver2007.com**)