

A blueprint for the next level

Teradata and SAP team up to build an effective service-oriented architecture.

by Bryan Knaak

One of the most prolific IT paradigm shifts is under way: the adoption of service-oriented architecture (SOA). With SOA, IT assets are aligned to business needs in an adaptable, flexible and open IT architecture. But what exactly does SOA mean? And what are some of the benefits associated with it?

The promise of SOA is that it can transform a business's IT assets, making it possible for the IT department to adapt as fast as, if not faster than, business can to accommodate new requirements. SOA enables you to link stand-alone processes and to rapidly compose new business processes that provide competitive advantage, improve operations and empower workers.

An SOA can be evolved based on existing system investments as opposed to a full-scale, system-wide rewrite/replacement. Organizations that focus their IT investments on the creation of reusable services utilizing a robust, scalable enterprise SOA platform will be able to:

➤ **Extend capabilities of existing assets.**

A business service can be constructed as an aggregation of components from existing IT systems. As such, organizations can repurpose existing assets as services and extend their utility by assembling components into new, higher-value-added solutions.

➤ **Quickly react to new business requirements.** Organizations can separate the interface and process definition from the underlying appli-

cations. Building and deploying services will reduce the time to market dramatically as new initiatives reuse existing services and components, thus reducing design, development, testing and implementation time. This enables high-quality, services-based solutions to be delivered on time and on budget without the business being disrupted by “big bang” approaches.

➤ **Innovate.** Organizations can deploy innovative solutions that take advantage of existing systems. SOA makes it feasible to assemble an entirely new class of business application that combines functionality from multiple existing IT assets to provide end users with new cross-functional capabilities.

➤ **Reduce IT costs.** Cost reduction is the key long-term driver of SOA adoption. Costs can be reduced through reusable Web services, which simplify new application development, decrease the number and complexity of IT services, and lower maintenance and integration expenses.

Companies that successfully deploy enterprise SOA will find themselves more able to quickly respond to new market opportunities and address competitive threats with speed and agility that are not possible when constrained by more traditional custom development or packaged software IT implementations. The

real challenge is how quickly and easily an organization can mobilize value-added, reusable services on a high-performance scalable enterprise SOA platform.

Enterprise SOA moves organizations and their IT architectures to higher levels of adaptability and closer to the vision of real-time enterprises by elevating Web services to an enterprise level. Teradata active data warehousing, the foundation of active enterprise intelligence, ensures a sustainable, scalable infrastructure for applications that require large amounts of data and deliver complex, cross-functional analytics. By leveraging the enterprise SOA-enabled SAP NetWeaver platform to deliver analytic and decision-making services from Teradata-optimized components, active data warehousing makes it possible for decision makers to extend existing and new SAP business models and value chains with optimal speed and transparency.

SAP enterprise SOA in conjunction with a Teradata Warehouse provides the foundation for combining transactional services with analytic and decision-making services to enable a real-time enterprise SOA. Teradata's Real-Time Enterprise Reference Architecture with SAP (see figure, page 71) illustrates how SAP and Teradata can work together to take a business to the next level of responsiveness, flexibility and overall efficiency. The following is an explanation of each of the key components:

TERADATA DUAL ACTIVE ENTERPRISE DATA WAREHOUSE

An active data warehouse provides the technical foundation/repository for analytic and decision-making services to enable real-time enterprise SOA. Analytic and decision-making repositories store the “historical record” of the enterprise, detailing every business area and the reference data that describes the business. This record can be used for analysis and retrieval to support the enterprise’s analytic and decision-making processes. Teradata strongly advocates a single integrated enterprise repository—an enterprise data

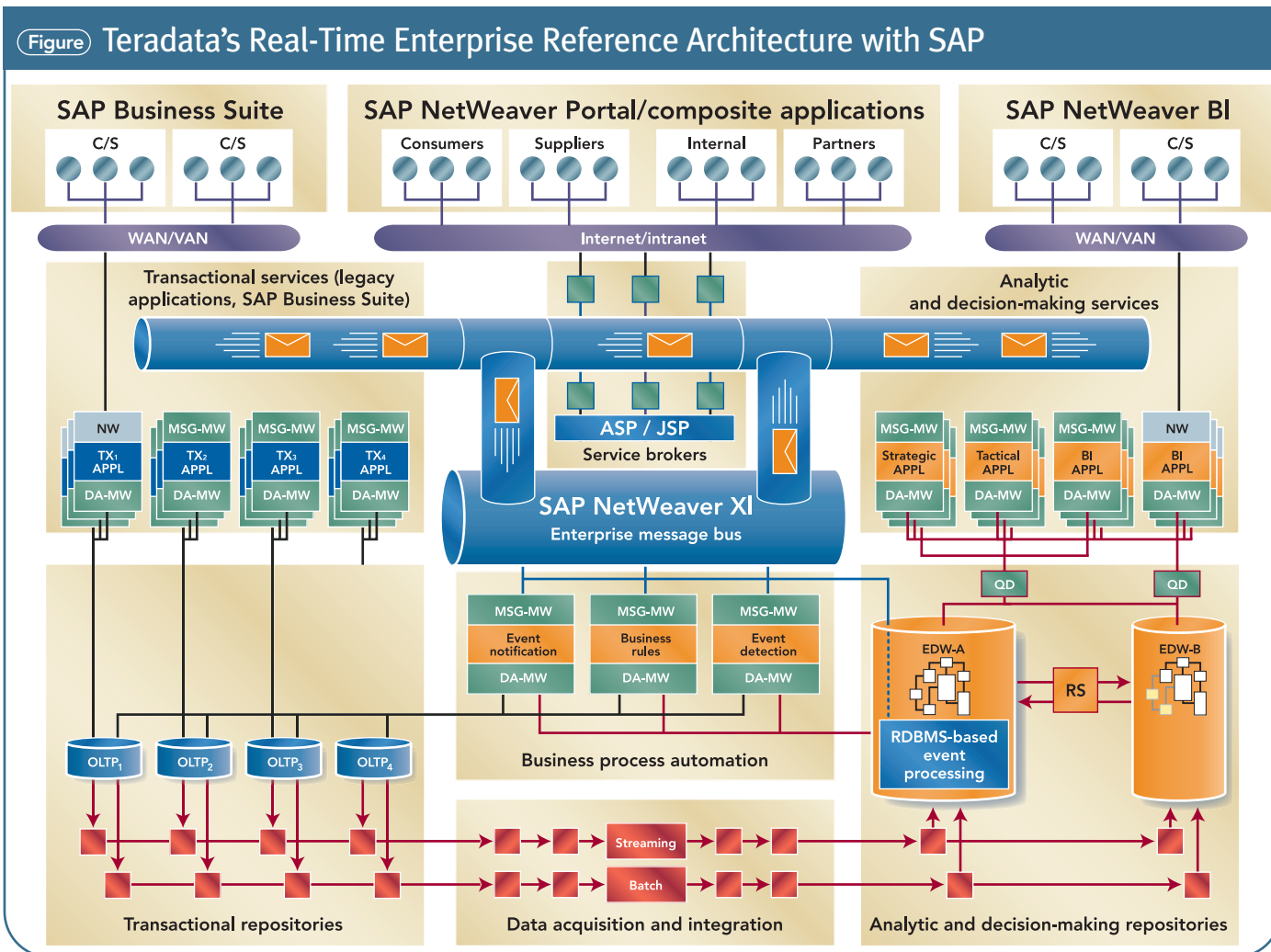
warehouse—because of its inherent flexibility to answer wide-ranging and changing business questions.

Analytic and decision-making repositories traditionally have not been business-critical components of the IT infrastructure. As they are integrated into the real-time enterprise, these repositories support business-critical operational processes and must deliver 24x7 service levels under any conditions. Strategies similar to those used for transactional repositories are now appropriate to apply to the decision-making repositories. For example, a “dual active”

implementation is when two (or more) systems, geographically separated, provide protection from disaster. This approach is used when the applications have a wide range of business criticality. It allows the second system to be a subset of the first, containing only data that is truly business-critical.

SAP NETWEAVER XI ENTERPRISE MESSAGE BUS AND SERVICE BROKERS

Together, the enterprise message bus and service broker elements of SAP NetWeaver Exchange Infrastructure (XI) provide the



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infrastructure of an enterprise SOA. SAP NetWeaver XI enables the integration of collaborative processes across multiple application components and enterprise boundaries. The power of Teradata analytics can be used to support SAP-controlled business processes directly, via SAP NetWeaver XI. Processes are integrated using standards-based XML messaging, and all related information is modeled using Web services standards. Users can also leverage enterprise-wide event management. With Teradata event management, business events on the Teradata Database are monitored and populated to enterprise subscribers via SAP NetWeaver XI.

SAP BUSINESS SUITE TRANSACTIONAL SERVICES

Teradata analytics can drive SAP business process directly with decision support for multiple roles at any time. The SAP Business Suite application landscape can be enhanced with analytic application power for customer management, finance and performance management, supply and demand chain management, and profitability analytics.

SAP Business Suite applications such as enterprise resource planning and customer relationship management use SAP's enterprise message bus to access decisioning services in near real time or real time. Also, SAP NetWeaver XI can move data from SAP Business Suite applications to the data warehouse in real time.

SAP NETWEAVER PORTAL AND COMPOSITE APPLICATIONS FOR ENTERPRISE USERS

The SAP NetWeaver Portal unifies information and applications to give users role-based views that span the enterprise, enabling organizations to take full advantage of their information resources. An active data warehouse can provide seamless access to data, independent of physical storage for SAP enterprise portal users via iViews.

With composite applications a company can leverage existing investments in IT applications and infrastructure while composing new, distinctive business processes with flexibility and at low cost. The company can design, implement, build and run composite applications based on Web services accessing Teradata, SAP Business Suite Applications and other legacy systems.

SAP NETWEAVER BUSINESS INTELLIGENCE—ANALYTIC AND DECISION-MAKING SERVICES

By integrating Teradata and SAP NetWeaver Business Intelligence (BI), organizations can quickly access detailed information to make optimized decisions using the powerful technology infrastructure of Teradata. This opens vast new stores of data for SAP users, as well as improves query performance. Upon loading data from various sources, SAP NetWeaver BI creates information cubes (InfoCubes) that end users may query. The Teradata Virtual Access and Universal Data Connect solutions automatically drill through to Teradata, which, in turn, sends the query results back to SAP NetWeaver BI. This provides a single point of entry for all queries, regardless of the underlying repository. Users gain full access to granular data, stored in the data warehouse, via SAP Business Explorer (BEx) or other existing user tools.

Flexibility is the payoff

SAP's NetWeaver platform in conjunction with a Teradata Warehouse provides a comprehensive foundation for combining transactional services with analytic and decision-making services to enable real-time enterprise SOA. With enterprise SOA, you can quickly implement new business requirements by rapidly configuring business processes using existing IT assets, increase flexibility for redesign and improve overall efficiency. The payoff is greater flexibility to innovate new business

processes, improved operational efficiency and enabling a sustainable scalable infrastructure for long-term growth and ongoing competitive advantage. **T**

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- November 8
VIENNA, AUSTRIA
- November 8
TOKYO, JAPAN
- November 15
STOCKHOLM, SWEDEN
- November 16
HELSINKI, FINLAND
- November 20
RAAMSDONKVEER, NETHERLANDS
- November 21
PARIS, FRANCE
- November 22
LONDON, ENGLAND
- November 23
ISTANBUL, TURKEY
- November 27
ROME, ITALY
- November 28
MADRID, SPAIN

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