

Commentary

SAP Has a Complete Vision for Business Process Fusion

SAP's vision for business process fusion seems to be the most complete of any vendor's. However, strong vision alone won't be the key to success; it takes execution of the vision, which is dependent on a services model.

SAP has the most-complete business process fusion vision among the major business applications vendors, but the execution of that vision will depend on a services model, which is just beginning to unfold. SAP's vision is supported by three major cornerstones — Enterprise Services Architecture, SAP NetWeaver, and SAP xApps.

Enterprise Services Architecture, which is SAP's architectural vision to support fusion, is SAP's rendition of a Web-services-enabled service-oriented architecture (SOA). SAP NetWeaver is the integration and application platform that enables Enterprise Services Architecture. SAP's fusion application vision centers on composite applications that are marketed through the mySAP Business Suite and SAP xApps product offerings. This application vision also extends to partners contributing composite applications through SAP's xApps Partner Program; however, these components are in various stages of development, and there are only a few fragmented live implementations in customer environments.

SAP's vision for the development, delivery and implementation of these components depends on partners that may not be completely convinced of the value of becoming part of an SAP development ecosystem and on the recruitment of new partners. At this point, SAP lacks a coherent, enterprisewide partnership strategy that defines how a single partner will work with SAP across all of its large, and typically fragmented, organizational structures.

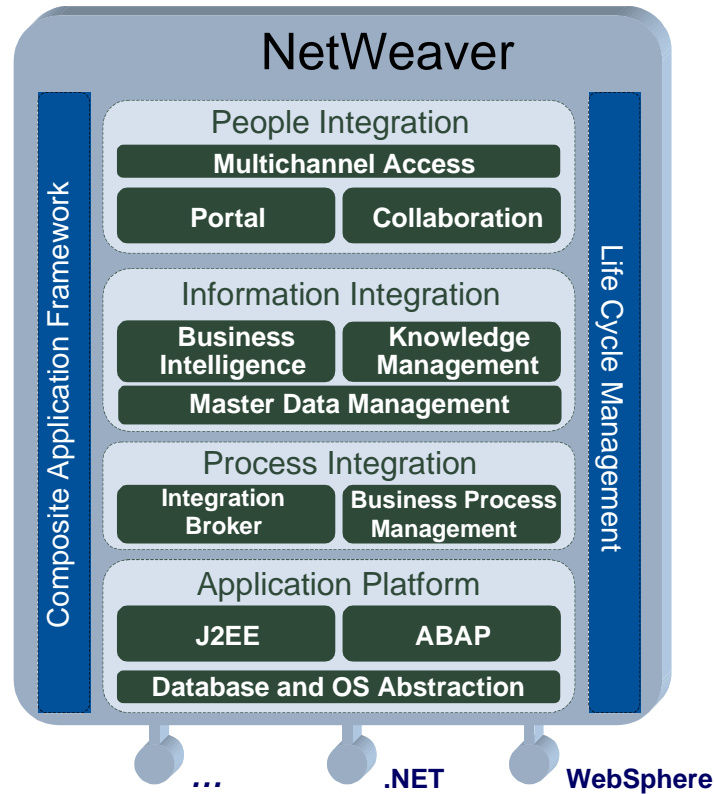
SAP is asking its partners, including some new ones, to invest or re-invest in an area that may be out of their scope. In addition, in some cases, partners may view SAP's strategy as being competitive with their own services offerings. This issue alone could stall SAP's success and enable its competitors to catch up.

Enterprise Services Architecture and NetWeaver: SAP's Infrastructure for Fusion

According to SAP's Enterprise Services Architecture vision, applications are collections of semi-independent business services that can be incorporated into multiple composite applications and business processes via standard, Web-services-based interfaces and protocols. Pragmatically, SAP recognizes that it will not provide all of the services or all of the composite applications that leverage

those services to user enterprises. Hence, Enterprise Services Architecture must accommodate SAP and non-SAP application components. To support this vision, SAP has positioned SAP NetWeaver (see Figure 1) as a software infrastructure platform supporting integration, implementation and deployment of enterprise and inter-enterprise, service-oriented composite applications in heterogeneous technology and application environments.

Figure 1
NetWeaver Architecture



Source: SAP

NetWeaver combines several products — some of which were previously available as stand-alone systems — in an integrated software stack. SAP's vision for NetWeaver is that of a single architecture in early 2004; in 2003, it's a combination of components with a big variation in stages of completion and timelines. The SAP Web Application Server (SAP WebAS) is the heart of NetWeaver. This platform middleware combines a standard Java 2 Platform, Enterprise Edition (J2EE) stack and the legacy Advanced Business Application Programming (ABAP) runtime. The two can interoperate through interprocess communication facilities and share common system services, such as a Web services stack and a data persistence layer. On top of SAP WebAS, SAP NetWeaver layers the Enterprise Portal, SAP Mobile Infrastructure (for mobile devices support), SAP Exchange Infrastructure (an integration broker), SAP Business Information Warehouse, SAP Master Data Management and other components, including development and management tools. NetWeaver provides a great deal of technology to support Enterprise Services Architecture:

- Support for major technology industry standards, such as J2EE, Extensible Markup Language (XML), Web services, electronic data interchange (EDI), RosettaNet and CIDX, to enable technical interoperability with other vendors' platforms
- A portal infrastructure to provide users with a role-specific, consistent and integrated view of the applications and business processes to which they need access, as well as personalization to the end user

- An application server capable of hosting J2EE and ABAP-based business logic
- An integration broker suite to link SAP NetWeaver-based applications with external systems, transforming data and routing it to appropriate application end points
- Business-to-business (B2B) capabilities to connect with business partners' applications via standard protocols
- Business process management (BPM) and workflow features to model, design and execute long-lasting business processes involving SAP and non-SAP applications
- An information warehouse infrastructure for sharing business intelligence (BI) data
- A master data management platform (that is, a metadata repository) that supports a single view of operational data through cross-referencing
- A composite applications development (AD) framework that enables SAP, its partners and its customers to develop packaged or custom composite applications

SAP NetWeaver is backward-compatible with the classic ABAP-based software platform (Basis). As a result, it supports the various products SAP has been developing during the past decade. It also provides a fresher, standard-based technology springboard for the company's entry into new markets.

The NetWeaver message has resonated in the industry, and SAP's customers frequently evaluate the platform against major infrastructure vendors' alternatives. Nonetheless, NetWeaver has not yet gained widespread adoption and support, primarily because of its late entry into an established software platform market, and because it has only been available since January 2003. Many NetWeaver component parts (such as process integration for non-SAP applications, Master Data Management, Knowledge Management and Mobile Infrastructure) are still somewhat immature, with a limited installed base. Some were available with SAP's previous technology platforms (including WebAS, Portal and Business Intelligence) and have an established base of customers. Some key elements (including Development Tools and Business Process Manager) are not yet available, and third-parties, such as independent software vendors (ISVs) and systems integrators (SIs) have only recently begun to invest in the new SAP platform.

NetWeaver is a visionary initiative from a packaged application vendor that echoes analogous grand plans from infrastructure software players, such as BEA Systems, Fujitsu Software, IBM, Microsoft, Oracle and Sun Microsystems. Some components that tie well to its application vendor heritage — such as the development of a master data management platform and a development framework that enables users to develop their own composites — will bode well for SAP in differentiating its product from nontraditional competitors.

The Fusion Application Strategy: xApps and Composites

SAP's strategy for business process fusion is realized by the development of SAP xApps and composite applications. SAP xApps combines the capabilities of NetWeaver's collaboration, content management, BI and portal components. This realization of xApps has evolved from the combination of the strength of the SAP technology stack, the acquisition of portal vendor TopTier and the realization that users need to operate in a heterogeneous application environment and continue to drive value from the large investments they've already made in business applications. Although SAP has successfully delivered some fusion applications, the adoption of SAP xApps has been hindered by diverse perceptions of what its composites really are and how SAP is planning to deliver them.

When SAP announced xApps in 2002, this product line was heralded as the next generation of applications — it was seen as the replacement for mySAP. Users that invested time in understanding the xApps strategy quickly realized that its real value is in protecting and deepening investments made in more-traditional areas, such as enterprise resource planning (ERP), supply chain management (SCM) and customer relationship management (CRM). These areas are necessary to "serve up" data to support xApps, and xApps uses this data to tie processes and information together in businesses that typically haven't been integrated through the normal use of business applications.

For example, corporate performance has typically been measured by income statements and balance sheets, without analyzing issues or successes within an enterprise's independent organizations. Users looking to measure corporate performance and define key performance indicators (KPIs) by organization or department had no medium for presenting that information at the time of a spike in performance (positive or negative) or at different organizational levels. Enterprises can define the roles of the users requiring information, the types of information required, and the KPIs across disparate application environments and technologies using an xApps strategy.

The strategy for the delivery of fusion applications has evolved to include two types: those delivered as SAP xApps and those delivered as composite applications that are part of the mySAP Business Suite. SAP xApps will be branded by SAP. In some cases, SAP will develop them, and, in other cases, SAP and a partner will do the job. SAP will also deliver the Composite Application Framework (CAF), which will enable users and partners to develop their own fusion applications. CAF is a set of tools, application programming interfaces (APIs) and development guidelines designed to provide users with a consistent, simplified method for developing NetWeaver-based composite applications.

It's not clear how and why SAP will choose functionality to be deemed an xApp. What they have explained is that xApps will cross traditional silos of functionality in a process-driven manner. SAP initially explained that xApps are composite, collaborative, content-driven, cross-functional applications that close the loop from strategy to execution and monitoring back to strategy. The early examples of mergers and acquisitions were fuzzy about the details, but were clearly areas that affected the enterprise horizontally. SAP has described the difference between current best practices and next practices and has indicated that best practices for a given industry will not be candidates for an SAP xApp — candidates will be "next-generation business practices." Composite applications that use the SAP xApp development model and infrastructure, but implement established best practices, will be delivered as part of the mySAP Business Suite.

Pricing is also an issue for current SAP users. SAP licenses mySAP as components — such as supplier relationship management (SRM), SCM, ERP, CRM and product life cycle management (PLM) — or as a complete business suite that provides access to all of these applications in addition to the full SAP NetWeaver stack. However, xApps are not included in this pricing, and SAP NetWeaver is only used with SAP. User access to other applications carries an additional charge, and SAP has yet to deploy a simple, understandable pricing model for these cases.

When SAP partners to develop an xApp, it will not be delivered as part of the mySAP Business Suite. For example, the recently announced Warranty Network Management xApp was jointly developed with IBM Business Consulting Solutions. It enables collaboration between original equipment manufacturers (OEMs), service providers and suppliers. The primary collaboration "asset" in this process are the warranty and the customer information. The primary processes provide visibility of warranty status to all constituents, as well as service parts availability and procurement. In many industries, such as high-tech manufacturing and retail), this process is clearly not a next practice — it's a best practice — but to get the functionality, the user must buy this xApp.

The Delivery and Execution Model Depends on Partners

Thus far, xApps capability has evolved in two ways: as deep vertical functionality applicable to an industry or a confined set of industries, and as horizontal applications that fit broadly across the 22 vertical industries supported by SAP. All of the development cycles of the initial xApps have involved customers. Some initial xApps developed by partners have been more vertical in nature (such as IBM's Warranty Network Management); the xApps brought out by SAP (such as Resource and Program Management) have been horizontal. Gartner expects this trend to continue.

SAP's recent reorganization should help with the development of industry-specific xApps. SAP has formed three Business Solution Groups that focus on manufacturing, services and the public sector. Gartner expects this organizational structure to transform the fragmentation of new functionality by industry because the company is organized by industry and major product areas; however, this structure is new, and it hasn't yet been put into place.

SAP is offering 15 xApps, 12 of which were delivered as part of partner-developed programs (three were solely SAP-developed). Although this delivery model will help SAP get more fusion applications into the market in a shorter period of time, it is fraught with challenges. The partners involved in the xApps developed thus far have technologies at their disposal that are unavailable to general users. They also enjoy support from the NetWeaver development team. The greater challenge will be making these technologies and frameworks repeatable and capable of supporting the masses of partners and customers SAP hopes to drive into the NetWeaver and xApps vision.

The xApps implementations are still in the early stages. Initially, partners that develop xApps will also be primary implementation partners. SAP lacks a broadly developed competency strategy for partner channels or a method for hosting applications for users. The absence of such a strategy is typical of SAP's traditional delivery model for applications and the technologies to support them. The company is not playing a major role in the actual implementations.

Bottom Line: SAP may successfully convince its enterprise clients to ride SAP NetWeaver to business process fusion; however, until YE03, acquisition of the platform by SAP customers will remain an act of faith. Fusion will be better served when the technologies of the traditional SAP platform and xApps begin to merge. Until enterprises see major systems integrators announce that they have trained consultants involved in SAP NetWeaver development and implementation, they should consider it a limited opportunity. Enterprises considering SAP xApps or SAP NetWeaver applications should be aware of the moving target of technology, as well as SAP's partner strategies and the overall immaturity of platform components. They should include full evaluations of NetWeaver's capabilities and their effects. In addition, xApps prospects should carefully evaluate ongoing support directly from SAP and the health of the SAP partnership providing the xApp.