

Predicts 2004: Composite Applications Graduate to Core Tasks

More companies will use composite applications to support core business projects in 2004. Better technology and more stable platforms will help users, but those without the right skills and organization will still fail.

Core Topic

Application Integration and Middleware:
Architectures and Patterns for Software
Infrastructure

Key Issue

Which software infrastructure architectures
and patterns will prevail, and which will fail
to gain industry support?

Strategic Planning Assumptions

By 2008, at least 50 percent of new
composite applications will be developed in
the context of systematic projects, up from
less than 15 percent in 2003 (0.7
probability).

By 2008, packaged composite applications
will account for at least 50 percent of the
systematically designed composite
applications deployed (0.7 probability).

Gartner introduced the notion of systematically and opportunistically designed business application projects in 1999 (see "Systematic vs. Opportunistic AD Projects").

Systematic projects support the core business of a company by automating established, slow-to-change business practices. The resulting application will usually last for three years or more. Systematically designed applications process large volumes of transactions and data and support several thousand users. They are usually centrally funded, although they often support several cooperating business units. These projects require 24x7 availability, security, integrity and manageability of the underlying hardware and software platforms.

Opportunistic projects are carried out quickly in reaction to volatile business opportunities. They aim to improve a company's short-term competitiveness. Their anticipated life span is unpredictable, but often short — from a few months to two or three years. Occasional technical failures are tolerated because it is more important to reach the market quickly than to engineer the solution carefully. Opportunistically designed applications are normally meant to support a single business unit. Software platforms for these projects must offer rich, high-productivity features and low costs.

Composite applications are a form of application integration that enables users to develop combinations of new and established applications to support emerging business requirements (see "Composite Applications Help Turn Legacies Into Assets"). So far, composite applications have mainly been adopted for opportunistically designed business application projects.

Many of the opportunistically designed business applications of the past (for example, e-commerce, e-banking, e-trading, online

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auctions and e-tailing) are turning into the systematically designed applications of the future. The relevant business practices have consolidated and become integral parts of the core business of mainstream companies. Most of these systems have been developed as composite applications, integrating new front ends based on Java 2 Enterprise Edition (J2EE) or Microsoft with legacy or packaged applications back ends.

Users have often assembled brittle and hard-to-manage software platforms, which combine products from several vendors, to support these projects. These "quick and dirty" developments helped companies to grab new business opportunities rapidly. But applications meant to support strategic business practices must provide greater availability, manageability, maintainability and control. Many of these opportunistically designed applications will have to be reworked or even redesigned to support these requirements. The relevant software platforms will also have to be strengthened to provide the higher quality of service normally associated with systematic projects.

Composite applications will soon be adopted in situations that are currently unusual because platform middleware and application development technologies have matured and packaged application vendors are embracing this integration style in their products.

Prediction: Composite applications will scale up to business-critical developments.

Technologies traditionally used for composite applications — portals, application servers, adapters, communication middleware and integration suites — have improved dramatically and now provide the scalable, secure, manageable and highly available software platforms typically used for systematic projects. J2EE-based application servers and .NET have been proven in numerous large, business-critical applications. Integration suites have successfully supported complex and demanding integration scenarios. Large companies are increasingly using portal technology for business-critical applications.

Large, viable software vendors (BEA Systems, Fujitsu Software, IBM, Microsoft, Novell, Oracle and SAP) are packaging these technologies into cohesive, well-integrated architectures called application platform suites. These provide easier to manage, better integrated but flexible comprehensive platforms for composite applications. Service-oriented architecture, once a rarely used best practice for systematic developments, is now well understood and is becoming popular for large composite applications driven by standards like Web services. Modern

application development suites make it possible to develop composite applications much more quickly and easily.

Creating composite applications will become a common practice for systematic business application developments because companies:

- Need to turn experimental business practices into core business applications
- Can use more mature technology
- Understand systematic development approaches better

Strategic Planning Assumption: By 2008, at least 50 percent of new composite applications will be developed in the context of systematic projects, up from less than 15 percent in 2003 (0.7 probability).

Action Recommendation for 2004

Companies should expect composite applications to take an increasingly pivotal role in their strategy. They should assess their portfolio of opportunistically designed, composite business applications to identify those that will turn into core business applications through 2006 and plan what action they should take to support these transitions. Companies should invest in building up their service-oriented architecture skills and endorse enterprise application servers and application platform suites. They should establish an integration competency center to manage implementation of the integration platform needed to glue the component parts of a composite application together in a reliable, efficient and manageable way.

Prediction: Systematic composite applications will be bought more often than they are built.

For many companies, redeveloping opportunistically designed composite applications as core business systems will prove to be impossible. Systematic business application projects require long and careful design in advance, implementation of a rock-solid software infrastructure and the availability of sophisticated, hard-to-find and expensive skills. Systematic projects often take several years. The risk of failure is very high, but failure will not be tolerated, because of the visibility of these projects at the board level. Companies will try to rely on software vendors capable of providing systematically oriented packaged composite applications to help them manage the transition, minimize risks, reduce costs and speed up deployment.

Established packaged business application vendors (like Oracle, SAP and Siebel Systems), new players (like Passport and

SEEC), as well as application integration vendors (like IBM, SeeBeyond, Sync and Vitria Technology) are offering application products that support cross-functional business processes. Examples of these processes include product planning and design in manufacturing, risk management in financial services, straight-through provisioning in telecommunications, and replenishment in retail.

Cross-functional processes cut across many different organizations — departments, business units and subsidiaries — within or outside the same company. Usually, each organization is supported by separate business applications specifically designed to cover their needs. Cross-functional application products frequently take the form of packaged integration processes (PIPs) or packaged composite applications (PCAs). In this way, cross-functional application products can be integrated with the application systems already used in the organizations involved in these business processes (see "Packaged Integrating Processes Accelerate Integration").

Companies will sometimes choose to build replacements for composite applications that are now strategic but were originally opportunistically designed, or to implement new, cross-functional processes. But they will more often buy and customize PCAs and PIPs from established and new software vendors.

This move will mimic the change in the early 1990s, when companies gave up developing custom core applications because it was too expensive and risky. Instead, they turned to enterprise resource planning vendors, which could provide a broad set of integrated business functions out of the box.

By 2008, packaged composite applications will account for at least 50 percent of the systematically designed composite applications deployed (0.7 probability).

Action Recommendation for 2004

Users should bear in mind that both PIPs and PCAs are still relatively new and immature. The market will probably soon be flooded with new players of questionable viability. For applications like e-banking or e-commerce, there are already established vendors and products, but adopting PCAs to support other core business applications might be premature and risky in 2004.

However, users should expect PCAs to spread in the long term. Companies wishing to replace custom opportunistic developments with more systematically oriented composite applications should begin to evaluate PCA products that

functionally fit their requirements. They should decide whether to buy or build on the basis of their skills, technical risks of internal development, time to deployment requirements, PCA vendor and product risks, as well as alignment with their IT strategy.

Bottom Line: Composite applications are moving from supporting the fringes to enabling the core of enterprise business operations. More mature software infrastructure technology and growing availability of packaged composite applications will facilitate this change, but users not capable of managing the inevitable turmoil risk catastrophic failures. Companies should start planning to use composite applications for systematic business applications by investigating packaged composite application vendors and establishing the appropriate skill set, software infrastructure, organization settings, management processes and governance rules.