AberdeenGroup

Profile

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Ross Systems' Architectural Prowess: Renaissance CS Enlightens Dark Age ERP Enterprises

Preface

Aberdeen maintains that advanced technology must be employed to solve business problems in new and innovative ways - achieving strategic business objectives and competitive advantage. What is called for is a business-enabling technology that provides an architectural framework and requisite tools to build and deploy new classes of applications. That is, applications must be quick to install, to configure, and to deploy and be easily and rapidly modifiable to align continuous improvements with new market trends and business realities. Moreover,. these applications must openly integrate with other applications to bind the entire enterprise's business solution set into a competitive weapon for a global market.

Aberdeen sees successful Enterprise Business Applications (EBA) solutions as addressing today's key business needs of providing a true basis for value and an efficient core of business functionality. Furthermore, an EBA solution should provide a competitive advantage through the application of technology - allowing employee and customer access to critical business information with integrated decision support tools and ease-of-use Web browsers. Aberdeen's key EBA technologies include object-oriented technology (OOT) and its resulting componentized products, business modeling, customization, and execution tools.

Aberdeen research shows that the use of object-oriented methods and the implementation of OOT translate into real-world advantages - for both developers and consumers of enterprise business applications. A componentized product suite furnishes suppliers with the foundational wherewithal to reconfigure and adjust product deliverables to react more quickly to market requirements and support more targeted cooperation with integration partners. Also enhanced will be a supplier's ability to design add-ons or adaptations for specific or specialized vertical markets.

Clearly, from the consumer's point of view, components can make a difference - decoupling the traditional monolithic applications into separately procurable, deployable, and maintainable pieces while still attaining the integration these product sets allowed. Consumers are able to rapidly implement new functionality in a more controlled way with lower risk of business disruption.

From the supplier's point of view, components also make a difference -- furnishing each supplier with a means to reduce integration complexities and thereby better manage the application development and delivery processes. Suppliers are freed to develop components independently and, in turn, furnish customers with functional upgrades rather than the traditional "replace everything" program re-install. Additionally, customization does not dislodge the application's base code.

This *Profile* reviews the Ross Systems Renaissance Network Architecture (RNA), Renaissance CS solutions, and the Strategic Application Modeler (SAM) as targeted for process and hybrid manufacturing environments.

Executive Overview

Increasingly, manufacturers and distributors are compelled to attain - and, more importantly, retain - a competitive edge in a market environment that is constantly raising the competitive-advantage bar. The parochial manufacturing outlook of the past century is doomed to fail in light of an expanding global economy and a market that necessitates product-design ingenuity and production nimbleness to produce and deliver product.

Success will go to the fleet of foot - companies that are structurally nimble, with the agility to adapt their business practices quickly to shifting markets. Aberdeen sees the EBA technology underlying the corporate infrastructure as key to this agility. The selected technology must be pliable enough to mimic current business practices and sufficiently malleable to recast to meet evolving business trends. Here is where solutions like Ross's Renaissance CS can make a positive impact.

Product (hence, business) flexibility is a primary driver behind object technology and the component-based architectures it supports. Independent business objects (components) are more easily modified or replaced than an entire EBA product set. In addition, programming modifications to mimic an existing business process or to implement a newer model can be accommodated more readily. Moreover, dynamic modeling and execution tools can support simulations of executable business models. affording decision-makers a better picture of the effect of a revised business plan before moving it to production.

With Renaissance CS, Ross Systems has risen to the market's challenge for providing a solutions suite with sought-after core business features and functions, combined with integrated decision support and the modeling-to-execution capabilities expected for today's requisite flexibility.

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Ross Systems - The Company
Ross Systems, headquartered in Atlanta, GA, develops, markets, and implements a broad range of component-based, client-server business software solutions, which the company directs to three target markets worldwide:

- Process Manufacturers - including food and beverage, chemical, pharmaceutical, metals, and forest products;
- Healthcare institutions; and
- Public Sector and Not-for-Profit organizations.

Ross's flagship product, Renaissance CS, includes financials, finite capacity scheduling, production planning, materials management, distribution, human resources and payroll, maintenance management, transportation management, decision support, and business process modeling solutions.

Market Position
Aberdeen observes that Ross has turned the corner on re-achieving market viability with its technologically impressive, open-systems product suite - and a more focused approach to the market. Ross now has more than 475 process manufacturing customers in the mid-market (metals, chemicals, food and beverage, pharmaceuticals, and forest products). Ross concentrates much of the company's sales and marketing efforts toward the much-in-need-of-EBA solutions process manufacturing sector - currently "process" represents the company's fastest growing and highest revenue-generating area.

Object Component Technology
Aberdeen considers that object technology holds the promise of a genuinely distributed, location-independent application-processing model. A model that endows components with the ability to freely range over the network and connect business processes and data in a seamless, dynamic fashion. The model's on-the-fly integration capabilities hold significant promise for improving how applications are developed, implemented, deployed, and enriched over time.

The 00T business components, as defined by Aberdeen, go beyond Web-enabled code or generated Java-based client-server applets that present a front-end over the Net to a browser. These masquerading attempts at componentization may seem attractive for some implementations, but this limited approach does not require application componentization. Furthermore, the resulting application does not really distribute application functionality across desktop and server networks. The potential to achieve true componentization of business applications is based on object technology, support for standards-based object communications, and a consistent and "open" underlying architectural framework.

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Application componentization fundamentally changes the means by which solutions are integrated - moving from a data-centric model to one of data independence achieved through message passing. Hence, each instantiated instance of a business object (or component) exposes its methods to allow other components or applications to exchange information through messages -avoiding hardwired APIs or a database "middleman." By its nature, an object-application framework can further accommodate solution-customization for a particular vertical industry as well as by an individual enterprise without jeopardizing the base integration of the application solution system.

Clearly, a standard means of discourse between business components is essential for cross-supplier business object or component communication. Microsoft's DNA uses Component Object Model (COM/DCOM) and is the basis of Ross's RNA, facilitating the brokering and invocation of interaction between business objects.

The goal of object brokering architectures is to be extensible and "integratable" to the point that the location of complex data and objects is transparent to end-users, administrators, and developers - that is, *location transparency.* Ross is well positioned to exploit these technologies, especially as these frameworks become increasingly flexible and employ more modular "distributed business objects."

Windows DNA - Microsoft's Roadmap for Building Distributed Applications

Microsoft's Windows Distributed interNet Applications Architecture (Windows DNA) is an application development model for the Windows platform. The model specifies how to develop distributed applications that are scalable and extend existing data and external applications to support the Internet.

Windows DNA adheres to the three-tier (presentation, business logic, and data) client-server-style application framework. Developers use a familiar set of tools to gain access to the underlying Windows foundational services that are exposed through a consistent COM. Software engineers are able to build applications that exploit the power of the desktop, combined with the robustness of client-server computing and the universal reach of the Internet.

Aberdeen research indicates that Windows DNA will offer IT organizations the flexibility to build or buy software solutions that can be easily integrated with existing PC and mainframe computing environments - while simultaneously exploiting the advantages of Internet Web technologies.

Furthermore, software supplier organizations that adopt Windows DNA for building business solutions can improve the flow of information inside the corporate four walls and outward to valued trading partners with scalable applications that are dynamic and adaptable - mirroring evolving business needs. Moreover, the DNA-based solutions can be centrally managed and maintained and can be efficiently integrated with existing systems and data.

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Aberdeen envisions multiple benefits for solution providers choosing to work with Microsoft Windows DNA, the primary of which are as follows:

- The integrated platform relieves developers of the burden of putting together a proprietary middle tier of services for message queuing, component services, data access, and Web publishing;
- Windows DNA supports a choice of programming languages and integrated development tools - developers choose the tool that best fits their needs;
- Windows DNA is designed to provide a high level of interoperability with existing enterprise applications, legacy systems, and the Web; and
- Common service infrastructure allows applications to be built more rapidly.

The Ross Foundation - Renaissance Network Architecture

Ross Systems' Renaissance Network Architecture (RNA) is designed to support an open, scalable, high-volume transaction-processing environment. RNA is a component-based, object-oriented architecture built to leverage and embrace the Microsoft Windows Distributed interNet Applications Architecture (Windows DNA), using C0M/DCOM as the distributed framework. The addition of Microsoft's OLE DB for data access completes the RNA picture of high portability across multiple operating systems and relational database management systems. The Integrated Development Environment (IDE) of RNA is designed to support the extensibility of the application portfolio. It provides the ability to visually modify or construct application logic to create new business processes either in Ross's own GEMBASE or in Microsoft's Visual Studio with popular development languages such as Visual Basic, *C++*, and Java - openness is the imperative.

Ross Systems' Application Development Environment

GEMBASE is the Application Development Environment (ADE) for Renaissance CS. Used to develop the product suite itself, the tool set is every bit as usable by customers to tailor, extend, and enhance the base Renaissance CS product offering. GEMBASE employs Ross Systems' Data Manipulation Language (DML), a full-featured fourth-generation language that supports direct access to DML for creation of client-server, database-independent applications. GEMBASE is equally capable of use by end-users as a querying and report writing facility. GEMBASE's menu-driven application generator tools allow even technology-challenged novices to create databases and reports in minutes. The product also offers a data definition editor that allows metadata definition manipulations to create or modify databases, tables, fields, and indices - even database triggers, stored procedures, and system messages can be managed.

Aberdeen views methodologies such as those that GEMBASE and DML employ as an important enabler of new functionality enhancements to the product set - either by customers or by Ross

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developers. Critical to this methodology is the inclusion of support for easy upgrades of implemented customizations and extensions with future releases of Renaissance CS. Relevant, too, is the additional support for open development environments such as Java and Visual Basic through Microsoft Visual Studio. Ross's ADE ensures that solutions can be deployed for a variety of user interfaces such as Windows 95, 98, and NT.

Renaissance CS - An Overview

Renaissance CS is an integrated EBA solution suite covering the core business areas of Enterprise Resource Planning (ERP); Supply Chain Management (SCM), which includes order management, transportation and warehouse management customer service, and replenishment planning; process manufacturing-specific features like recipe and formula management and catch weights; decision support; and the Strategic Application Modeler (SAM). Renaissance CS scales from laptop to multi-server, is globalized with multi-language and multi-currency support, and has been Y2K compliant since its inception.

Major components of Renaissance CS are the following:

- Supply Chain Management (SCM) addresses the specialized packaging and distribution functionality needs of process manufacturers;
- Finite capacity scheduling;
- Financials, including the core financial areas and project accounting;
- Human Resources and payroll;
- Maintenance Management for plant and equipment maintenance;
- Strategic Application Modeler (SAM) for enterprise modeling and business knowledge management; and
- Decision Support Suite (DSSuite) with a variety of decision support and executive information areas.

Renaissance CS for Process Manufacturing

Aberdeen appreciates that Renaissance CS provides many sought after application processes for complex process manufacturing companies (metals, forest products, and specialty chemicals) for monitoring and managing unlimited product attributes; supervising complex manufacturing processes handling complex formulas; and process specifications. In addition, Renaissance CS process-manufacturing features include process-specific inventory capabilities: multiple units of measure, individual customer recipe specifications, and supply-chain-wide batch and lot tractability. The Ross solution even encompasses integrated maintenance tracking - and it monitors MRO materials, equipment, and operators.

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Modeling the Enterprise - Object Bridge to Application Execution
Aberdeen considers modeling a vital requirement for component-based enterprise business solution. Presented graphically, the modeling or simulation tools employ customer input to model business processes and provide a view of the ultimate production environment.

The most advanced modeling technologies actually implement, as production code, the scenarios that the model presents. Such is the case with Ross's Strategic Application Modeler (SAM), a Java-based application that presents a graphical model of the organization and constructs a business-function flow, thereby configuring Renaissance CS for deployment in a runtime environment. The model can be used for either simulation and testing, or it can be implemented as a production system. Aberdeen regards this capability to model, simulate, and implement as a substantial gain in easing the complexity of reconfiguration and re-implementation, and it provides an enterprise with the ability to quickly and flexibly remold critical applications to react to business changes.

SAM is a sophisticated business process management tool that helps executives:

- Model existing processes;
- Access and incorporate the Ross online-knowledge repository of industry-specific best implementation practices;
- Act as a knowledge management tool to model revised processes and conduct what-if analysis of process changes;
- Create new processes that integrate with existing business systems;
- Analyze and prepare for disaster recovery and other contingencies; and
- Analyze existing processes by comparing to industry-typical benchmarks.

As a visual software tool, SAM can be used effectively by executives, consultants, and information systems (IS) professionals alike for systems implementation, business process reengineering, strategic planning, project planning, change management, integrated workflow planning, employee training and certification, and return on investment (ROI) analysis.

The Competition
Competitors of Ross Systems range from the large ERP companies like Baan, Oracle, and SAP AG, to the mid-market suppliers such as J.D. Edwards, Marcam, and QAD (and to a lesser extent FourthShift, SCT, and SSA) - all of which offer targeted process manufacturing solutions. Like Ross Systems, SCT and Marcam both offer component-based solutions. SCT's Adage product is based on the proprietary CA-OpenRoad development environment, and Marcam's Protean Suite is a manufacturing-only offering - full ERP functionality being achieved only with integrated partners.

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Aberdeen Conclusions

Ross Systems' Renaissance CS product set pushes many of Aberdeen's EBA hot buttons - an ERP solution with embedded supply chain, embedded decision support, and a market-focused solution targeting process manufacturing. Ross's employment of OOT and componentization scores additional high marks with the inclusion of SAM's modeling and execution deployment capabilities - an Aberdeen "must have" for component-based architectures.

More than most industry sectors, process manufacturing needs open, integration-ready components and solutions. That need is predicated by the fact that no supplier is currently delivering all of the processing needs of any specific plant operation. However, with integration "openness," appropriate point solutions can be assembled into an enterprise-defining, business-critical solution - matching the way a company does business and how it produces, and distributes products.

Aberdeen views as a positive-direction indicator the "wrappering" of GEMBASE in an open architecture veneer - exposing business functions as object methods. Moreover, this move also indicates that Ross's development environment is no longer restricted to a GEMBASE-only tool set.

Renaissance Network Architecture, Renaissance CS - as its name implies - marks a new beginning, a rebirth, for Ross Systems as well as how process manufacturing solutions should be engineered and delivered to the marketplace. Aberdeen considers an ERP transactional framework a prerequisite integration point to tie together the historically disparate reservoirs of corporate information -something Ross has been doing for years.

The Ross Systems' *short list* - DNA, RNA, and SAM: a framework, an architecture, and the ability to model and deploy. Aberdeen considers Ross' open architecture and tool set to be the needed enablers to position the company to regain a leadership position in the mid-market process manufacturing space. Ross is ramping well for born-again success.

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Aberdeen Group is a computer and communications research and consulting organization closely monitoring enterprise-user needs, technological changes and market developments.

Based on a comprehensive analytical framework, Aberdeen provides fresh insights into the future of computing and networking and the implications for users and the industry.

Aberdeen Group performs specific projects for a select group of domestic and international clients requiring strategic and tactical advice and hard answers on how to manage computer and communications technology.