

## Retail ERP Suites: Investing in the Backbone of a Modern Retailer

*by Janet Suleski, Jim Shepherd, and Robert Garf*

To respond to rapid changes in the industry, retailers must begin a migration to a new breed of retail ERP suites that provide the information access, integrated business processes, and modern technology platform necessary to remain competitive.

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To develop a technology foundation that will enable efficient, demand-driven operations, retailers should consider adopting a next-generation IT strategy that aligns with a retail ERP suite.

The  
Bottom  
Line

## Existing retail software systems constrain retail growth, expansion, and profitability

Retailers face two critical challenges that threaten not only their profitability, but also their very survival: market competition and regulatory pressures. To stay ahead of competition, retailers need to be able to sense consumer demand at the point of interaction and respond in real time across their own enterprise, as well as across a network of suppliers and employees, to fulfill customer expectations. To meet regulatory demands, retailers need company-wide process visibility, data access, and near-instant performance reporting. But this need for process efficiency, flexibility, responsiveness, and reliable information is simply not feasible given the existing portfolio of legacy, homegrown, and packaged software applications in most retail organizations.

## Legacy enterprise applications don't support modern retail needs

While companies in many other industries recognized the importance of integration several years ago and began investing in packaged software suites for their core business applications, most retailers have continued to rely on a jumble of legacy applications to run their most critical operations. Most retail CIOs believed that it would be too difficult to rip and replace their existing systems, or that there were no packaged retail applications that were functionally rich enough to support their specific company needs. As a result, there is a disproportionately high percentage of custom or modified applications in the retail industry compared to other industries. In research done jointly with the National Retail Federation and published as the "Retail IT Budget Study, 2004-2005," AMR Research identified that, on average, just over half (52%) of the deployed enterprise retail applications among survey participants were built or maintained internally.

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### Vendors featured in this Report:

Aldata  
Epicor  
GERS  
Island Pacific  
Jesta I.S.  
Lawson  
NSB Group  
Oracle  
Retalix  
SAP  
Tomax

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Retailers that rely on these custom systems suffer from a number of problems:

- **Architectural inflexibility**—Existing merchandising systems were never designed to enable critical consumer-centric initiatives, such as integrated planning, local market assortments, global inventory visibility, price and promotion optimization, and real-time demand sensing. In addition, most of these systems can't cope effectively with the data volumes that result from individual store/SKU granularity. Retrofitting these capabilities adds layers of new code and middleware technology that only make the resulting applications even more complex and expensive to support. These massive custom systems also severely constrain merger and acquisition efforts, as retailers cannot quickly or cost-effectively integrate different legacy software applications to create the efficiencies and synergies promised when the deals were announced.
- **Lack of an enterprise application strategy**—Until recently, most retailers developed or purchased applications to solve individual business problems as they arose, forcing IT to support numerous programming languages, server platforms, database engines, and user interfaces. Today, these disjointed sets of applications reduce employee efficiency and impair the organization's ability to leverage its size and resources by preventing enterprise-wide visibility to demand patterns, inventory visibility, and performance issues, among many other things. In addition, the Sarbanes-Oxley Act (SOX) and other process visibility and compliance mandates fueled a round of tactical technology investments to help bridge the integration and information gap, but these efforts just added to the overall complexity and inflexibility of the underlying core systems.
- **High legacy software maintenance costs**—Functional gaps and poor integration in legacy applications force retailers to spend more on additional developers, project managers, and consultants to augment existing resources. This has increased the already high total cost of ownership (TCO) of legacy retail infrastructure. The growing operational expense of legacy systems is causing CEOs and CFOs to question the business value of maintaining and enhancing older applications versus investing in a modern retail technology infrastructure.
- **Limited returns from new software investments**—Nearly 75% of recent retail application investment has focused on demand forecasting and advanced planning functions, such as replenishment, assortment, pricing, and labor optimization. However, many companies have not realized full benefits from these systems because of cumbersome integration between outdated merchandise management applications. This slows user adoption and reduces the business value, which in turn shakes senior management's confidence in the new systems.

- **Increased risk to the business**—Reliance on a complex mix of old and custom-built applications exposes retailers to an unacceptable level of risk. In many cases, the company's most important information and business processes are supported by poorly documented, technologically obsolete systems, and the only people who understand how they work are approaching retirement age. Furthermore, an agglomeration of best-of-breed applications led to limited process or data standards, and access to accurate and complete business information is painful and slow. The knitting together of aging applications and best of breed packages is a constraint to progress and a breeding ground for a catastrophic regulatory surprise.

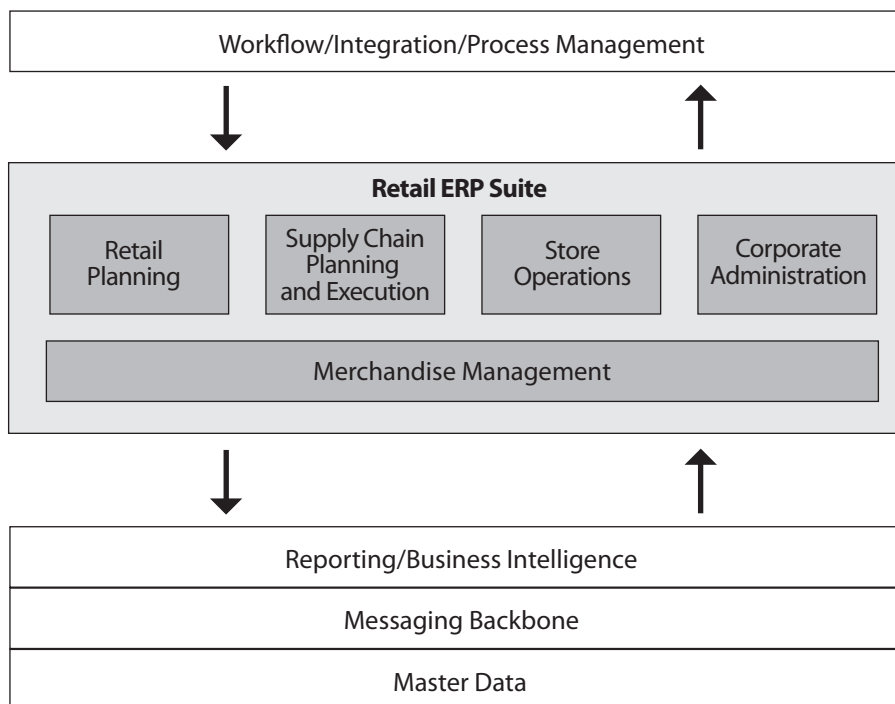
## **Retail ERP provides a long-term technology foundation**

Retailers are beginning to recognize the need to invest in a broad, new software infrastructure that is a retail version of traditional ERP. Most ERP systems were originally developed as generic financial management systems or as integrated suites for manufacturing companies, and they have fit poorly with the needs of retail companies. We are now seeing the emergence of true retail ERP systems that offer broad integrated suites of applications designed to support most of the business requirements of a modern retail company. These systems should enable a retailer to quickly respond to changing market conditions, support new organizational initiatives, provide the visibility and reporting control required to comply with regulations, and begin to move retailers away from expensive and risky legacy infrastructures.

## Retail ERP explained

AMR Research defines a retail ERP system as the foundational applications platform and data model necessary to support a wide range of business functions throughout the retail enterprise. A retail ERP system, anchored by core merchandise management capabilities, includes tightly integrated components spanning corporate administration, advanced retail planning, store operations, and supply chain management. These applications are built on a modern technology infrastructure that manages master data, business intelligence, and internal and external integration.

**Figure 1:** Retail ERP operational framework



Source: AMR Research, 2006

**Table 1:** Key retail ERP elements

<b>Elements</b>	<b>Definition/Description</b>
<b>Merchandise management</b>	Primary system supporting operational activity at most retailers. Includes setup, maintenance, and management of items, prices, inventory, vendors, and POs. Usually provides key reporting and business intelligence functions. Tight interfaces to other retail applications
<b>Retail planning</b>	Provides broad macro- and micro-planning capabilities at the category or SKU level. Often will drive merchandise allocation strategies and assortment definitions by store and/or merchandise type. Includes price and promotion planning. Advanced systems are underpinned by demand forecasting models.
<b>Supply chain planning and execution</b>	Provides strategic and operational support for external and internal supply chain processes. Includes replenishment, sourcing, product lifecycle management, warehouse management, transportation management, and distributed order management.
<b>Store operations</b>	Includes core POS systems as well as store-specific inventory management, returns management, sales audit, perishables management, and labor management. Can include customer management and promotion execution systems.
<b>Corporate administration</b>	Provides corporate financials, including general ledger, accounts receivable, accounts payable, and asset management. Also includes corporate-level HR systems. Will often include process management and compliance reporting.

Source: AMR Research, 2006

To be described as a retail ERP provider and included in this Report, a vendor's software is required to offer core merchandise management functionality while providing at least three of the key functional elements outlined in Table 2.

**Table 2:** Breadth of product footprint available from retail ERP providers

Vendor	Merchandise Mgmt.	Corporate Administration	Store/Retail Operations	Planning			Supply Chain Execution
				Retail Planning	Retail Replenishment	Promotions Mgmt.	
Aldata	√		OM	P	√	√	√
Epicor/CRS, Retail Solutions Division	√	√	√	A/P	√	√	√
GERS	√	F/P	OM/P	√		P	√
Island Pacific	√	F	OM	√	√	√	W
Jesta I.S.	√				√	√	V/L
Lawson	√	√	√ P	√	√	√	√
NSB Group	√	P	OM	√	√	√	W/L
Oracle	√	√	√	√	√	√	√
Retailix	√	√ P	√	P	√	√	√
SAP	√	√	√	√	√	√	√
Tomax	√		√	√	√	√	

Source: AMR Research, 2006

- A = Allocation
- F = Financials
- L = Logistics
- OM = Order management
- P = Partners
- V = Visibility
- W = Warehousing

Note that vendors receiving a check for a function may have partial or full capabilities as described below:

- **Corporate administration** includes financial, human resources, and asset management
- **Store/retail operations** encompasses order management and workforce management
- **Planning** broadly includes retail planning, retail replenishment, and promotions management
- **Retail planning** includes merchandise, allocation, and buying/assortment planning
- **Promotions management** includes promotion forecasting, planning, tracking, reporting, execution, and analysis
- **Supply chain execution** includes warehouse, transportation, and distribution management

Retail ERP suites differ from traditional ERP systems in the following ways:

- **Offer retail-centric components**—In the past, ERP applications were fundamentally designed to support manufacturing companies. While industries like consumer products, oil and gas, chemical, and high-technology have unique features, they can leverage similar applications, such as order management, manufacturing management, supply chain planning and execution, and master data management, to run their operations. A retail ERP suite provides functionality unique to retail operations, such as merchandise planning, store operations, and retail-centric purchasing and inventory management.
- **Support store systems**—Retail ERP suites are designed to support store operations. The retail industry's migration toward real-time operations requires instant transactional insight and inventory data from numerous decentralized locations. Critical functions that must be supported include point-of-sale (POS) systems, retail inventory management, ordering and replenishment, receiving, loss prevention, cross-channel order fulfillment, and workforce and task management.
- **Provide segment specific expandability**—Differences among retail industry segments require that retail enterprise software supports integrated or modularized sets of segment-specific functionality. For example, the functionality requirements for a traditional grocery retailer (e.g., frequent promotions and inventory management for fresh items) are different from slower-moving hardlines and apparel retailers (e.g., product sourcing, allocation, and assortment planning). With more and more retailers expanding their product categories, a successful retail ERP application must provide segment-specific functions while also providing flexible configuration to support multiple segments within a single operational architecture.

## Foundational retail ERP criteria

While retail-specific criteria should be the focus when selecting a retail ERP system, potential buyers should also consider additional characteristics:

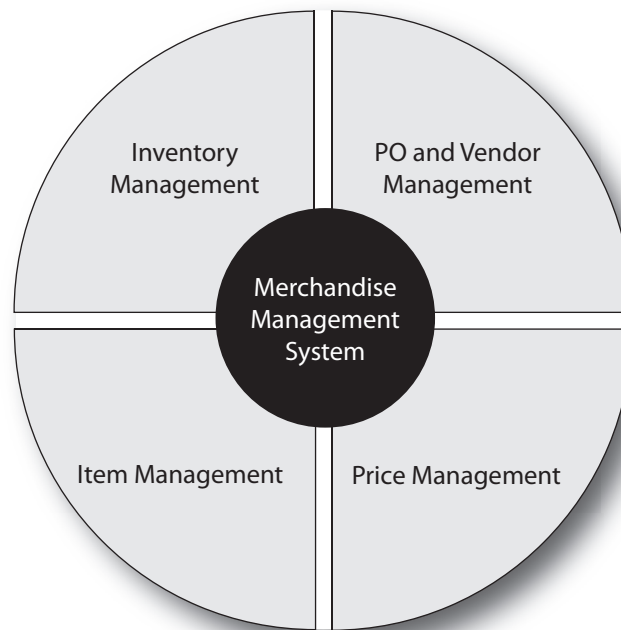
- **Support for advanced functionality**—Many retailers require software that will support advanced strategies for pricing, inventory management, merchandise planning, and store execution. Merchants must analyze existing constraints, planned initiatives, and probable future activities and prioritize desired system functionality when evaluating vendors. Buyers should not just look at what these vendors offer today, but also at their internal development roadmap, partner ecosystem, and support for integrating third-party applications. Descriptions and ratings for vendors' advanced planning and replenishment capabilities can be found in two *AMR Research Reports*: “Advanced Retail Planning: Achieving Effective Demand and Merchandise Synchronization,” January 2005, and “Advanced Retail Replenishment: Demand-Driven Inventory Planning Automation Is a Competitive Necessity,” July 2005.
- **Configuration and scalability**—A retail ERP system must provide sophisticated configuration options and parameters that will help reduce the amount of custom development necessary to adapt a purchased application to the particular needs of a retailer. A flexible underlying application architecture helps ensure the system can be fine-tuned with minimal custom effort to allow the retailer to respond effectively to changing competitive, consumer, or merchandising requirements. To meet scalability requirements, retailers should ensure that there are no inherent limitations in key applications areas, such as item attributes, product hierarchy, pricing formulas, inventory locations, product vendor choices, or information reporting.
- **Support for a phased implementation strategy**—Any retail ERP deployment must support the ability to implement the system in pieces. Retailers must look at how individual components are designed (e.g., merchandise management versus retail planning) and consider how individual modules can be implemented in phases. Highly integrated systems always have prerequisites, but there are significant differences among the vendors in the degree of “modularity” and how their products are packaged and priced. An important question for retailers to answer about a suite: can components of the retail ERP suite stand on their own in advance of other modules being deployed?
- **Workflow automation and enterprise process management**—Application usability has traditionally been the last design consideration for enterprise software, but recently vendors have been tackling usability as a means of differentiating their applications from the pack. One of the areas that has improved somewhat is support for departmental and inter-departmental workflows that can provide seamless operations and visibility throughout a company. Many vendors are also beginning to offer best practice workflow templates for often-repeated processes as a way to drive efficiencies, particularly in areas where staff turnover is the highest.

- **The technology and application integration foundation**—A retail ERP system should be built on a consistent, modern technology architecture. The technology foundation needs to offer scalability, deployment flexibility, ubiquitous data access, and easy integration within the suite and externally to third-party applications, legacy systems, and business partners. Vendors should also have a roadmap in place to evolve their products to a standards-based service-oriented architecture (SOA) that will ultimately allow the orchestration and management of business process components. With this foundation, applications can enable straightforward functionality, such as seamless, real-time POS data collection from different store systems, or support more complex capabilities, such as the linkage of specific forecasting or analytic applications into operational merchandising programs.

## The core of retail ERP: examining merchandise management applications

The critical component of any viable retail ERP application is the underlying merchandise management system. Merchandise management is the transactional system at the heart of a retailer's business, encompassing capabilities for item data management, price management and execution, purchasing management, inventory management and valuation, and integration to POS applications. Often the first enterprise application retailers deploy, merchandise management is without question one of the hardest systems to replace because of its comprehensive integration to numerous other applications.

**Figure 2:** Major merchandise management system components



*Source: AMR Research, 2006*

A critical first step in the journey to an integrated retail ERP system is to determine the state of your existing merchandise management applications and what capabilities and benefits are needed to justify replacing them. Assessing this core merchandising functionality will help retailers decide on the broader approach to retail ERP investment.

## Comparing current merchandise management applications

Table 3 presents an evaluation of the merchandise management functionality provided by the vendors covered in this Report. To be included in this table, vendors needed to have item, price, purchasing, and inventory management functionality in general release for general merchandise, apparel, specialty, and/or grocery retailers. Price optimization capabilities were not included in the assessment. The functionality evaluation only includes vendors that could demonstrate software that is in general release, not planned for a future vision. The research methodology also required at least two references to validate our findings. Vendors achieved a particular rating by meeting all of the functional criteria required for that rating, as well as all the criteria required for lesser ratings (see Table 8 for a summary of ratings criteria).

**Table 3:** Merchandise management functionality ratings

Vendor	Item Mgmt.	Price Mgmt. and Execution	Purchase Mgmt.	Inventory Mgmt.	POS Integration	Reporting and Exception Alerting	Workflow and User Interface
Aldata	Advanced	Basic	Basic	Advanced	Basic	Basic	Basic
Epicor/CRS	Basic	Basic	Basic	Basic	Basic	Advanced	Basic
GERS	Basic	Basic	Advanced	Basic	Advanced*	Basic	Basic
Island Pacific	Basic	Basic	Advanced	Basic	Basic	Advanced	Basic
Jesta I.S.	Advanced	Basic	Basic	Advanced	Basic	Strong Progressive**	Basic
Lawson	Advanced	Progressive	Basic	Basic	Basic	Progressive***	Basic
NSB Group	Advanced	Basic	Advanced	Basic	Advanced	Advanced	Basic
Oracle	Advanced	Advanced	Advanced	Advanced	Advanced	Strong Progressive****	Basic
Retailx	Advanced	Basic	Basic	Basic	Basic	Strong Progressive*****	Basic
SAP	Advanced	Advanced	Strong Progressive*****	Basic	Advanced	Strong Progressive*****	Basic
Tomax	Basic	Advanced	Basic	Advanced	Basic	Advanced	Basic

Advanced
Progressive
Basic

Source: AMR Research, 2006

\* GERS is advanced in POS integration only when deployed with Triversity's POS application (now SAP's).

\*\* Strong progressive with the purchase of Business Objects XI release 2 (related data cubes and universes supported by Jesta).

\*\*\* Progressive with the use of the Lawson Business Intelligence Suite.

\*\*\*\* Can leverage the Oracle Retail Data Warehouse for a full array of reports and dashboarding.

\*\*\*\*\* Can leverage Retailx Category Analyzer for enhanced reporting and dashboard capabilities.

\*\*\*\*\* SAP has advanced capabilities for making material and capacity commitments and managing the consumption of those commitments.

\*\*\*\*\* Can leverage SAP Enterprise Portal and Business Warehouse for a full array of reports and dashboarding.

Please refer to Appendix A for further discussion of vendors and their products in this market. Appendix B features AMR Research’s methodology for defining the selection criteria for the vendors discussed in this Report.

## **The state of merchandise management: strategic for retailers, but tactical for vendors**

From our review of merchandise management offerings, two common themes emerged:

- **Vendors have not paid enough attention to merchandise management**—Advanced ratings for core merchandise management functions were sparse and, in many cases, only applied when additional modules were added to the footprint. Even though it’s fundamental to retail operations, many vendors have called this the “least sexy” application in their portfolio. Instead, software providers have focused their resources on developing advanced planning and optimization technologies, investing limited time and effort in merchandise management capabilities. Improvements have come only after demands from existing customers or through retailer-funded development efforts.
- **There is not enough vendor investment in workflow and usability**—In general, not only has usability been an afterthought among vendors designing core elements of retail ERP applications, but the complexity brought on by acquired technology from different vendors has made creating a seamless interface that much more difficult. Acquisitions and the resulting attempts to integrate product lines and components have often resulted in inconsistent architectures and user interfaces spanning the business processes supported in a modern merchandise management application.

Earlier we noted that vendors are beginning to invest in usability to make it a competitive differentiator. We are encouraged by the first-generation workflow capabilities that are emerging largely in the form of functional tabs approximately aligned with business processes, but improvements are still needed. Still lacking, but now on the drawing boards for some software vendors, are more sophisticated wizards or guides to step users through frequently repeated processes, such as item setup, price creation, or purchase order review. Vendors have moved cautiously in part to ensure that guides or wizards do not slow down experienced system users that quickly tab through fields and screens to accomplish various processes.

Retail deals are being won and lost on the ability of vendors to meet expanded functional needs and provide a solid foundation for retail ERP strategies being developed by CIOs. Business users are looking for rich functionality that mimics the capabilities built into existing systems with years of effort. As a result, vendors are finding ways to fund long-awaited improvements to their merchandise management applications as a way to hang on to existing customers looking for next-generation capabilities, and as a means to getting invited to the increasing number of system selections currently underway.

## Single vendor retail ERP systems are still a work in progress

Retailers have closely followed the recent acquisition mania in the retail application market. The question on these retailers' minds is whether a single vendor can now provide all of the critical elements of a complete retail ERP application. While this is certainly the intent of major vendors serving the retail market, functionality gaps still remain.

The reality is that the current retail ERP market is still not mature, and most retailers will need to augment the integrated suite with additional specialist applications. However, this does not mean that retailers should continue to pour money into existing legacy systems. Retailers should understand the following:

- **Retail ERP adoption requires a long-term IT strategy**—Vendors that have acquired functionality are working their way through architectural and functional rationalizations. Other vendors that are building their own functionality or working within partner ecosystems may seem slower to market, but the products are more likely to offer integrated and consistent application architectures when they become available. While technology inconsistencies and functionality gaps in current offerings exist, retailers should view adoption of retail ERP as a multiyear journey with several phases. Most ERP implementations will have a 10- to 15-year useful life before a retailer will need to consider a replacement or substantial core upgrade. Choosing the right vendor partner requires weighing the functionality available today against the vendor's culture, viability, product and business strategy, and long-term commitment to the retail industry.
- **Retail ERP is not a big-bang project**—Other industries with years of ERP experience have found that the key is to implement application modules in a phased approach, taking advantage of strong capabilities available today while laying groundwork for the longer term benefits of a larger integrated suite. Early retail ERP adopters have regularly begun implementations with the most mature capabilities, such as financials and purchasing management, and are now moving on to operational components, such as merchandise management.
- **Gaps in business-critical functionality should be addressed differently**—While vendors with relatively new retail ERP capabilities offer substantial footprints, all the vendors have functionality gaps. Retailers will need to fill these gaps with home-grown or third-party applications in the short term while maintaining a long-term integrated suite strategy. Wherever possible, these fill-in applications should be positioned as tactical investments that will be replaced by ERP suite functionality at some future point. If the ERP vendor has partners that could fill the need, they should get preference because they are more likely to be architecturally compatible. There is also a very real possibility that the suite vendor will buy its partner and incorporate the product into the suite. In some cases, the best decision may be to integrate the existing legacy application into the ERP system until the suite vendor can build or buy the necessary capabilities.

- **Segment-specific challenges remain**—Most legacy systems are designed with company-specific product categories and business models in mind. Retailers designed the software with specific item, price, and inventory functionality to support the unique characteristics of the merchandise being sold at the time. On the flip side, retail ERP vendors also began by focusing on one or two retail segments and tended to structure everything from item data fields to inventory costing techniques to meet the needs of their early customers. As retailers increasingly require technology flexibility to expand their product selection in response to market and competitive demands, a retail ERP system with capabilities across multiple segments combined with total enterprise visibility has become a pressing need. While the ERP vendors are working to address this challenge, retailers need to be aware that most products today are biased toward one or two segments that may impact vendor selection or deployment schedules.

While there are still challenges, retailers should begin looking to retail ERP vendors for long-term solutions. Finding the best mix of ERP suite applications and necessary third-party applications is likely to be the retail CIO's major challenge for the next 5 to 10 years.

## Closing comments

While current retail ERP capabilities among the vendors differ widely, one thing is for certain: there is a much-needed emphasis on foundational infrastructure and functionality to support next-generation retailing. A strategy to deploy an integrated retail ERP suite with a modern merchandising management system at its core is crucial for the long-term success of many, if not most, retail organizations.

Retailers should leverage the lessons learned by the ERP pioneers in other industries to ensure their core system strategy, vendor applications, and business executive expectations can be met as retail ERP systems mature into reality over the next several years. For additional details on ERP best practices from other industries, see the AMR Research *Alert* articles “Enterprise Business Systems Must Be Upgraded and Maintained” and “Retail Technology Negotiations: Lessons of the Early ERP Market.”

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The information contained in this Report represents a subset of AMR Research's knowledge of retail ERP suites and strategies. For more information on how to access our overall coverage of retail ERP, contact your designated AMR Research account representative or client research analyst.

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## Appendix A: Retail ERP vendor overview

**Table 4:** Enterprise retail suite vendor demographics

Vendor	Total Revenue, Calendar 2005	Percent of Retail Revenue, 2005	Number of Clients, Merchandise Mgmt. Functionality Only	Office Network Summary	Percent of Total Revenue From Software Licenses, 2005
<b>Aldata</b> (Paris, France)	Euro 76M	85%	161	Eight European offices, Atlanta, and Bangkok	26%
<b>Epicor/CRS, Retail Solutions Division</b> (Irvine, CA)	\$289.4M	23%*	65	20 offices in North America, 21 in Europe, 12 in Asia/Pacific, 2 in Latin/South America, and 2 in other locations	28%
<b>GERS</b> (San Diego, CA)	Private—does not disclose	100% (for GERS subsidiary)	30	Three offices in North America	35%
<b>Island Pacific</b> (Irvine, CA)	Numbers have not yet been released	100%	117	Four offices in North America, one in Essex, UK	Numbers have not yet been released
<b>Jesta I.S.</b> (Verdun, Quebec)	Private—does not disclose	60%	143	Three offices in North America, one in Europe	40%

\* AMR Research estimate

Source: AMR Research, 2006

**Table 4:** Enterprise retail suite vendor demographics (continued)

Vendor	Total Revenue, Calendar 2005	Percent of Retail Revenue, 2005	Number of Clients, Merchandise Mgmt. Functionality Only	Office Network Summary	Percent of Total Revenue From Software Licenses, 2005
<b>Lawson</b> (St. Paul, MN)	\$346.45M	17%	6	Worldwide office network	22%
<b>NSB Group</b> (Pointe-Claire, Quebec)	\$85M	100%	175	Six offices in North America, three in Europe	20.2%
<b>Oracle</b> (Redwood Shores, CA)	\$5.166B (Total enterprise application revenue)	10%*	Not disclosed	Worldwide office network	55%
<b>Retailx</b> (Ra'anana, Israel and Plano, TX)	\$191.3M	Not available	100+	Worldwide office network includes North America, Europe, Australia, South Africa, India, and Israel	55.7%
<b>SAP</b> (Walldorf, Germany)	\$10.54B	11%*	458	Worldwide office network	32.7%
<b>Tomax</b> (Salt Lake City, UT)	Private—does not disclose	100%	72	One office in North America, one in Asia/Pacific	50%

\* AMR Research estimate

Source: AMR Research, 2006

**Table 5:** Merchandise management product name and version

<b>Vendor</b>	<b>Merchandise Management Product(s)</b>	<b>Version Evaluated</b>
<b>Aldata</b>	G.O.L.D.	5.03
<b>Epicor/CRS, Retail Solutions Division</b>	Epicor CRS Merchandising	3.11
<b>GERS</b>	GERS Merchandising	9.2
<b>Island Pacific</b>	Island Pacific Merchandising System	2.2
<b>Jesta I.S.</b>	Vision Merchandising	8.0
<b>Lawson</b>	Lawson Retail Operations	2.12
<b>NSB Group</b>	Connected Retailer Merchandising	3.0
<b>Oracle</b>	Oracle Retail Merchandising System	11.0
<b>Retalix</b>	Retalix HQ DemandAnalytX (DAX)	5.0 5.0
<b>SAP</b>	SAP for Retail	mySAP ERP 2004

Source: AMR Research, 2006

**Table 6:** Geographic distribution of retail client base

Vendor	North America	Europe	Asia-Pacific	Central and South America	Rest of World
Aldata	√	√	√	*	*
Epicor/CRS, Retail Solutions Division	√	√	√		
GERS	√				
Island Pacific	√	√	*	*	
Jesta I.S.	√	√	*		*
Lawson	√	√			
NSB Group	√	√			
Oracle	√	√	√	√	√
Retalix	√	√	√	*	√
SAP	√	√	√	√	√
Tomax	√		**	*	

\*Clients, but no offices

\*\* Offices, but no clients

Source: AMR Research, 2006

**Table 7:** Technology architecture

Vendor	Architecture	Deployment	OS	User Interfaces	Databases	Largest Deployed Instance
<b>Aldata</b>	Three-tier, J2EE	Hosted or BTF	<i>Server:</i> AIX 5.1, 5.2, and 5.3, Sun Solaris 8 and 10, HP UX 11 I, Red Hat Enterprise Linux ES/AS 4. <i>Client:</i> Windows or Linux (Suse 8.0, Mandrake 10.1, or Red Hat Enterprise Linux ES/AS 4).	Windows 98, NT 4.0, Linux Suse 8.0, Linux Mandrake 10.1, Red Hat Enterprise Linux ES/AS 3, Internet Explorer 5.5 and up, Mozilla 1.5 and 1.6, and Firefox 1.0.1 and 1.5	Oracle Enterprise Edition 9.2.0.3, 9.2.0.3, 9.2.0.4, 9.2.0.6, 10.1.0.4, 10G R1 and R2	More than 1,300 concurrent users, 2,270 stores, and 160,000 SKUs (using G.O.L.D. version 5)
<b>Epicor/ CRS, Retail Solutions Division</b>	Client-server, all new modules or product features are built using .NET	Hosted or BTF	<i>Server:</i> Linux, UNIX, and Sun Solaris <i>Client:</i> Windows 2000 PRO, XP PRO	Windows and Citrix	IBM Informix 9.x (SQL Server due Q1 2007)	More than 250 concurrent users, 225 stores, and 193,000 SKUs (using Merchandising 3.06)
<b>GERS</b>	Client-server, moving to an n-tier architecture. Some components build in Java.	BTF	<i>Server:</i> Oracle 9i <i>Client:</i> Windows XP, 2000, and 98	Windows XP, 2000, and 98	Oracle 9i	1,800 concurrent users, 747 stores, 125,000 SKUs (using Enterprise 1 version 8.OCS.2.0.1)
<b>Island Pacific</b>	RPG/ILE and Java	BTF	<i>Server:</i> OS/400 <i>Client:</i> Windows	Windows and JWalk by Seagull as the GUI	DB/400	Not available
<b>Jesta I.S.</b>	Web-enabled three-tier architecture entirely Oracle-based	BTF	<i>Server:</i> Windows, Linux, or UNIX <i>App Server:</i> Oracle <i>Client:</i> Windows	Browser-based user interface	Oracle 10g	1,000 concurrent users
<b>Lawson</b>	N-tier, client/server, SOA	Hosted or BTF	<i>Server:</i> AIX 5.2/5.3 and Solaris 8, 9 <i>Client:</i> Windows XP/2000	Windows	Oracle 9 or 10	45 concurrent users, 208,000 SKUs, 250 stores

Source: AMR Research, 2006

**Table 7:** Technology architecture (continued)

Vendor	Architecture	Deployment	OS	User Interfaces	Databases	Largest Deployed Instance
<b>NSB Group</b>	N-tier Microsoft technology transitioning to .NET	Hosted or BTF	<i>Server:</i> Windows 2000, 2003, or UNIX <i>Client:</i> Windows XP or 2000	Thin client, Windows. Citrix and Terminal Services have been deployed for some modules.	Microsoft SQL Server 9i (10g certification in progress) or Oracle databases MS SQL 2000, 2005. Oracle 9i, Oracle 10g certification in progress.	75 concurrent users, 60,000,000 store/SKU combinations
<b>Oracle</b>	N-tier client/server, J2EE, with SOA elements	Hosted or BTF	<i>Server:</i> AIX, HP UX, Sun Solaris <i>Client:</i> Windows 2000, Internet Explorer 5.5 and up	ORMS: Browser-based user interface. Analytical applications possess rich/thin clients.	Oracle 9i Enterprise Edition	5,500 stores and 650,000 SKUs resulting in 600 million unique item/location combinations. Another retail chain has 1,000 concurrent customers.
<b>Retailx— Retailx HQ</b>	Client/server	BTF	<i>App Server:</i> Weblogic, JBOSS, WebSphere <i>DB Server:</i> SQL Server, Oracle, DB2 <i>Client:</i> Windows	Varying from Windows- to browser-based	Microsoft SQL Server 2003, Oracle 9, or DB2 v.7	238 stores, 211,000 items
<b>Retailx— Demand-AnalytX</b>	Web-based, n-tier application	BTF	Windows	Thin client, Windows	SQL Server today, multi-DB planned	
<b>SAP</b>	N-tier client server; SOA via NetWeaver Exchange Infrastructure; SAP Web Application server supports J2EE and has add-in for .NET	Hosted or BTF	AIX, HP UX, Sun Solaris, Linux, Windows, IBM OS/400, IBM OS/390	Windows, Macintosh, UNIX, Citrix, and Web UI/portals	IBM DB2, SQL Server, Oracle, Informix	13,900 store locations
<b>Tomax</b>	SOA, supports J2EE	Hosted or BTF	<i>Server:</i> Linux, Sun, AIX, HP UX <i>Client:</i> Windows XP and 2000 (Linux planned)	Thin client, Windows-based web browsers, Java	Oracle 10g R2, IBM DB2	1,800 concurrent users, 75,000,000 store/SKU combinations

Source: AMR Research, 2006

## Aldata

Based in Paris, Aldata has a well-established base of retail clients in Europe and is growing its presence in North America with some key wins in the last two years. Aldata's application suite, G.O.L.D., has a unified architecture and a clean, easy to understand user interface. G.O.L.D.'s progressive item management capabilities support multiple languages and currencies in a single instance of the application.

The application offers manual price-setting capabilities for individual items. Prices can be set at the chain-wide level, or permission may be given to stores to change prices to support regional or store-pricing strategies. Price changes can trigger alerts via the G.O.L.D. Events module. Straight price- or percent-off promotions along with full cross-category, buy-one, get-one (BOGO) promotions are supported. Purchase orders can be created manually or automatically. In the version we evaluated, version 5.03, integration to open to buy (OTB) was not available. Aldata will be releasing an OTB module in G.O.L.D. version 5.05, available in May 2006.

Progressive, real-time tracking of inventory and recording of inventory activity is supported throughout the G.O.L.D. suite, extending from supply chain activities through automated returns and transfers processing. Based on parameterized profiles, annual and cyclical inventory counts can be managed either at central headquarters or centrally and at the store level. Multiple costing methods are supported, and the application supports the cost and the retail method of accounting.

G.O.L.D. provides standardized, automated interfaces that allow the merchandise management system to push updates to third-party POS control modules. The company is currently building more back-office control of POS into the G.O.L.D. suite. Aldata also has a POS module, which is currently not available in North America. G.O.L.D. comes with a standard library of 130 reports, which can be printed out or viewed on a web browser. The suite has limited alerting capabilities, but Aldata has integrated the G.O.L.D. Events module into G.O.L.D. Central Shop in version 5.05. A new workflow module will also be available in the May 2006 release.

## Epicor/CRS, Retail Solutions Division

Epicor's merchandise management application, Epicor CRS Merchandising, originated with a company named **Apropos Retail**, which CRS Retail Systems acquired in 2004. The application has a substantial presence in midtier specialty retail. Epicor, which acquired CRS in late 2005, is continuing to enhance the application's capabilities, which it can do more quickly with its significant development resources than CRS could. The company plans to offer CRS's applications internationally, backed by Epicor's global presence.

The merchandise management application provides basic item management, with item and supplier data setup being conducted manually or via flat-file uploads of product catalogs. Version 3.11 provides one merchandise and operations hierarchy with four tiers. Pricing creation is manual, and users can create three prices for an item—regular, promotional, or special price (e.g., BOGOs). Prices can be set at the chain, regional, or store levels. Purchase orders can be created manually or can be automatically generated from Epicor's allocation module via hot-key functionality. Vendor productivity reporting is available, and vendor compliance reporting can be executed through a third-party reporting tool.

Epicor's basic inventory management capabilities allow inventory movements to be recorded by being entered centrally via the POS system or with paper notifications sent to headquarters. The application has a weighted average cost accounting method, with functionality for the retail accounting method currently under development. The majority of Epicor's merchandise management customers does not conduct their own cycle counts, but rather has third-party services conduct the counts on an annual or biannual basis. Store inventory counts can be sent electronically from the stores. Integration to handhelds is currently available only as part of the retail warehouse management system.

POS integration is managed through control modules outside of the core merchandise management system. Reporting capabilities are progressive, with over 100 reports available in a standard library. Users can conduct Excel- or Crystal Reports-based reporting from their open database connectivity (ODBC)-compliant database. Drill-down capabilities to identify underlying conditions highlighted in online reports are available. The interface for version 3.11 was written in a tool named 4js. Epicor introduced a true graphical user interface (GUI) in March 2006.

## GERS

With a 30 year history selling applications to retailers, GERS holds a dominant position in the furniture retailing segment. The company, which was purchased by **Symphony Technology Group** in 2003, is currently working on expanding its multicategory merchandise support. Within GERS Merchandising, the merchandising hierarchy is seven levels deep, and can go one level deeper to support individual UPCs. Multiple channels are supported, and products are included or excluded in hierarchies depending on which channels they are sold through. New items can be built from within purchase orders or data can be imported from financial systems. Vendor data can be imported via the Vendor Connect hub run by GERS. Core merchandising applications are available today in English and Spanish, but there is no support for multiple currencies, leading to a basic rating for item management. Within pricing, the person creating the SKU establishes the first price for the product. One pricing rule, initial markup (IMU), provides pricing guidance. There is support for percent-off and dollars-off promotions as well as BOGOs, and GERS is currently building functionality for promotional performance tracking.

Progressive purchasing capability integrates to OTB functionality, which resides in GERS's merchandise planning application. Purchase orders can be generated automatically when there is a recommended order quantity (ROQ). Within inventory management, automated cycle counting is supported, though there is no scheduler for cycle counting in the application today, and full integration to handhelds is provided. GERS Merchandising supports retail and cost methods of accounting. Vendor deals and allowances can be accounted for in costing for individual items. First-in, first-out (FIFO), last-in, last-out (LIFO), and average costing methods are provided for inventory valuation.

GERS earned the only advanced rating for POS integration. It was the only vendor that provided us with a reference currently conducting POS updates from the merchandise management system in sub-one-hour increments. The advanced rating applies when GERS Merchandising is deployed with **Triversity's** Transactionware POS application (now **SAP's**). Full POS control capability resides in GERS's core merchandising footprint. The vendor offers progressive reporting capabilities via GERS Analytics, which is based on **Cognos'** PowerPlay application and the Impromptu reporting engine. Excel report templates are embedded into the merchandise management footprint. Finally, workflow and user interfaces are basic. There are elements of workflow, such as in the purchase order approval process, but capabilities are not consistent throughout the application.

## Island Pacific

Island Pacific, with a 25 year history in the retail applications market, was an early leader in the merchandise management arena. Though the company has recently faced financial challenges, it retains a devoted client base. The company's Island Pacific Merchandising System (IPMS) is sold as a comprehensive merchandise management suite. Basic item management capabilities include automated item data setup, available as part of purchase order entry or through EDI 832 or Excel uploads. IPMS has a single merchandise hierarchy and a single five-level operations hierarchy. Multichannel support is available by using store hierarchy functionality. The application is configurable to support different languages, and a standard French version is planned.

Price creation is strictly manual. Desired markup on a product is noted when building a purchase order. Users can copy analog items or analog stores to accelerate the price-setting process. Full support for promotions management is provided by Island Pacific's Event module and is not part of core merchandising. Progressive purchasing management functionality includes automatic purchase order (PO) generation from IPMS' replenishment functionality (which also provides dynamic calculations of purchase order volumes), and vendor productivity and compliance reporting. Purchasing is integrated to OTB functionality in the core merchandise management code base, and supports close to real-time data sharing.

IPMS provides both a retail method and a weighted average value cost method of inventory accounting. Regional- and store-priced inventory can be valued using the weighted average cost method. Cycle count management functionality is conducted by selecting a cutoff date, tracking in-transit inventories, and transmitting count sheets to stores where counts are entered via POS or through a third-party cycle counting service. Integration to handhelds is currently available only as part of the retail warehouse management system. IPMS requires a separate control module for POS integration. Through Island Pacific's datamart and analysis tool, The Eye Explorer, users have access to progressive reporting capabilities, with a library of online reports and the ability to drill down to view root causes of conditions identified in reports. IPMS possesses a straightforward user interface configured to allow for clerical support of routine tasks, such as item setup.

## JDA Software

JDA declined to participate in the research for this Report.

The company today offers two merchandise management applications. The older version, Portfolio Merchandise Management System-i (MMS), operates on the **IBM** iSeries (AS/400) platform. The newer offering, Portfolio Merchandise Management (PMM), supports a UNIX operating environment and **Oracle's** database management system. It is also .NET architected. Both provide functionality for item management, price and promotions management, purchasing management, vendor management, and inventory control and valuation. MMS additionally offers warehouse management, customer order management, and financial application modules. Both MMS and PMM integrate to JDA's Strategic Demand Management applications, including merchandise planning, replenishment and allocation, category and space management, analytics and optimization applications, and vendor collaboration. JDA Portfolio also includes store operations and labor management functionality.

JDA announced its planned acquisition of **Manugistics** in April 2006. The pending acquisition will broaden JDA's footprint as a retail ERP provider by giving it added demand planning and forecasting capabilities, along with price optimization and transportation planning assets. It will also extend JDA's ability to address the requirements of consumer goods manufacturers and wholesale distributors.

## Jesta I.S.

Jesta has a long heritage in apparel, footwear, and specialty retail, first as **Richter Systems**, then later as **Essentus**. Now owned by Jesta Group, the company is focusing on selling merchandise management and supply chain capabilities packaged as its Vision suite to its core markets. All of Jesta's applications are built using Oracle's application development tools and based on Oracle's platforms. Jesta's progressive item management functionality allows an unlimited number of attributes to be associated with an item. Support for multiple channels is constructed by creating different price zones or business units, and users have to copy item data across business units if a good is sold in multiple channels. Data sharing is conducted via electronic data interchange (EDI) or flat files; in some cases, XML is supported. An original retail price is created manually, usually by the person creating the style master, and target margins drive price setting. Straight price promotions are supported. The application has partial price simulation capabilities, as users can monitor the effect of price changes on margins.

Purchase orders can be generated automatically out of the replenishment system, and Vision Merchandising can take feeds with OTB information from third-party planning systems, such as JDA's Arthur. Jesta will introduce its own Vision Planning module later in 2006, which will lead to OTB capabilities being fully integrated with purchasing. Inventory management capabilities are progressive, strengthened by Jesta's ability to provide inventory visibility from PO through to the shelf. Support for both the retail and cost method of accounting is available, and a single business unit has the option of using both methods simultaneously. Inventory accounting via last cost is also available.

Vendor deals and allowances are tracked in the Rebate module, but the information does not currently flow into cost and margin analysis. POS integration requires a separate POS control module to initiate, manage, and monitor the sending and receiving of information from the POS system. Vision Merchandising leverages Oracle Reports and Oracle Forms to offer several hundred prebuilt reports to users. Reporting and alerting capabilities enabled by Business Objects XI, release 2, push dashboarding capabilities, which earned a strong progressive ranking. The user interface is based on Oracle JDeveloper and is thin client. Tabs are aligned at a high level with business processes.

## Lawson

Lawson's merchandise management functionality is based on the assets acquired from **Armature** in 2002. The merchandise management functionality is tailored toward fast-moving consumer goods (FMCG) retailers, but Lawson's broader suite of corporate applications is applicable across multiple retail segments. After completing the merger with **Intentia** in April 2006, Lawson reiterated its dedication to the retail vertical market. Version 3.0 of the core merchandise management capabilities is due out in the first half of 2007.

Item management functionality in Lawson Retail Operations is progressive. This is a very capable system for FMCG retailers, as well. Users can set up unlimited numbers of multiple hierarchies and item groups. Multichannel support is available through the proposition/banner piece (Lawson's terminology for channel names). Internationalization is strong as well, with the ability to support multiple currencies and languages in a single instance. An Explorer-like menu walks users through the steps to set up an item. There is currently no roles-based accessibility within the item management functionality and no support for automated external data synchronization. Data for item setup may be pulled in via flat files, CDs, EDI, or XML messaging.

Lawson earned the only advanced rating for price management and execution functionality, which resides in its Strategic Pricing module. A comprehensive pricing management analyst dashboard with strong exception alerting is available. The user interface is designed for pricing specialists and may prove daunting to the average category manager. Lawson possesses full support for percent-off, dollar-off, and BOGO promotions. Users can set and manipulate a wide range of pricing rules, such as setting item prices relative to cost, margin targets, prices of competing items, relationships to other items (such as brands versus private-label goods) and sizes.

For purchasing management, Lawson Retail Operations provides the ability to create manual and automatic purchase orders, placement of provisional purchase orders, and a range of vendor reporting capabilities. The application currently does not offer an integrated OTB capability. The inventory management footprint currently includes support for the cost method of accounting only. Inventory costing techniques include average received costs, last received costs, and store selling net. The application possesses limited cycle counting capabilities, and cycle count frequency can only be varied by store, which means a store has the same cycle count frequency for all items. POS integration requires a separate integration control module. Progressive reporting capabilities are available by layering Lawson Business Intelligence on top of the merchandise management modules. Lack of roles-based accessibility limits the strength of the user interface, but the Explorer-like menus used to walk users through steps to accomplish certain business processes were a positive.

## NSB Group

NSB Group's application footprint results from the combination of **NSB**, founded in 1995, and **STS Systems**, founded in 1992. The company has a solid presence in the midtier specialty and apparel retail market segments. NSB is transitioning its Connected Retailer product set to a .NET architecture. POS, purchase order management, allocation and replenishment, and some components of CRM are currently available on a .NET platform, with a .NET version of sales audit due at the end of 2006.

Connected Retailer Merchandising has progressive item management capabilities. A product hierarchy can be set up with no restrictions on the number of levels or naming conventions, and NSB also offers a quick-start version of a product hierarchy with seven levels. Support is available for multiple currencies in single or separate instances, and the application can support different tax structures in a single instance. Basic price-setting via an initial markup rule is provided, and markdown rules allow for percent-off and dollar-off promotions. Deal pricing and a mix/match prompt provide the mechanism for BOGOs.

Purchasing management is progressive. Purchase order setup can be manual or purchase orders can be generated from the replenishment application, and the application has visibility to the impact of a purchase order on OTB. The application also takes into consideration prepacks, predefined size scales, or size scales based on past selling history when calculating the number of units by size that should be ordered, based on the ratio of sizes. Vendor productivity analysis can be carried out through the query and reporting tool. NSB has a prototype vendor scorecard in development, with availability planned for late 2006.

The inventory management functionality supports both the cost and the retail method of accounting in the standard application, with users able to use both methods simultaneously. NSB offers only one inventory costing technique, moving average cost, which is calculated at the item/location level. Capture of vendor deals and allowances for margin analysis is accomplished by users inputting a cost-only adjustment, and granular tracking and reporting is possible. Currently the store inventory tracking module can be displayed on radio frequency (RF) devices via scanning an item and using a keyboard emulation mode. Scanned entry and keyboard emulation modes are ways of displaying data on RF devices, but sometimes on PCs as well. Later in 2006, NSB will have full support for RF with a **Microsoft** Windows CE interface. Integration to handheld devices for cycle count management will also be available.

POS integration is progressive, with an integrated POS module as part of the core merchandise management system, and the ability to push out information to and receive information from the POS system on a real-time basis. NSB's advanced reporting and exception alerting capabilities have a complete analysis-to-action pathway available for users to drill down from data analysis at the dashboard to view transactions and conduct changes to address problem areas. Workflow tabs in the application have some alignment with business processes today.

## Oracle

Oracle Retail Merchandising System (ORMS) version 11 offers a mature set of capabilities for core merchandising needs. Its progressive item management functionality includes six levels of category hierarchies with three user-definable levels that can be used to support a wide array of product attributes (e.g., style, color, size or product, flavor, size). Location hierarchy attributes are used to leverage a single instance of item setup across multiple channels. The application also supports multiple languages and currencies in a single instance. It also has solid functionality for setting up merchandising components as a kit or ordering a free-standing display where individual items are sold. Synchronization with external systems is accomplished via EDI, XML messaging, and flat-file connectivity.

Price management rates a solid progressive, enabled by the Retail Price Management (RPM) module. Pricing rules functionality supports the creation of rules for margin targets, and can leverage competitive pricing information. Use of market basket codes begins to link items together within RPM, and linked codes support a same-price relationship rule. An area differentials strategy supports pricing relationships across groups of stores. The application supports real-time and asynchronous conflict checking within the pricing rules matrix. A what-if mechanism assists users with developing retail pricing. Price optimization capabilities from Oracle's acquisition of ProfitLogic were not included in this evaluation.

Purchasing management offers batch integration to OTB, as well as productivity and compliance reporting. Oracle offers some advanced capabilities for setting up bulk orders and contracting for capacity, and users can leverage contracting functions to identify the best sources of stock and track supplier availability and commitments. Progressive inventory management functionality includes support for the retail and cost methods of accounting, integration to handheld devices, and the full ability to execute cycle counts. Solid POS integration allows a retailer to push out information from central systems and receive inventory receipt and transfer information from POS on a real-time basis.

Advanced reporting and alerting functions are enabled through the Business Intelligence Framework, which encompasses the Oracle Portal, Oracle Retail Data Warehouse, and the Merchant Dashboard. The user interface is a complex array of views via dashboards that are configurable based on user roles. A number of applications, including Deals Management in the merchandising footprint, provide a tab-oriented user interface.

## **Retalix**

Retalix's presence in the FMCG retail market segments, particularly grocery and fuel, is the result of several substantial acquisitions. The company is currently completing its new InSync platform to streamline the functionality from each of its disparate product sets acquired in the past two years from **OMI**, **TCI Solutions**, and **IDS**. The Retail HQ application contains merchandise management functionality based on products acquired from TCI Solutions in April 2005. Several elements of merchandise management functionality, particularly in the area of inventory management, are supported by the DemandAnalytX (DAX) application.

Retalix HQ provides progressive item management capabilities. It is the vendor closest to deploying automated external data synchronization for retailers in the FMCG segments, with its Retalix InSync Data Staging application. Retailers can set up a fairly complex hierarchy of rules, including price parity, competitive rules, and the ability to define store zones with different pricing rules. Rules can also be related to levels of on-hand inventory. Straight price and percent-off promotions are enabled in the core merchandising footprint; BOGOs are supported through the Electronic Marketing module. Lack of pricing workflow resulted in a basic rating, but the InSync platform will support more advanced workflow and alerting capabilities for pricing. Purchasing capabilities include support for blanket purchase orders, and the ability to integrate to third-party OTB applications. Retalix has developed its own OTB application as a custom modification, but does not currently sell this as a standard product offering.

Retalix offers the most advanced automated cycle counting capabilities identified during the research via the DAX application. The fully-automated cycle counting capability, which Retalix terms Smart Count, possesses sophisticated exception identification and prioritization. Users have the ability to adjust the unit inventories manually for returns and transfers. The POS control module, POS Exchange, is a standalone application that must be purchased in addition to Retalix HQ. A rich library of online reports is available in the core merchandise management suite. Retailers can supplement those capabilities with Retalix Category Analyzer, which provides a reporting dashboard with drill-down capabilities.

## SAP

SAP, which based SAP for Retail on well-developed core ERP functionality, is adding retail-specific functionality via acquisition and internal development. SAP for Retail provides rich internationalization functionality, supporting multiple languages and currencies as part of the standard product and within single instances. Item management functionality is progressive, supporting standardized data synchronization via its PRICAT interface. Initial item setup is eased through the ability to use an **Adobe** Acrobat document as the data entry point for setting up a new item. Price management and execution offers rich rules management capability. A pricing work list captures changes to purchase prices and some master data characteristics. It also suggests new retail prices based on these changes. Price optimization capabilities from the **Khimetrics** acquisition were not included in the rating. A separate promotions module provides full support for item-specific promotions, including dollars or percent off and BOGOs.

Within the purchasing footprint, integration between purchasing management and OTB functionality is available and will first be deployed later this year. SAP for Retail has deployed advanced capabilities for making material and capacity commitments with suppliers and then tracking the consumption of material and capacity commitments as purchase orders are placed. SAP met the criteria for a progressive rating for inventory management, except for lacking full and generally available support for the retail method of accounting. Inventory management functionality currently includes full support for the cost method of accounting, and a hybrid of the cost and traditional retail methods of accounting. SAP is building out functionality to support pure retail method. Advanced cycle counting capabilities are made possible by an automated cycle count determination engine driven from an ABC pareto analysis.

Enterprise Configurator, acquired with the Triversity purchase, possesses a deep array of centralized POS management capabilities. SAP for Retail has solid integration to assortment planning, and users can set up placeholders in the planning wedge and move seamlessly into item setup. Role-based access and screens are configurable, but the use of tabs to guide users through processes is limited. SAP offers customers a screen configuration tool called GuiXT free of charge to companies with SAP R/3 release 4.0 and higher.

## Soft Solutions

Soft Solutions was not included in the ratings because of the lack of a full set of functionality for inventory management.

Soft Solutions' *ibs Referential* application provides robust master data management functionality for retailers. *ibs Datasync* manages both global data synchronization network (GDSN) and non-GDSN data synchronization efforts. The Retail Business Suite includes capabilities for pricing, price execution, and promotions, as well as for vendor deal management, retail planning, and category marketing, price image, and promotions strategies. Soft Solutions' integrated approach and easy to use workflow is attracting the attention of Tier 1 retailers in the United States. A partnership with **Churchill Systems** will be used to provide optimization capabilities to the company's promotion management model.

## SofTechnics

SofTechnics declined to participate in the research for this Report.

SofTechnics has been a fully owned subsidiary of **METTLER TOLEDO International**, a global \$1.5B precision instrument manufacturer, since March 2002. The company sells to grocery and general merchandise retailers. For grocers, SofTechnics' *ChainTrack HQ* application provides item and pricing management. The store application, *SoftGrocer*, provides for automated purchase order generation and receiving against purchase orders. The system also maintains basic supplier information. The *In-Store Management Suite* provides inventory management capabilities. Integration to planning systems is not supported. For general merchandisers, the *Price Management* module supports pricing activities, and modules for perpetual inventory, receiving, returns to vendors, physical inventory, and transfers provide an array of inventory management functionality.

## Tomax

Tomax's Merchandise Management version 5.1 resides in the broader framework of the company's Retail.net product suite. Architecturally, the products support Oracle's technologies. The company also supports open source and open standards where appropriate. The centralized systems architecture allows for tight integration to store operations. Functionally, the applications are geared to support the needs of hardlines and grocery retailers.

Item management capabilities include an automated method for managing the entire vendor catalog process, extending to automatically pull item data into the system. Item data can also be uploaded from accounts payable via flat files. Multichannel support is enabled with the online Cataloger product. Merchandise Management can support a single language and one base currency per instance. Tomax's progressive pricing functionality is available in its Advanced Pricing module, which is an add-on to the base merchandise management application. Advanced Pricing has the ability to set pricing rules based on competition, margin targets, inter-item/brand parity, and size relationships. Percent-off and dollar-off promotions are fully supported; BOGO promotions only evenly prorate the markdown across all items in the promotion. Price simulation capability is available, but has yet to be deployed. Purchasing management has strong grocery cost functionality that allows category managers to account for the impact of vendor deals and allowances. Vendor reporting capabilities include productivity reporting. Tomax is currently building integration to OTB functions as well as vendor scorecarding functionality.

Inventory management capabilities rate as progressive. Merchandise Management provides support for real-time tracking of inventory activity if the retailer has Tomax's POS application. Both the retail and the cost method of accounting are available for users. There is full functionality for entering and executing cycle counts, in addition to integration to handheld devices. Full POS control capability is resident in the customer management portion of Tomax's functional footprint rather than in the merchandise management footprint. The progressive rating only applies when the company's POS application is used with Retail.net. Over 300 reports are available, covering the basic operations requirements in each product area.

Ad hoc reporting can be executed using Oracle Discoverer. Users of Tomax's portal product have access to solid alerting capabilities. Within the user interface, tabs are not generally aligned to business processes. The pricing rules interface is cumbersome in version 5.1, with multiple screens needed to manage rules and no unified screen to assist pricing analysts or category managers with pricing activities. The user interface for pricing rules will change in the next release due in the second quarter of 2006, and will have a global view of the company's pricing strategies.

**Table 8:** Merchandise management ratings criteria

Elements	Basic	Progressive	Advanced
<b>Item management (includes data maintenance and product/SKU record creation)</b>	<p>Manual product data setup</p> <p>Manual supplier data setup</p> <p>Single merchandise and operations hierarchy</p> <p>Change management, auditing, logging</p> <p>Configurable to support multiple languages and currencies</p>	<p>Automated product data setup</p> <p>Automated supplier data setup (e.g., pulling data from the AP or other systems)</p> <p>Multichannel support, including multiple merchandise and operations hierarchies</p> <p>External data exchange via traditional methods (e.g., EDI, flat files, etc.)</p> <p>Multiple languages and currencies available as part of standard product</p> <p>Automated data cleansing and rationalization routines</p>	<p>Unlimited product attribute definition</p> <p>Established library of multiple taxonomies (template to allow speed of adoption), industry specific and geography specific</p> <p>Automated external data synchronization support (e.g., UCCnet/GS1) for FMCG</p> <p>OR</p> <p>Open integration standards to speed sourcing and item introduction activities among GM and apparel suppliers</p>
<b>Price management and execution</b>	<p>Manual price-setting process for individual items</p> <p>Support for straight price promotions</p> <p>Chainwide pricing</p> <p>Price setting by hierarchy level</p> <p>Manual pricing approval and auditing and logging of pricing activity</p> <p>Effective dating on changes</p>	<p>Ability to define a matrix of pricing rules, including targeted price impact analysis</p> <p>Full support for item-specific promotions (e.g. dollars off, percentage off, multiple discounts)</p> <p>Regional, zone, cluster pricing</p> <p>Mass-maintenance capabilities</p> <p>Pricing approval workflow</p> <p>Ability to specify automatic future price change effective dates</p>	<p>Full pricing rule exception management/alerting functionality</p> <p>Full cross-category promotions support (e.g., BOGO)</p> <p>Store-specific pricing</p> <p>Full price simulation and/or modeling capability</p>

Source: AMR Research, 2006

**Table 8:** Merchandise management ratings criteria (continued)

Elements	Basic	Progressive	Advanced
<b>Purchasing management</b>	<p>Manual PO setup</p> <p>Invoice-to-PO matching</p> <p>Basic vendor transaction inquiry and review</p>	<p>Automatic PO generation</p> <p>Integration with open-to-buy and planning functions</p> <p>Support for blanket POs and the ability to track orders placed against blanket POs</p> <p>Vendor productivity or compliance reporting</p>	<p>Support for making material and capacity commitments</p> <p>Supports tracking of preliminary order commitments</p> <p>Ability to manage consumption of material and capacity commitments</p> <p>Vendor productivity and compliance reporting</p>
<b>Inventory management</b>	<p>Recording of inventory activity</p> <p>Manual returns and transfers processing</p> <p>Support for manual cycle counts (cycle count execution only)</p> <p>Ability to support the retail method of accounting or the cost method of accounting</p> <p>Support for inventory valuation and revaluation, including shrinkage adjustments</p>	<p>Real-time tracking of inventory activity</p> <p>Automated returns and transfers processing</p> <p>Automated cycle count execution management</p> <p>Integration to handheld devices</p> <p>Can support both retail and cost method of accounting in standard application</p> <p>Support for multiple inventory accounting and costing techniques (e.g., standard, actual, average actual, weighted average costs)</p> <p>Capture of vendor deals and allowances and incorporation into margin analysis</p> <p>Ability to accurately value regional/zone/cluster-priced inventory under the retail method</p>	<p>Global inventory visibility</p> <p>Automated cycle count determination logic</p> <p>Inventory valuation simulation</p> <p>Ability to accurately value store-priced inventory under the retail method</p>
<b>POS integration</b>	<p>Daily batch updates</p> <p>Separate POS control module required</p> <p>Able to receive historical POS sales data</p>	<p>Ability to push out information (e.g., price changes) on a real-time basis</p> <p>Automated, standardized interfaces allowing the system to push updates to third-party POS control modules</p> <p>Able to receive inventory receipts and transfer information from POS system one or more times daily</p>	<p>Real-time (within one hour) POS updates currently deployed and being conducted by a retailer</p> <p>Fully integrated POS control capability (ability to transmit all product information changes from product database to stores)</p>

Source: AMR Research, 2006

**Table 8:** Merchandise management ratings criteria (continued)

<b>Elements</b>	<b>Basic</b>	<b>Progressive</b>	<b>Advanced</b>
<b>Reporting and exception alerting</b>	Standard library of hard copy and/or PDF reports	Library of online reports  Drill-down capabilities  Exception reporting or alerting	Flexible, user-defined formats  Real-time analysis-to-action drill down  Dashboarding
<b>Workflows and user interfaces</b>	Manual (no workflows) and spreadsheet-like UI	High-level process workflows (e.g., tabs aligned with business processes)  Role-based access	Wizards for key activities  Workflow-based review and approval throughout the merchandise management footprint

*Source: AMR Research, 2006*



# Acronyms and Initialisms

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AMR Research, Inc.  
125 Summer Street  
Boston, MA 02110  
Tel: +1-617-542-6600  
Fax: +1-617-542-5670

555 Montgomery Street  
Suite 650  
San Francisco, CA 94111  
Tel: +1-415-217-3737

Whittaker House  
Whittaker Avenue  
Richmond, Surrey TW9 1EH  
United Kingdom  
Tel: +44 (0) 20 8822 6780  
Fax: +44 (0) 20 8822 6790

BOGO	Buy one, get one
CRM	Customer relationship management
EDI	Electronic data interchange
ERP	Enterprise resource planning
FIFO	First in, first out
FMCG	Fast-moving consumer goods
GUI	Graphical user interface
HR	Human resources
IMU	Initial markup
LILO	Last in, last out
ODBC	Open database connectivity
OTB	Open to buy
PO	Purchase order
POS	Point of sale
RF	Radio frequency
ROQ	Recommended order quantity
SKU	Stock-keeping unit
SOA	Service-oriented architecture
SOX	Sarbanes-Oxley Act
TCO	Total cost of ownership