# Alpha Bay Enterprise Retail Suite



## *Full-Featured, Easily Customizable Retail Software Applications*

Enterprise retail operations are growing more complex and therefore demand increasingly sophisticated IT solutions. The world population is exploding, and that includes the U.S. population, which is forecast to double from 300 million to 600 million in the next fifty years. That means we are adding twice as many new consumers per day as we have added in the past fifty years.

The result of this worldwide population explosion is a comparable growth in retailing. However, competition is fierce among retailers, especially with companies like Walmart that use a comprehensive and proprietary enterprise retail system to drive profit margins down to where they are measured in tenths of a percent. Costs continue to skyrocket, forcing retailers to look for ways to compete, increase revenues, and cut costs, all while improving the customer experience.

In the retailers' quest to achieve success, knowledge, as always, is power. Retailers need to know the status of every product in every store at every second. They need to streamline communications from the Point of Service, which is often an Internet browser or a Mobile POS device, back to the manufacturer. Tracking transaction data in real-time is required to ensure proper inventory levels at all points in the supply chain to maintain store-level inventory.

This critical need for real-time transaction data is further aggravated by exploding losses from shrinkage. The National Retail Federation recently reported a staggering $37.4 billion in retail shrinkage due to employee theft, shoplifting, administrative errors, and vendor fraud. As in other industries, Forrester, Gartner and AMR all report that retailers are turning to technology for help. The problem is, today's enterprise retail software infrastructure is a conglomeration of legacy systems, multiple databases, end-of-life products, patchwork interfaces, and expensive consultants, all which carry huge overhead.

Retailers cringe at the thought of the expense, both in time and money, of updating their enterprise software and often choose instead to continue to bear the higher costs of supporting and managing what they currently have. Still, the cries from retailers continue: "We can't get the data we need soon enough to increase revenues and profits, improve customer satisfaction, reduce overstock, eliminate out-of-stock situations, prevent shrinkage and reduce expenses!"

What's needed is a completely new, fifth-generation enterprise retail system based on proven, state-of-the-art technologies. The answer is the αBay Retail Suite from Alpha Bay.

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αBay is adaptive. αBay has taken this concept, generally applied to humans, and incorporated it into the architecture of the system. The result is a highly flexible enterprise software solution which adapts to any SQL database, any modern hardware, including new iPhone point-of-sale devices and more importantly, to the unique environment of every retailer.

For example, GUI screens are not preconfigured and instead can be easily customized to match each retailer's needs. Even more powerful is the adaptive nature of αBay workflows, which almost self-modify to match the workflow of each retailer rather than making the retailer adapt to the vendor's software.

Beyond mere flexibility is a completely new application of adaptive technology where it can be implemented to address inventory shrinkage. Through its Loss Prevention Agent, αBay provides the functionality to dramatically enhance the system's ability to identify, track, monitor and report on the people and processes associated with theft and fraud.
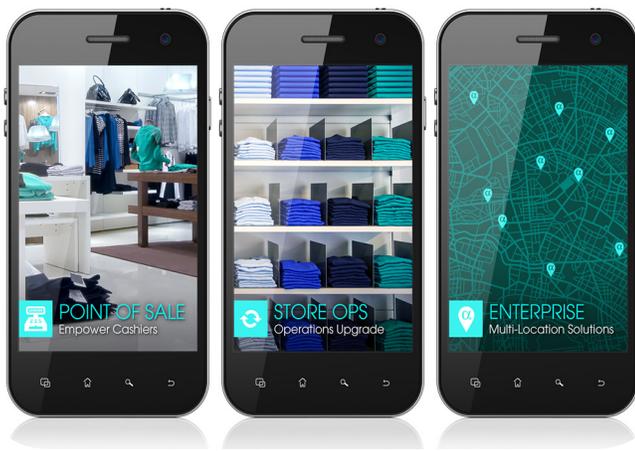


αBay is integrated. Most enterprise retail solutions today are patched together, with different products, databases, hardware, operating systems, and interfaces.

The αBay Retail Suite is fully architected from the ground up and is based on Alpha Bay's more than 120 years of combined experience in system

software design and implementation. αBay represents the fifth generation of enterprise class system software architecture.

αBay provides a unique, object-oriented approach to all aspects of the solution, not just at the programming language layer with Java or C#. Instead, αBay utilizes object-oriented structures at both the business logic layer and the GUI layer, providing ease of use and ease of management in a distributed, scalable, high performance, secure, transactional environment.

The architecture is built from the perspective of millions of transactions, managed in real-time over a virtual private network, using Internet infrastructure across multiple continents, with sub-second response time and guaranteed security. αBay provides a lightweight portal interface for the user, including support of multiple devices including all types of Point of Service devices such as: iPhones, Tablets and more. At the same time, αBay offers a full-featured Web 2.0 interface for complex tasks like knowledge management, which provides a flexible lightweight alternative to traditional Windows clients.

αBay is retail. αBay is designed and developed from the ground up with a specific focus on retail. Unlike enterprise resource planning (ERP) solutions that attempt to be all things to all markets, αBay is developed to specifically service the unique needs of retailers. αBay tracks every item sold or returned at every location, physical or virtual, across the enterprise in real-time.

When it comes to truly knowing your customers, optimizing the way you do business, and maximizing profits, αBay steps to the front of the line. Inventories are finitely controlled for each store, distribution center, and warehouse based on historical product flows, reducing costs at all levels of the enterprise.

Staffing is planned and managed based on the same business intelligence that drives inventories and includes historical trends, daily weather conditions and more. αBay integrates with an ERP and utilizes a SQL database but the architecture is uniquely retail.

αBay is a complete system. The αBay architecture is a multi-tiered system with layered services. This architecture has five major tiers:

- **Client** - provides the GUI and client side of the remote interface to the backend systems.
- **Presentation** - a set of discrete components that live on the client and servers, implementing a distributed model-view-controller design pattern.
- **Business Logic** - provides the business rules and access to data needed for an intelligent user session.
- **Base Services** - provides security, workflow, data access, naming, logging, search, and transaction management services.
- **Database -** provides data services, legacy system connectivity, and access to external web services.

While there are five logical tiers in the architecture, the deployment model for the system will typically incorporate no more than three physical tiers: web server, application server, and database server.

The architecture provides for maximum flexibility in your deployment model, allowing for all of the logical tiers to be typically implemented onto a single server for small systems, two physical layers for medium-sized systems, and three independent physical layers (web, application, and database) for large systems. This is the backbone of Alpha Bay's unique Hybrid Information Systems solution.

In addition, each of the three possible physical layers can be implemented in a high availability configuration, providing complete redundancy for each layer through the use of clustering and load balancing technologies. This flexible architecture allows even a small retailer to affordably enjoy the benefits of a Fortune 100 multi-tiered architecture.

αBay utilizes proven, leading edge technologies to speed up lines and give managers the real-time information they need to optimize the supply chain. This permits retailers to flowcast, not just forecast, and greatly improve the customer's experience and loyalty.



αBay simplifies the creation and integration of retail business applications using a service oriented architecture (SOA). This makes it easy to integrate with the extended functions of any business enterprise system (CRM, ERP, HR, etc.). he full SOA implementation exposes business logic as discreet web services, providing well-defined accessible application interfaces. Whether you're implementing a point solution in a local store or an enterprise system worldwide, αBay provides a tightly integrated software environment.

αBay is a full-featured, easily customizable retail suite, which includes applications such as Point of Service, Mobile POS, Inventory Management, Customer Relationship Management, Pricing and Promotions, Store Operations, and more. αBay permits the use of all leading- edge technologies plus provides the opportunity for radio frequency identification (RFID), touchscreens, biometrics, and other beneficial technologies most current systems can't fully support.

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## Next-Generation Features and Functions

αBay provides the full set of features and functions you'd expect from a best-in-class solution, plus a number of features not available in most retail applications.

### Customizable Client

Alpha Bay recognizes the uniqueness of every retailer and has therefore developed a powerful architecture that provides unparalleled flexibility in both the graphic user interface and in operational workflows. This flexibility is supported through the SOA object layer, which separates the business logic from workflow and interface. No longer do retailers have to conform their operations to fit the mold of a software vendor's application.

αBay supports easy changes to the GUI and workflows to adapt to the retailer's process without months or years of expensive consulting services. This allows the addition of functions, features, and workflows that give retailers the benefits of increased productivity and dramatic reductions in training, greatly reducing the stress of system upgrades and the cost of retraining.

### Single User Interface

Typical retail environments today have many different application interfaces based on legacy systems implemented over many years. Analysts report that the average retailer uses between ten and twenty different retail software applications to cobble together an enterprise solution.
The αBay user interface is consistent throughout all of the applications. The unique architecture of the αBay solution provides a consistent Web 2.0 client interface to all users of the system, from customers at in-store kiosks to financial analysts with laptops. This powerful advantage dramatically reduces training and empowers employees to move throughout an organization with ease.

### Dashboards and Alerts

The αBay software fully supports unlimited real-time dashboards and alerts that allow the user to analyze all transaction activity at a glance. From the dashboard, the user can dynamically drill down to the lowest level of data in order to make important decisions. αBay business intelligence dashboards and alerts use role-based security so each user can have their own dashboard without having to filter out unnecessary data. In addition, users receive critical information in dynamic alerts sent as emails or SMS messages. αBay applications are fully integrated with the central database and other αBay applications, supporting updated reporting in real-time to each individual's dashboard.

### Loss Prevention Agent

αBay uses a proprietary technology to bring the power of artificial intelligence and computational analysis together through neural networking to recognize, track, and report potential theft and fraud. This technology is not a standalone application but is an integrated component of the base transaction architecture.

The loss prevention agents address all areas of threat including: employee theft, customer theft, administrative errors and vendor fraud. While no technology can stop all theft, αBay can dramatically improve a retailer's ability to identify the people and processes responsible for the billions of dollars retailers are currently losing every year.

### Role-Based Security

At sign on, the system determines the rights and privileges of each user. The user's security level is automatically applied, activating their application environment. With this role-based security model invoked, all the functions, applications and features are customized for that individual, including access rights for read, write, edit and delete.

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For example, an executive could log on to a αBay Point of Service terminal and access HR files and other corporate data, while a clerk would only see the standard Point of Service functionality. Each user in your organization can be defined by the role they play and then in turn be presented information pertinent to that specific role on any computer in your environment.

## Integrated Real-time Business Intelligence

Business intelligence (BI) is an integrated design foundation of the αBay architecture, rather than an afterthought or add-on product. Real-time querying, analysis and reporting support is built in as part of the foundation of the system.

In today's e-commerce environment, BI must be integrated to provide the real-time reporting, monitoring, tracking and analysis required to support a successful enterprise. This includes data-driven notifications, alerts, automated reporting, mass report distribution and real-time querying capabilities. For the first time, you can access all the data in your system in real-time, to see the information you need, when you need it.

## Open Database

Many of today's retail systems store data in multiple proprietary and/or locked databases that do not allow employees to access the necessary data. Often these databases have duplicated and inconsistent data. This results in high maintenance costs and costly time-consuming reporting and analysis to convert data to competitive information.

All αBay applications are database independent, letting you select from the most popular and proven databases, including Oracle, DB2, MSSQL, Netezza, and Teradata. The database-independent design supports a flexible data model where all data, from transactions to warehouse inventory, resides either in a single database for real-time querying and reporting or in a tightly integrated component of a larger data warehouse.

## Scalability and Clustering

αBay can support retailers from the largest Tier 1 retailers to the typical entrepreneurial SMB retailers without any change in code. Tier 3 retailers and some Tier 2 retailers will choose to use αBay either through a Software as a Service (SaaS) offering, where the server will reside at a hardened data center managed by Alpha Bay professional services, or choose to install on a single, low cost server located in their store.

Larger Tier 1 and Tier 2 retailers may implement an enterprise based server farm in either a single corporate datacenter or in a distributed multi-tier server farm where servers reside in stores and at corporate headquarters. αBay can support a broad range of implementation scenarios due to its flexible distributed architecture.

αBay has been engineered to support full scalability across multiple servers and multiple databases or to run on a centralized multi-processor server. Server farms support clustering to guarantee 99.999% uptime where required.

An additional benefit of the αBay architecture is that retailers automatically gain load balancing between the multiple servers, which provides both increased performance and reliability. When properly implemented, there is sufficient power at the server level to take down a server with complete transparency, including no appreciable reduction in performance. This design supports anytime maintenance and resiliency to hardware, software and OS failures.

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## Flexible Implementation Models

The αBay distributed architecture allows the retailer the benefit of multiple implementation scenarios, allowing a retailer to choose the option that best fits their needs. The αBay Software as a Service environment gives retailers optimal cost savings and performance and reduced maintenance effort and cost, while the traditional, enterprise-licensed software model allows retailers maximum familiarity. Alpha Bay's SOA model and ESB can give retailers numerous hybrid environments that blend the benefits of traditional in-store servers and in-house data centers with new RIA software that leverages state-of-the-art commercial data centers and inexpensive VANs.

Because αBay has an open, standards-based architecture, a phased approach to implementation from single store to worldwide enterprise is possible. The retailer may choose to implement a single αBay application tightly integrated with their legacy systems at the store or enterprise level, or they may choose a more aggressive implementation that allows them to deploy a new enterprise solution to replace their existing products, while having the comfort of doing full system testing, trial go-live testing, and parallel production.

## Proven Technology

αBay is a 21st century solution proven in many industries, not just patched-together software from a variety of vendors. The αBay technology is capable of handling millions of transactions per hour, billions of individual items, thousands of simultaneous users, and hundreds of remote locations on a single distributed enterprise system.

The technology is completely independent of database or hardware and provides the highest availability and performance. αBay is built using J2EE, J2SE, JMS, JDBC, JMX, Java, ARTS, IX Retail, SOA, ESB, AJAX and other leading industry technology standards.

### BENEFITS OVERVIEW

- Fast implementation, fast ROI
- Lower cost of ownership
- Reliable and secure
- Easy to deploy, update and upgrade
- Provides more personalized service
- Integrates with legacy POS systems
- Highly scalable Cloud platform
- Supports mobile POS and kiosks
- Supports wireless and RFID technology
- Increases customer loyalty
- Access real-time data, anytime, anywhere
- Minimal training required
- True thin-client, web 2.0 browser-based
- Increases customer satisfaction
- Enhances the shopping experience
- Best-in-class architecture
- Built-in loss protection intelligence
- Enhanced up-sell capability

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# Alpha Bay Enterprise Retail Suite

## Elements of the αBay Enterprise Retail Suite

| Planning | Sales | Buying | Tracking |
|---|---|---|---|
| Price Management | Item Publishing | Vendor Management | Sales Analysis |
| Sales Planning | Ticketing and Signage | Purchase Order Management | Retail Cost/Stock Ledger |
| Merchandise Planning | Online Sales | Import/Export Management | Inventory Control Audit |
| Open to Buy (OTB) | In-Stock Kiosk | Replenishment | Loss Prevention Analysis |
| Promotion Management | Mobile Kiosk | Allocation | Cash Management |
| Promotion Analysis | Credit Authorization | Deal Management | General Ledger |
| Assortment Planning | Gift Card Management | Store/DC/Receiving/ Distribution | Time and Attendance |
| Forecasting/Flowcasting | Point of Service | Stock Locator | Accounts Receivable |
| Store Operations | Mobile POS | | Accounts Payable |
| | Layaway | | Human Resources |
| | Warehouse Management | | Employee Productivity |
| | Customer Order Management | | Invoice Matching |
| | Offers Management | | |
| | Transportation Management | | |
| | Customer Profiling | | |
| | Fulfillment | | |
| | Sales Audit | | |
| | Catalog Management | | |

Find out how a αBay Enterprise Retail Suite implementation can reduce costs and improve revenues for your retail enterprise. Call us at 801-462-0816 or visit our website at www.alphabay.com.

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