Make-a-Store, Inc

White Paper

The Advantages of a J2EE Enterprise E-Commerce Application

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Introduction

With an estimated global market of $15 billion by 2003, it is going to be a challenge for many of the current e-commerce technologies to meet the demands that the future will bring. Why? The solutions are built on non-scalable, proprietary architectures. As a result, many sites are going to find that a complete site will need to be built and deployed, at additional costs. In comparison, the Make-a-Store Enterprise Platinum software is built upon Java 2, Enterprise Edition (J2EE) architecture. J2EE uses the most powerful and current technologies available, including Java Server Pages (JSP), Enterprise Java Beans (EJB), Java Servlets, XML, Java Messaging Service (JMS), and Java Database Connectivity (JDBC). This allows for an end-to-end, object oriented, highly scalable, platform independent, 100% pure Java back-end solution that will withhold and outperform in the fast changing e-commerce channel.

Make-a-Store Enterprise Platinum software is targeted for mid- to high- end B2B and/or B2C e-tailors looking for a custom solution built from scratch, or looking to enhance their current website. What we will provide is a highly scalable, open architecture, transactional software with a comprehensive front-end and a flexible back-end allowing you to perform all your business methods with ease. From a customizable, personalized storefront, to order processing, to real-time inventory checks, to fulfillment and warehousing, to invoicing and payments, returns and refunds, Make-a-Store takes care of every step in the e-commerce cycle so you can take care of your customers.

The Lifecycle

The first step of the e-commerce lifecycle is **customer acquisition.** The Make-a-Store Platinum Enterprise software will aid in this process by supplying the following back-end functionality:

- Opt-in mailing list subscribe and unsubscribe functionality
- Registration and questionnaires coupled with promotions and coupons
- Direct e-mail support. Capability to send HTML formatted e-mails including promotions, registration forms, and direct product buys.
- Back-end e-mail management.
- Affiliate/banner tracking and management. Linkshare™ banner integration.

Storefront Catalog and Shopping Functionality. The Make-a-Store Platinum Enterprise software separates the presentation logic from the business logic. With our innovative template system, our graphics designers/HTML/DHTML layout designers can concentrate on the look and feel of your website, while our programmers can focus on the business logic and databases. This allows for a completely customizable storefront architecture. It can support membership and special pricing structures. The flexibility in the solution allows for the development of a site that will convert the browser into a customer.

We realize the importance of a user-friendly shopping experience and provide a multiplicity of functions to facilitate the navigation:

- Customizable product catalog
- Advanced searching and sorting
- Customer password protected profile – including multiple shipping and billing addresses and payment methods.
- Order history and product tracking
- Promotions and coupons
- Up-selling and cross-selling
- Gift wrapping, gift certificates, and cards
- Personalization
- Personal Shopper product recommendations
- Internationalization and Localization. Internationalization is the process of designing an application to be adapted to languages and regions without re-engineering the application. Localization is the process of adapting the presentation portion of an application to a different locale (language, currency, date format, etc).
- "One-click" checkouts
- Shopping cart, auctions, and haggling.
- Real-time inventory availability

Tightly coupled with the catalog is the **Ordering** process. The Make-a-Store Platinum Enterprise software will automatically calculate totals, applicable taxes and shipping charges. The following features ensure a quick and comprehensive ordering process.

- Partial or complete shipping
- Multiple shipping options.
- Multi-level pricing depending on authenticated user
- Unique order confirmation number
- Domestic and foreign bill/ship options
- Optional future ship date
- Multiple payment options (credit cards, cash/checks, Web Certificates©, etc) Our open architecture makes it possible to integrate third party payment options such as Flooz©, Internet Cash©, etc.
- Instant e-mail invoicing
- Real-time credit card and check authorization
- Custom order routing

Inventory Control is a crucial component to success. The Make-a-Store Platinum Enterprise software will give real-time inventory counts. It will automatically notify you when inventory needs to be replenished. The B2B module will automatically notify suppliers and handle product procurement and workflow. With the POS components and legacy system integration, you can couple your brick and mortar database to your web database.

Warehousing and Shipping. The Make-a-Store Platinum Enterprise software will allow you to manage multiple warehouses and effectively route and pack orders. Such features include:

- Automatic pick-list and invoice printing.
- Mailing address printing
- Link to carrier's online tracking and tracing.
- Open architecture makes it possible to integrate 3rd party shipping software.

The **Returns and Credits** module will automate product returns, exchanges, and credits. It will allow for:
- Automatic stock updates
- Crediting accounts or refunding credit cards in real-time
- Return label printing

Invoicing and Order Tracking. This step securely processes customer payments and manages the order routing at the back-end. The front end allows for the customer to view ordering history, track, and trace packages. They may also cancel orders that have not been fulfilled.

Behind the scenes is **Accounting and Reporting**:
- Reporting. Order management, inventory reports, sales trends, and custom canned reports.
- Data mining. Customer, inventory, ordering, and product data.
- Data Export/Import.

Finally, and most important is **Customer Care.** There are many features to facilitate the customer experience:
- Contact pages with intelligent routing
- View order history
- Cancel/Change orders
- Package tracking and tracing
- Invoice printing
- Open architecture to allow for live chat support.

Security

In an enterprise computing environment, there are computing resources for which failure, lack of availability, or illegal access would compromise the viability of the enterprise. The Make-a-Store Platinum Enterprise software incorporates a unique role-based security model to leverage security services.

The role-based security allows you to assign roles to your users and partition the methods and routines permissible to them. For example, you could have a customer service agent role and an accounting role. While both will have access to customer data, only the accountant will be able to see the payment details. With role-based security, you can ensure that only authenticated users will have access to your sensitive data.

The Technology

The Make-a-Store Platinum Enterprise software is built upon the Java 2 Enterprise Edition (J2EE) platform. The J2EE platform is a distributed computing platform in support of software components that are engineered to be distributed across multiple computing tiers. The J2EE programming model promotes a framework that anticipates growth, encourages component-oriented code reuseability, and leverages the strengths of inter-tier communication.

Key Components:

EJB: Enterprise Java Beans offer a component architecture for developing distributed, mult-tiered enterprise applications. Two key components to EJB are object persistence and transaction management. The EJB architecture allows you to partition work appropriately among different parts of the system. The end result is a highly flexible system built from reusable, plugable components.

JSP and Servlets: Java Server Pages allow you to combine markup (HTML and XML) with snippets of Java code to produce dynamic web pages. JSP and Servlets also allows for session tracking and custom markup tags mapping to Java classes and beans. JSP/Servlets perform better than CGI scripts because they can be loaded into memory and reused as many times as needed. In addition, they do not require massive amounts of hardware to scale. Once loaded into memory it can run on a single lightweight thread for every request.

JDBC: JDBC allows for database-independent connectivity between the computing platform and a wide range of data sources (ie, Oracle™, Sybase™, Microsoft SQL Server ™) The Make-a-Store Enterprise Platinum software leverages connection pooling and distributed transactions to ensure optimal performance and scalability.

Why Java?

Platform Independence. Java code is compiled into bytecodes. This allows for complete platform independence. For example, you could move a Microsoft© -centric environment to a Linux environment with ease.

Open Architecture. Because of the J2EE open architecture approach, it is possible to interface with remote legacy systems and remote objects using RMI and/or CORBA.

Modularity. The Make-a-Store Enterprise Platinum software is built upon a multi-layered, multi-tiered modular framework. This makes it easier to maintain and augment your enterprise application.

Efficiency. Most current web applications use the Common Gateway Interface (CGI) for dynamic content generation and back-end support. JSP and Servlets provide a much more efficient method of handling user requests. For every user request, a CGI application must fork a new process. However, a JSP/Servlet, once loaded into memory,

simply spawns a lightweight thread to handle the user process. This allows you to handle thousands of concurrent users.

The Team

Make-a-Store, Inc. (http://www.make-a-store.com/) has been a leader in the E-commerce revolution since 1994. We have provided many businesses complete e-commerce and custom programming solutions. Some of our clients include The National Lampoon, Strouds, Armstrong Gardens, Feldheim Publishers, and many other small to medium sized businesses. Our first-rate business reputation is the result of quality client relationships and a successful track record deploying integrated, enterprise-wide information systems. Make-a-Store, Inc. was founded in 1994 by Neal Kaiser. Mr. Kaiser holds a degree in Computer Science from The University of Massachusetts, Amherst.

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