



**OpenCommerce B2C**

**Retail Ecommerce for  
Open Systems Accounting Software**

**White Paper**

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## I. Introduction

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OpenCommerce B2C is a full featured, retail Ecommerce software package that is completely integrated with Open Systems Accounting Software version 6.12.

Although rich in features that rival those of the major e-tailers found on the internet today, OpenCommerce B2C was designed to be flexible with features to allow even a data entry operator the ability to maintain site content quickly and easily.

OpenCommerce B2C, while not written by Open Systems, Inc., follows all the development standards for User Interface, Program Design, and Interface to other Open Systems Accounting Software modules as laid out by Open Systems.

A fast Return on Investment (**ROI**) for companies installing OpenCommerce B2C was a primary goal in the design of the product. The product is more than just a financial accounting/Ebusiness package with features that extend to Web Site Marketing, Work Flow and Web Site Analysis. With the additional services available from IS Systems a web merchant can obtain the assistance of personnel experienced in all aspects of web site design, Internet marketing, Open Systems Accounting Software integration, and technical support.

This White Paper is divided into four main sections:

- Executive Overview – Intended audience is executive company management and marketing personnel.
- Feature Summary – Listing and description of each of the features of OpenCommerce B2C.
- Technical Overview – Intended audience is technical personnel responsible for systems installation and maintenance.
- Installation Overview – Description of the process of site design, installation, setup and maintenance of OpenCommerce B2C.

This document is to provide the reader with the knowledge necessary to make an informed decision on the purchase and installation of OpenCommerce B2C in their business. A formal demonstration of the product is a logical next step in this decision making process.

## II. Executive Overview

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### Background

Ecommerce is relatively new to the marketplace. The World Wide Web as we know it today burst upon the world a little over 7 years ago with the introduction of the browser. A browser is a software tool that allows for feature rich content such as formatted text, vivid graphics, movies, and sound files to be easily shared and accessed by a personal computer over the public network. Once only information tools, browsers and the Internet were quickly accepted as merchant tools.

The Internet for a while was like the Gold Rush days of old with people everywhere jumping in to place their stake before all the best property was gone. Pouring tens millions of dollars into thinly constructed business plans the rise and fall of many Internet based companies was fast and expensive. It was as if hundreds of years of business rules no longer applied as even highly seasoned executives moved forward to create web sites and businesses with little or no distribution infrastructure.

Ecommerce sites tried to compete head to head with entrenched retailers even though they lacked the distribution channels and vendor contacts to get their products to market. "Build it and they will come" was the chant of many of these "New Economy" businesses. The fallout was swift. Venture capital monies were backing many of the sites and the investors were hungry for a quick turn around on their investments. When the profits failed to materialize at hyper-speed many of the venture capitalists pulled the plug on the investment revenue these web-based businesses were living on.

Dot-Com became Dot-Bomb. The rapid rise and fall of so many of these new businesses helped to fuel the recent recession the United States has been living through for the last 2 years. Few companies with Internet only sales models have survived, rather it is those organizations that are using the Internet as an additional marketing and sales channel to complement their traditional sales that are successful.

### Reality and the Market Today

Ecommerce is still alive and well with many good companies making substantial revenue from web based sales. These organizations have a solid infrastructure and distribution channels to support their efforts.

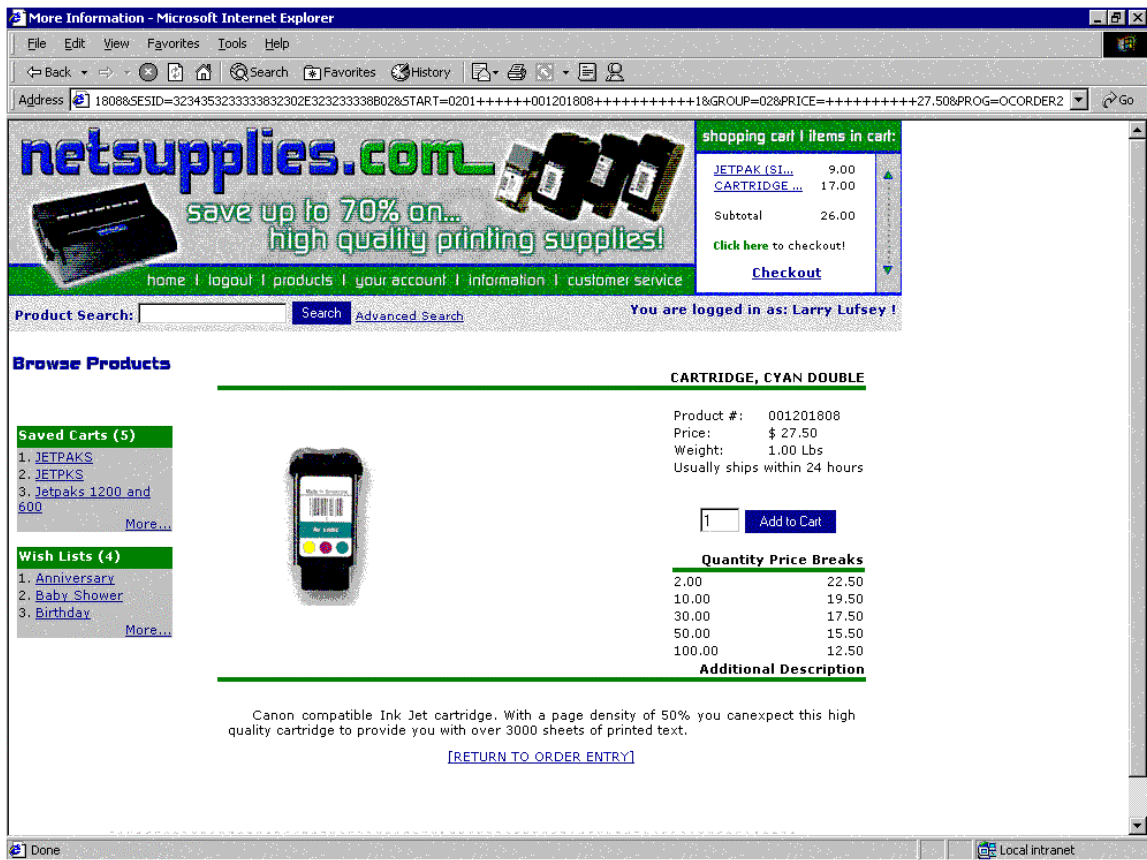
Many of these successful organizations though are traditional businesses that are using the Internet to gain additional sales and provide additional information to their clients. These companies already had a client base to draw from and were not dependent upon web-based sales for their day-to-day operations. "Bricks and Clicks" is a new term used in the Ecommerce world to describe those organizations that have ongoing businesses and add Ecommerce functions to their sales/marketing efforts.

Sales on the Internet are no longer an instant hit proposition (it rarely was during the gold rush time of the Internet either.). Much like opening a new branch of an existing business in a new city, where you have to advertise and perform other marketing functions to get the word out about the new location, you have to advertise and promote your new web site also.

Advertising of web sites can take on many forms. Inserting flyers to current clients with statements and invoices is the easiest method. Search engine placement for a ranking in the top 10 returns for your product classification, banner advertising and cross links with complementary web sites, email campaigns to targeted mailing lists, post cards, blast faxing, print advertising in newspapers/magazines, even television. Development of a newsletter targeted to users of your products help drive people back to your site for additional sales. There are many methods of advertising available to the online retailer to drive business to their web sites most of which are based upon traditional advertising methods.

### What Benefits can be gained through Ecommerce?

Ecommerce is more than just putting up an electronic storefront and selling some items over the web. In order to achieve a good Return on Investment (ROI) a web site needs to provide a business with multiple positive returns.



Some major retailers such as Home Depot, whose products do not lend themselves to ease of shipment, use their web site less as online ordering vehicle (although you can purchase items that will be delivered by a local store for a delivery fee) than they use it as an extension of their sales force to provide information and to allow their customers to help them plan for their projects.

In June of 2001 InternetWeek published a report of their findings concerning Ecommerce and ranked the Top 100 Ecommerce enabled organizations.

<http://www.internetweek.com/100-01> The organizations polled and ranked in this report were very upbeat about their long-term prospects for web site profitability and the response they have received from their sites.

The research results uncovered the success these organizations are having through Ebusiness and point out the major benefits.

- A high degree of online order accuracy – On average, 86 percent of Internet orders handled by InternetWeek 100 companies are perfect--fulfilled accurately, on time and in the right quantities, according to the survey
- Faster time to shipment of orders placed over traditional order entry methods
- Greater Customer Satisfaction due to increased information and the ability to conduct business on their schedule not the web merchants. Greater customer satisfaction means more customer retention
- Additional Revenue channel previously available – 1/3 of the companies ranked reported increasing their customer base by 10 to 20 percent over year 2000 numbers
- Marketing and Advertising functions of Ecommerce web sites increase company and brand awareness
- A web site is selling 365 days per year, 24 hours per day
- Reduced cost of order generation and order fulfillment allows more competitive pricing of online products
- Increased customer base with ability to be national and in many cases international

All of these factors lead to increased revenue and most importantly in any business venture – a Return on Investment that is measured in months instead of years.

It does take time to build traffic flow to a web site and careful attention must be paid to the performance of the web site (how fast the pages load) and the flow of the user interface to translate hits on the site into sales.

### **Design and Integration make the Difference to Web Site ROI**

Web site development revolves around 2 distinct types of web sites – those built on Static pages and those built on Dynamic Pages. The term Static versus Dynamic refers to the content of the pages and each carries its own benefits.

Static pages are “hard-coded” pre-laid out web pages in which the content of the page is predetermined. Static pages require personnel schooled in web page design and programming to keep the site updated. Something as simple as adding a new product or changing the selling price of an item requires a Webmaster to update it. The main benefit of Static pages is their ability to load very quickly since no pre-processing of the web page is required prior to submitting it to the web-based client. The main drawback is the cost of maintenance and skills required for this type of web site.

Dynamic pages make use of database lookups to populate the content of a web page. Each time a page is requested the web server, using pre-programmed routines, accesses the required databases and includes the current information on a web page template before display to the web client. Web site design using this method allows non-web design capable data entry operators to maintain the web site

content. The main benefit to this design is reduced cost of maintenance over a Static page site and the fact that no special skills are required to keep the web site content updated. The main drawback is that due to the database lookups required there is a short delay between page request and web server display of the web page although most requests are handled within 2-3 seconds.

### **Fully Integrated versus Separate Databases in Dynamic Web Sites**

Many low-end Ecommerce sites available on the market enable an organization to setup an online presence without the need or ability for the in-house accounting system to understand that the web site even exists.

Completely separate data files from the accounting software are maintained for Customer records, Inventory Item records and selling prices. Package tracking information, if even available, must be updated separately from the normal shipping process. Orders generated are usually emailed to a staff member who must manually re-key the order into the accounting software (increasing the costs of gaining the sale and margin for error). The startup costs for a web site using separate data files is usually much lower than a fully integrated site but the startup costs are a very small part of the overall, long term costs to managing the web site, keeping data up-to-date with the accounting software, updating the web site databases, and entering the orders placed on the web site.

By using a web site that is fully integrated with in-house financial systems a company is able to achieve a better Return on Investment on the systems, software, and databases already in use. Populating the web site databases is made easy by lookup from existing Inventory files. The normal order fulfillment process is able to keep the web site customer information updated with Order Status, Package Tracking information, and access to Order History for review and reprint of past orders – allowing the customer to get the information about their orders they need without bothering in-house accounting personnel.

Labor is usually the highest expense item on any organizations Income Statement. Dollars and sales lost to miss priced items can be expensive. A Dynamic web site that utilizes the data input through financial systems and maintained by current staff makes good financial sense and helps to realize a fast ROI on the investment in Ecommerce.

### **More than just an Online Store**

The benefits of Ecommerce go beyond being just an online marketplace. A good web site should be like a great sales rep – one that provides precise information about the products being sold along with consistent follow-up skills.

An Ecommerce site is on the job 24 hours a day 365 days per year. Designed well, the site provides customers with the information they need to make a sound buying decision while helping to close each deal. Ongoing follow-up based upon customers specific needs and wants shouldn't be an after thought. Built into the web site and supporting financial system programs follow-up through emails, newsletters, and targeted print mailings should be as simple as running a report.

OpenCommerce B2C makes use of data contained in customers Saved Carts, Wish Lists, and past purchase habits to assist a web merchant in their marketing efforts.

Selecting the client parameters for the marketing campaign sends emails directly out of the accounting software targeted to the web merchants requirements.

It is important to maintain informational data on the web site to keep the customers coming back for reasons other than just current shopping needs. Tips and Hints on making the best use of products, online manuals and documentation, answers to frequently asked questions and success stories from satisfied customers will help to draw them back. While reviewing information the customer is drawn to look at specials and browse for additional products they are looking for.

### **Cross Selling, Featured Products and Accessories**

Many companies realize an increase in average order size from the ability of their Ecommerce site to up sell online customers. Through the use of Featured Products customers can be drawn to your more profitable lines.

Cross Selling or "Other people that have bought this item also Purchased..." during the addition of products to the shopping cart by the online customer helps them to consider products they may not have otherwise contemplated when they came onto your Ecommerce site. By displaying Accessories during product purchase a customer is helped to ensure they have the required add-ons to use the product they are purchasing.

Featured Products, Cross Selling, and Accessories all add up to additional sales and more satisfied customers. Harried sales representatives and order takers often forget to offer add-ons that an Ecommerce site will display without having to "remember" to suggest the upgrades. By increasing your average order size you gain additional revenue without the need of constantly gaining additional customers thus further realizing a fast Return on Investment.

### **OpenCommerce B2C with OSAS – A Complete Ecommerce Solution**

Understanding the complexities and challenges of retail Ecommerce is paramount in creating web site software that is fully integrated with financial systems while providing the tools necessary to drive sales through the web site, provide the data required for sound business decisions, and enable ease of marketing.

OpenCommerce B2C was designed from the beginning to achieve the goals necessary for a successful Ecommerce web site. Written in a powerful business optimized programming language and utilizing a high performance database platform used world wide allows OpenCommerce B2C, in conjunction with the award winning accounting software applications from Open Systems, Inc., to provides its web merchants with an Ecommerce system with strengths in speed, flexibility, reporting, and marketing.

OpenCommerce B2C is a fully integrated, dynamic Ecommerce package with many of the same features found on the most successful web sites on the Internet today.

Adding OpenCommerce B2C to your current OSAS installation or purchase of a new installation to replace an outdated system an organization can provide these benefits:

- **Customer Level Pricing** – Utilize the advanced product pricing features of OSAS Inventory to provide preferred customers with preferred pricing.
- **Gain Order Accuracy** – Orders obtained on OpenCommerce B2C are written directly to OSAS Sales Order.
- **Extend Business Hours** – Give your customers the convenience of ordering products when it is convenient to them. Your OpenCommerce B2C web site is on the job 24 hours a day, 365 days per year.
- **Reduce Phone Calls** – Many times customers are anxious to know the status of their orders and tracking information of packages sent. Through OpenCommerce B2C your customers can review the information they need on their orders at any time.
- **Increase Customer Satisfaction and Retention** – Ease of ordering and quick access to product/purchase information keeps your customers coming back to you, not the competition.
- **Generate More Revenue** – Expand your customer base and geographical reach with an OpenCommerce B2C web site. Putting up an OpenCommerce B2C Ecommerce site is a nearly effortless way of gaining new sales, increasing your marketing reach, and keeping your customers better informed. All without adding additional sales staff and the training required.
- **Get ahead of the Competition** – The Internet has become an integral part of many companies marketing mix. If your competition isn't there already most will be planning for it.
- **Higher Average Order Totals** – Up selling and cross selling have always been effective means of increasing average order totals. Many times the people responsible for sales activities forget these simple means of gaining additional sales. An Ecommerce site using Featured Products, Cross Selling, and Accessories perform the simple task of suggesting additional products with ease.

### **The Next Step**

The following sections of this White Paper are written to provide more in-depth information of the features and functionality in OpenCommerce B2C. A short worksheet to help with calculating the Return on Investment of a Retail Ecommerce web site concludes the Executive Summary section.

OpenCommerce B2C demos are online at <http://www.is-systems.com/demos.html>. For a guided demonstration of both the Internet side and the OSAS accounting side of OpenCommerce B2C please contact either your Open Systems Reseller or IS Systems directly to schedule a time that will be convenient for you. A full demonstration of the product requires approximately 1 hour plus another 10-15 minutes to answer questions.

By reading this Executive Summary you should have a better understanding of what Ecommerce can do for your business. OpenCommerce B2C is an excellent solution to help any company contemplating Ecommerce to achieve their goals.

### **Frequently Asked Questions**

1. How long does it take from ordering OpenCommerce B2C until I am selling on the Internet?

There are a number of factors that make up the time it takes to be fully operational. How updated are your Inventory files? Do you have pricing fully setup? Do you have the graphics already necessary to place on the web site? Typically companies find that 1-3 months from time of order placement until they are online and selling with OpenCommerce B2C.

2. I need assistance with site setup and web site marketing. Where do I get the help I need?

Purchase of OpenCommerce B2C comes with setup assistance. Since all web site content is setup through familiar OSAS style menus and programs the learning curve for an organization to become familiar with setup and maintenance of OpenCommerce B2C is quite short. The programs are designed to help you to quickly populate the required web site files from your existing OSAS files.

Internet marketing is unfamiliar to many people that are used to traditional forms of advertising and promoting their business. IS Systems staff are well versed in the needs of web based marketing.

OpenCommerce B2C is offered through multiple price plans one of which includes the ability to partner with IS Systems in the success of web site. Partnering allows you to gain the ongoing assistance of IS Systems for web site ranking, email marketing, newsletters, press releases, and work flow analysis to ensure a successful web site.

3. Will I need new hardware to support OpenCommerce B2C?

Most true server systems that companies run today have the horsepower to drive an Ecommerce site. OpenCommerce puts very little additional load on your server, as the programs are very small. A review of your hardware infrastructure will be performed to ensure compatibility with OpenCommerce B2C.

You want to make sure your web site is online as close to 100% of the time as is possible. The concept of server integrity includes ensure System Fault Tolerance. System fault tolerance dictates reducing as much as possible any single points of failure within a server. Redundant power supplies and backup hard drives that take over should one fail are simple methods of achieving Fault Tolerance.

OpenCommerce B2C is part of the entire order fulfillment workflow. Additional processes may be introduced into your business to decrease the time to shipment for your orders. These workflow enhancements will assist you with all your order processing including orders gained through traditional methods like phone orders, faxes, and email. Additional hardware/software may be needed such as Bar Code printing software, laser scanners, laser printers, and a terminal in your shipping department.

If not already in place a Firewall that allows for Port Forwarding is required for security purposes.

4. What kind of Internet access do I need?

Any integrated Ecommerce site will require full time, high-speed access to the Internet. The cost of Internet connectivity has come down greatly over the last five years. Many times you can combine both your voice and data needs on a single line. Combined access many times will reduce your overall local and long distance phone charges while providing you with the high-speed access required for your Ecommerce site. Average charges for a T1 (1.5 megabytes) Internet access line nationally are between \$300.00 to \$800.00 per month depending on your location and the type of access available to you.

5. Don't I open my network to hacker intrusion when I put in Internet access?

Whenever you access the Internet you are opening yourself up to attack from the outside world. Most people don't realize that connecting to the Internet even via a modem puts your network at risk. A modem is especially vulnerable as few people use a firewall with their modem to stop hackers.

The good news is that there are quite easy yet very effective tools to protect your network from even the most persistent intruder. Sound security practices must be followed such as good username/password combinations on user accounts, downloading of the most recent security updates for your operating systems, and the use of a firewall between your network and Internet connection.

The design of OpenCommerce B2C is very secure. The use of "virtual" directories on the web server masks out your network structure from the outside world. Credit Card information is passed securely between your web server and the customer through the use of SSL encryption.

6. I really don't have graphics for my products or web site logos. How do we go about getting those?

IS Systems doesn't do graphics in-house we subcontract our work out to graphics professionals. Many times our clients already have a graphics artist that they work with. IS Systems personnel work with graphics artists to design the corporate look you want to achieve on your web site.

Product pictures may be gained from one of two ways. Many manufacturers now supply digital images of the products they sell that are suitable for print and Internet usage. Product pictures may be produced in-house through the use of one of the many good digital cameras on the market today.

7. What if I put up an Ecommerce site and no one comes to it?

Bringing up an Ecommerce site is no different than opening a new store. You must market and advertise so people will know it is available. IS Systems staff are available to assist you in your marketing needs.

As with any business endeavor you must offer products the public wants to buy, provide it at a reasonable price, and make ordering the products as easy as possible. Most companies contemplating Ecommerce already have an established business and are not reliant on gaining immediate profitability from their web site. Given time and the correct marketing efforts your Ecommerce site should become a valuable addition to your marketing mix.

## Calculating Return on Investment

The following worksheet is to be used to look at the factors associated with running your Ecommerce site. Customer self service cost savings associated with order status, package tracking, and invoice reprint requests are soft dollars, in other words, hard to put an accurate figure to. Additional cost savings and revenue gains associated with current staff efforts being redirected to more profitable efforts within the company should also be considered.

### Costs

Annual Cost to Organization for Sales Representative	\$ _____
Annual Cost to Organization for Order Taker	\$ _____
Annual Cost to Organization for Accounting Clerk	\$ _____
Annual Cost to Organization for Incorrect Orders	\$ _____
Annual Cost to Organization for Miss Priced Items Sold	\$ _____
Annual Cost to Organization for Internet Access	\$ _____
Cost per Transaction for Manually Entered Orders	\$ _____
Annual Cost of Credit Card Processing Fees	\$ _____

### Revenue

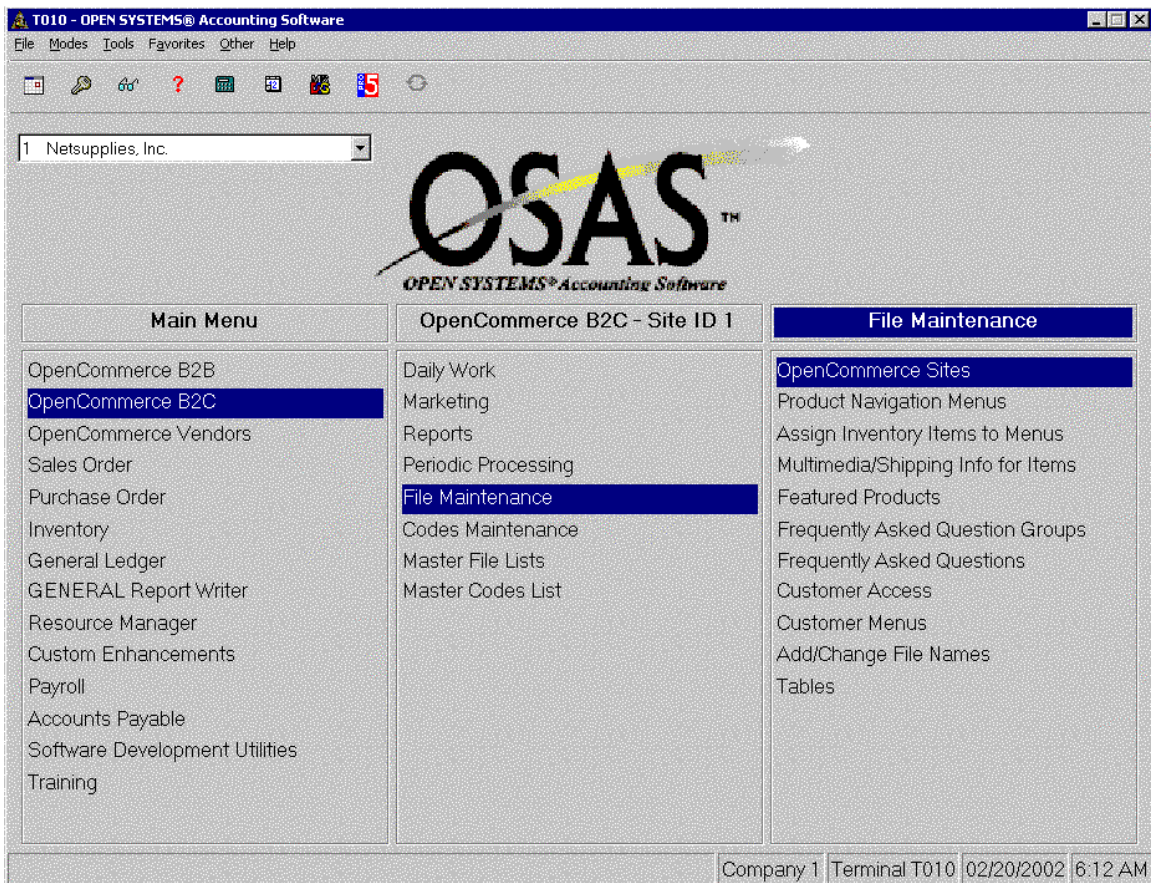
Annual Income Derived from 10% Increase in Average Order Total	\$ _____
Annual Income from 10% Increase in Overall Revenue	\$ _____
Time value of Income derived from immediate Payment Most Internet Sales will be paid upon shipment versus granting terms	\$ _____
Annual Revenue Gains from Increase to Gross Margins Wholesale Distributors and Manufacturers adding retail sales to their mix typically sees Gross Margin gains of 100%-300% over wholesale	\$ _____
Annual Revenue Gains from Orders not lost to poor Customer Service	\$ _____

### III. Feature Summary

OpenCommerce B2C has many of the same features found at some of the largest retail Ecommerce sites on the Internet today. Powerful features in this product allow you to sell your products through the Internet while reducing your cost of gaining new sales.

Many Ecommerce products available today require you to maintain completely separate databases from your accounting system. Products such as this are cause for duplication of effort and are error prone. With OpenCommerce B2C you use your Customer, Sales Order and Inventory files in Open Systems Accounting Software along with the OpenCommerce B2C menus to setup your web site and to provide fresh, up-to-date content at all times.

No need to hire a full time web developer or additional personnel with OpenCommerce B2C. Using the familiar OSAS menu setup you build in your product navigation departments and tell the software which inventory items to display. Price changes and promotions setup in Inventory are immediately reflected on the web site.



**Real Time Data Access to Open Systems Data Files**

OpenCommerce B2C is completely integrated with Open Systems Accounting Software that allows for instant update of the accounting data files including Customer records and Inventory stocking levels based on sales.

**Online Credit Card and Check Processing**

Using either Clear Commerce or POS Partner, payment transactions are verified online during order placement. All payment information is written to the OSAS Sales Order files upon payment confirmation. Additional processing companies may be added for clients with current merchant accounts that offer web integration.

**Accepted Payment Methods**

Not all Payment Methods you have setup in Sales Order may be appropriate for use on the web site. This function lets you choose, by web site, which Payment Methods you will accept online. Additionally, you may choose a minimum order amount with which to accept the Payment Method. This way you may choose to not accept orders less than a specific dollar amount on American Express - a credit card that carries a much higher transaction rate for the merchant than Visa/MasterCard.

**Online Freight Charge Calculation**

Real-time calculation of FedEx, UPS, and US Postal Service shipping charges. Markup/Down of calculated amount by user definable percentage.

**Shipping Tables Update**

This program takes the downloaded files from USPS, UPS, and FedEx to build the rate and zone tables with current settings. This function would be run whenever one of the shippers updated their tables. IS Systems will, by customer choice, either provide the converted tables as an upload or notify customers of changes with links to the download sections of the respective shippers.

**Multiple Ship To Profiles**

Using the OSAS Customer Ship To Address files OpenCommerce B2C provides web-based customers the ability to define an unlimited number of Ship To Address profiles through an Add/Update/Delete function on the web site.

**Product Navigation Drilldown**

Build nested Product Navigation drilldowns for ease of product selection. Build Product Departments down to 5 Levels deep with 99 Entries for each Level. Inventory Items are associated to departments allowing for an unlimited number of items per level.

**Selling Price Calculations**

Item selling price calculation is based upon OSAS Customer Level/Price Codes. Through this powerful feature available in Open Systems Accounting Software web-based customers as well as customer specific pricing is easily and quickly setup.

**Email Notifications**

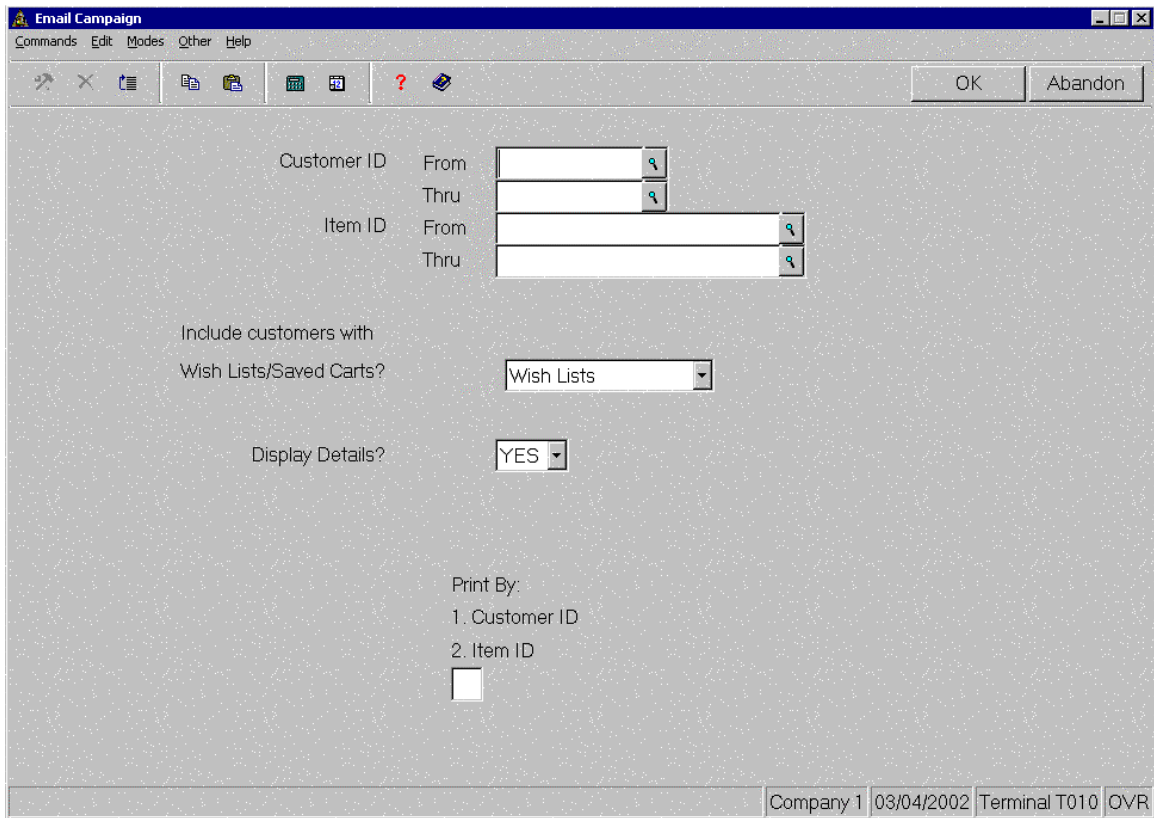
Verification of New Customer Registration, Order Receipt and Shipping Confirmation with tracking information through email. The Customer Profile stores the type of email to send the customer – text based or HTML.

### Product Search

Powerful search capabilities on the OpenCommerce B2C web site allows clients to quickly find the products they are searching for. A simple lookup is available by Item Number or Description. Advanced Search allows your customers to narrow their search further by lookup on Product Lines and Categories in addition to Item Number and Description.

### Email Marketing

Send out Email Campaigns based upon User Selectable Parameters. This powerful marketing tool allows you to build targeted campaigns to bring customers back to the site and gain additional sales.



### Site Usage Reporting

Where is your business coming from and where on the web site are they going? This is a marketing information-gathering tool built into OpenCommerce B2C that allows you to choose summary or detailed tracking.

### Cross Selling

"What other Customers have purchased when buying this Item". Cross Selling allows for up selling to customers to build higher average per cart sales.

### Product Suggestions

Used as "Accessories". Recommended Products to be purchased with the Product the customer is adding to their cart. Use of this feature helps ensure a client purchases the necessary additional components they need to fully utilize their purchase.

### **Purchase Sources**

Track where your business is coming from. With Purchase Sources you gather information of where you gained new clients from and allows you to observe the effectiveness of marketing efforts.

### **Customer Registration**

New Customer Registration creates a customer record in Sales Order with information provided from an online form and a default customer record including Sales Tax authority based upon Sales Tax Nexus.

### **Tax Group Defaults**

Used during new customer registration to automatically set the correct Tax Group the customer record should be using. This is important for states in which your client sites have Sales Tax Nexus.

### **Featured Products**

Date driven Featured Products display. Specify Start/End Dates for display. Setup Specials months in advance.

### **Frequently Asked Questions**

Provides customers with the information they need to know how to use OpenCommerce B2C effectively and receive the answers to the questions they are mostly likely to ask. FAQ's inform clients about store policies, products, and how to use your site.

### **Product Shipping Availability**

Setup messages that show per product when a customer can reasonably expect to have their products ordered shipped to them. A typical message would be "Usually Ships within 24 Hours".

### **Multi-media Information**

Assign additional features to the Product display by Item for Product Images, PDF, Audio/Video, and Extended Information. This feature allows you to provide unlimited additional description, specifications, and downloadable Product Information sheets.

### **Order Status and Package Tracking**

Allow your clients to track the shipping status of the products they order. Link directly from your OpenCommerce B2C web site to package tracking information for FedEx, UPS, and the US Postage Service.

### **View Past History and Reprint Invoice**

Registered customers can view past order information and reprint a printer friendly version of their invoice online. This function saves your accounting staff from the efforts of past order lookup and resending invoice information to clients.

### **Saved Carts**

Not ready to buy the items in your cart now? Save them for later under a named cart. Can be used for a recurring order.

**Wish Lists**

Built by the online customer, Wish Lists allow for categorizing and saving items into groups for later purchase. Wish lists could also be used by the client to build lists of favorite items that are purchased on a regular basis.

**Quote or New**

Option for new orders to be placed as status Quote or New into Sales Order.

**Mini-Cart Display**

See items in the Shopping Cart at all times. As items are added to the shopping cart they are displayed at the top of the screen at all times to remind the customer of the items they have already selected.

**Security and Privacy Statement**

Inform your customers of your commitment to the security of their personal information gathered on you OpenCommerce B2C web site. Privacy is very important to online shoppers and this page allows you to let your customers know how your company uses personal data.

**Backup/Site Maintenance**

This program sets up scheduled maintenance and/or system backup time. This allows for the display of a page that informs a customer attempting to access the web site of times when the system is unavailable. You don't want to be backing up files that are changing during someone being in the web site. The program includes Start/End Time, Date, and if it is a recurring function.

**Inventory Cross Check**

From time to time items will be removed from your Inventory that exists on the web site. Inventory Cross Check is a program that automatically removes items from OpenCommerce B2C files that no longer are found in the Inventory files. This program allows you to either get just a report of the items no longer in Inventory or a Report/Purge Records. This program will be a big time saver for site maintenance.

**Purge Outdated Records**

During the course of the site being used many records will be built up such as Saved carts, Wish lists, Featured Products, and Package Tracking Records. This is another site maintenance function that allows you to easily clean up outdated records by date.

OpenCommerce B2C is designed with ease of use, ease of setup, speed, and thoroughness of features in mind. The current release of OpenCommerce B2C represents great effort in development and user friendliness. While the product is already feature rich a number of additional enhancements are planned for future releases.

## IV. Technical Overview

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OpenCommerce B2C is designed to be a platform independent Retail Ecommerce package that is completely integrated with Open Systems Accounting Software. Written using Business Basic Extended (BBx) Pro/5 from Basis International, Inc. <http://www.basis.com>, OpenCommerce B2C excels in performance, ease of installation, ease of maintenance, and reporting capabilities.

Open Systems, Inc. was founded in 1976 and Open Systems Accounting Software (OSAS) is a market leader in mid-range accounting software. With clients ranging from small 3 person offices to divisions of multi-Billion dollar corporations, OSAS has proven to be a highly flexible, scalable system for many years.

The suite of OSAS modules includes all accounting packages such as General Ledger, Inventory, Sales Order, Purchase Order, and Payroll. Vertical market packages (those directed at a specific industry) include Job Cost and Contractors Job Cost, Manufacturing, Service, and the Apparel Industry.

Open Systems Accounting Software is shipped with the full source code and a Developers Kit is available for 3<sup>rd</sup> Party Independent Software Vendors or in-house development teams to build enhancements and custom applications to the base software. The Developers Kit includes file layouts, program descriptions, programming standards, and function descriptions.

OpenCommerce B2C uses programming standards laid out by Open Systems, Inc. for BBx coding as well as the BB-Web tools developed by Allen Miglore of Synergetic Data Systems, Inc., <http://www.synergetic-data.com>, and acquired by Basis International for their programming toolkit. BB-Web is a web development toolkit that is a rich toolset for web site interaction with BBx data files and programs.

### Design Overview

OpenCommerce B2C is a database driven, dynamic web package that uses few static HTML pages. The design and structure is much like the Active Server Pages (ASP) designed by Microsoft for use with their programming languages and Internet Information Server.

OpenCommerce B2C uses server side execution of scripts and BBx programs keeping client side processing down to a minimum. Web design technologies used include DHTML, JavaScript, CGI and XML along with the server side execution of BBx for database lookup and variable replacement.

The product design goal was to create a software package that combines high performance of data lookup and web page display with easily maintainable content to allow client companies the ability to provide up-to-date content without the requirement of a full time on-staff web developer.

OpenCommerce B2C has two distinct sides – the web site programs and a full module on the OSAS menu for site content setup and maintenance. Using the traditional user interface on the OSAS accounting software side even a data entry clerk, familiar with a companies products, can maintain the content display.

## **How a Page is built and Displayed**

Each displayed web page on OpenCommerce B2C is made up of an HTML template, a script to fire the server side BBx program execution, and BBx programs that perform database lookup/HTML template file variable replacement. An HTML template is a text file with HTML code that contains the basic layout of the web site design as well as variable sections to be updated at runtime.

OpenCommerce B2C, prior to submitting a web page to the web server for display, runs a BBx program specific to the page that opens required data files, performs database lookups, and replaces the variable references in the HTML template.

The database files that are used during lookup build DHTML Site Navigation, Product Department Drill Downs, and customer specific Inventory Item pricing. Because of the strengths inherent in the BBx language, this process happens quickly with most pages being built and submitted to the web server within 2-3 seconds of a request.

This process is called, in the world of web page development, Dynamic Web Pages. Dynamic Web Pages differ from Static Web Pages in that with Dynamic Web Pages the page content is looked up each time a page is displayed versus all content being hard coding as in Static Web pages. There are pros and cons to each design method.

## **Static Web Pages versus Dynamic Web Pages**

Static pages by their design will almost always be displayed faster than a Dynamic page due to the fact that no database lookups are required. A page is requested and immediately submitted to the web server for display. The drawback to Static pages is that they are fixed. In order to be updated they require someone with knowledge of web page layout and design. Static pages are fine if the content does not have to change often, you do not carry many products and customer specific information is not a requirement of your web site.

Dynamic pages allow for real time content update of the web pages based upon database lookups at runtime. Take for example the process of product pricing. Many companies have multiple tiers of product prices based upon customer levels and even customer specific pricing. With Dynamic pages once a customer is logged in all prices displayed on the web site reflect their specific prices. Price changes made in the Inventory package are immediately updated on the web site without the requirement of a separate web page update by a Webmaster.

When making a decision to use Dynamic versus Static web pages you must look at all the factors involved in your unique situation. The need for consistently fresh content, the numbers of products being sold online, the need for customer specific information, and the in-house skills to maintain the web site are all major factors involved in this decision.

The labor costs involved with long-term update and maintenance of a web site is the biggest cost factor associated with the decision to use Static pages versus Dynamic pages in web site design. OpenCommerce B2C, with its complete integration with Open Systems Accounting Software, keeps those long-term maintenance costs to a minimum. The daily upkeep of the databases that comprise the accounting system handle the updates to product pricing, order status, order history, and package tracking. The OpenCommerce B2C module on the OSAS menus allow for update of all

other factors of the web site content except for the basic design layout of displayed pages allowing a non-web page development experienced staff member to maintain a world class Ecommerce site with a minimum of effort.

Performance of a Dynamic web page is dependent upon 3 factors – 1) the technology used to build and display the web pages (i.e. the language and database); 2) the speed of the Internet Connection used at the hosting site; and 3) the quality and performance of the Hardware/Operating System platform used. The Internet Connection speed and Hardware/Operating System platform used is easily changed leaving the design decisions used for the web software as of critical importance.

### **Dynamic Web Pages in OpenCommerce B2C**

OpenCommerce B2C web pages use an HTML template file that is a text file with HTML coding and tags within the text file that designate variable replacement sections. Each template file is no greater than 8K with the bulk of the templates running 4K to 7K prior to variable replacement. Template files after variable replacement but not including inline graphics run between 15K and 35K.

Web page size along with graphics optimized for size play an important role in the perceived performance of a web site to users. The small size of OpenCommerce B2C pages coupled with the high performance of BBx programs and the BBx data file system make for a very high speed web site. Studies have shown that users that must wait more than 8 seconds for a web page to load will typically give up on the web site and move on to another.

Typical new page viewing times from click to page display on an OpenCommerce B2C web site run 2 to 5 seconds depending on the Internet connection speed of the user.

### **Understanding the role and structure of BBx**

The programming/scripting language as well as the database used on a web site that is running with Dynamic Web Pages can also greatly affect overall performance. Sites running Active Server Pages and the Microsoft Internet Information Server (IIS) traditionally will use a SQL Server database coupled with VBScript to perform data lookup and variable replacement. VBScript is an interpreted scripting language developed by Microsoft and has its roots in Visual Basic.

Business Basic Extended (BBx) Pro/5 and Visual Pro/5 are developed by Basis International, Inc. of Albuquerque, NM. BBx shares in the rich history of Business Basic, a programming language developed and made popular by MAI Basic4.

Business Basic is an interactive programming language developed for mini-computer systems in the early 1970s. Derived from the original Dartmouth Basic, Business Basic extended the language concepts by introducing file indexing methods that evolved into true keyed access technology.

Business Basic is an interpreted language that uses “tokenized” programs (semi-compiled) that run through a platform dependent interpreter for program execution. Business Basic programs are highly portable and will run on any hardware/software platform that an interpreter exists for without program modification so long as the Business Basic program uses no operating system dependent calls. Sun Systems, Inc., with their Java technology, has been touting this as a new programming

concept of platform independence yet the Business Basic community has been doing cross platform programming for 30 years.

Basis International is an industry leader in the Business Basic community. Basis was formed in 1985 by 3 former employees of MAI. Basis brought a higher level of capabilities to Business Basic through the addition of Mkeyed data files, GUI capabilities, large file system support (up to 18 billion Gigabyte files with 64-bit file system support), and unparalleled performance.

The BBx file system, as with all Business Basics, is integral to the programming language saving money over other environments that require a separate database engine for data storage. Mkeyed (Multi-keyed) data files maintain database indexes internal to the data file allowing for data retrieval in approximately half the time based on secondary indexes compared to file systems which maintain external secondary indexes. Because BBx applications make extensive use of Mkeyed file structures, it is not uncommon for applications to retrieve requested data in 1 or 2 seconds, even from large databases containing millions of records.

Pro/5 and Visual Pro/5 interpreters are available on many platforms and architectures. Host based systems such as Unix, Linux and Windows 2000 Terminal Services; and two-tiered Client Server based systems using the Pro/5 Data Server. Ports are available for all major operating systems including Novell Netware, Sun Solaris, IBM AIX for the RS/6000, HP Unix, SCO Unix, Linux, and Microsoft Windows based systems.

OpenCommerce B2C and Open Systems Accounting Software are both developed around BBx programs using BBx file systems for database storage. This combination of BBx programming coupled with a strong design methodology makes for an excellent platform of scalable, cross platform applications.

### **Web Server Platforms**

OpenCommerce B2C has been tested on Apache Web Servers on Linux and SCO Unix based systems, and Windows NT and Windows 2000 systems running IIS 4.0 and 5.0. Performance of OpenCommerce B2C on all tested platforms was found to maintain high speed with excellent integration with the OSAS data files.

It is expected that any other platform supported by BBx will also run equally well.

### **Integration with Open Systems Accounting Software**

OpenCommerce B2C is fully integrated with OSAS version 6.12.

- New customer registration writes a fully populated Accounts Receivable Customer record to the Sales Order/Accounts Receivable module.
- Completed orders are written to the Sales Order transaction files with all Line Items, Ship-To information, and authorized Credit Card information.
- Displayed products make full use of all Customer Level/Pricing, Customer Specific Pricing, and Promotional Pricing matrixes built into the Inventory Module.
- Programs within the OpenCommerce B2C module provide for fast setup of required web databases through the use of automated functions for database population and maintenance.

- Integration with Resource Manager Tax Locations files provides accurate Sales Tax calculation and Reporting.
- Workflow enhancements to Sales Order decrease time to shipment from order placement and increase order fulfillment accuracy.
- OpenCommerce B2C is non-invasive to standard OSAS programs. Few changes have been made to standard OSAS programs enabling ease of software updates over those of other 3<sup>rd</sup> party applications.
- Inventory weights from the Item record combined with the Ship-To zip code from Ship-To addresses in Sales Order and the Ship From zip code in the Inventory Location record form the basis for shipment cost calculations. OpenCommerce maintains shipping zone files for FedEx, UPS, and the US Postal Service.

### **Advanced Search Capabilities**

OpenCommerce B2C employs a powerful verb called Select from the BBx language that allows for fast searching of products. The Select verb works much like a SQL select statement. OpenCommerce B2C allows for a simple search based on Item ID and Item Description and an Advanced Search that will lookup products based upon Item ID, Description, Category, and product line.

### **Credit Card Authorization and Processing**

OpenCommerce B2C performs online credit card authorization through multiple payment processors. Card information pre-validation is performed before submission to authorization centers to reduce the amount of traffic generated to the center. Current supported processing is through Clear Commerce <http://www.clearcommerce.com/> and POS Partner <http://www.pos-partner.com> . Both methods employ XML transaction processing.

Planned additions include IC Verify and Payflow Plus from Verisign.

### **Shipping Cost Calculations**

Accurate shipping calculations for FedEx, UPS and the US Postal Service are calculated on the OpenCommerce B2C server without having to rely on the public network. All 3 carriers maintain downloadable rate files on their web sites for customer usage. OpenCommerce B2C includes a function, on the accounting software menus, for regularly updating these rate files. Using weight and from/to zip code information shipping calculations for all 3 carriers is looked up in moments.

Rate table updates may be performed in-house or as a paid service from IS Systems. Calculated rates may be marked up or marked down by a pre-defined percentage by the web merchant.

### **Security**

Secure personal customer information storage and encrypted processing of credit card information is important to all users and providers of Ecommerce. OpenCommerce B2C makes use of "virtual" web site directories to mask out the actual program and data directories of the accounting software from outsiders. Additional settings on the web server disallow the download of programs and data from the server.

User passwords are stored encrypted in OpenCommerce BBx data files. Credit Card information is passed securely from the client browser to the web server through the use of Secure Socket Layer (SSL) technology. The cart checkout page of OpenCommerce B2C, where credit card information is entered, is SSL enabled with a web merchant selected 40-bit or 128-bit security certificate.

### **Multi-Media Files and Extended Description**

OSAS allows for the use of 11 lines of 35 characters to describe a product. Many times this is not enough for a web site especially if product specifications are to be included. OpenCommerce B2C allows for inclusion with each displayed item the ability to link thumbnail and enlarged graphics for product display along with PDF specifications, movie and audio files, and unlimited text description of the products to be sold.

Unlimited text is achieved through the use extended information pages. Actually HTML files in their own right, the extended information pages can be laid out in Microsoft Word or a comparable software package that allows files to be saved in HTML format. OpenCommerce picks up the extended information pages and includes them with the Additional Description display available during order entry on the web site.

### **Email Notifications**

OpenCommerce B2C employs the use of MailCall™ from Synergetic Data Systems, Inc. for email notification of new customer registration, order receipt, and order shipment information. Using HTML templates the email notifications may be easily customized for client specific needs. OpenCommerce B2C allows clients to choose between HTML or text format emails. A template for each type of email is provided with the product.

Should an error occur on the site, the site systems administrator is notified via email and with the correct devices in place via cell phone/text pager messaging. The web merchant may optionally have site errors also sent to IS Systems support personnel.

### **Web Traffic Reporting**

OpenCommerce B2C has two levels of Site Traffic Logging that may be used and are controlled through an Options/Interfaces setting in the software. Summary Logging tracks only the initial entrance to the site while Detail Logging tracks all movement through the web site. The data collected includes web page displayed, referring web site, date, time, browser type, and the IP address of the user on the site.

### **Site Maintenance**

Nightly system backup is a requirement in today's computing environment. At times it will be necessary to down the web site for maintenance. OpenCommerce B2C provides a function for the scheduling of backup and maintenance times. Should a customer attempt to enter the site during backup functions or site maintenance a web page will be displayed informing them of site maintenance and requesting they return after the maintenance is completed.

## **System Requirements**

OpenCommerce B2C web sites are hosted at the web merchant location. The following provides a list of minimum requirements for using the software:

- Open Systems Accounting Software version 6.12 or greater
- A Pentium class server with adequate RAM and disk space for web hosting
- 512k or greater dedicated connection to the Internet
- Firewall capable of port forwarding Web traffic and credit card processing information
- Uniform™ software from SDSI – <http://www.synergetic-data.com>
- MailCall™ email processing software
- Additional BBx licenses to support web customers over those required for operation of OSAS. OpenCommerce B2C requires at least 1 BBx user license for each 5 concurrent web customers on the site at any one time. The minimum number of additional BBx licenses that should be purchased for a web site is 4.
- Site graphics. IS Systems personnel will work with the web merchants Graphics Artist to design your unique site layout or provide out-sourced graphics development
- Apache or IIS web server software running on web merchant system
- SSL Security Certificate
- Merchant Account for Credit Card Processing. Depending upon the Credit Card authorization method used a PC running Credit Card software may be required.
- Optional Pro/5 Data Server software for Client Server operation
- OSAS Accounts Receivable, Sales Order, Inventory, and Resource Manager modules
- Bar Code reader for input of Package Tracking and Picking slip information
- Bar Code capable laser printer for use when printing bar coded picking slips

## **V. Installation Overview**

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Installation and setup of an OpenCommerce B2C web site is not a complicated process although depending on the complexity of the items offered for sale it can be time consuming for the initial setup. Keep in mind that the installation of Ecommerce software is much like a new store opening and proper planning will help to ensure that the process is pain free.

IS Systems personnel are trained on the process of site setup and can guide you through every step of the process. Most times clients employ IS Systems to provide a turnkey installation of their OpenCommerce web site.

### **Preparation**

Getting ready for the installation of OpenCommerce B2C requires a review of the setup of the OSAS Inventory Item files. OpenCommerce B2C makes use of the Sales Category, Product Lines and Weight fields in OSAS Inventory for Advanced Searches and shipping cost calculations.

Since standard Open Systems Accounting Software applications make little use of these fields many clients elect to not set them up during system installation of the base accounting software. Routines provided by IS Systems may be used to provide mass updates of like items without the requirement of going into each individual item.

Domain name registration, installation of a dedicated line to the Internet, setup of a merchant account, installation of a proper server, and web site layout are among a few of the additional items required before going online with an OpenCommerce B2C web site. Please refer to the Site Requirements in Section IV for a complete list.

### **Web Site Layout**

IS Systems personnel work with the web merchants Graphics Artist or will subcontract the web site design for the proper corporate image to be employed on the web site. Once a design is agreed upon, IS Systems will then prepare the HTML templates that are necessary.

### **Web Site Database Setup**

While the site layout is performed, the web merchant must build the databases necessary for OpenCommerce B2C.

Product department navigation and the items to be sold on the web site must be determined and input. The file names of graphic images for items along with any PDF, movie or audio, and extended description files are also entered.

Again OpenCommerce B2C provides functions to make the initial setup of the required databases quick.

### **Testing**

After final installation and setup of all required programs, databases, and server components but before opening an OpenCommerce B2C web site to the world, a short shakedown period is employed. All functions of the web site are tested for accuracy including displayed prices.

### **Getting the Word Out**

The site is finally ready for prime time! Now it is time to begin marketing the site. Search engine placement, cross linking with complementary sites, insertion of marketing pieces with invoices/statements, and print/television advertising are all methods that can be employed to get the word out about your Ecommerce presence.

Build it and they will come does not apply in todays Internet economy. Sound marketing techniques are required with any business and an Ecommerce site is no different.

IS Systems provides services to help a new web merchant to get the word out and build traffic to their web site. By partnering with IS Systems a web merchant can gain these services without any additional charge.

IS Systems partners with clients for the success of their web site through a commission on all web-based sales. IS Systems dedicates resources to the marketing of the web site to build traffic. Additionally, we provide free technical support/site maintenance and 10% of all earned commissions are rolled back for matching marketing funds with the web merchant. For additional information on partnering opportunities and services please contact us.

## **VI. Conclusion**

OpenCommerce B2C represents the state of the art of retail Ecommerce packages available today for Open Systems Accounting Software.

Unmatched integration with the accounting software, web site performance, product features, ease of site setup/maintenance, and quick Return on Investment make OpenCommerce B2C a wise choice for any company using OSAS or are considering the installation of Open Systems Accounting Software.

BBx Pro/5 is an excellent language/database choice for online processing. The ability to easily scale applications to higher end platforms as demand dictates and the robust file system provided with the language are important considerations for any would be web merchant.

Thank you for your consideration of OpenCommerce B2C. To view our online demos please refer to <http://www.is-systems.com/demos.html>. For additional information or to arrange a personal demonstration please contact your Open Systems reseller or IS Systems at (210) 564-9300.