How to Create an E-Commerce Web Site

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Introduction: The Elements of E-Commerce

Your business may be small—but the Internet lets you think big. Whatever product or service your business offers, the Internet levels the playing field and lets you compete with bigger businesses, reaching customers around the world who can conveniently buy from you 24 hours a day.

But in the competitive world of the Web, growing your business and increasing your profits online requires some careful planning. For every successful e-commerce businesses, there are dozens that fail by not addressing basic risks and pitfalls along the way. So to take full advantage of the e-commerce opportunity, make sure you base your Web business on a solid foundation that covers every element of e-commerce:

- **Establish your identity.** The right domain name, or URL, can make the difference between a memorable e-commerce identity and getting lost in the online crowd.
- **Find the right online home.** For brick-and-mortar stores, location is everything. Your e-commerce business needs the right home, too. Purchase and set up your own Web server, or find a home for your site with the right Internet Service Provider or Web host.
- **Build an attractive storefront.** With the right tools, creating a Web site is easier than ever—but following some basic guidelines will help make your site easy and fun for customers to navigate. And that means more sales for you.
- **Let customers know they can trust you.** In the anonymous world of the Internet, customers will communicate private information, like credit card numbers or phone numbers, to your e-commerce site only if they're sure your site is legitimate and the information they send you is protected. Make sure your site is secure—and that your customers know it.
- **Make it easy for customers to pay you**. You can set up your site so customers can pay by simply keying in a credit card number. But then how will you process that transaction? Make sure you not only offer customers a variety of convenient payment methods, but that you can process them all.
- **Let the world know about your site.** A memorable domain name, a great-looking design, and top-notch products and services can make your site successful only if customers know about it. Don't neglect promoting your site to drive traffic to it.

Clearly, building the elements of e-commerce into your Web business is a big job, but it's too important to ignore if you want your e-business to grow and thrive. VeriSign can help. As the leading provider of secure Internet and e-commerce services for individuals and businesses of all sizes, VeriSign offers a complete set of solutions that help you easily handle every step of the e-commerce process. Just take the following steps to ensure that your e-commerce business gives you the competitive edge.

I. Step One: Establish Your Online Identity with the Right Web Address

The first step toward e-commerce is selecting the name of your site. Your Web address (also called a URL—Uniform Resource Locator— or "domain name"), tells customers who you are and how to find you on the Internet. It is the core of your Internet identity—your online brand. And because no two parties can have the same Web address, your online identity is totally unique.

A. What's In a Name?

Quite a lot, actually. Remember that not only does your domain name tell customers exactly how to find your business on the Web, but also it communicates and reinforces the name of your business to every Web site visitor. It can also be used as part of your e-mail address to establish your online identity.

Keep these tips in mind before you choose:

- **Make it memorable.** "Amazon.com" is much catchier than "booksonline.com."
- **Describe your business.** Another approach is to simply and logically describe your business. "Flowers.com" works perfectly for a florist. And if you are setting up an online presence for an established business, keep the name of your site the same as the name of your business.
- **Keep it short.** The best domain names are those that customers can remember and type into their browsers after seeing or hearing them only once, so complicated strings of words like "onlinecdstore.com" don't work as well as a simple phrase: "cdnow.com."

B. How to Get and Manage Domain Names

Once you've decided on your Web identity, the next step is to determine if it is available and then register it with a domain name "registrar." Registering is easy and inexpensive, so do it as soon as you've decided on your domain name to make sure you get the name you want. Many businesses register a number of variations, just in case they want to use them later—or to avoid the risk of competitors obtaining similar names. A Scandinavian financial service company, for example, recently spent more than $1 million to register 3,080 domain names (*Business 2.0*, August 22, 2000, p. 32). You also may want to register common misspellings so that all customers who incorrectly type your address still find their way to your site instead of receiving an error message.

E-commerce businesses most often register a name with "com" as the domain name extension (the letters after the dot; also called a top-level domain, or TLD), but often also register their names with ".net" and ".org" (for "organization"). Other suffixes include ".tv" and ".edu" for schools and universities. The Internet Corporation for Assigned Names and Numbers (ICANN) recently announced seven new TLDs—.biz, .info, .name, .pro, .museum, .aero, and .coop.

Network Solutions, a VeriSign company, is the leading domain name registrar. Searching for an available name and registering it with Network Solutions is as easy as going to http://www.networksolutions.com/catalog/domainname, entering the Web address you've chosen in the designated box, and clicking "Go!". In seconds you'll know if the name is available. Registering a name costs as little as $35 a year, and registering with Network Solutions also automatically lists your site with leading search engines—a great way to promote your site (see Step 7 below).

1. How to Buy an Existing Domain Name

What happens if the domain name you want is already registered? You can either choose another name or buy your first choice from whoever got it first. The fact that the name you want has already been registered doesn't necessarily mean it is not available for sale. You can easily find out whether a domain name that has already been registered is for sale by checking out the Network Solutions domain name marketplace site at http://www.greatdomains.com.

2. How to Register Domain Names Worldwide

The Internet is global —shouldn't your business be, too? Registration of multiple domain names for use around the world protects your intellectual property, brand name, and trademarks against infringement by global cybersquatters. If you plan to do business in other countries, you can register country-specific Web addresses (in country-specific TLDs such as .ita for Italy and .uk for the United Kingdom) with Network Solutions' idNames search and registration service. But as your business grows, you may find that registering and managing multiple domain names is a complex, time-consuming process. IdNames can also consolidate worldwide domain name management into a single centralized account if you have 50 or more domains. Go to http://www.networksolutions.com/catalog/idnames to learn more.

Once you've established your Web identity by selecting and registering your domain names, it's time to build your site.

II. Step Two: Build a User-Friendly Site

With a domain name in place, you're ready to start building your e-commerce storefront. But before you begin, take some time to plan.

A. Plan Your Site Carefully

First, identify clear marketing goals for your site, such as generating leads, building a database of potential customers' names and e-mail addresses, or putting a product catalog online to save the time and expense of printing and mailing. Quantify your objectives—such as increasing sales by 15 percent—so you know whether or not your site is successful.

Then, figure out what your potential customers need to know before buying your products and services. This might include:

- An overview of your company, its products and services, and their applications
- Complete product or service descriptions, including features, key benefits, pricing, product specifications, and other information, for each product or service
- Testimonials, case studies, or success stories so customers can see how similar individuals or organizations have worked with you
- An FAQ section that anticipates and answers customers' common issues

Plan the structure of your site, focusing on making it easy for customers to learn what they need to know, make a purchase decision, and then buy quickly. Create a site map that outlines every page on your site from the home page down and how customers get from one page to the next. Use tools that quantitatively measure site activity—where customers are clicking, how often, and whether they end up purchasing—and then compare the results with your goals.

B. Choose the Right Site-Building Tools

With a solid plan in hand, you're ready to start constructing your e-commerce site. Many e-commerce businesses turn to professional design studios to create their Web sites. But if your budget is limited, many Web site building tools make it fast and easy for you to create a polished, professional-looking site—with no in-depth HTML knowledge necessary. Image Café from Network Solutions, a VeriSign company, is one of the easiest. It's an online Web site building tool that lets you choose from a variety of professional-quality templates and then customize them with your own identity and information. You can preview your site online while you are building it, and when your site is finished, you can instantly send it to an ImageCafe hosting partner to publish it on the Web (see Step Three below to learn more about site hosting). The entire process can put you on the Internet in less than 24 hours at convenient and affordable monthly prices.

To learn more about ImageCafe and other site building solutions from VeriSign and Network Solutions, go to
 http://www.networksolutions.com/

C. E-Commerce Site Design Tips

Following these basic guidelines will help make your site not only attractive, but also easy for customers to use—and that means easy to buy from you.

1. **Carefully examine your own favorite e-commerce sites**. Creatively adapting the most compelling marketing and design techniques will enhance your site's effectiveness.

2. **Your home page is your site's—and your business's—online front door.** It's essential that it make a good first impression on visitors. Make sure it clearly presents the following basic elements that customers are always likely to look for:
   - Your company name, logo, and slogan, prominently displayed. Take full advantage of the opportunity to showcase your brand identity.

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- A link to an "About the Company" page for customers to quickly learn who you are and what your business offers.

- A site menu listing the basic subsections of your site. Keep this menu in the same place on every page throughout your site to make it easy to navigate.

- A "What's New" section for news, announcements, and product promotions. Frequently updating this area will encourage customers to return often.

- Contact information. Don't make it difficult for visitors to find your phone number, e-mail address, mailing address, and fax number.

- Your privacy statement, clearly describing your business's policy for protecting customer's personal information.

3. **Make it easy for customers to explore your site.** As you build your site, try to minimize the number of clicks it takes the customer to go from your home page to actually being able to click "buy" and checkout. Four to six is a useful rule of thumb. Make sure links make sense, so customers know what to click to find what they're looking for. Don't make your navigation buttons or links too dominant an element in your site design: instead, focus on product information.

4. **Keep things simple.** Don't fill up your site with graphics, animations, and other visual bells and whistles. Stick to the same basic color palette and fonts your company uses in other communications, like your logo, brochures, and signage. Ensure that images and graphics serve to enhance, not distract from, your marketing goals. Make sure your text is easy to read—black letters on a white ground may not be terribly original, but they are easier on the eyes than orange type on a purple background.

5. **Keep download times short.** Test pages to make sure they're not too overloaded with graphics that slow load times—and minimize the size of your images when possible. According to the Boston Consulting Group in *American Demographics* (August, 2000, p 46), nearly half of online shoppers surveyed said they left sites when pages took too long to download. Zona Research estimates that most Web pages take anywhere from 3 to 11 seconds to load, depending on the user's modem and Internet connection (remember: many e-commerce customers shop from home using slower connections). Most users click away to another site or log off if a page takes more than 8 seconds to load, costing e-commerce businesses billions in lost potential revenue.

As soon as you've completed this step, you're ready to put your site on the Internet.

III. Step Three: Set Up Your Web Server—or Select an ISP to Host Your Site

Your Web site is a series of files that reside on a special computer, called a Web server, connected to the Internet. For customers to visit your site, they must actually connect to that Web server via the Internet and view the files. Web servers and the Internet

connections that link them to visitors must be fast and powerful enough to quickly respond to all the visitors' requests to view your site.

Many businesses prefer the complete control of purchasing, setting up, and managing their own Web server hardware and software. Other small- and medium-sized e-commerce businesses prefer to turn to an Internet Service Provider (ISP) or Web hosting company, instead of investing in the hardware, software, and infrastructure necessary to get online. For a monthly fee, ISPs and Web hosting companies will connect your site to the Internet at high speed via one of their Web servers, allowing the site to be viewed by anyone with an Internet connection and a Web browser. The host provides your site with space on a server, and also offers Web server software, access to its high-speed Internet connection, tools for managing and maintaining your site, customer support, e-commerce features, and more. There are hundreds of ISP and Web hosting options to choose from, so look for one that can meet all your needs.

A. What to Look for in a Web Hosting Company

- **Shared hosting or dedicated server?** Shared hosting is an arrangement in which your site is housed on the same host server with several other Web sites. This is an economical solution for smaller sites. Paying the host for your own dedicated server, a solution used by larger and busier sites, provides faster access and ensures that your site will be accessible to visitors 100 percent of the time (instead of sharing Web server speed and power with other sites). Does your ISP or Web hosting provider offer both options?

- **Hard-disk storage space.** Smaller sites may need only 300-500 MB (megabytes) of Web site storage space, while busier e-commerce sites may need at least 9 GB (gigabytes) of space—or their own dedicated Web server. As your site grows, your ISP should be able to accommodate you with a range of options.

- **Availability.** If you run an e-commerce business, your site must be accessible to customers 24 hours a day. ISPs and Web hosts maximize the availability of the sites they host using techniques like load balancing and clustering. Can your ISP promise near-100-percent availability?

- **E-mail accounts.** E-mail accounts that match your domain name are often available from your ISP. Are they included with your monthly access and hosting fee?

- **SSL Encryption:** The security of the credit card numbers and other personal information customers send you should be a top concern. Does your ISP or Web host protect your site with an SSL server ID? See Step IV below to learn more about Web site security.

- **Support**. A big part of the value of turning to an ISP or Web host is that you don't have to worry about keeping the Web server running. Does your host offer 24x7 customer service?

B. Where to Find the Right Web Host

VeriSign's Secure Site ISP Program's Premier Partners include the industry's leading ISPs and Web hosting companies, such as:

- Critical Path
- FirstWorld
- Interland
- Interliant
- MindSpring
- NaviSite
- PSINet
- RackSpace
- Verio

IV. Step Four: Secure Your Site

With your Internet identity established and your site built and hosted, it's time to turn your online storefront into a thriving e-commerce business. To do it, you must win your customers' trust. Eighty-five percent of Web users surveyed reported that a lack of security made them uncomfortable sending credit card numbers over the Internet. E-merchants who can win the confidence of these customers will gain their business and their loyalty—and an enormous opportunity for grabbing market share and expanding sales.

A. The Risks of E-Commerce

In person-to-person transactions, security is based on physical cues. Consumers accept the risks of using credit cards in places like department stores because they can see and touch the merchandise and make judgments about the store. On the Internet, without those physical cues, it is much more difficult for customers to assess the safety of your business. Also, serious security threats have emerged:

- **Spoofing**—The low cost of Web site creation and the ease of copying existing pages makes it all too easy to create illegitimate sites that appear to be operated by established organizations. Con artists have illegally obtained credit card numbers by setting up professional-looking Web sites that mimic legitimate businesses.

- **Unauthorized disclosure**—When purchasing information is transmitted "in the clear," without proper security and encryption, hackers can intercept the transmissions to obtain customers' sensitive information—like credit card numbers.

- **Unauthorized action**—A competitor or disgruntled customer can alter a Web site so that it malfunctions or refuses service to potential clients.

- **Eavesdropping**—The private content of a transaction, if unprotected, can be intercepted en route over the Internet.

- **Data alteration**—The content of a transaction can be not only intercepted, but also altered en route, either maliciously or accidentally. User names, credit card numbers, and dollar amounts sent without proper security and encryption are all vulnerable to such alteration.

To take advantage of the opportunities of e-commerce and avoid the risks, you must find the answers to questions like:

> "**How can I be certain that my customers' credit card information is protected from online eavesdroppers?"**

> **"How can I reassure customers who come to my site that they are doing business with me, not with a fake set up to steal their credit card numbers?"**

> **"Once I've found a way to authoritatively identify my business to customers and protect private customer information on the Web, what's the best way to let customers know about it, so that they can confidently transact business with me?"**

The process of addressing these general security questions boils down to these goals:

- **Authentication:** Your customers must be able to assure themselves that they are in fact doing business with you—not a "spoof" site masquerading as you.

- **Confidentiality:** Sensitive information and transactions on your Web site, such as the transmission of credit card information, must be kept private and secure.

- **Data integrity:** Communication between you and your customers must be protected from alteration by third parties in transmission on the Internet.

- **Proof of communication:** A person must not be able to deny that he or she sent a secured communication or made an online purchase.

B. The Trust Solution: SSL Server IDs for Authentication and Encryption

Digital certificates for your Web site (or "Server IDs") are the answer for these security questions. Installed on your Web server, a Server ID is a digital credential that enables your customers to verify your site's authenticity and to securely communicate with it. Server IDs allow your e-business to provide customers with the world's highest level of trust. A Server ID assures them that your Web site is legitimate, that they are really doing business with you, and that confidential information—such as credit card numbers—transmitted to you online is protected.

C. How Server IDs Work

Server IDs take advantage of the state-of-the-art Secure Sockets Layer (SSL) protocol, developed by Netscape. SSL has become the universal standard for authenticating Web sites to Web browser users, and for encrypting communications between browser users

and Web servers. Because SSL is built into all major browsers and Web servers, simply installing a digital certificate, or Server ID, enables SSL capabilities.

SSL server authentication allows users to confirm a Web server's identity. SSL-enabled client software, such as a Web browser, can automatically check that a server's certificate and public ID are valid and have been issued by a certificate authority (CA)—such as VeriSign—listed in the client software's list of trusted CAs. SSL server authentication is vital for secure e-commerce transactions in which, for example, users send credit card numbers over the Web and first want to verify the receiving server's identity.

An encrypted SSL connection requires that all information sent between a client and a server to be encrypted by the sending software and decrypted by the receiving software, protecting private information from interception over the Internet. In addition, all data sent over an encrypted SSL connection is protected with a mechanism for detecting tampering—that is, for automatically determining whether the data has been altered in transit. This means that users can confidently send private data, such as credit card numbers, to a Web site, trusting that SSL keeps it private and confidential.

The Server ID process works as follows:

1. A customer contacts your site and accesses a page secured by a Server ID (indicated by a URL that begins with "https:" instead of just "http:" or by a message from the browser).
2. Your server responds, automatically sending the customer your site's digital certificate, which authenticates your site.
3. Your customer's Web browser generates a unique "session key" to encrypt all communications with the site. The user's browser encrypts the session key itself with your site's public key so only your site can read the session key.
4. A secure session is now established. It all takes only seconds and requires no action by the customer. Depending on the browser, the customer may see a key icon becoming whole or a padlock closing, indicating that the session is secure.

SSL Server IDs come in two strengths: 40-bit and 128-bit (the numbers refer to the length of the "session key" generated for each encrypted transaction). The longer the key, the more difficult it is to break the encryption code. 128-bit SSL encryption is the world's strongest: according to RSA Labs, it would take a trillion years to crack a 128-bit session key using today's technology. The primary difference between the two types of VeriSign Server IDs is the strength of the SSL session that each enables. Microsoft and Netscape offer two versions of their Web browsers, export and domestic, that enable different levels of encryption depending on the type of Server ID with which the browser is communicating.

D. How to Get SSL Server IDs
VeriSign—the Internet Trust Company—offers a complete range of products and services to help you secure your Web site.

1. VeriSign Commerce Site and Secure Site Solutions

VeriSign provides SSL Server IDs in two encryption strengths:

- **VeriSign 128-bit SSL (Global Server) IDs** enable the world's strongest SSL encryption with both domestic and export versions of Microsoft® and Netscape® browsers. 128-bit SSL Global Server IDs are the standard for large-scale online merchants, banks, brokerages, health care organizations, and insurance companies worldwide.

- **VeriSign 40-bit SSL (Secure Server) IDs** are ideal for lower-volume, security-sensitive Web sites, intranets, and extranets.

Commerce Site Services, exclusively from VeriSign, are complete, e-commerce solutions that are ideal for e-merchants and online stores.

- **Commerce Site** includes a 40-bit SSL (Secure Server) ID and VeriSign Payflow Pro online payment management service, plus an array of additional value-added services. VeriSign Payflow online payment services enable businesses to easily accept, manage, and process payments electronically. (See Step Five below to learn more about facilitating e-commerce payments on your site.)

- **Commerce Site Pro** includes a 128-bit SSL (Global Server) ID, VeriSign Payflow Pro, and an array of additional value-added services.

Secure Site Services are best for Web sites, intranets, and extranets, that require the leading SSL certificates and Web site services.

- **Secure Site** includes a 40-bit SSL (Secure Server) ID, plus additional value added services.

- **Secure Site Pro** includes a 128-bit SSL (Global Server) ID and value-added services.

Many leading ISPs and Web hosting providers, such as VeriSign's Premier ISP Partners, include VeriSign Server IDs with their e-commerce packages. When choosing an ISP, look for one that offers VeriSign Server IDs. If you are obtaining your Server ID through your ISP or Web hosting company, your host may ask you to enroll for your certificate yourself, because you are the owner of the domain name to which the Server ID will correspond. Make sure you ask your hosting company for the information you'll need to complete the VeriSign enrollment process, including:

- **A CSR, or "Certificate Signing Request."** This is an encrypted file, generated by the Web server that is hosting your site. This file will contain a public key, the name of your company, its location, and your URL. Because your Web hosting provider operates the Web server on which your site is hosted, your Web hosting provider must generate the CSR and send it to you for use during Server ID enrollment.

- **The kind of server software your Web hosting provider uses.** As part of the VeriSign Server ID enrollment process, you'll be asked to select your Server Software Vendor, in addition to your CSR.

- **A technical contact.** Your Web hosting provider should be able to give you the name of its appropriate technical contact for you to complete the enrollment process.

One more thing—if you use multiple Web servers for your site, it's important that you use a unique Server ID on each one to meet VeriSign's licensing requirements. For a full explanation of how VeriSign's Server ID licensing works, see the white paper, "Securing Multiple Web Server and Domain Name Configurations," at http://www.verisign.com/rsc/wp/certshare/index.html.

2. VeriSign Key Benefits

VeriSign's Secure Site Service and Commerce Site Service include the VeriSign Secure Site Seal.

The Seal is designed for display on your Web site as a symbol of security and trust, encouraging your customers to confidently provide credit card numbers and other sensitive information. The Secure Site Seal is sent automatically to the technical contact that you specify during the Secure Site or Commerce Site enrollment and purchasing process, 24 hours after the Server ID is issued.

When the Seal is posted on your Web site's home page, security/privacy policy page, or credit card transaction pages, you can connect it to your Server ID. When your customers click on the Seal, they instantly see a pop-up screen of information about the Server ID, assuring them that transactions with your site are encrypted by SSL, and allowing them to verify your site's identity and check the ID status in real time.

Secure Site and Commerce Site solutions also include up to $250,000 of NetSure$^{®}$ protection, an extended warranty program that protects your e-business against economic loss resulting from the theft, corruption, impersonation, or loss of use of your Server ID.

- You can easily test VeriSign's Server ID on your site. To download a free trial Secure Server ID, go to http://www.verisign.com/server/trial/index.html.
- To learn more about VeriSign's Server ID solutions, visit http://www.verisign.com/products/site/index.html.
- Ready to buy? Go to http://www.verisign.com/products/site/commerce/index.html to select a Commerce Site service, or http://www.verisign.com/products/site/secure/index.html to select a Secure Site Service. You'll find pricing information and complete instructions for walking easily through the enrollment and purchase process.

E. Code Signing IDs

If your e-commerce site offers downloadable software, content, or code, you can digitally "shrink-wrap" it so customers can be confident that it hasn't been altered or corrupted in transmission. All you need is a special code-signing digital certificate, or Digital ID.

> You can purchase a code signing Digital ID from VeriSign or download a free Guide to learn more about them at http://www.verisign.com/products/signing/index.html

F. E-Mail IDs

Installed in your Web browser or e-mail software, an e-mail digital certificate, or Digital ID, serves as your online passport, allowing you to digitally sign e-mail messages. Your e-mail Digital ID assures recipients that messages really came from you, and also allow you to encrypt messages, using your recipient's Digital ID, so only your recipient can decrypt and read your messages. Installing and using e-mail Digital IDs is easy with virtually all Web browsers and e-mail programs.

> To buy a VeriSign e-mail Digital ID for only U.S. $14.95, go to
> http://www.verisign.com/products/class1/index.html

G. Your Privacy and Security Statement

A vital component of every e-commerce Web site is a comprehensive security and privacy statement that describes exactly how your business secures information and uses it. (See **http://www.verisign.com/truste/index.html** to see VeriSign's.) This is extremely important to your customers. TRUSTe, a nonprofit association supported by leading businesses such as VeriSign, AT&T, Netscape, Land's End, and Wired, regulates the use of data collected on the Web. By abiding by the association's rules regarding use of information collected on your site, you can display the TRUSTe logo as yet another symbol of trust.

> See **http://www.truste.com** for more information about TRUSTe's policies
> and how you can join.

V. Step Five: Accept and Manage All Kinds of Payments

With an SSL-secured site, your customers will have the confidence to purchase your goods and services. But enabling customers to pay you online takes more than just collecting their credit card numbers or other payment information. What will you do with customer payment information once it's sent to you? How can you verify that customer's credit card information is valid? How will you go about processing and managing those payments with a complex network of financial institutions?

You could simply set up a credit card terminal and process orders manually. But why invest the time and effort to build an e-commerce site without taking advantage of the efficiency of online payment processing? To offer a complete e-commerce experience to customers and to efficiently manage payments for your business, you need to implement an "Internet payment gateway" that provides Internet connectivity between buyers, sellers, and the financial networks that move money between them.

A. The Internet Payment Processing System

Before you implement a payment gateway, you need to understand how the Internet payment processing system works. Participants in a typical online payment transaction include:

- **Your customer**: Typically, a holder of a payment instrument—such as a credit card, debit card, or electronic check—from an issuer.
- **The issuer**: A financial institution, such as a bank, that provides your customer with a payment instrument. The issuer is responsible for the cardholder's debt payment.
- **The merchant**: Your e-commerce site, which sells goods or services to the cardholder via a Web site. A merchant that accepts payment cards must have an Internet Merchant Account with an acquirer.
- **The acquirer**: A financial institution that establishes an account with you, the merchant, and processes payment authorizations and payments. The acquirer provides authorization to the merchant that a given account is active and that the proposed purchase does not exceed the customer's credit limit. The acquirer also provides electronic transfer of payments to your account, and is then reimbursed by the issuer via the transfer of electronic funds over a payment network.
- **The payment gateway**: Operated by a third-party provider, the gateway system processes merchant payments by providing an interface between your e-commerce site and the acquirer's financial processing system.
- **The processor**: a large data center that processes credit card transactions and settles funds to merchants, the processor is connected to your site on behalf of an acquirer via a payment gateway.

The basic steps of an online payment transaction using a payment gateway system include the following:
1. The customer places an order online by selecting items from your Web site and sending you a list. Your site often replies with an order summary of the items, their price, a total, and an order number.
2. The customer sends the order, including payment data, to you. The payment information is usually encrypted by an SSL pipeline set up between the customer's Web browser and your Web server's SSL certificate.
3. Your e-commerce site requests payment authorization from the payment gateway, which routes the request to banks and payment processors. Authorization is a request to charge a cardholder, and must be settled for the cardholder's account to be charged. This ensures that the payment is approved by the issuer, and guarantees that you will be paid.
4. You confirm the order and supply the goods or services to the customer.

5. You then request payment, sending the request to the payment gateway, which handles the payment processing with the processor.
6. Transactions are settled, or routed by the acquiring bank to your acquiring bank for deposit.

So how do you implement a payment gateway to process payments on your e-commerce site? Building your own dedicated pipeline to connect all the players isn't a practical option, so for small- and–medium-sized businesses, outsourcing to a payment service provider is the best solution.

B. VeriSign Payflow Payment Gateway Services

VeriSign Payflow Payment Services offers the most effective way to streamline the flow of all kinds of payments through this complex system—quickly, efficiently, and above all, securely. Payflow simplifies e-commerce by providing payment connectivity over the Internet between buyers, sellers, and financial networks. When a customer visits the merchant's Web site and makes a purchase, the transaction data is passed from the merchant's storefront to the Payflow gateway via the VeriSign processing server, using an SSL connection to transmit encrypted transaction requests. The VeriSign server transmits the request over a private network to the appropriate financial processing network. When the authorization response is received via the financial processing network, the server returns the response and a confirmation is sent to both the customer and the merchant as proof that a securely processed transaction has occurred.

Payflow supports all major consumer credit card, debit card, electronic check, purchase card, and Automated ClearingHouse (ACH) transactions. (ACH is a nationwide, wholesale electronic payment and collection system that serves as a method of transferring funds between banks via the Federal Reserve System.) Its architecture has been designed to support both business-to-consumer (B2C) and business-to-business (B2B) payment applications. It provides the industry's highest performance and reliability and can easily grow along with your business to handle hundreds of millions of transactions per month.

Start by selecting one of VeriSign's Payflow payment processing services. Then open your Internet Merchant Account, and you'll be ready to start accepting payments.

1. Payflow Link

The **Payflow Link** service provides a fast, easy-to-use solution that enables you to automate order acceptance, authorization, processing, and transaction management. Payflow Link uses SSL-secured HTTP to connect your customers with a secure VeriSign-hosted order form—making it simple to offer secure transactions on your Web site.

Payflow Link allows you to connect to VeriSign using simple Web links.

To use Payflow Link, simply add a link to the appropriate Web pages at your site. When your customer clicks this link, he or she is brought to a secure order form hosted by VeriSign. Transaction details encoded in the link are used to initialize the form. This includes SKU data, order amount, tax amount, and other order-specific parameters. At the Payflow Link order form, the customer enters the required payment information and submits the form to execute the order. When orders are submitted, you are notified via e-mail. You can fetch the specifics of new orders from the VeriSign Payflow Manager merchant Web site.

Payflow Link provides an inexpensive payment solution for any merchant who needs to quickly and efficiently process a variety of payment types, but doesn't want to host security. Payflow Link is typically used by merchants who process up to 1,000 transactions per month.
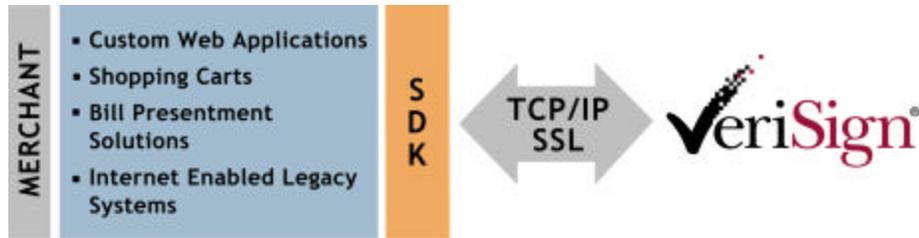
At http://www.verisign.com/products/payment.html, you can take a virtual tour of VeriSign's payment services, and obtain a username and password that will enable you to use and test VeriSign's Payflow service free for 30 days.

When you're ready to purchase and download Payflow Link go to http://www.verisign.com/products/payflow/select.html. You can begin using the service as soon as you open and activate a Internet Merchant Account from an acquiring bank or financial institution.

2. Payflow Pro

VeriSign Payflow Pro is the most robust, versatile solution for online payment processing—ideal for large-scale e-commerce merchants that require peak performance and complete customizability. Payflow Pro is included with Commerce Site and Commerce Site Pro e-commerce solutions and is available separately as a downloadable Software Development Kit (SDK).

Payflow Pro gives you direct access to the Payflow payment processing service via Payflow Pro SDK (software developers' kit) client software, which is installed on your system. The client is a small (400k footprint) messaging agent that uses SSL and X.509 digital certificate technology to securely communicate with VeriSign's payment servers.

Payflow Pro SDK gives merchants more control via a direct TCP/IP connection to the payment gateway and a flexible Software Development Kit (SDK).

To use Payflow Pro SDK, your site passes payment transaction data through the client to VeriSign's payment servers for processing. Payflow Pro SDK is intended for merchants who process more than 1,000 transactions per month, and is scalable up to hundreds of millions of transactions.

- Check out the virtual tour of Payflow Services at http://www.verisign.com/products/payment.html, where you can also obtain a username and password that will enable you to use and test VeriSign's Payflow service free for 30 days.
- When you're ready to purchase Payflow Pro, go to http://www.verisign.com/products/payflow/select.html. You can begin using the service after opening an activating an Internet Merchant Account from an acquiring bank or financial institution.

3. Payflow Pro with Fraud Screen

The anonymity of e-commerce makes the incidence of fraud higher than with face-to-face transactions—but without online fraud protection services, your e-business must bear the burden of "chargebacks" for the full value of any fraudulent, Web-based credit-card purchases. The risk—you could lose customers, goods, and even your merchant account.

Payflow Fraud Screen works with the Payflow Pro service to enable you to distinguish between legitimate shoppers and fraudulent users in real time, reducing your liability for stolen goods and services. VeriSign's Payflow Fraud Screen is based on industry-leading eFalcon fraud scoring technology from HNC, considered the most powerful and intelligent fraud detection and risk management service available. Integrated with Payflow Payment Services, Payflow Fraud Screen enables you to complete authorization and fraud evaluation of Internet credit card purchases in a single transaction request.

If you are interested in Payflow Pro with Fraud Screen, go to
http://www.verisign.com/products/payflow/fraud/index.html

4. Commerce Site Solutions: SSL Plus Payflow

As you discovered in Step Three, SSL Server IDs are the best way to accomplish the essential step of securing your e-commerce site. You can also turn to VeriSign for a complete e-commerce solution that combines SSL Server IDs with Payflow payment

processing services. Commerce Site Services, exclusively from VeriSign, are ideal for e-merchants and online stores. In addition to either 128-bit SSL (Global Server—the world's strongest) IDs or 40-bit SSL (Secure Server) IDs for site authentication and encryption, Commerce Site Services include Payflow Pro, so your online store can easily and securely accept and process credit card, debit card, purchase card, electronic check, and ACH payments.

Go to http://www.verisign.com/products/site/commerce/index.html to select a Commerce Site service or learn more about them. You'll also find pricing information and complete instructions for completing the enrollment and purchase process.

In addition to purchasing Payflow Link, Payflow Pro, or a Commerce Site service, you can also incorporate online payment processing into your site by choosing a shopping cart development package that has VeriSign' payment services integrated in it already. Shopping cart development solutions provide the ultimate in integrated e-storefront building, merchandising, and order-processing services. Their easy-to-use interfaces make creating a Web site intuitive and fast, even for merchants with limited Web experience. Visit http://www.verisign.com/products/payflow/partners/carts.html to find a list of shopping cart packages that include VeriSign payment processing services.

C. Set Up Your Internet Merchant Account

After you've selected and set up your payment processing solution, all you need to start accepting online payments is an Internet merchant account with a financial institution that enables you to accept credit cards or purchase cards for payments over the Internet.

You can obtain an Internet merchant account from one of VeriSign's Merchant Account Partners, or from any financial institution that supports the following processors:

* First Data Merchant Service (FDMS)
* Paymentech (Salem)
* Vital Processing Services
* Nova Information Systems

This includes most banks. Obtaining a merchant account can take anywhere from two days to three weeks

Visit http://www.verisign.com/products/payflow/merchant.html to get started on your Internet Merchant Account.

VI. Step Six: Test, Test, Test

You may be eager to launch your e-commerce storefront, but take time to review and test your site thoroughly before going live. You will only have one chance to make a first impression on each new visiting customer, and broken links, incorrect phone numbers, and grammatical or spelling errors diminish the professional polish you're striving for.

Walk through the entire ordering process to test its usability. Is it clear exactly what customers need to do to purchase? Try buying a product: is the page on which you supply payment information secure? Is the payment processed correctly through your payment gateway? Make sure you use both Macintosh and PCs for testing, and different browsers and modem speeds. You want to be able to support even low end systems (i.e., slower computers with a 28.8 modem line).

Also, don't forget about customer support: it's the key to creating loyal customers. Are you prepared to confirm that a customer's order has been received? Are you ready to follow up with an e-mail message for good measure? A personalized message from a real customer service representative is best, but sending an automatic reply works as well. Set minimum response times and standards for replying to customer questions and concerns, and ensure that your customer support staff is fully knowledgeable about all your products and services, their features and benefits, pricing, and availability.

VII. Step Seven: Promote Your Site

Now, you've established a compelling, secure, and easy-to-use Web storefront for your products and services. It's time to let people know about it. Here are a few tips for driving traffic to your site.

- **Register your site with search engines.** Over 90 percent of Internet users search one or more of the top engines to find what they need. Make sure your business is part of the results when customers look for the products and services you offer.

  Manually submitting your site to search engines and directories can take countless hours every month, so try SubmitWizard, an easy-to-use search engine submission service from Network Solutions and MyComputer.com. Submit Wizard has the capability of automatically submitting your site to over 200 search engines and directories, including Yahoo!, Altavista, Lycos, Excite, Infoseek, and more. Visit http://submitwizard.mycomputer.com/submitwizard_sale.html?cobrand=nsi&service=6 to learn more.

- **Put your domain name everywhere.** Brochures, advertisements, business cards, and even hats, jackets, and t-shirts can be effective ways to promote your site and establish your corporate identity. Don't forget to include your domain name in your press release, too.

  Network Solution's dot com gear is a collection of **distinctive sportswear** items you can personalize with your **company name and Web Address.** Visit http://www.dotcomgear.com to learn more or place your order.

- **Advertise.** Placing a banner ad on other well-trafficked sites can attract huge numbers of prospective customers—and doesn't have to cost a fortune.

Through its partnership with Microsoft bCentral, Network Solutions can help you promote your site with little effort and expense. With a suite of five services, you can increase your online traffic and sales revenue via online advertising, e-mail newsletters, search engine listing services, affiliate programs, and more. Go to http://www.networksolutions.com/catalog/dotcompromotions to find out how it works.

VIII. Now, Start Selling

With an online identity, a Web host, an eye-catching, professional-looking Web storefront, rock-solid security, easy-to-use payment management, and the right promotions, your e-commerce business is ready to succeed in the competitive world of the Web.

Following these basic steps will help you lay the foundation for a thriving site. And relying on VeriSign, the Internet trust infrastructure company, for complete end-to-end e-commerce solutions means you have an expert in your corner every step of the way.

To learn more about VeriSign's complete range of products, services, and solutions for small businesses, home and home office users, and large enterprises, visit http://www.verisign.com.

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