

# **Electronic Check Services On the Internet**

## **W h i t e P a p e r**

*Understanding the benefits and methods for accepting and processing  
electronic check payments through the Internet.*

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>2</b>
<b>HOW ELECTRONIC CHECK SERVICES CAN HELP .....</b>	<b>2</b>
BILL PAYER ADVANTAGES .....	3
BILLING ORGANIZATION ADVANTAGES .....	4
<b>ELECTRONIC CHECK SERVICES USE SCENARIOS .....</b>	<b>6</b>
<b>HOW ELECTRONIC CHECK SERVICES WORK.....</b>	<b>7</b>
SECURITY .....	8
GOVERNMENT REGULATIONS .....	9
RISK .....	9
STANDARDS .....	9
<b>CYBERSOURCE ELECTRONIC CHECK SERVICES.....</b>	<b>10</b>
<b>CONCLUSION .....</b>	<b>12</b>
<b>GLOSSARY .....</b>	<b>12</b>

## Executive Summary

It's an unquestioned fact that the Internet is significantly altering the way in which individuals and organizations transact business. One primary result of e-commerce is the acceleration of transactions and the increase in liquidity of e-markets. In order to accommodate a higher volume of transactions, there must be methods and mechanisms that facilitate all aspects of an online exchange. Successful online businesses and organizations need to provide a complete selection of services that allow consumers and other businesses to 'pay' for goods and services purchased through the Internet.

Electronic checks--the paying for goods or services through the Internet using checking accounts--are one of the most promising methods for emerging Internet payments. Businesses and consumers can pay for goods and services through the Internet using methods that are convenient, cost effective and comfortably similar to the paper check processes. The benefits to bill payers include control, expedition of delivery, and convenience--all with no integration, development or account modification requirements. The advantages to billing organizations include increased market opportunities, expedition of receipt of funds, reduced overhead costs and better cash management.

Electronic Check Services (ECS) from CyberSource provide businesses the ability to easily facilitate the acceptance of electronic checks for e-commerce through a Web page or storefront. Building on the historically successful CyberSource e-commerce infrastructure, Electronic Check Services allow merchants, businesses, government and organizational institutions to accept electronic checks as payment for goods and services. Electronic Check Services are easy to implement, simple to manage, integrate with back-office financial management or accounting systems and conform to the same check flow process that organizations are familiar with today.

## How Can Electronic Check Services Help?

The projected growth of Internet e-commerce is staggering. According to Forrester Research, business to consumer goods and services e-commerce will grow from \$33 billion in 2000 to \$108 billion in 2003. While that growth represents a significant portion of the consumer economy, it is dwarfed by the projections for business to business e-commerce goods and services. Forrester projects the market for the B2B exchange of goods and services to grow from \$295 billion in 2000 to \$1.55 trillion in 2003.

With this level of growth and the volume of transactions that accompany it, how will payment for these goods and services be facilitated? This problem is solved by combining the current payment methods with Internet e-commerce technology to streamline access and facilitate the process. If Internet history thus far is any indication, new forms of payment will not 'replace' existing payment methods but rather Internet technology will be used to automate portions of the traditional process and integrate it with new e-marketplace applications. Credit cards for example, have gained acceptance on the Internet just as they have in the physical world; logic suggests that it is only a matter of time before other traditional payment methods used for business and consumer purchases are embraced for Internet use. Trends indicate that it is the adaptation of traditional methods that gain acceptance—not entirely new payment forms.

Thus, organizations accepting payment will best serve customers and partners by providing *multiple* methods for receiving funds. These methods include accepting credit cards, purchase cards, and *electronic checks*.

Electronic checks function similar to paper checks but with much more flexibility and efficiency. In the traditional payment process, an organization will present a bill or invoice for payment. The payer then writes a check, attaches the bill or invoice and mails it to the billing organization. The

billing organization notes the payment of the bill and deposits the check with their bank or financial institution. The billing organization's bank then submits the check to Automated Clearing House (ACH) where the check is forwarded to the payer's bank and funds are transferred. The paper check is returned to the payer in a periodic statement where it is reconciled with the accounting books.

With electronic checks, the flow of payment information is the same—just much more efficient. A billing organization may present a bill for payment electronically through a Web site. A payer selects a 'pay by check' option and enters check information such as routing and account numbers and check amount. With the click of a mouse, the electronic check is submitted through an online payment processor to ACH for routing and payment and the charge shows up on the payer's next checking account bank statement.

With electronic checks, there are benefits over paper checks to both bill payers and to billing organizations. These advantages can be grouped in the general categories of convenience and speed but include each of the following.

## **Bill Payer Advantages**

### *Convenience*

For consumers or businesses, keying in an amount and clicking 'pay' is much simpler than writing or printing paper checks, preparing envelopes and then sending them. Using electronic checks is a process that is similar to paper checks—the routing and fund transfers are the same—but the efficiency and automation make transactions much more convenient. It doesn't require accommodating new accounting or transfer mechanisms and significantly streamlines the process of paying.

### *Flexibility*

Electronic checks give bill payers one more method of payment in addition to electronic wallets, credit cards, debit cards, purchase cards, automatic debits and others. A significant number of consumers do not have credit cards or have reached their credit limit. The flexibility to choose a payment method that best fits a payer's preference increases customer service levels and helps create loyalty.

### *Faster Transactions*

An electronic check transaction can expedite the delivery of goods and services. Electronic checks can clear in 1-3 business days as opposed to 7-10 days which is fairly common for paper checks. With electronic checks, the process of preparing and shipping goods or supplying services can begin quicker than with paper. Shipping can take place as soon as funds are transferred and in cases where only the authorization for an electronic check is deemed adequate, shipping can begin immediately. There is no need to wait for an invoice to be processed, the check to be written, mailed, and delivered before the process can begin.

### *Better Payment Control*

Electronic checks provide the payer control over when and how a bill is to be paid. Depending on the type of transaction, payers (not the postal service) can determine the actual date that a bill is paid. This tighter control of funds delivery makes it possible to ensure that payments are on-time and that the risks or penalties associated with late payments are eliminated. If the billing organization elects to do so, bill payers can specify whether a payment is made automatically on a periodic basis such as weekly or monthly or triggered when an account reaches a balance threshold or some other transaction variable. This flexibility gives payers much tighter cash management control.

#### *Alternative to Credit Card*

A significant percentage of people in the US do not have or do not use credit cards. For this group (most of which do use paper checks), electronic checks are the best alternative. Paper checks are the dominant form of payment in 'brick & mortar' businesses and moving to electronic checks is a natural evolution. They work like paper checks with debits appearing on checking account statements and the process is familiar and comfortable to check writers.

#### *Float*

One advantage of using checks is float. A check can be received by an organization for credit but the funds are not actually deducted from an account until the check is cleared through Automated Clearing House. This process takes between 1-3 days before funds are actually transferred; during this time the payer still has use of the money. While the electronic check process is faster than paper, it is a misconception to think that electronic checks eliminate float.

#### *Lower Labor Costs*

The paper process of bill presentment and check processing is a resource cost for bill payers. Depending on the number of people involved and the value of their time, the cost can be significant. The effort involved in processing a bill and check includes receiving the invoice, logging it to accounting, writing the check with appropriate signatures, mailing the check and then reconciling the bank statement with accounting. Depending on the level of electronic bill presentment and integration with back office systems, some or all of these steps can be eliminated through electronic checks.

#### *Lower Processing Costs*

High volume check writers can save significantly by implementing electronic checks. Check writing machines, envelope stuffers, postage, labor and overhead associated with high volume check writing can be eliminated.

## **Billing Organization Advantages**

The value of electronic checks to billing organizations is also significant with major benefits including reduced costs and greater customer service.

#### *Reduced Processing Costs*

As with bill payers, billing organizations can expect lower processing, overhead and labor costs through implementing electronic checks. When the acceptance of electronic checks is combined with online bill presentment, many of the steps of billing and collection can be automated or eliminated. These include bill generation, printing, stuffing, mailing and postage, check receiving and handling, posting and account updates. Online billing organizations can save up to \$1 for every bill paid online (source: Information Week, 4/19/99).

#### *Better Cash Management*

Billing organizations can also benefit through tighter cash management control. Timing of payments and receipt of funds is known with accuracy. Notification of insufficient funds occurs more quickly than with paper checks which helps reduce losses and accurately project funds availability.

In some cases, electronic checks can also help to reduce the cost of bank fees charged for other forms of payment such as credit card transactions. Where credit card transactions often incur a fee based on a percentage of the transaction amount, electronic checks only incur only the bank's standard flat fee (if any) for check processing. The result is lower overall transaction costs.

### *Faster Transactions*

The speed of electronic checks helps expedite the entire transaction process with funds typically being deposited in 1-3 days, about half the time of traditional checks. Funds are received faster, service or shipping begins earlier, and the overall cycle of selling and buying can occur at a faster rate. The end result is often higher volume and larger net profits. Electronic checks can be implemented without the need for bilateral agreements between the transacting entities or the implementation of extensive EDI interfaces.

### *Better Customer Service*

Billing organizations that fail to implement electronic checks will not be providing an adequate level of customer service. In business to business commerce, the primary method of payment is checks. Certain online payment technologies, while innovative and technically sound, have failed to receive wide acceptance because they require a shift in process and thinking--electronic checks do not. It is a safe assumption that with billions annual check transactions the transition to online payments through electronic checks will be much simpler and direct than through evolving new systems which require billing organizations and bill payers to retrain and learn a new payment process. Billing organizations that provide payers with a simple, familiar, straightforward approach to online payment will be providing what customers really need and want.

If a billing organization elects to implement electronic bill presentment, services such as viewing account history and statement analyzing are possible. The use of applications for statement analytics such as determining periods of peak usage or sorting items by date, name or price can be very valuable to customers. These added services create customer loyalty and provide a level of service that differentiates an organization from their competition.

### *Expanded Marketing Opportunities*

For many billing organizations such as utilities and service companies, the presentment of the bill is the only opportunity for marketing exposure—the services used are not often directly associated with the provider until the bill comes. Providing online electronic check options for payment also allows billing organizations to present additional marketing messages which appear at the time of payment. This not only allows marketing message reinforcement but enables cross selling efforts as well. A phone company that takes electronic checks for phone service could promote additional calling features or Internet service at the same time checks are being accepted.

Billing organizations can also offer extension services related to online payments that can be financially lucrative. These might include providing financing, credit or loans to customers in addition to partner products and services. The benefit is not only increased margins but a definable measure of higher customer service.

### *Information-rich Transactions*

Because an electronic check is usually filled out using an online form, it can include much more than the standard paper check information of name and amount. A check form might include information about other services or special opportunities. The check can also include or be stored with information that indicates terms of the transaction, the goods or services being bought, and information about the bill payer such as address or demographic data.

## Electronic Check Use Scenarios

Electronic Check Services can be applied to many types of transaction situations. These are not limited to consumer-only or business to business transactions and can be implemented for almost any fund transfer scenario. The following transaction summaries illustrate the uses and value of accepting electronic checks.

### *Business to Business Payments*

Currently, a large majority of business transactions are consummated using checks. This accounts for trillions of dollars worth of funds transfers each year. The B2B payment process can be as simple as providing an online bill with the ability for a payer to type in a check amount. Or, a funds transfer process might include automatic check payments derived from back office systems that measure or monitor goods delivered or services rendered. This derived information can then be used by the billing organization as part of the process flow for clearing receivables or analyzing sales, inventory or a specific customer's transaction history. The complexity of B2B transactions can be automated and streamlined through combining online business processes with electronic checking.

### *Payment for Services Rendered*

In some business arrangements, a prepayment or retainer is required before participation or services can begin. Online bill presentment and electronic checking can facilitate the payment against an agreed upon amount so that services or participation can begin and funds are subsequently transferred.

### *Recurring Payments*

Subscriptions, membership fees, periodic service fees and utilities are all transactions that occur on a regular basis. The use of online bill presentment and authorized automatic account debits through an electronic check system can simplify the process for both billing organizations and bill payers.

### *Payment to Government Agencies and Educational Institutions*

Government agencies can streamline processes and simplify collection of funds through accepting electronic checks. Using a Web site and back office systems that track and manage transactions, agencies can allow organizations and individuals to pay taxes, buy bonds, pay traffic fines, and pay for permits and fees such as those associated with park use, construction, and class registration.

### *Accrued Payment Towards Stored-value Balances*

Businesses often have transaction relationships where a deposit is made to open a credit line toward the delivery of goods or services. An example is a company that establishes a credit line with an office supply store and then periodically pays off the balance. The office supply store in this example could present the balance online and allow the customer to pay using electronic checks.

### *Applications not Suitable to Electronic Checks*

There may be situations that are not particularly conducive to payment using electronic checks. These usually involve digital products where delivery is immediate and the value is non-recoverable if the debt cannot be covered due to fraud or lack of funds. Digital goods categories include software, music, video and documents.

## How Electronic Check Services Work

To have a better understanding of how Electronic Check Services can work for an organization, it is helpful to review the check process in detail showing the options available to both billing organizations and bill payers.

The initial step involves the billing organization presenting a bill or invoice for payment. The options for presentment range from simple to complex. With a simple integration, bills are generated and sent on paper and bill payers are given the option of paying online through an electronic check 'form' which is a simple web page with input fields. In a complex solution, the billing organization back office processes are linked to the bill payer back office processes and all bill presentment, analysis, management, timing, and funds transfers are handled securely and automatically with minimal human intervention for authorization.

### *From the Bill Payer Viewpoint*

In a minimal integration, the invoice is received through any number of methods including a mailed paper bill, e-mail, or through an online statement or account page. A Web page is accessed with an electronic check form that enables the payer to authorize electronic debits from their account (usually in the form of an 'agree' or 'authorize' button). The bill payer then enters a routing number (indicates which financial institution the check will be directed to for payment) and the account number (payer's checking account number at the payer's bank) and the dollar amount.

From here, the check information (routing & account numbers, amount, date, and time) is packaged and sent to a payment processor where the account information is validated and verified. The validation process checks that the routing and account numbers are accurate and the verification process compares the account number to bad check and closed account lists. This process only takes a few seconds after which the results are returned to the billing organization and optionally used to indicate status to the bill payer.

The check information is then routed from the processor to the Automated Clearing House (ACH) network where the funds transfer is facilitated between the issuing bank (bill payer) and the acquiring bank (billing organization). The underlying funds transfer and tracking process through ACH is the same with electronic checks as it is with paper checks and a record of the debit shows up on the bill payer's next bank statement.

### *From the Billing Organization Viewpoint*

Billing organizations have a range of flexibility in presenting bills and accepting electronic checks. An online check acceptance system can be a very simple Web form that captures authorization, routing, account and amount information and hands it off to a processor for verification and funds transfer. Or, it can be more complex with multiple options for payment (installment, one time, subscription, credit/debit card, checks, etc.) and include statement analysis tools, cross-selling links, marketing information, or financing and credit options.

A billing organization may elect to implement a more sophisticated online billing system that accommodates recurring billing scenarios such as subscription renewal, automatic payments or even arranging financing. It may include an integrated buyer/seller purchase order system so that bill payers aren't required to enter account and amount information for every check. This would also help ensure there are safeguards to ensure proper billing and accounting.

For billing organizations, the electronic check system is similar to paper with deposits showing up as part of the regular account statement. Depending on the services available through the billing organization's bank or payment processor, management tools may be available for managing deposits online. This would include monitoring check status, viewing anomalies, and handling things such as returns, cancellations, charge backs and pre-note transactions.

When implementing a system to accommodate accepting or paying electronic checks there are several issues to consider. These include security mechanisms, risks, government regulations and standards.

## **Security**

A primary concern for any entity (billing organization or bill payer) is whether online security is adequate and effective. There is no 'one size fits all' security solution but there are multiple levels of security that when implemented together can significantly reduce any opportunity for fraud or compromise of data. These include the following:

*Access* - Giving access usually involves proving identity by providing information or a data combination that will not be known by anyone but the authorized party. This may be just an account code or it may include a password or security key. Access information may be used to verify users before enabling processes that can transfer funds.

*Encryption* - All secure Internet transmissions must be encrypted. Encryption basically means that before data is transmitted from one location to another, it is scrambled using codes that only the intended recipient can descramble. Encryption mechanisms can be complex with most standard Internet transactions being protected using 128-bit encryption keys.

*Digital Signatures* - Digital signatures can provide an added layer of security by verifying that the sender is really who they represent to be. A digital signature is obtained by providing proof of identity to a third party called a certificate authority which then issues a digital certificate. A person can then send information encrypted using their digital signature or certificate—often this certificate information is stored on a special computer or smart card. In order for a recipient to unencrypt the information, they must check with the certificate authority which validates the identity of the sender. Digital signatures are used with electronic checks in some situations where a higher level of security is desired.

*Secure Sockets Layer (SSL)* - SSL is a standard Internet security mechanism for keeping online sessions private. Account numbers, social security or credit card numbers are kept secure as they are transferred from the sender's browser to the merchant server. SSL provides for an encrypted session between sender and receiver that can not be descrambled or eavesdropped.

*Firewalls* - Firewalls protect back-office systems from outside access. Responsible merchants or commerce sites that store transaction information such as account numbers in databases will adequately protect that information from theft by placing it behind firewalls. Only encrypted information is ever transmitted outside the firewall. Account or transaction information which needs to be visible outside the firewall will usually be extracted from a central database and then presented individually outside the firewall without any possible connection or route for hackers back to the core data.

These are a few of the standard security mechanisms in use on the Internet today. A good bill presentment and electronic check acceptance system will use a combination of these technologies to ensure that communications are secure, transaction information is only accessible to intended recipients, and that back-office database information is protected from outside access.

## **Government Regulations**

The US laws regulating electronic checks fall under the Electronic Funds Transfer Act, Regulation E. Regulation E governs all electronic processing including electronic checks, ATM and credit card transactions. Regulation E states that pre-authorized electronic fund transfers (ACH) from a consumer's account must be authorized by the consumer. Depending on the type of transaction, this authorization can be in the form of a facsimile, a tape recorded conversation or a written or digital signature. Using a Web page form, a billing organization can display a statement requesting authorization and a bill payer grants it by selecting an 'agree' or 'authorize' option. Corporate to corporate electronic payments are not subject to Regulation E; however, there must be an agreement in place between the transacting parties.

If a dispute or error does arise, paper check writers have 60 days from the posting date to notify the bank. The same government rules are in place for electronic checks. Payers using electronic checks have 60 days to notify the financial institution and banks are required to review the dispute or error. Regulation E also specifies that merchants must keep records of debit authorizations and they must remain on file for at least two years.

Canadian laws associated electronic payments are similar to US regulations and are specified in the Canadian Payments Association Rule H4.

## **Risk**

While accepting electronic checks will be more convenient for many businesses, they do carry a certain level of risk. The validation and verification process that occurs during the online transaction does not include a 'hold' on available funds for the transaction amount. Since electronic checks are routed through the standard paper process it could take several days to determine if the account has 'insufficient funds'. This extra delay can introduce risk variables when dealing with customers and immediate shipment of goods.

The entity accepting electronic checks assumes the same fraud risk as with credit cards. The process is slightly different in that upon notification by a credit cardholder of fraudulent use, the funds are automatically credited back to the cardholder account. With electronic checks, the check writer's bank determines whether the amount is immediately credited back or the issue is turned over to 'bank investigations' for further action. With credit cards, the cardholder is 'presumed innocent'; with checks, it is at the discretion of the check writer's bank. Since standards continue to emerge in this area, it is always wise to consult counsel about risk and regulatory issues.

## **Standards**

With the rapid growth of the Internet and e-commerce, standards for financial transactions continue to evolve. Many of the methods currently used for tracking and managing electronic transfers are borrowed from and build on the infrastructure of paper transactions—integration with the ACH network is a good example. In addition, there are new standards that are emerging which organizations looking to accept funds online should be aware of and monitor. One of these is Financial Standard Markup Language (FSML). FSML includes standard methods for presenting and extracting financial and transaction information over the Internet. Similar to HTML or XML it provides organizations the ability to present or extract information more flexibly and uniformly.

The Financial Services Technology Consortium (FSTC) is a group of 15 companies (primarily banks) that are working to standardize the methods for electronic checks, digital signature, payment flow, independent third party processors, etc. As these standards evolve, methods should emerge that will simplify implementation of standard security mechanisms, payment control, and transaction information.

## Implementing CyberSource Electronic Check Services

As part of the set of premier payment services for online merchants and e-commerce organizations, CyberSource provides Electronic Check Services (ECS). CyberSource ECS gives merchants and online business entities the ability to accept electronic checks with minimal integration or development costs. Organizations of any type can accept electronic checks for payment. Business to business transactions can be paid with electronic checks; online merchants can receive payment from consumers via electronic checks; utilities or service organizations can receive electronic checks for recurring payments or subscriptions and many other options are possible.

CyberSource Electronic Check Services are implemented in much the same way as CyberSource Credit Card Services. Integration consists of the following steps:

- Establish (or modify) a bank account to accept electronic checks. This usually is a simple procedure with the bank that authorizes an account to receive and process electronic checks.
- Enable the Web site or storefront to accept check information. If CyberSource services are already in place, this process will be a simple modification to allow the CyberSource component to call the Electronic Check Service in addition to currently used CyberSource services. If no CyberSource services are in place, the integration process will consist of installing the CyberSource component and accessing it through a Web site or storefront.
- The storefront or Web site is set up to accommodate accepting routing and account numbers, check amount and if desired detailed transaction information. In addition, the form must support (for consumer transactions) the capability for customers to authorize the debiting of their checking account to ensure compliance with regulatory requirements. This can often be accomplished with an 'permission to authorize' statement and an 'approve' or 'ok' button.
- Develop methods to maintain transaction records for the two year period required to comply with US "Regulation E" and similar country-specific regulatory issues.

**How It Works,  
Payer/Customer Check Entry**

◆ Payer authorizes debit  
◆ Enters routing number (ABA#) and account number on web form

the power behind the buy button

“Payer”

Commerce Site

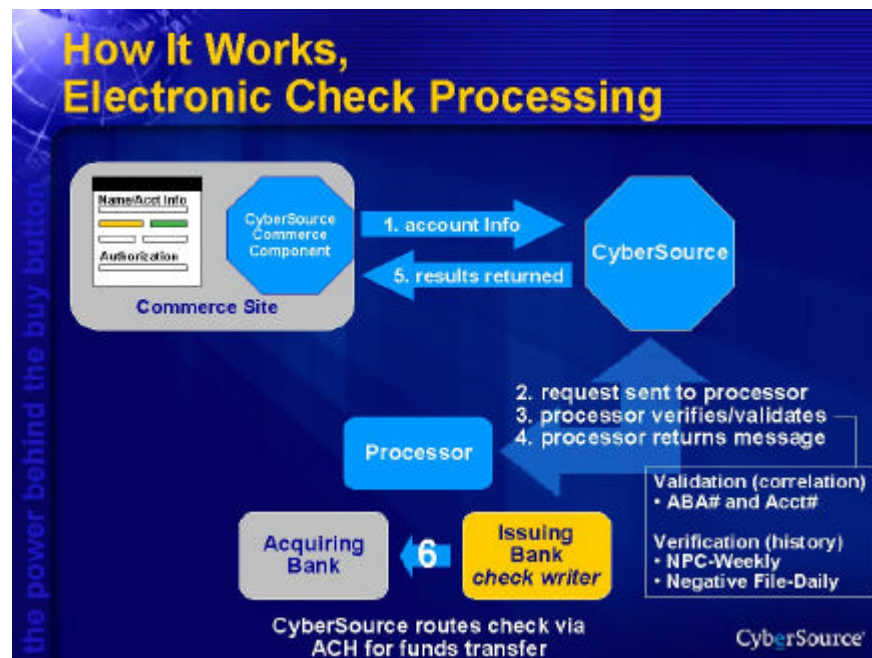
Routing Number      Account Number

CyberSource

The slide features a blue background with a vertical text element on the left that reads "the power behind the buy button". The main content is organized into a flowchart. At the top, the title "How It Works, Payer/Customer Check Entry" is displayed in yellow and white. Below the title, two bullet points describe the process: "Payer authorizes debit" and "Enters routing number (ABA#) and account number on web form". To the right of these points is a graphic of a "Commerce Site" interface, which includes a "Name/Acct Info" field, a "Authorization" field, and a "CyberSource Commerce Component" button. Below the Commerce Site graphic, a yellow oval labeled "Payer" points to a white box containing a routing number and an account number. The routing number is "234 56 789" and the account number is "234 56 7890". The CyberSource logo is located in the bottom right corner of the slide.

The process which occurs through the CyberSource Electronic Check Services transaction process is as follows:

- The collected account and amount information is securely encrypted and transferred to CyberSource.
- CyberSource routes the request to a processor where the transaction is verified and validated.
- The processor returns a message indicating validation and verification status.
- The results are returned to the business/online billing organization.
- The 'electronic check' is routed to ACH, via the Internet, for funds transfer.
- The transaction appears on the deposit statement of the billing organization and on the bill payer check statement.



With CyberSource Electronic Check Services, there is a great degree of flexibility for billing organizations to accommodate bill payers. Businesses accepting payments can insert the ability to present bills and accept checks at any point in the transaction process with as much or as little detail as desired. A billing organization may wish to present billing with account analytics, cross selling marketing information and detailed transaction histories, or they may just elect to capture account and amount information.

The acceptance of checks extend the payment options offered as part of a standard storefront or shopping cart solution. It may be part of a recurring or automatic subscription payment plan, and it can facilitate payment for goods and services between businesses.

The CyberSource component that enables electronic checking can be integrated with any type of Web site process or online interaction. CyberSource forwards the transaction to an ACH member processor and then provides a response back to the billing organization. There is no need for expensive, up front investment as all hardware, software, connection and infrastructure services are hosted by CyberSource. The CyberSource costs include a low initial setup fee and a minimal, per check fee.

## Conclusion

As the wave of e-commerce continues to move through all business to business and business to consumer establishments, it becomes increasingly important that businesses and merchants have the ability to accept multiple types of payments. The most prevalent current form of payment, particularly in business transactions, is checks. The existing business to consumer market has already demonstrated the need for and value of electronic checks. As the online business to business market grows, it becomes increasingly critical that at least one of the options available for online business payment is electronic checks. Electronic checks are similar to paper in concept and accounting but can offer efficiencies, provide additional market opportunities, and can help drive higher levels of customer service.

By using CyberSource Electronic Check Services (ECS) businesses can quickly begin accepting electronic checks without significant investments in infrastructure, development or maintenance staff.

## Glossary

**Account Number** – An identification number associated with a check (electronic or paper) that indicates which particular account at the indicated bank (routing number) a check is to be drawn on.

**ACH** – Automated Clearing House, a network that has been in place for 25 years. ACH processes billions of commercial check transactions which translate to trillions of dollars transferred each year.

**Acquiring Bank** – The ‘billing organization’ bank; the bank or institution that will receive and deposit the funds from a bill payer.

**Canadian H4** – Canadian government regulations specifying guidelines for electronic funds transfer.

**Digital Signature** – A unique electronic identification scheme that is used to ensure the authenticity of a digital document and verify the identity of the sender.

**Issuer/Issuing Bank** – The ‘bill payer’ bank; the check writer’s bank or the institution that will be responsible for transferring funds to the acquiring bank.

**Processor** – Financial entity or institution that is a member of the ACH network. A billing organization bank may act as processor or a processor may be an independent party such as PaymentTech. Refers to independent or third party that takes information from merchant or billing organization and processes it for authorization, clearing and fund transfer.

**Regulation E** – Part of the Electronic Funds Transfer Act (US) that regulates how funds are transferred electronically. Governs the areas of electronic checks, ATM debits and online credit card processing.

**Routing Number** – An identification number associated with a check (electronic or paper) that indicates what bank the check is to be drawn on.