

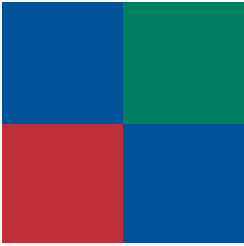


# **The Remaining Barriers to ePayments and Straight-through Processing**

**Research Conducted  
October 2001–March 2002  
By The Clearing House**



**THE CLEARING HOUSE**<sup>SM</sup>  
Advancing Payment Solutions Worldwide



# Contents

---

<b>1. Introduction</b>	<b>1</b>
Objectives	2
Methodology	2

---

<b>2. Current State of Business Transactions and Payments</b>	<b>4</b>
---	----------

---

<b>3. Key Findings</b>	<b>6</b>
Security is a major concern in moving payments over the Internet	6
Credit “push” is preferred to debit “pull” model	7
The banking information necessary to initiate payments is not always readily available	8
There is proven interest in receiving remittance information with payments rather than separate	9
Integration with accounts payable and accounts receivable systems is a major barrier to achieving straight-through processing	11
Accounts payable systems can initiate electronic payments with remittance information, however few packages and hence companies have this capability	11
Accounts receivable integration is critical to automated reconciliation	12
A minimal amount of standard information needs to accompany payments to facilitate automated reconciliation	12
Float is still a major issue for many companies	15
Many misperceptions still exist... more education and promotion is needed	16
Differences in company size and industry will guide marketing of electronic payments	16

---

<b>4. Value Chain Interview Findings</b>	<b>18</b>
EIPP	18
eMarketplaces	19
Buyer Findings	20
Seller Findings	20

---

<b>5. Conclusion</b>	<b>21</b>
----------------------	-----------



# 1. Introduction

The Clearing House kicked off the iClearing and Settlement (iC&S) project in February 2001 with the full commitment of its owner banks: The Bank of New York, ABN AMRO, Bank of America, Deutsche Bank, HSBC, Citigroup, Wells Fargo, Bank One, JP Morgan Chase, Wachovia, and Fleet. The overall goal of the iC&S project is to facilitate the automation of electronic payment and remittance information from payment origination (accounts payable) to account posting (accounts receivable); a concept that is known in the industry as straight-through processing (STP).

In attempting to achieve this ambitious goal, The Clearing House took a research based approach to get a better understanding of why businesses are not using electronic payments and remittances more, as well as, how the various players in the B2B value chain are effecting and/or influencing the payment process. The Remaining Barriers to ePayments and Straight-through Processing is a summary of the market research conducted by The Clearing House.

The iC&S project will result in payment system improvements that will include both system enhancements and business practices that will satisfy many of the company needs identified in the research. Consistent with the mission of The Clearing House, the iC&S suite of enhancements is intended to augment, not replace, the banks' related service offerings. Features and services will be defined, developed and implemented modularly as the iC&S project determines a need for additional payment system services.

The first feature, or Phase I of iC&S, was the development of the Universal Payment Identification Code (UPIC). The UPIC is a unique number assigned to a company's bank account, which masks confidential banking information while facilitating electronic payments. UPICs help to overcome one of the barriers to ePayments in that they give companies the ability to freely distribute their banking information in order to promote the receipt of ACH credit payments. The Clearing House completed the development of the UPIC system in February 2002 and UPICs are now available to all financial institutions which are members of the Electronic Payments Network (EPN).

The Clearing House began the requirements definition effort for Phase II on October 1, 2001. For six months, extensive research regarding current business practices and processes for electronic transactions was conducted concluding in early March 2002. The preliminary findings and conclusions relating to these activities are presented in subsequent sections of this document.




**Figure A**  
**INTERVIEW CATEGORIES, NEEDS AND COMPANIES**

Category	Research Need	Interviewee(s)
<ul style="list-style-type: none"> <li>Buyer, Seller, and Marketplace Application Providers</li> </ul>	<ul style="list-style-type: none"> <li>Understand how current applications are facilitating procurement, invoicing, and payment for goods and services</li> </ul>	<ul style="list-style-type: none"> <li>Ariba</li> <li>Commerce One</li> </ul>
<ul style="list-style-type: none"> <li>Enterprise Resource Planning (ERP) Application Providers</li> </ul>	<ul style="list-style-type: none"> <li>Understand buyer and seller accounts payable and accounts receivable processes</li> </ul>	<ul style="list-style-type: none"> <li>Oracle</li> <li>SAP</li> </ul>
<ul style="list-style-type: none"> <li>Electronic Invoice Presentment and Payment Providers</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate current invoice and payment providers in the electronic payments and invoicing arena</li> </ul>	<ul style="list-style-type: none"> <li>BCE Emergis</li> <li>Bottomline Tech.</li> <li>Xign Corporation</li> </ul>
<ul style="list-style-type: none"> <li>Large Corporations</li> </ul>	<ul style="list-style-type: none"> <li>Understand barriers to electronic payments and remittances and determine corporate needs</li> </ul>	<ul style="list-style-type: none"> <li>Ameren</li> <li>General Motors</li> <li>Exxon</li> </ul>
<ul style="list-style-type: none"> <li>Middleware Application Providers</li> </ul>	<ul style="list-style-type: none"> <li>Assess translation features and functionality of middleware applications</li> </ul>	<ul style="list-style-type: none"> <li>webMethods</li> </ul>
<ul style="list-style-type: none"> <li>Marketplace Operators</li> </ul>	<ul style="list-style-type: none"> <li>Understand how marketplaces facilitate B2B Commerce</li> </ul>	<ul style="list-style-type: none"> <li>Covisint</li> <li>Pantellos</li> </ul>
<ul style="list-style-type: none"> <li>Financial Institutions</li> </ul>	<ul style="list-style-type: none"> <li>Obtain bank perspective on initial Phase II findings and components.</li> </ul>	<ul style="list-style-type: none"> <li>Member Banks</li> </ul>

### Focus Groups

The last portion of the research focused on the end users, talking to those in charge of company finances, accounts payable and receivable, in an attempt to dig deeper into the various barriers to using more electronic payments. Nine focus groups were conducted in cities across the country including: Los Angeles, San Francisco, Chicago, Dallas, Atlanta, and New York. Three focus groups were held for each revenue tier: Small Business (\$1-10MM), Middle Market (\$10 –250MM), and Large Corporate (\$250 MM +).



---

The iC&S team completed several brainstorming workshops to analyze research findings in the context of the iC&S project. The results of the four phases of research have been synthesized into conclusions and key findings, which are discussed in detail in the sections below. There are three sections: the first is a quick look at the current state of business transactions and payments, the second is overall conclusions and key research findings, and the last is general findings summary of value chain interviews. These conclusions form the foundation for the Phase II direction of the iC&S project.

## 2. Current State of Business Transactions and Payments

---

While conducting its research, the iC&S team discovered many variances in business transactions and payments depending on the size of the company. Business remittance information requirements, payment models and system transaction processes vary considerably across industries, corporations and, in some cases, across distinct divisions of a single entity. As a result, the current business transaction and payment environment is fraught with inefficiency and complexity making progress slow but offering a huge opportunity to streamline the process.

- According to a recent study by the Federal Reserve Bank, 3.9 billion business-to-business remittance payments are generated in the United States on an annual basis. 86% of business-to-business payments are via paper check.
- Only 14% of business-to-business payments are electronic. Of electronic payments 70% are ACH based, 17% are FEDI based and 9% are credit card based.
- According to that same study, there are over 8.5 billion remittance payments from consumers-to-businesses executed annually by paper check.
- Across industries, 32% of electronic payments cannot be applied automatically. If remittance information is sent with an electronic payment, 58% provide ACH-based information, 17% provide separate data files, 14% provide FEDI/EDI-based information and 11% provide paper-based remittance information.

---

Despite the capability to initiate and receive electronic payments with remittance information (e.g. CCD+ and CTX data formats), it is clear the vast majority of businesses continue to rely on the time proven paper check payment process. Corporations cite many reasons for why they do not originate electronic payments:

- 1.** Seller does not disseminate account information required to make electronic payments (e.g. invoices do not contain an electronic payment remittance address).
- 2.** Buyer accounts payable/banking system cannot create electronic payments (ACH or wire). Many PC-based small and medium sized business accounting software packages do not have electronic payment initiation or receipt capabilities.
- 3.** Perception of a loss of float.
- 4.** Buyer cannot provide electronic remittance information.
- 5.** Incompatibility of beneficiary accounts receivable system to handle electronic payments with remittance information.
- 6.** Conflicting, multiple message formats and a lack of minimum remittance information standards.
- 7.** Cash management systems available to small and medium sized businesses have either poor electronic payment capabilities and/or poor integration facilities to back-end AR/AP systems.
- 8.** Banks may not have the capability to deliver (sufficient) electronic payment and remittance information.
- 9.** Payment systems lack a proof of payment confirmation for electronic payments.
- 10.** Execution of trading partner agreements are time consuming and costly.

## 3. Key Findings

The following sections cover the overall conclusions and key research findings, and provide you with related survey statistics, observations, and focus group excerpts that led to these findings.

### Security is a major concern in moving payments over the Internet


The Association for Financial Professionals (AFP) conducted a survey on Electronic Payment Initiatives and the Internet, which addressed many of the issues iC&S faces. Respondents to the survey were asked about their current use of the Internet to conduct payments-related functions. About one-third of respondents use the Internet for purchasing and cash management. Significant increases are forecasted for the use of the Internet in payments-related functions in the next two years.

The Internet has been a major catalyst of the increase in the amount of electronic payments originated by providing a channel for various parties in the payment process to exchange more payment instructions, returns, remittance information, etc. What this means however is that bank account information will be traveling across public Internet lines exposing it to fraud along the way. The largest percentage (67%) of AFP respondents—Internet users and non-users—rated security concerns as a highly important barrier. While the Internet remains a catalyst for ePayments growth, the associated security issues remain important obstacles to future use of the Internet for delivery of payment and remittance information.

Many companies are at risk of having unauthorized debits posted against their bank accounts. In the past year there has been an alarming number of fraudulent transactions to support the survey findings. A very relevant legal action arose over fraudulent debits to a major brokerage firm's bank account.

The criminal first obtained a credit card under a fake name. Upon obtaining the card, the criminal established bill payment services through a third party service provider. This third party payment provider was advised to pay the criminal's credit card bill by means of an ACH debit to a specified bank and account number. The account information given identified an account maintained by the major brokerage firm, not an account under the criminal's name. How the criminal got a hold of the account information is unknown but there are plenty of places your account number appears to the public, such as on checks.





---

accounts. Several said they are against the use of direct debits as a payment method because of the loss of control.

*We philosophically don't want somebody to have the ability to come in and debit our account. If there is a problem then you have to run around trying to fix it.*

In business-to-business transactions the debit model exists only for trusted trading partner relationships or with large suppliers who have essentially forced their way of doing business.

*I don't have problems if it is an IBM and the systems are really there with bells and whistles that are going to say hey this clown debited us for \$2 million for no reason at all. It could be a mistake. It could be a deliberate act. You watch what is going on in American business right now and there is even less trust in terms of allowing people to come into [your account] and [debit].*

There was some awareness of the growing European acceptance of direct debits, but by in large companies indicated that if used at all, direct debits have a limited function in their operations currently and in the future.

*I just have a real thing about people coming in and having the ability to debit my account. Conversely we are trying to push [credit ACHs] on the payment side.*

Their strong preference is clearly for the credit push model.

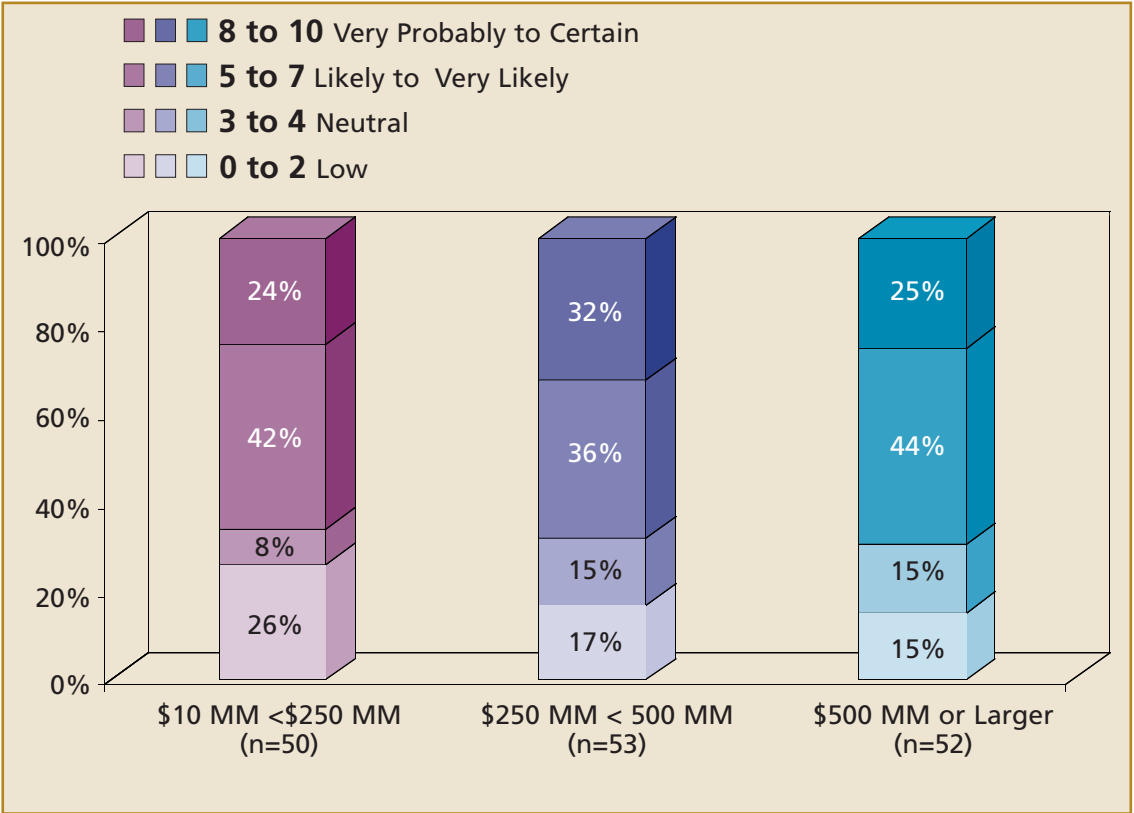
## **The banking information necessary to initiate payments is not always readily available**

A minority of the companies interviewed or involved in the focus groups are currently providing trading partners with their bank account number and asking to pay and/or or be paid electronically. These more progressive companies are usually larger and more sophisticated, often using EDI, account controls and having leverage to force smaller companies to implement their payment requirements. In these circumstances the necessary banking information is given out, but in general the banking information is not provided to give the vendor an option to pay electronically.



The initial survey tested the concept of integrating payment information with the payment and providing it in the same stream rather than separate. Overall, 65% of companies expressed an interest in integrating payment information with electronic payments.

**Figure B**  
**RECEIVING INFORMATION WITH PAYMENTS**



This sentiment was reverberated several times in focus groups and in interviews.

*I've got 20 people applying cash from the checks. If it was all-electronic and the systems talked to each other you could eliminate those bodies.*

By providing remittance information in the actual payment you are increasing hit rates and decreasing the amount of time and money spent reconciling “unidentified” payments. Companies have sited this is a major value-add to their accounts receivable operation.

---

## **Integration with accounts payable and accounts receivable systems is a major barrier to achieving straight-through processing**

The AFP survey states that lack of integration between electronic payments and accounting systems was the barrier identified by the largest percent of respondents (78%). This need for integration with accounting packages to ease reconciliation is real, and more and more intermediaries are entering with products and value added services to address the issue. Financial EDI was created many years ago to solve this problem. Standards were introduced and products were created, however, it has seen a very slow adoption, limited to the largest corporations, mainly due to high start-up and maintenance costs.

More recently products such as Surepay, Clareon, and Bottomline have appeared on the market attempting to solve some of the problems associated with supplying and receiving information rich payments. These solutions are providing the facility to create and handle information and the integration to accounts payable and receivable systems to access remittance detail and facilitate automatic reconciliation. These solutions exist because there is a gap in the payment process and a demand for efficient payments and accounting.

## **Accounts payable systems can initiate electronic payments with remittance information, however few packages and hence companies have this capability**

Most accounts payable packages do not have sufficient abilities to initiate electronic payment instructions with information and send them to banks. The largest vendors such as SAP and Oracle have electronic payment capabilities and can integrate the accounts payable with banking services, however it is often a customized integration rather than standardized. This capability drops off as you move out of the very large corporate segment with small business accounting systems having no electronic payment functionality. Furthermore, the integration with the banking services is not always provided or is expensive to implement. The A/P systems need to not only generate electronic payments, but also fully utilize the 820 CTX, CCD+ payment information standard currently available.

A common theme in most middle market and small business focus groups was that their accounts payable systems were setup to generate checks not electronic payments. Most mentioned that they have a separate more manual process for initiating electronic payments. Wires are generally "phoned in" because the PC interfaces







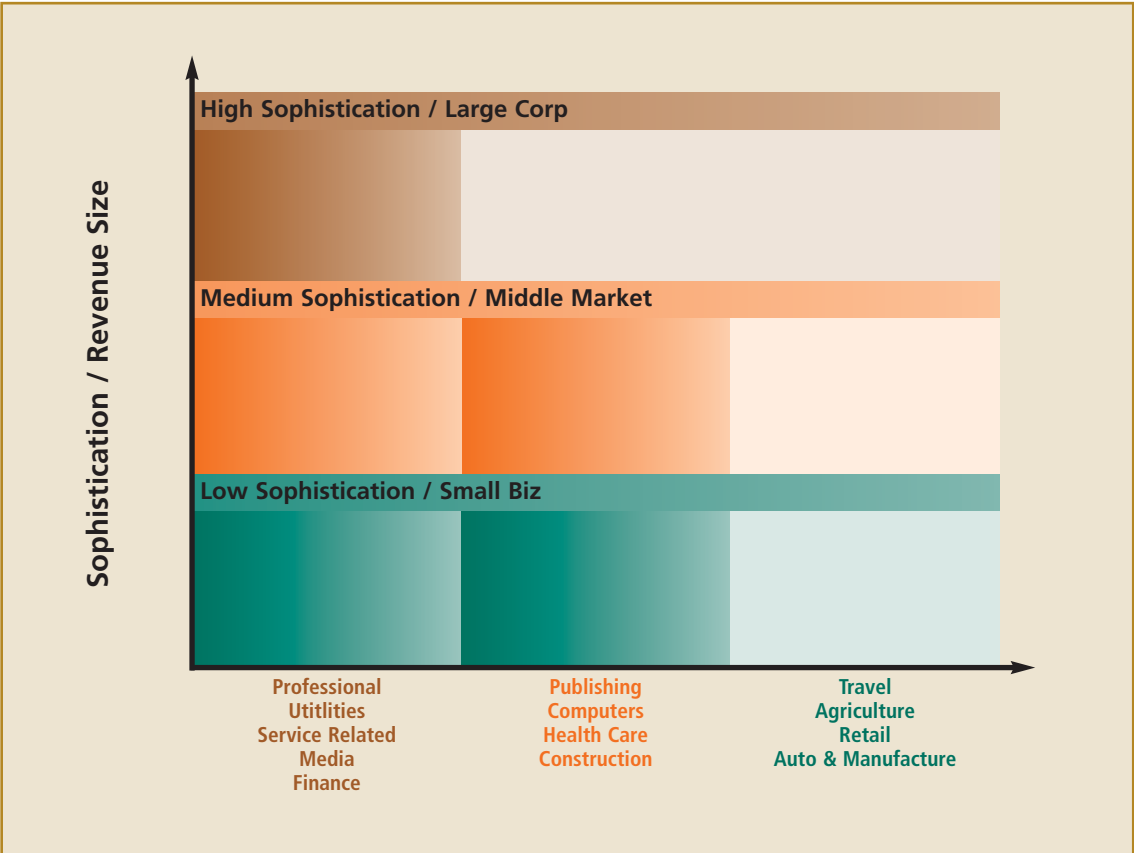




Some industries, such as financial services have characteristics that lend themselves to electronic payments, such as sophisticated systems, while others such as construction are hindered by the nature of their business to require signatures. Companies in the focus groups expressed that some of their smaller customers are not sophisticated enough for electronic payments and would most likely not comply with any requests for electronic payments. Larger companies are more likely to be using electronic payments and Electronic Data Interchange (EDI).

The focus groups provided insight into which industries and company sizes might be more prepared and interested in electronic payments products. The research did not cover all industries or provide an in-depth knowledge of their characteristics, however the chart below organizes the observations regarding which markets should be targeted for ePayments.

**Figure D**  
**TARGET MARKETS FOR ELECTRONIC PAYMENTS**









---

## Buyer Findings

Generally, payments continue to be dominated by paper checks while the electronic debit payment model is the most widely accepted electronic payment process by trading partners with established, trusted relationships. Where trusted relationships exist, the majority of the payments are triggered from non-invoice documents (e.g. evaluated receipts, advanced shipping notices, etc.) rather than from traditional invoices. Relevant remittance information originates from the buyer (paper) organization and is typically exchanged outside of the payment instruction.

Buyers who are using electronic payments frequently transmit remittance information through intermediary enablers or via VAN EDI to ensure remittance information is delivered to trading partners. Buyers view intermediaries and VAN EDI as a more viable and cost effective remittance information delivery channel than banks.

Interviewees cite the burden associated with compliance to a wide variety of standard data formats across banks as a reason for use of alternative information delivery channels. Buyers are burdened with complying with multiple standard data formats in bundling payment information with corresponding remittance, and the associated costs in sending full remittance detail. Full remittance information includes the original remittance information and the corresponding exception detail. Lastly, B2B buyers place a low priority on driving efficiency in the payment initiation process and place a high priority on driving efficiency in the “okay to pay” process.

In the case of seller hosted and controlled EIPP services, buyers viewing electronic invoices rarely use associated electronic payment functionality. This is due to concerns about the debit model, lack of education about the benefits of electronic payments and/or the buyer inability to initiate electronic payments. Buyers have shown that they are more comfortable with the credit model for payment transactions.

## Seller Findings

The iC&S team found B2B sellers share similar concerns with their buyer counterparts. When sellers receive remittance information with electronic payments, they are burdened with translating multiple payment and remittance information standards. The main seller concern is receiving electronic payments without the corresponding remittance information to properly apply payments in the accounts receivable system. Sellers would also like exception detail as part of the remittance information. In the

---

case where remittance information is provided via a lockbox file (i.e. BAI), sellers are identifying customers from the check MICR line—not the customer account number or invoice number. Lastly, sellers expressed an interest in having visibility to incoming payment and remittance information.

## 5. Conclusion

---

As mentioned in the introduction, the result of the iC&S project will be payment system improvements that will include both system enhancements and business practices that will address the barriers to electronic payments identified by this research. One of those barriers was that the information necessary for initiating an electronic payment (i.e. bank routing and account numbers) is rarely made available because of security reasons. The first feature, or Phase I of the iC&S project, was the development of the Universal Payment Identification Code (UPIC), which helps to overcome this barrier. The UPIC is a unique number assigned to a company's bank account, which masks confidential banking information while facilitating electronic payments. UPICs make companies feel very comfortable distributing their banking information, allowing them to promote the receipt of electronic credit payments. UPICs are now available to all financial institutions, which are members of the Electronic Payments Network (EPN).

In Phase II of the iC&S project, The Clearing House is focusing on three components, which address additional barriers identified by this research:

- Increase UPIC Adoption through Targeted Applications and Markets (e.g. UPIC for home banking)
- Promote Improved Electronic Payment Initiation and Receipt Capabilities in Accounting Software and Cash Management Systems
- Define Standardized Remittance Information Requirements for STP



**For more information or questions please contact:**

**Press**

**Chip Savidge**  
Communications Director  
(201) 319-5478  
[chip.savidge@nych.org](mailto:chip.savidge@nych.org)

**Banks and Companies**

**Chris Nautiyal**  
Director of iC&S  
(201) 319-5515  
[chris.nautiyal@nych.org](mailto:chris.nautiyal@nych.org)