



Versatile Check Image Exchange

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Financial institutions are always looking for new ways to improve the value of and return on their payments franchise - new solutions that draw on the latest technologies to transform payment challenges into opportunities. Solutions that enable financial institutions to reduce cost, protect current payment profits, and create new payment revenue streams.

These types of solutions are most valuable when they possess versatility – the ability to work collaboratively, to leverage “relationship capital,” and to improvise and improve new solutions within an environment that is heavily invested in multiple technology platforms and existing infrastructure.

Electronic check image exchange has the potential to save the financial services industry billions of dollars. There is a consensus that check image exchange can make a significant impact through reduced operational costs – particularly through the elimination of the costs and inefficiencies associated with the transportation and duplicate processing of paper-based payments. For check image exchange to enjoy an even greater level of growth and adoption it must provide financial institutions with a new collection of transaction cost advantages that will cause them to change their strategic thinking from the models of the past.

Check image exchange must become more versatile, and offer a broad range of capabilities that address the needs of financial institutions of all sizes. We have identified the facets of versatile image exchange. They include:

- Interoperability across standards
- Inter-network operability
- ECCHO Rules compliant
- Large bank/small bank bridge
- Ubiquitous check clearing
- Float optimized image exchange
- Integrated Returns and adjustments processing
- National settlement capability
- Low uniform pricing regardless of Fed District or time of day
- Built-in image quality
- X9.37 support – accepting co-mingled cash letters
- Energetic thought leadership

Full interoperability between all standard industry exchange formats

The spread of connectivity and check image exchange standards is redefining the check image exchange channel. National check image exchange networks must fully support the X9.37 file format, while also functioning as a translator for disparate, locally used formats between financial institutions. For example, one bank can communicate to the check image exchange network in X9.37, while another can communicate in a format uniquely and tightly integrated with their in-house item processing system.

Incorporating new industry standards, such as X9.81, an emerging XML-based standard designed specifically for the exchange of data between banks, will be critical to the continued growth and industry-wide adoption of check image exchange.

Scalability is another critical component to the versatility and success of check image exchange. The national image exchange networks must be equipped to increase capacity as volumes increase. The national image exchange networks should be easily scalable for volumes up to 50 billion items per year.

Full interoperability between the national image exchange networks

Viewpointe, headquartered in Charlotte, N.C., a leading provider of check image and “Check 21” related services to the nation’s top financial institutions, and the Endpoint Exchange® Network, a Metavante® company, have established system connectivity for the electronic exchange of check data and images between their respective member financial institutions, with settlement through The National Clearing House (NCHA). All members of both Viewpointe and Endpoint Exchange are eligible to take advantage of this increased interoperability. The Viewpointe – Endpoint Exchange connection will dramatically accelerate the adoption of check truncation and image exchange and enhance the productivity and efficiency of the national check clearing and settlement system.

The combined reach of Viewpointe and the Endpoint Exchange Network – the imaging technology infrastructure, integration competency, and established customer relationships – will provide an unprecedented level of check image exchange. One of the largest Viewpointe members, Bank of America, was the first in line to implement, sending images from the archive operated by Viewpointe.

By late summer of 2006, the SVPCO Image Payments Network, the electronic check and check image exchange business of The Clearing House Payments Company L.L.C., and the Endpoint Exchange Network plan to establish full interoperability. The Endpoint – SVPCO connectivity represents another great leap in the growth and interoperability of check image exchange, with the SVPCO Image Payments Network processing an average of 2.3 million daily items, with a daily average dollar value of \$6.9 billion, as of this writing.

Connecting the country’s top-tier banks to mid-tier and community banks

The country’s top-tier banks that clear and settle millions of checks each day need the ability to exchange with the middle- and low-tier banks for their image exchange programs to reach full potential. Similarly, the ability to exchange electronic items, despite system and platform processing differences and reducing the overhead of managing hundreds of endpoint relationships, provides tremendous value and generates the type of true transaction cost advantage that has been an overriding factor in many top-tier banks joining national image exchange networks and pushing for the interoperability between all the major networks.

The ability to clear all checks electronically

Until recently that may have seemed like a development that was still a few years down the road but the technology to clear all checks electronically is here right now.

Check Image Exchange Networks should make available new products designed to provide member institutions with the ability to truncate 100 percent of their forward collection volume. With this type of solution in place, all checks can be accepted, allowing check image exchange network member institutions to clear any check that is otherwise not electronically tradable. When banks enroll in such an option, they enable their organizations to deploy merchant, branch, and other remote capture strategies, while minimizing or eliminating check transportation costs.

These new agency-based settlement programs electronically accept and settle check images drawn on any ABA routing number and handle the downstream item clearing process, while achieving up to 100 percent Day One availability for the collecting institution. The clearinghouse agent institution settles with the sending institution and assumes collection responsibility for those items for all downstream clearing. This includes creating image replacement documents (IRDs) for check images received from the check image exchange network, and supports the optional electronic clearing of only subsets of checks, such as those with high dollar values.

The check image exchange network offering such agency-based programs should first seek to channel items directly and electronically to image exchangeable members or partner as it normally does, at the lowest possible clearing cost. Only if the item cannot be cleared using this process it can then be routed to the clearing agent to complete the transaction. This type of fully electronic clearing product offers a valuable alternative for the financial institution that is interested in selectively taking advantage of image-based technologies. As those institutions migrate to check image exchange, the networks will automatically route their items through the more cost effective clearing channel.

Float optimized check image exchange and settlement

There is a common belief that with Check 21, float issues will be neutralized. That may be the case in scenarios with low dollar check values, or where financial institutions are in close proximity, or where an image exchange agreement is in place, but how can a financial institution achieve float improvement on high dollar check values when the paying financial institution is across the country and does not accept check images?

In that type of scenario one needs an image exchange platform that works in “near real time” and prioritizes and manages IRDs by high dollar amount for optimum float gain and same day settlement.

Check image exchange networks can empower their member financial institutions with tools such as a “High Dollar Analyzer” that determines how much they can improve revenue and collection time by clearing checks faster and with a significant reduction in float.

With “near real time” image exchange financial institutions would be assured of float improvement with nearly 100 percent Day-0 or Day-1 availability of funds.

What would this mean for financial institutions?

- More funds available for debt reduction or investing
- Elimination of the need for reserve balances at multiple banks

Payments make a large contribution to an institution’s revenue stream. The country’s largest banks generate around 40 percent of their revenue from payments. In today’s competitive marketplace it is in the best interest of financial institutions to deploy a proactive image exchange mechanism that allows float optimization, particularly as interest rates rise.

Efficient handling of electronic returns and adjustments

National image exchange networks must provide member financial institutions with the capability to electronically return an image of a dishonored check directly to the participating collecting institution as soon as it is identified as non-payable by the institution. This type of “real-time” decisioning translates into a streamlined returns process.

Providing rapidly accelerated return item notification from other institutions on any item forwarded, – ideally only minutes later – will ensure better management of loss / risk.

One popular option for the national image exchange networks would include integration with a clearinghouse-provided Internet adjustment feature. Such a feature allows X9.37 interface customers to initiate and respond to adjustments electronically via the Internet, as X9.37 does not provide a standard mechanism for adjustment exchange. Another option would be the support of an advanced adjustments feature that could be directly interfaced with an institution's own adjustments program.

Adjustments are a costly, labor-intensive function for financial institutions. Consequently, the national image exchange networks should eliminate missing / free and listing / recap errors, and provide source and target sequence numbers for member institutions, at the item level. This would eliminate the need for source of receipt requests. The only adjustments generated or responded to would be for traditional encoding errors, duplicate items, or image quality faults.

While it is of great importance to reject duplicate image presentments before they enter the system, financial institutions may occasionally need to adjust back for paper items that are inadvertently sent by the depository bank after the image has been cleared.

The option of adjusting the image rather than paper to accelerate funds reversal and minimize risk will be a necessary component for the continued growth of check image exchange. Redundant adjustments -- which sometimes occur in paper-based clearing when depositing, paying, or intermediary processors simultaneously discover the same error -- would be dramatically reduced. Preventing redundant adjustments will result in lowered costs, reduced errors, reduced float, and workload optimization.

Partnership with a National Clearing House as National Settlement Agent

Such a settlement agent should provide highly secure, reliable, and cost-effective image and check settlement services to the industry. Agreements between national check image exchange networks and a national clearinghouse would bring the major image exchange networks together with the premier settlement provider.

Full compliance with the check image exchange rules established by ECCHO

ECCHO (Electronic Check Clearing House Organization) is recognized and supported as the national provider of clearing house rules for electronic check presentment and check image exchange by leading financial services trade associations, clearing houses, and data processors. These rules facilitate the transition to a more efficient check payment system. Member institutions of national check image exchange networks that operate under the ECCHO rules leverage ECCHO membership to ensure that the collection and settlement of electronic cash letters is controlled by a common, standard, national rule set. An exchange network's participating member institutions should automatically be sponsored into the ECCHO rule set for all exchanged items, unless the participant has already secured full ECCHO membership.

Low uniform pricing – across every Federal Reserve District

With check image exchange rapidly growing from a regional to a national presence, the national check image exchange networks should offer consistent pricing across all 12 Federal Reserve districts. The ideal check image exchange network would provide standard national pricing, regardless of geographic endpoint, routing number, or

time of day, (24 hours a day, 7 days a week). Lower uniform national pricing would encourage and accelerate the adoption of check image exchange across the country.

Interface options that attracts the country's leading check image software developers and image-item processing outsourcers

Another area where the national networks can do more to promote the growth and adoption of check image exchange is by providing an application program interface (API), and toolkits to the country's leading check imaging software developers and image-item processing outsourcers. Check image exchange APIs can and should provide full interoperability between any item-processing platform, allowing each member institution to exchange images and data with all other platforms with full transparency.

Utilizing cross-platform architecture, APIs can be designed to help developers of check and item processing systems tightly integrate their systems with image exchange network clients - the node on the network accessed by each participating member's item processing operation. Such interface options will foster competitive innovation on the part item processing system providers to continually increase the efficiency of image exchange.

Stringent check image quality assurance

Providing image quality assurance testing on 100 percent of the items passing through a check image exchange network should be a free service for every member institution, so as to ensure 100% member participation, which in turn helps establish more standardization for IQA metrics.

Image Quality Assurance (IQA) can run in the background on the exchange network client gateways (the node on the network installed in each member's check processing site). The client should handle all traffic into and out of that location and interface with the local item processing system. IQA should test for image quality and usability on each item. IQA should be architected such that it does not interfere with the basic throughput of the network, or impede the timeliness of exchange traffic. IQA should be designed to capitalize on the idle resources on the participant's client node, leveraging underutilized CPU resources, and distributing the intense IQA load across hundreds to thousands of computers.

As financial institutions forward-present their item images, the IQA software should check each one in real-time. Images that are found to have serious and indisputable problems, such as compression or file errors, should be rejected immediately so that they never enter the system. All other items should be carried forward, with the suspect items flagged for the receiving institution's inspection, along with data about which test(s) failed. This will allow the receiving institution to prioritize items that it may wish to review for making an immediate return decision, adjustment decision, or re-scan request.

If the receiving institution wishes, it can return an item on the basis of image quality alone, referencing the appropriate X9.37 return code, well within Reg CC return windows. Check image exchange network member institutions should have the ability to return items instantly and electronically. Alternatively, receiving institutions should have the discretion to choose to accept a marginal image for presentment purposes. An ideal national check image exchange network would provide a built-in re-scan request feature to request a new image from the sender, in accordance with clearinghouse rules. Furthermore, the ability to adjust back poor quality images discovered outside of the Reg CC return windows should be provided.

The case for Versatile Image Exchange through the Endpoint Exchange Network

The national payments industry is in a critical phase. A variety of issues, from ever-increasing transportation and courier costs to the closing of Federal Reserve check processing sites, have the potential to depress revenues and reduce check payments profitability. Moreover, in the past, disparate check imaging platforms isolated financial institutions, creating an environment that discouraged electronic check image exchange.

Image exchange is still in the early phases of its life-cycle. Change comes rapidly, and image exchange providers will need to remain nimble and innovative for several years to come.

The rapid growth and success of the Endpoint Exchange Network can be summed up in one word – “versatility.” The versatility of the Endpoint Exchange Network’s approach to interoperability and innovation has eliminated many barriers to entry in image exchange. Through **Versatile Image Exchange**, the Endpoint Exchange Network provides all of the aforementioned capabilities to meet the challenges and address the needs of financial institutions of all sizes.

- **Full interoperability between all the image exchange formats** – interoperability and scalability are built into Endpoint Exchange. In addition to X9.37, Endpoint Exchange supports emerging XML formats - new standards designed specifically for the exchange of data between banks.
- **Full interoperability between the national check image exchange networks** – Endpoint Exchange has established system connectivity for the electronic exchange of check data and images with both Viewpointe and SVPCO, two of the premier national check image exchange networks, processing millions of items per day, with a multi-billion average dollar value.
- **Connecting the country’s top-tier banks to mid-tier and community banks** – Several of the country’s largest bank (based on asset size) have joined the Endpoint Exchange Network in order to facilitate image exchange, clearing, and settlement connectivity with mid-tier and community banks. The ability to exchange, clear, and settle electronic items, despite system and check image platform processing differences, while simultaneously reducing the overhead of managing hundreds of endpoint relationships, provides tremendous value and generates the type of true transaction cost advantage that has been an overriding factor in so many of the country’s top-tier banks joining the Endpoint Exchange Network.
- **The ability to clear all checks electronically** – Endpoint Exchange and M&I Bank offer M&I National Plus, one of the NCHA Image Exchange Plus products designed to provide Endpoint Exchange member institutions with the ability to truncate 100 percent of their forward collection volume. By accepting all checks, M&I Bank is the first Endpoint Exchange Network member to allow other Endpoint Exchange member institutions to clear any check that is otherwise not electronically tradable. “M&I National Plus” electronically accepts and settles check images drawn on all ABA routing numbers and handles the downstream item clearing process, while achieving nearly 95 percent Day One availability for the collecting institution. M&I settles with the sending institution and assumes collection responsibility for those items for all downstream clearing. This includes creating image replacement documents (IRDs) for check images received from the Endpoint Exchange, and supports the optional electronic clearing of only checks with high-dollar values.
- **Float optimized check image exchange and settlement** - Endpoint Exchange provides an image exchange platform that works in “near real time” and prioritizes and manages IRDs by high dollar amount for optimum float gain and same day settlement. Endpoint Exchange also provides a web-based “High Dollar Analyzer” that helps a financial institution pre-determine how much a financial institution can improve revenue and collection time by clearing checks faster and with a significant reduction in float through the network. Membership in the Endpoint Exchange Network assures member institutions of float improvement with nearly 100 percent Day-0 or Day-1 availability of funds.

- ***Efficient handling of returns and adjustments*** - Endpoint Exchange allows financial institutions to electronically return an image of a dishonored check directly to the participating depository institution as soon as it is identified as non-payable by the institution. “Real-time” decisioning translates into a streamlined returns process. Endpoint Exchange provides rapidly accelerated return item notification from other institutions on any item forwarded, allowing better management of loss / risk. Endpoint Exchange is tightly integrated with the NCHA’s internet adjustments feature, allowing x9.37 interface customers to initiate and respond to adjustments electronically through the NCHA website. Endpoint Exchange also supports an advanced adjustments option that can be directly interfaced with an institution’s own adjustments program.
- ***Partnership with a National Clearinghouse as National Settlement Agent*** – Endpoint Exchange partners with The NCHA for national settlement. The NCHA is the nation’s largest check clearing organization providing payment system services to financial institutions of all types and sizes. It operates the nation’s first completely automated national settlement system, providing highly secure, reliable, and cost effective image and check settlement services to the industry. It is the leading settlement provider for the emerging world of check of check image exchange. The agreement between Endpoint Exchange and the NCHA is a significant step for both organizations. It ensures that the NCHA will act as the national settlement agent for check image exchange operated by Endpoint Exchange and brings the industry’s most versatile check image exchange network together with the premier settlement provider.
- ***Full compliance with the check image exchange rules established by ECCHO*** – The more than 4,000 Endpoint Exchange Network member institutions exchange check images under the ECCHO rule set. Endpoint Exchange Network member institutions leverage ECCHO membership to ensure that the collection and settlement of electronic cash letters is controlled by a common, standard national rule set. Every Endpoint Exchange participating member institution not otherwise a full member of ECCHO is covered by the ECCHO rule set for all exchanged items without any additional fees.
- ***Low uniform pricing across every Federal Reserve District*** – Endpoint Exchange reduced the inter-district pricing for all transit check images (before volume-based discounts) effective January 1, 2006. Under this new pricing model Endpoint Exchange is offering consistent pricing across all 12 Federal Reserve districts. Unlike some check image exchange networks, Endpoint Exchange provides low uniform pricing regardless of the time of day, maintaining its position as the most cost-effective mechanism for national check image exchange.
- ***Interface options that attract the country’s leading check image software developers*** - In addition to many of the country’s leading financial institutions, the Endpoint Exchange Network membership includes all of the country’s leading check imaging software developers and a large number image-item processing outsourcers. The Endpoint Exchange API (Application Program Interface) is a documented set of protocols by which any item processing system can connect to the Endpoint Exchange network. Utilizing cross-platform architecture, the API is designed to help developers of check and item processing systems to make their systems tightly integrate with the Endpoint Exchange Client, the node on the network within each participating member's item processing operation. For participants utilizing the x9.37 interface, Endpoint Exchange provides the Client functionality from within its data centers. Endpoint Exchange offers the API at no charge to third-party developers who execute a basic Distribution Agreement with Endpoint Exchange. The Distribution Agreement allows the vendor open access to the Endpoint Exchange API documentation, and free ongoing support and development tools, including an online simulator version of the Endpoint Exchange Network exclusively for developer testing. The Endpoint Exchange API provides full interoperability between any item-processing platform, allowing each member institution to exchange images and data with all other platforms with full transparency. The API option is ideal for those institutions that wish to take advantage of many of Endpoint Exchange’s advanced features that can only be fully exploited by tight integration with their item processing system. A few of the leading software developers and image-item processing outsourcers that have joined the Endpoint Exchange Network as Image Exchange distributors and solution developers include Metavante Image Solutions, Jack Henry & Associates, Wausau Financial Systems, and VSoft Corporation.

- **Stringent check image quality assurance standards** – Endpoint Exchange offers image quality assurance testing on 100 percent of the items passing through the network as a free service for members. The Endpoint Exchange IQA suite includes over 31 tests for image quality and usability, which are performed on each item.

Endpoint Exchange has assumed an active role in the forging of new standards, often solving technical and work process problems that had been unforeseen by the industry as a whole, and in setting industry direction to optimize image exchange for all financial institutions. Endpoint Exchange participates directly in industry workgroups, including the ABA's x9 Committee, ECCHO's Advisory Committee, and NCHA's Image Committee. Endpoint Exchange also frequently provides thought leadership through speaking engagements at major trade association events.

Endpoint Exchange views check image exchange as an opportunity for financial institutions to gain a competitive edge. **Versatile Check Image Exchange** can help any financial institution reduce costs, protect current payments profits, and "future-proof" your payments infrastructure for maximum interoperability.

Metavante Image Solutions provides comprehensive solutions that help banks and businesses transition from paper to electronic payments and image processing. Solutions that can be delivered in-house or outsourced include distributed capture, check and remittance processing, fraud detection, and document and report management. Customers encompass banks and corporations of all sizes worldwide, from de novo banks to the largest financial institutions and corporations. Within Image Solutions, the Endpoint Exchange Network enables U.S. financial institutions to clear their check-based transactions by allowing for the exchange of check images between member institutions. The Endpoint Exchange Network is the country's first electronic check-clearing network that capitalizes on existing imaging infrastructure and settlement relationships, with the interoperability to connect to every endpoint in the nation. Metavante and Endpoint Exchange are registered trademarks of Metavante Corporation.

