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## What's Next for Check Image Exchange

### Abstract

Check image exchange has 'crossed the chasm' into mainstream acceptance. Geoffrey Moore's seminal work *Crossing the Chasm* lent business-actionable specifics to the effort and challenges of moving technology from innovators and early adopters into mainstream acceptance. But less discussed is Moore's *Inside the Tornado*, where he discusses the benefits and challenges of extracting additional value and building new channels after a technology has gone mainstream. Now that check image exchange has arrived – to use Moore's term – on 'Main Street,' the question is – what's next on the horizon?

### Image Exchange: Crossing the Chasm and Onto Main Street

Few would debate that check image exchange has crossed the chasm into mainstream acceptance, but there still exist opportunities to harvest and exploit value out of image exchange itself, and of the innovations utilized to deliver image exchange. First – consider the intersection of technologies that commingled to allow image exchange. These include: the availability of an industry-accepted file exchange standard, high-speed check image capture, high speed data networks, exchange service providers (e.g., Viewpointe, The Clearing House, the

Federal Reserve), image archives, image quality assurance (IQA) technology, virtual sort pattern editing, high speed image-based reject repair, and workflow technology – just to name a few.

A perfect 'storm', or in Geoffrey Moore's term – 'a tornado' – was seeded by the confluence of the bank business case achieved by reducing the number of human 'touches' that took place with a paper check (e.g., proof, reject repair, incoming and outbound returns) and Federal law that anointed the digital exchange of checks. This 'tornado' rapidly facilitated image exchange into the market at a rate that significantly exceeded expectations.

### The State of Image Exchange

Many of the benefits touted for image exchange have been met. Using the CheckImage Collaborative's 2006 paper 'Image-Based Check Clearing: A Key to Your Competitive Payments Strategy' as a checklist serves as a starting point:

1. **(Benefit Met) Lowered transportation expenses** – Courier costs have been reduced. The need for jets and armored car transport has been almost eliminated in many circumstances, and dramatically reduced elsewhere.
2. **(Benefit Met) Lowered float expenses** – Financial institutions now clear checks much, much faster as electronic images than as paper checks. Clearing



- can take place in minutes, and generally in less than a few hours.
3. **(Benefit Partially Met) Improved deposit deadlines** – With the broad adoption of check imaging, financial institutions can adjust deposit deadlines to better serve their customers, but many have chosen not to do so.
  4. **(Benefit Met) Decreased number of processing steps** – There is now little doubt that check imaging is a more efficient process that reduces overall cost. Many manual processing steps have been replaced with automation, and steps involving the physical transportation, tracking, and reconciliation of paper items have been eliminated or dramatically reduced.
  5. **(Benefit Partially Met) Enhanced customer service** – Streamlined processing could have resulted in better customer service and opportunities for improved products and services, but in many cases institutions have exploited image exchange to reduce their cost of processing – without directly targeting improved customer service as a goal in itself.

### *Lessons Learned from Crossing the Chasm*

**Correspondent Banks:** One of the early ‘surprises’ of image exchange was the focus of some banks on their correspondent relationships, as opposed to depositor-to-payor bank clearing. Initial image exchange relationships were peer-to-peer, with banks exchanging directly with one another using networks such as the SVPCO DTA and Endpoint Exchange. But concurrent to that were banks extending their correspondent bank networks into image exchange, where the correspondent bank, acting as an

aggregator, leveraged its network to negotiate preferred relationships with image exchanges, and then utilized those savings to make the clearing of checks to its correspondents simpler and less costly.

**Internal Truncation:** Another surprise was the use of image exchange in large national banks to perform ‘internal truncation’ by image-capturing their checks from western US regions and then image exchanging these checks to the east coast, reducing or eliminating their internal transportation costs – between their own data centers.

**Early Concerns Not Realized:** Early concerns regarding maintaining ‘transit bulk files’ and image quality assurance issues proved to be unjustified. IRD generation did prove troublesome, but these issues were addressed fairly quickly. Significant numbers of legal challenges questioning the validity of image exchange never surfaced – except of course the Data Treasury lawsuits.

**There Can Only Be One?** Expectations that one clear winner would surface as ‘the’ exchange provider of choice was never realized. There is no monopoly provider. SVPCO, Viewpoint, Endpoint Exchange, and the Federal Reserve all contribute to the overall clearing network's stability and flexibility.

### *Whatever Happened to ‘Straight-Through’ Check Processing?*

Straight-through check processing was a sought-after direction by a number of vendors and industry analysts, but it never ‘crossed the chasm’ for large institutions. The issue is not so much the technology, but that check processing exists in an integrated collection of systems involving presentment, returns, adjustments, settlement, and other components. This collection of components is not easily replaced, and no overwhelming

business case has presented itself justifying such wholesale replacement.

But with that said, the average size of an image cash letter continues to decrease, while the number of files continues to increase – driving toward clearing smaller and smaller transactions with increasing frequency throughout the day. Early innovators – such as Endpoint Exchange – started out as small transaction level, real-time exchanges. Over time even the large file networks such as SVPCO are being exploited for similar smaller size but higher volume sends, albeit these smaller transactions are still bundled into larger files. In addition, internal truncation efforts by banks have added remote deposit capture, ATM, and other capture streams, adding smaller and smaller image cash letters – some containing only a single check. While straight-through processing has not yet been fully realized, the trend continues to smaller and smaller transaction clearings.

### *What's It Like on Main Street?*

Once a technology moves to 'Main Street,' it quickly moves into being seen as a commodity. Competing solutions are listed, compared, and contrasted based on checklists or lists bulleted with Harvey Balls. The explosive growth of the market slows and late adopters are gradually drawn in as prices drop and acceptance of the technology can no longer be dismissed. The innovators and early adopters lose interest and start looking for the next new thing.

After image exchange, the next new thing was remote deposit capture, quickly followed by mobile device capture. But as Moore states repeatedly, there are almost always new and additional opportunities to continue to extract and expand value from the 'Main Street.' In many cases these extensions are enterprise specific, and

hence often they are not provided by the vendors creating the technology originally – since those vendors too have moved onto the next new thing.

### *What's Next on the Horizon?*

**Savings Bond Redemption:** The Check 21 Act specifically excluded savings bonds from its purview. This exception was addressed in March 2012 with Treasury changing the procedures for financial institutions to transmit and receive settlement for redeemed definitive (paper) savings securities (savings bonds and savings notes) from the EZ Clear system to an image-based securities process through the Federal Reserve. See [www.frbservices.org/campaigns/image\\_enabled\\_savings\\_bonds](http://www.frbservices.org/campaigns/image_enabled_savings_bonds) for additional details.

**Canadian Items:** The Canadian Payments Association and Federal Reserve Bank are currently defining rules for .... On this matter – stay tuned.

**Least Cost Routing:** As the cost of technology and networks continues to decline, a number of private exchange networks have surfaced. As the number of networks continues to increase, there exist opportunities for banks to intelligently route items between networks for clearing to minimize the cost of exchange, settlement costs, or to increase funds availability.

**Expedited Processing:** Early on a number of banks focused on correspondent banks to offer image exchange services. There now exist similar opportunities to provide new revenue offerings not only to correspondent banks but also to merchants to provide expedited clearing, early fund availability, improved fraud detection, and other services.

**Early Returns Notification:** The bank back office processing is often siloed from the

image exchange and check processing platforms. Moving returns processing directly into the image exchange workflow is the next logical step for providing a smoother clearing workflow. A valued first step in this evolution is providing the depositing bank an early returns notification as to the 'payability' of the item via the image exchange networks.

**Enterprise Duplicate Detection:** The variety of check clearing channels that exist today have increased the windows of opportunity to present the same check multiple times to commit fraud. The same check can be presented via mobile deposit, via paper presentation at a teller window, and via ACH presentation from a merchant. Enterprise duplicate detection presents the opportunity to close these windows. But some duplicate detection schemes only address one, or at most a few, of the possible check presentment channels available. Without an integrated approach to addressing these multiple channels, there still exists windows of opportunities to present a check multiple times.

**Big Data and Payment Analytics:** The ready availability of Big Data and comprehensive payment analytics is fast approaching. Yet intelligent, workflow-driven front-ends that separate, feed, and monitor payment streams into these engines for concurrent processing are still not fully available. In many cases payment streams are fed serially into these engines, causing a bottleneck and reduction in the throughput and utility of such analytics.

### **Building Value from Your Existing Image Exchange Investment**

There still exist numerous opportunities to build additional value, both in revenue growth and expense reduction, by extending the image exchange infrastructure with

enterprise specific add-ins and new capabilities. Much of this additional value can be added through the use of commercially-available file orchestration engines such as Flux, integrated with internally developed extensions to tailor processing to the specific requirements of the enterprise. Two common patterns in file orchestration are splitting files and aggregating files. Considering these two patterns in conjunction with the maturity of the image exchange environment – the following extension opportunities may exist.

#### **File Splitting**

- **ACH Clearing:** Extract ACH-eligible items for separate clearing from the standard image exchange payment stream, reformat the items, and submit for ACH.
- **Increased Review and Audit:** Selected items, based on account, amount, or other criteria, can be split and submitted for additional and concurrent review (e.g., fraud blocked review, more in-depth IQA testing, or signature verification), parallel to the main clearing flow.
- **Expedited Posting:** Extract items that fail sort pattern edits, remove the items from the stream, repackage the correct items, and submit for immediate processing. Schedule the failed items for manual processing, or if the value is low enough, submit for posting. Process other items later in the day or for next day posting.
- **Transit Cash Letters:** Extract transit items, cash letter these items, and submit for image exchange without processing them through the entire bank check processing infrastructure. Generate reports and data feeds for settlement and outbound cash letter monitoring.

- *CDA Processing*: Extract CDA items for review and processing.
- *Expedited Clearing*: Extract items for selected accounts and submit for higher priority processing.

### **File Aggregation**

- *Taking ATM Feeds into Image Exchange*: Accumulating ATM image feeds into larger files for processing, leveraging the existing image exchange infrastructure and ensuring consistent and timely processing.
- *Image Returns Submission*: Aggregate image returns files accumulated during the day and periodically (or daily) transmit.
- *Image Archive*: Aggregate small image files into larger sends to better optimize image archive loads through more efficient bulk file loads.
- *Host Processing*: Aggregate files into larger sends to better optimize the processing within check processing hosts or DDA posting systems.

### **In Closing**

Check image exchange has ‘crossed the chasm’ into mainstream acceptance. Yet numerous opportunities exist to further increase the value that this innovation has brought the financial institution while positioning for a more integrated payments processing environment. Common file orchestration patterns offer one avenue to exploit those opportunities and address what’s next on the check processing horizon.

### **About the Author**

Ron Schultz is a Solution Architect for Flux, a file orchestration and workflow vendor. Over the past 30 years, Ron has project-managed large software development and implementation projects (e.g., multi-vendor,

mission critical, up to hundreds of IT and development staff) for many organizations including agencies of the Defense Department, telecommunications companies, insurance companies, and numerous banking software providers.

Ron has architected, managed, and delivered software that has yielded dramatic cost reductions and process streamlining throughout the banking industry. Some of these systems currently process and exchange over a trillion dollars a month nationwide. If you handle a check in the US or UK, there is a significant likelihood that check is processed in some way by software that Ron impacted.

Ron has an extensive background in delivering complex distributed workflows processing high volumes (tens of millions of items a day) within highly reliable imaging and transaction processing systems, e.g., checking account exceptions, image archives, image exchange, lock-box, retail banking, and commercial cash management.

### **About Flux**

Flux orchestrates file transfers and batch processing for banking and financial services.

First released in 2000, Flux has grown into a financial platform that the largest US, UK, and Canadian banks and financial services organizations rely on daily for their mission critical financial systems.

### **Flux**

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