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Cheque Imaging in
Canada:

A Change Whose Time
Has Come

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It's time to modernize the way we process cheques

Every business day in Canada, more than five million cheques are transported from one financial institution to another, to reach the branches holding the accounts on which they were written. Some of them log thousands of kilometers en route, passing through two or three processing centres and countless hands.

The current framework for moving cheques through Canada's clearing system is based on legislation that has been in place and substantially unchanged for over one hundred years. Even though Canada is able to boast one of the most efficient cheque clearing operations in the world, the fact that cheques are physically transported around the country creates inefficiencies. In addition, the reliance on air and ground transportation to ship cheques means that a portion of Canada's payments system is vulnerable to interruptions for reasons ranging from bad weather to airport security incidents. It's time to modernize the way we process cheques.

Research conducted in 2002 by the Canadian Bankers Association (CBA) revealed that the vast majority of us, 88% of Canadians, expect our financial institutions to continue to develop technologies to improve our banking experience. Already, in 2002, more than 85% of retail banking transactions in Canada were conducted electronically. (*Technology and Banking: A Survey of Consumer Attitudes, July 2002, CBA*)

Improved technology leads to a more efficient way to process cheques

In Canada and internationally, in locations as diverse as the United States, Singapore, Spain, Hong Kong, the United Kingdom and Australia, a faster, more efficient and safer way to process cheques is emerging. Due to improvements in technology, images of the front and back of cheques can now be captured electronically and then transmitted, or "cleared", between financial institutions, rather than transporting the actual paper documents as happens currently in Canada.

The Canadian Payments Association (CPA) is leading an industry-wide initiative to adopt a new clearing process based on cheque images. Formally referred to as "Truncation and Electronic Cheque Presentment", the cheque imaging initiative is targeted for national implementation by the end of 2006. This shift to image-based processing of cheques will not only improve efficiency, but also allow financial institutions to introduce new services that provide faster and more convenient access to cheque images for customers than the common practice of enclosing cancelled cheques with customer statements.

How are cheques processed today?

In the Canadian clearing system today, paper-based payment items, primarily cheques, are exchanged between financial institutions daily at six regional settlement points across the country. At each settlement point, cheques are exchanged between up to twelve Direct Clearers (major financial institutions who may also act as a clearing agent on behalf of other financial institutions, known as Indirect Clearers.)

The process begins when a customer deposits a cheque at his/her branch. Near the end of the day, that branch's cheques are bundled, totaled and sent by air or ground courier to the regional processing centre for that financial institution in one of six cities across the country. A similar process is in place for cheques deposited at Automated Teller Machines (ATMs).

At the data centre, the amount of each cheque is encoded on it in magnetic ink to facilitate automated processing. Then cheques are passed through high-speed readers and sorted based on the financial institution holding the accounts on which they have been written. Once the total number and value of the cheques has been confirmed, they are bundled once again and then transported to another processing centre that serves the financial institution of the person who wrote the cheque.

There the items are unbundled and processed again through a high-speed reader to verify the number and value of cheques received. Next the cheques are put through the machine again to sort them based on the branch that holds the account on which the cheque was written. Depending on the financial institution's internal processes, the cheques may then be shipped to the various branches. And if a cheque cannot be honoured (for example, due to insufficient funds or a stop payment order), it retraces the entire journey back to the branch where it was initially deposited.

This entire process may involve processing a paper cheque through the reading and sorting machines up to eight times and transporting it up to four times.

How will cheques be processed using imaging?

Although cheque imaging will represent a significant shift in the way cheques are processed behind the scenes, very little will change for the Canadian banking customer at the "front-end".

Canadians will continue to write cheques as we do now, and when we receive cheques we will deposit them at our financial institutions as usual (e.g., at the branch or through an ATM). Financial institutions will, for the most part, follow their current practices for delivering deposited cheques to their processing centre.

From that point on, the clearing process will change. At the data centre, the amount of a cheque and its electronic codeline data, as well as a digital image of the front and back of the cheque, will be captured. Then, instead of shipping the actual physical cheque, the data centre will transmit the data captured from the cheque and the image file to the institution that holds the account on which the

cheque was written, referred to as "the drawee institution", or its clearing agent. As "time in transit" for the electronic files will be virtually nil, the drawee institution will have access to the cheque image and data much faster to make a decision on whether to honour the cheque based on this electronic information.

After the image has been captured at the processing centre and sent to the drawee institution, the original paper cheque will no longer serve much purpose. Shortly after the usability of the image has been confirmed, the financial institution in possession of the paper cheque will see to its destruction. As physical cheques will no longer be available for enclosure in customer statements, financial institutions will introduce new image-based services to provide equivalent information to clients about the cheques they have written. Although the services will vary somewhat between financial institutions, it is anticipated that most will offer a form of “image statement” on which copies of the cheques written by that customer will be reproduced as well as on-line access to images as part of the electronic banking services. Images may also be offered on CD-ROM for business customers with high volumes of cheques.

The move to cheque imaging has begun

Some Canadian financial institutions are already imaging customers’ cheques “post clearing”, that is, after they have been processed and exchanged through the payments system. Most notably, almost all cheques drawn on accounts at credit unions in Manitoba, Saskatchewan, Alberta and British Columbia are imaged, and these images are delivered to customers either on their statements or through electronic banking services, or in some cases, both ways. Businesses and consumers alike have reacted positively to this change. Other financial institutions are also beginning to offer these services to certain clients, such as their on-line banking customers or corporate clients. Although the transition to cheque images for clearing purposes won’t happen until 2006, the delivery of image-based services to customers by financial institutions is likely to continue to expand over the next three years leading up to full implementation of cheque imaging and the use of these images for clearing.

Improved customer service leads to increased client satisfaction

About 1.5 million business and consumer credit union customers in the four western provinces now receive cheque image statements.

Now well into their own initiative, the Western-based credit unions are experiencing the positive impacts of cheque imaging and truncation on client satisfaction.

Many of these credit union clients can view their cheque images via an Internet banking offering. In fact, there are 9,000-10,000 Internet visits to the image archive every day. Clients like the convenience and timeliness, since they can see the cheque image within hours of the debit being posted to their account, instead of waiting for month-end statements to come through the mail.

The image archive has decreased client wait times dramatically for trace requests and statement re-creations. Instead of waiting one to three business days, a client who goes to the branch will receive immediate service. Staff find the quality of image copies better than microfilm copies that have traditionally been used for tracing purposes and are more comfortable giving them to customers.

Cheque imaging offers many benefits

A variety of ways to access electronic cheque images

Financial institutions will have the option of offering flexible, personalized customer access to cheque images. For example, the institution may offer clients print versions of cheque images with their monthly statements, in a choice of format (for example, a variable number of cheque images per page). Some clients may prefer the easy-to-read format of larger images, while others may want to minimize the paper they receive and thus prefer more images per page.

Some financial institutions might offer to provide cheque images via CD-ROM for their business clients. Electronic access to images will allow businesses to reduce the storage needed for returned paper cheques and conduct in-house research on their own cheque image archive. Both business and personal banking customers who have access to online banking will likely have the option of viewing cheque images online, shortly after the transaction is debited to their account. More timely account reconciliation will contribute to earlier detection of fraudulent items, and in turn, a greater probability of retrieving these funds.

Potential new products and services to combat fraud

Cheque imaging will enable financial institutions to offer new products and services to combat signature forgery and cheque alteration. (Cheque alteration involves altering one or more fields to show a value, payee name, and/or date that were not originally authorized by the person who wrote the cheque.)

Image-Enabled Positive Pay. Positive pay is a service now offered to businesses that forward, to their financial institutions, an electronic file containing their cheque production information. When a cheque is presented for debit, it is validated against this file, and if it does not match, the cheque is reviewed by the business client. With imaging, financial institutions will be able to push images of items directly to payors for validation. Not only will payors be able to determine whether a cheque has been altered, they will also be able to view endorsements for forgeries.

Embedded verification. Another potential fraud reduction service involves encrypted codes representing critical information printed on cheques, for example, in bar code, OCR (Optical Character Recognition) or other formats. Paying financial institutions would be able to match encrypted codes with the cheque image, and intercept altered cheques faster than is possible today.

Signature verification software. Today, due to large volumes and manual processing, only a small percentage of the signatures on cheques are actually reviewed by financial institutions. Digitized images will allow for the use of software applications that compare signature profiles systematically against signatures on cheques.

Faster cheque tracing and statement re-creation

In today's environment, cheques are stored centrally on microfilm. Branch staff send trace requests to a central location, and the result is sent back to the branch to be passed on to the customer. Cheque statement re-creation requests are dealt with in much the same way, except they require more research by the data centre.

With imaging, all cheques will be imaged and stored in an electronic archive. Front-line staff will be able to perform searches from an in-branch terminal and immediately print a hard copy showing both the front and the back of the cheque. Statement re-creation will be almost instantaneous as well.

Faster clearing cycle

A financial institution that accepts a cheque drawn on another institution often has no way of knowing whether the cheque may subsequently be dishonoured (e.g. due to insufficient funds, a stop payment order, or a forged signature). In today's environment, if a cheque is dishonoured, the whole process of moving the paper cheque through the clearing system and rerouting it to the financial institution at which it was deposited may take as much as 5 to 7 business days. With cheque imaging, this time frame will be consistently shortened.

To manage their risk during the period of uncertainty as to whether a cheque will be honoured, financial institutions may place a hold on the funds based in part on their estimate of the time the cheque would spend "in transit". With cheque imaging and faster processing times, financial institutions may be able to reduce hold periods.

Reduced risk

The events of September 11th have shown how a major incident can disrupt cheque clearing processes and risk affecting the financial stability of financial institutions. More common occurrences such as courier delays due to weather conditions can also affect clearing performance.

An exchange based on electronic transmissions can be completed within minutes. Canadian telecom suppliers offer secure, high performance private networks with alternate backup paths, totally redundant, and with a track record of high availability.

Progress on the international front

Other countries around the world are also taking steps to modernize and streamline their cheque processing systems.

- The **United States** cleared in excess of 42 billion cheques in 2002, more than all the cheques exchanged throughout the rest of the industrialized world. On October 28, 2003, the American banking industry took a major step towards national cheque imaging when the *Check Truncation Act for the 21st Century*, or *Check 21*, became law. This legislation will come into effect in October 2004 and allow for the use of cheque images in the clearing system.
- **Singapore**, with 134 financial institutions and over 500 branches, has an annual flow of around 92 million cheques. Singapore's central banking authority was the first to put in place an electronic cheque capture program, in the 1980s. In 1997, Singapore introduced an image clearing system, and in 2001 the online Cheque Truncation System was implemented. The National Image Archive stores electronic images of every cheque written in Singapore for instant online retrieval.
- In **Spain**, in 2000, 99.6% of banking transactions were cleared without physically exchanging documents. Direct debits, transfers, and travelers cheques are cleared exclusively on an electronic basis. Also in 2000, 98% of retail cheques and 90% of commercial payment items were truncated and electronic data used for clearing purposes.
- **Australia** and the **United Kingdom** now allow electronic cheque clearing for value. In 1999, 2.8 billion cheques were cleared in the United Kingdom, and 810 million in Australia.
- In July 2003, **Hong Kong** implemented its Cheque Imaging and Truncation System. Seven major banks will use cheque imaging services to process some 300,000 cheques daily, amounting to more than 50% of the total cheque volume in the Hong Kong market.

The road forward in Canada

The CPA and its member financial institutions have established a comprehensive industry-wide plan for the transition to cheque imaging and electronic clearing over the next three years. A key part of this plan is consulting with stakeholders and users of the payment system, and keeping them informed of our progress. The CPA has already begun its consultations with key audiences, including businesses, professional associations, governments and consumer groups. The CPA's Stakeholder Advisory Council plays an important role in this process.

Developing new cheque standards

With the cheque imaging and electronic clearing process, physical cheques will be destroyed soon after the image is captured and its readability is verified. To maximize the quality of the images that are captured, paper cheques will be required to adhere to 'image-friendly' CPA design standards and specifications.

For the most part, personal cheques have already been standardized to one size, with the placement of key fields being the same across all cheques. However, some existing features like personalized backgrounds may inhibit image quality. Business cheques have not reached the same level of standardization, and varying formats may inhibit automated quality control processes.

A CPA Working Group is working on revisions to the current standard for cheques and other MICR-encoded payment items (Standard 006). Following a consultation process, it is anticipated that this standard will be finalized in 2004. This timetable will allow cheque printers and software providers, as well as cheque users, ample time to make any modifications that may be required to their cheques before the shift to cheque images in the clearing system occurs.

Ensuring a solid legislative framework

The current clearing process, in which millions of paper cheques are physically exchanged between financial institutions each day, is based largely on provisions of the *Bills of Exchange Act*, a statute that has remained substantially unchanged for over 100 years. To facilitate the shift to the use of images for clearing purposes in 2006, the CPA is seeking legislative amendments to reflect the modern environment. Discussions with the Department of Finance have begun.

Some other legislation already recognizes and accepts electronic records as replacements for original paper documents. Notably, the *Canada Evidence Act* and parallel legislation in a number of provinces provide for the admissibility of electronic documents in court, as long as the integrity of the systems used to record and store the documents can be established.

Over the coming year, the CPA will be liaising with organizations that have legislative or regulatory requirements relating to cheques to explain the changes in the works and seek their cooperation in putting in place a consistent regulatory framework regarding the use of cheque images.

Setting project milestones

Full national implementation of cheque imaging is targeted for late 2006.

In June 2003, the CPA's Board of Directors approved moving forward towards full national industry-wide implementation of cheque imaging and electronic clearing by the end of 2006. The project plan for the next three years has been established, and several CPA committees bringing together representatives of member institutions and, in some cases, stakeholders, are well under way on their tasks relating to various aspects of the project.

In late 2003, much of the effort focused on the development of standards for the images and the cheques themselves, as well as the file formats for the exchange of images and electronic data and the security requirements. In 2004, work will focus on the development of functional and system specifications, as well as defining rules, standards and procedures.

A new telecommunication network will be required for exchanging electronic cheque information and images between Direct Clearers. Two new software applications may be required for clearing operations: a file exchange control system, and an image quality control system. Current plans call for system development and testing to be completed by mid 2005, with pilot projects scheduled to begin in the second half of 2005.

By late 2006, the modernization of Canada's clearing process for cheques should be complete, and both financial institutions and their customers will be enjoying the benefits of greater efficiency and convenience.

Glossary of Terms

Term	Description of Term
<i>Automated Clearing Settlement System (ACSS)</i>	The system through which the vast majority of payment items in Canada are settled.
<i>Cheque Image</i>	A digital representation of a cheque (front and back).
<i>Clearing</i>	The process of exchanging and reconciling payment items that result in a transfer of funds from one financial institution to another.
<i>Collecting Financial Institution</i>	The institution that receives a cheque on negotiation or deposit.
<i>Direct Clearer</i>	A financial institution that settles cheques drawn on or payable by it through a settlement account at the Bank of Canada and is a Participant at one or more Regional Settlement Points. Direct Clearers may be Clearing Agents in that they deliver and receive items on behalf of non-participating Direct Clearers or Indirect Clearers.
<i>Electronic Cheque Presentment (ECP)</i>	The process whereby a cheque or eligible paper item is delivered for payment through transmission and reliance upon electronic information rather than the paper instrument itself.
<i>Imaging</i>	The process whereby a copy is taken of both sides of an item and stored in an electronic file as a digitized picture, identifiable through a unique trace/serial number.
<i>Indirect Clearer</i>	A financial institution that settles for cheques drawn on or payable by it through a settlement account with a Clearing Agent.
<i>MICR line</i>	The electronic codeline at the bottom of a cheque i.e. the Magnetic Ink Character Recognition line
<i>Paying Financial Institution</i>	The institution to which the cheque is addressed, and which is directed to pay the amount of money therein mentioned.
<i>Settlement</i>	The process of adjusting financial positions of individual financial institutions to reflect the net amounts due to and from them as a result of the inter-financial institution exchange of payment items.
<i>Truncation</i>	The procedure in which the physical movement of paper items within an institution, between institutions, or between an institution and its customers, is curtailed, being replaced in whole or in part by electronic record of their content for further processing and transmission.