

Third-party payments provider leads the charge in preparing for a modernized national payments infrastructure



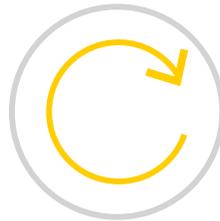
The organization in this case study is a third-party payments provider, it has invested significantly in its technical infrastructure and has made considerable advances in its payments modernization journey already. The organization has successfully adopted the ISO 20022 data messaging standard in its European and Australian operations based on changes introduced by Single European Payments Area (SEPA) and New Payments Platform (NPP) mandates, respectively. It is currently preparing for adoption of the standard in Canada.

This organization welcomes Payments Canada's modernization effort, seeing it as a requisite change that is part of a global trend towards improved interoperability between countries and the ability to offer Canadian clients a greater range of choice in payment solutions.

This organization has mature payments capabilities and is actively exploring new use cases that can be enabled as a result of a modernized payments infrastructure. Its primary focus is in preparing for three key changes that are expected to be introduced by Payments Canada in the near term and include:

Key themes explored in this case study

-  1. What are potential opportunities that Canadian companies can take advantage of as a result of payments modernization?
-  2. How are Canadian companies preparing for payments modernization?
-  3. What key learnings can Canadian companies derive from payments modernization efforts outside of Canada?



Implementation of the ISO 20022 data standard



Addition of a third exchange window



Creation of a real-time payments rail

This case study was developed through multiple interviews with employees in key payments, business support, leadership, and transformational roles that are driving the company's readiness effort in Canada. Its findings are substantiated by facts that the organization was willing to share without compromising any proprietary information.

EXECUTIVE SUMMARY

Drivers of change



- Regulatory mandated adoption of ISO 20022 in Europe and Australia as a result of SEPA and NPP implementations.
- Active engagement in consultation on Canada's modernization.

Potential benefits from payments modernization



- \$2.8M to \$3.8M over five years.
- \$600K to \$800K on an annual basis.
- Increased revenue from new offerings not yet quantified but expected to increase overall benefits.

Source of benefits



- Productivity gains from increased automated matching of invoices to payments derived from enhanced remittance information laid out by ISO 20022 messaging.
- Reduction in errors, rejects and required manual adjustments on cross border remittances as other markets also adopt ISO 20022.
- Ability to improve accuracy of cash forecasting due to additional batch exchange windows.
- Ability to offer enhanced analytics from data-rich ISO 20022 remittances.
- Introduction of additional real-time and near real-time offerings to satisfy client demand for specific use cases.
- Innovation opportunities from open collaboration with clients and other vendor through the use of Application Programming Interfaces (API).

Projected effort



- Cost to implement expected to exceed \$1M.
- Time to implement from initiation to launch including testing seven months.

Accelerators



- Robust organizational awareness on upcoming modernization changes due to active engagement of key executive with Payments Canada. This individual is championing change internally and continues to raise organizational awareness of upcoming changes and potential opportunities.
- Experience with ISO 20022 implementations in Europe and Australia will shorten end to end implementation by three to five months.
- Well defined data extraction and storage concepts with an expanded data governance framework to ensure ability to consume, store and move incremental data generated by ISO 20022.
- Ability to seamlessly redistribute work-load between shifts and locations to accommodate increased batch exchange windows.

Lessons learned



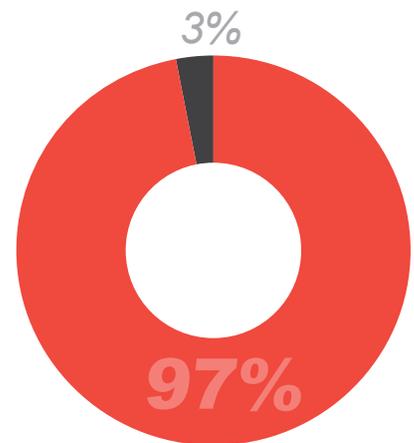
- Need to articulate a clear corporate strategy to address potential loss of revenue related to reduction in float as options for expedited funds availability accelerate clearing and settlement of payments.
- Criticality of proactive engagement with partner financial institutions to understand interpretation of ISO 20022 standards based on experience in Europe.
- Importance of early engagement with Canadian banks whose payments modernization efforts are at different stages of maturity.
- Need for continued engagement with Payments Canada to understand guidelines and requirements as ISO 20022 is rolled out.
- Importance of co-location for cross functional team tasked with enabling the changes across the organization to drive accelerated execution.



The organization connects the payroll systems of its clients to their banking partners in order to manage employees' salary and tax payments. It has a sizeable global reach given its Canadian operation oversees payments processing for multiple regions including Europe, North America and Australia. International payments operations are spread across its Canadian locations to accommodate the need for multiple time zones in order to better support business operations in other countries. The organization processes 60 million transactions per year of which 97 per cent are Automated Fund Transfer (AFT) batch payments and three per cent are a combination of wire transfers and manual cheque payments typically used to provide access to funds for employees on a rush or exception basis.

Key payments processing activities for the organization include:

- **Remitting payment files to financial institutions:** The organization's interaction with its banking partners is handled by a specialized business area. Payment files created by the payroll engine are sent to this unit for verification and distribution to the appropriate financial institutions.
- **Trust accounting:** The organization takes funds out of its clients' accounts and holds the funds for up to three days until they are distributed to employees.
- **Reconciliation:** Payments taken from clients and files returned from banks have to be reconciled to ensure accuracy. The organization handles 130,000 payment reconciliations per year. To ease the reconciliation process, the organization tags payments with a unique identifier that follows the payment throughout its lifecycle. This additional step can drive complexity as the organization is dependent on its banking partners' ability to maintain the identifier throughout their own internal file transfers in order to perform required reconciliation of payments to files.
- **Treasury forecasting:** The organization determines any discrepancies between what is collected from its clients and what is scheduled to be remitted to financial institutions. Liquidity across its jurisdictions is managed centrally as a joint operation between its Canadian and American divisions.



Distribution of payments issued by the organization

- AFT batch payments
- Wire transfer and cheque payments

HOW IS THE ORGANIZATION PREPARING FOR THE CHANGE?



From its past experience with modernization efforts in other geographies, the organization is well positioned for implementation in Canada. It understands the nature and scope of the three areas of focus mentioned above. It has established a mature delivery model that leverages co-location of cross functional teams to execute the various projects required to enable the changes in Canadian operations.

Communication and sponsorship have also been an essential component to the organization's success. One of its senior leaders is actively involved in industry forums and works very closely with Payments Canada in the stakeholder consultation process. This person's deep understanding of various components of modernization enables them to act as an internal ambassador and agent of change driving greater internal awareness of the program. As a result, key individuals in on-going operations are familiar with the program's requirements and timeline of proposed milestones.

The organization has also deployed a proactive approach to anticipating how clients' needs can be better met after introduction of key changes. It formalized a process to consider how its commercial offerings will need to evolve to take advantage of a faster and more data-rich payments infrastructure.

FROM CPA STANDARD 005 TO ISO 20022:

In 2016, Payments Canada introduced usage guidelines for the exchange of ISO 20022 messages for AFT payments. The underlying vision is to harmonize the guidelines across all systems that Payments Canada operates now and in the future. Enhancements offered by ISO 20022 that are not currently available in Payments Canada's Standard 005 include:

- The flexibility to deliver more detailed remittance information in a structured and unstructured manner
- The opportunity to enhance the payment lifecycle information chain by identifying new parties such as (but not limited to) Initiating Party, Ultimate Creditor and Ultimate Debtor
- Adoption of a universal messaging format that is the foundation for global payments inter-operability across borders



What can ISO 20022 offer?

ISO 20022 is the standard governing payment messaging structure and is considered an essential component to a modern payments infrastructure. It introduces a greater range of required data fields to include enhanced remittance information and allows for transmission of links and more user defined fields. The ISO 20022 data messaging standard can also help address concerns stemming from managing multiple unique bank file formats and limited remittance information, both of which are principal obstacles to increased automation of payments processing given the requirement for manual reconciliation and exception handling.

Canadian banks currently use the CPA Standard 005 messaging standard. The primary shortcoming of this standard is that each Canadian bank maintains its own interpretation of the standard, driving uniquely customized file formats for each bank. Furthermore, as the Canadian messaging standard is unique to Canada, issues also arise when remitting international payments. For example, the organization has reoccurring issues with an international bank whose anti-money laundering processes have been triggered due to an inability to appropriately interpret the Canadian banking format. This results in delayed payments and increases the requirement for manual workaround efforts to coordinate with the foreign bank and explain source of funds. Payments Canada's vision for ISO 20022 implementation is to leave as little open to interpretation as possible in order to drive a consistent adoption of the standard across the industry, the requirement for mandatory specifically defined data fields is expected to increase interoperability from current levels both domestically and internationally.

Another drawback of the current messaging standard is the inability to include rich remittance information due to space limitations, making it necessary for this organization to maintain multiple files to capture all relevant payment information eliminating the potential to automatically match payments to their source. As a result, the organization currently has an auto-match rate of 0 percent for payments processed in Canada versus an observed 90 per cent in their European operations. In addition, there is significant manual work effort involved for exception handling given that the organization administers over 200,000 exceptions per year. Predominant exceptions include recalling an erroneous payment, performing a payroll reversal, funding exceptions and changing information that was incorrectly submitted by the client in their file. Cycle times vary from three minutes to recall an erroneous payment, to 20 minutes for reversing a payroll entry. With limited remittance information, corrected files sent to the bank are not necessarily linked to the ones previously submitted driving the need for manual work and coordination with various bank partners in order to resolve the issue.



INNOVATION OPPORTUNITY

The organization is considering innovation opportunities stemming from increased data richness and availability including value-add analytics services for its clients that can be delivered through API access into its platform. It is also exploring potential partnerships to increase capability and ease of use in presenting information to end users by embedding links within specified fields in the payments message.

How will this organization deploy ISO 2022 in Canada?

Implementation is expected to take approximately seven months from planning through to completion. As the organization has already adopted ISO 2022 in other jurisdictions, most development is well understood and Canada’s implementation program is expected to focus primarily on testing and business readiness. An estimated 80 per cent of the program assets have already been established through leveraging existing knowledge and work products established in other implementations abroad.

The organization has observed a 90 per cent auto-match rate for its European payments since implementing ISO 2022 as a result of more robust remittance information. Its goal is to achieve the same level of efficiency and automation for payments in Canada where they currently observe a zero per cent auto-match rate. The program is expected to deliver substantial improvements from increases in auto-match rates expediting existing reconciliation processes. This in turn can provide financial benefits for the organization in the form of re-deployed capacity towards more value-add activity and potential savings derived from automation.

The following table summarizes the degree of change driven by implementation of the ISO 2022 standard across key components of the organization’s operating model with the most significant change expected to occur in the area of technology.

 PEOPLE	 PROCESS
 TECHNOLOGY	 ORGANIZATION
<ul style="list-style-type: none"> • Opportunity to re-deploy capacity of employees performing manual matching and resolving errors to value-add activities like analytics. • Training requirements to socialize the changes introduced by increased availability of data and higher automation driven by adoption of ISO 2022. 	<ul style="list-style-type: none"> • Process changes may be required in order for additional data to be extracted from source systems to comply with ISO 2022 standards and also retrieve and store additional remittance data.
<ul style="list-style-type: none"> • Multiple files that were previously necessary to represent a single transaction can be consolidated into one file reducing the potential for failure points. • Data structures may need to be reconsidered in order to account for the availability of additional data elements. • Infrastructure considerations to account for larger amounts of data and new data structures may also be required. 	<ul style="list-style-type: none"> • Data governance for newly created and consumed data may be required after implementation.

CHANGE REQUIRED



The potential benefits from ISO 2022 can be significant not only for the organization but also for its clients and their employees. Companies can gain a greater degree of control over their payroll processes by enabling more seamless inclusion of new joiners or terminations into the regular payroll cycle. They may also benefit from greater access to aggregated data about their workforce and leverage new offerings created by the organization to manage their workforce more efficiently.

Employees may also derive benefits by having greater visibility to information about their paycheques and the ability to move and store that information in a manner that can be beneficial to their financial well-being.



KEY CONSIDERATION

The organization indicated that the implementation timeline has a dependency on the readiness of its Canadian banking partners whose ISO 2022 implementation plans are at different stages of maturity. This becomes more important in light of the fact that the ISO 2022 specifications for mandatory fields for each system in Canada’s infrastructure have not yet been published; however, Payments Canada’s vision is to harmonize and align the requirements across all systems in operations.



What can the third batch exchange offer?

Transmission of payment files between the organization and its banks takes place during two scheduled transmission windows. Often a payment scheduled for the last transmission can be late and must therefore be postponed to the following day impacting the organization's cash position as the current forecast becomes inaccurate when payments are moved from their expected window. The introduction of the third exchange window can now allow the organization to better serve its clients in western Canada and improve its cash forecasting ability by offering an additional window to remit payments within the same day as they were expected.

How will this organization accommodate a third exchange window?

Planning for Payments Canada's third exchange window is an active project in the organization. It is in the discovery phase and has determined that adding an additional window would be beneficial to accommodate payments, especially for clients based in western Canada. This is because the third batch exchange occurs by 6 p.m. PST, thereby opening an additional three-hour period for payments processing across all regions in the country. The change is expected to be a simple one to deliver as it leverages processes, people and technology already existing in the organization. While the change will enhance the organization's ability to expedite funds delivery due to the requirement for two hour fund availability, it also has the potential to reduce any benefits that the organization currently derives from float.

Potential benefits to the organization's clients could also include the ability to better handle requests for payroll exceptions and corrections and faster access to working capital.

The following diagram summarizes how the implementation of a third batch exchange is anticipated to impact the organization's operating model.



KEY CONSIDERATION

The implementation of a third batch exchange window may require additional monitoring of the organization's cash position to ensure that daily funds demand can be met.

Along with changes to the batch exchange window schedule, banks will make the funds available a maximum of two hours after each exchange.

The organization understands that any kind of faster money movement has the potential to adversely impact their revenue as float fluctuates. A corporate strategy will need to be developed to address the impacts of faster funds availability.

	PEOPLE		PROCESS
<ul style="list-style-type: none"> The process changes will not require additional head count or resources. Resources will instead be redistributed across shifts or locations to accommodate shifts in timing of file transfers. 		<ul style="list-style-type: none"> Process changes will need to be made as additional transmissions will create incremental workload; but will not drive additional complexity as activities are well understood as part of the current transmission processes. 	
	TECHNOLOGY		ORGANIZATION
<ul style="list-style-type: none"> No technology changes are required as a result of the introduction of a third exchange window. 		<ul style="list-style-type: none"> Staggering and re-balancing the workload across Canadian locations, will deliver a business model change to become a 12-hour operation as opposed to an eight-hour operation. 	

CHANGE REQUIRED

Minimal
 Moderate
 Full



How is this organization considering its approach to real-time payments?

The organization believes that the primary application for real-time payments will be for issuing payments that are time sensitive due to exceptional circumstances encountered by its clients. The organization is often required to send emergency wire payments to clients' employees when there is an error in the payroll processing. Wire payments attract higher transactional fees that may impact both the organization and its clients in the form of unnecessary cost. Furthermore, e-Transfers are not a viable option due to current restrictions on individual, weekly and monthly transaction limits. The organization's clients have expressed interest in real-time payments as a viable solution to quickly resolve payroll exceptions like emergency advances and remittance for new joiners or terminations that need to be processed outside the regular payroll cycle.

The organization is active in developing products that expedite funds availability and improve ease of use for its client's employees. It has recently launched a loadable card in the US that enables employers to pay workers in near real-time after a shift is completed. This product addresses the needs of the unbanked population in the US by providing a reloadable pre-paid card without a need for a bank account. As Canada has a lower incidence of unbanked population - 99.7 per cent banked in Canada versus 93.1 per cent banked in the US, the product has not been introduced locally.

Real-time payments will also increase the speed at which finality of settlement occurs, which has the potential to drive some implications to the treasury processes and cash demands. It will also require establishing robust controls to enhance verification of payments recipients and prevent fraud. The organization understands exposure to fraud may be partially mitigated due to the fact that real-time payments are initiated by the sender (credit push transactions) as this ensures the payment cannot be retracted. Acceptance of real-time payments would also be limited to transaction amounts under a certain threshold; however, transaction limits for real-time payments have not yet been published in Canada. While real-time payments can allow treasury operations to deploy a more agile approach to forecasting cash demand the overall benefit to the organization will need to be defined as real-time payments may fill gaps in capability with current near real-time offerings.



INNOVATION OPPORTUNITY

The organization is excited about the innovation opportunities that can be enabled by real-time payments. They understand that there are workforce trends of shared platforms and increasing "set your own" hours type of work (e.g. Uber drivers) where immediate funds availability after an employee's shift can add value for their clients and their employees. The organization will need to clearly articulate to clients the value proposition differentiators between real-time and near real-time solutions.



How is this organization thinking about real-time payments?

The organization is currently exploring the use cases for real-time payments and how they will complement and augment the capabilities offered by their near real-time offerings. The organization is in the process of defining the opening of a new array of use cases that allow for expedited payment options and the ability to create differentiated price points to account for the cost of providing enhanced convenience and speed to their clients. This approach is also expected to increase choice for its clients.

The organization is also considering how to incorporate real-time payments into its suite of solutions, especially since enhancements to AFT will help expedite funds availability. Given their experience in other geographies, the organization believes that larger transaction limits for real-time payments can increase the potential solutions to offer their clients and accelerate adoption of real-time payments for business to business remittances. The implementation for the Real-Time Rail (RTR) will be ISO 20022 enabled, so the benefits accrued from increased remittance information can also accrue for payments made through RTR. The organization has time to consider its approach to offering services through RTR and is actively doing so in advance of the upcoming introduction.

The following diagram summarizes how the change effort to implement real-time payments will be distributed across the organization’s operating model dimensions with significant effort expected in all areas.

 PEOPLE	 PROCESS
<ul style="list-style-type: none"> • Employees will need to become accustomed to operating with real-time immediacy as opposed to waiting for scheduled payment windows. • Training will be required to ensure that the process changes necessary to accommodate real-time payments are well understood. 	<ul style="list-style-type: none"> • Process changes will need to be made as the organization shifts to credit push transaction processes with finality of funds exchange. • Impacts to back office operations to be considered to accommodate 24/7/365 payment availability.
 TECHNOLOGY	 ORGANIZATION
<ul style="list-style-type: none"> • Changes to the organizations’ ERP solution to accommodate the need for real time payments may be needed; commercially available ERP solutions offer real-time payments module to facilitate adherence to real-time service level agreements. • The ERP may need to be configured to generate and receive ISO 20022 messages. • The ERP needs to be configured to send real-time response messages upon receipt of payment. • The ERP can allow the organization’s banking provider to perform a credit approval check for outward payments and an account validation for inward payments. 	<ul style="list-style-type: none"> • Policies for accepting and transmitting real-time payments will need to be developed. • A strategy to outline differentiated offers in both real-time and near real-time offerings will be need to be developed.

CHANGE REQUIRED



KEY CONSIDERATION

Changes to the organization liquidity requirements arising from payment services delivered through the real-time rails will need to be established in order to better match fund supply and demand as transactions are finalized in real time.

TAKEAWAYS



The subject of this case study is uniquely aware of broader payments modernization initiatives due to its role as a third party payments services provider, its global reach and its active involvement in modernization efforts in Canada. Key areas of focus for the organization include implementing the ISO 20022 payment messaging standard, load adjustment across geographies and teams to take advantage of a third batch exchange in the AFT system, and preparing for commercial and operational changes to leverage a new real-time rail system.

The organization believes payments modernization can enable numerous benefits including:

- **Increased productivity:** The ISO 20022 standard will simplify payment messaging and enhance the organization's automated matching in the reconciliation process. Increased remittance information will give clear meaning to payments, reducing the work effort involved in communicating with its banking partners to handle errors and exceptions.
- **Increased ability to operate across borders:** The ISO 20022 standard can also enable clear identification of cross border payments, limiting payment misinterpretations by foreign banks and driving greater interoperability on a global scale, especially given SWIFT's expected adoption of the standard in 2021.
- **Increased flexibility for clients:** The addition of a third exchange window gives clients more flexibility and time to send payments and increase their access to working capital.
- **Improved options for faster payments:** Real-time payments can provide an alternative to wire for transmitting emergency or time sensitive payments.
- **Increased accuracy of next-day cash forecasting:** Both the addition of multiple exchange batches and real-time payments can improve the accuracy of next-day cash forecasting. Finality of funds will be accounted for sooner and more frequently with these features.

The organization believes that the implementation cost for ISO 20022, real-time payments and AFT batch enhancements will be a large investment that could exceed \$1M. Despite their ability to deliver on an accelerated basis given their learnings from Australia and Europe implementations, deploying the changes in Canada is expected to take at least seven months.

Based on the model used in Payments Canada and EY's 2018 [report](#) "*How can payments modernization benefit Canadian businesses? Evaluating the cost of payments processing*" we estimate that the organization can derive benefits in the range of \$2.8M to \$3.8M over five years or \$600K to \$800K on an annual basis from its modernization efforts. This is primarily based on enhanced operational efficiencies and increased productivity. However, that estimate does not account for potential increased revenues from new solutions like expedited real-time payments and enhanced analytics offerings that can be marketed to its clients, making the potential benefits of modernization significantly more attractive.

For more information on payments modernization or to understand how ISO 20022 can benefit your organization, please email Payments Canada at modernization@payments.ca

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About Payments Canada

Payments Canada ensures that financial transactions in Canada are carried out safely and securely each day. The organization underpins the Canadian financial system and economy by owning and operating Canada's payment clearing and settlement infrastructure, including associated systems, bylaws, rules and standards. The value of payments cleared by Payments Canada's systems in 2017 was approximately \$50 trillion or \$200 billion every business day. These encompass a wide range of payments made by Canadians and businesses involving inter-bank transactions, including those made with debit cards, pre-authorized debits, direct deposits, bill payments, wire payments and cheques. Payments Canada is a proud supporter of the Catalyst Accord and the 30% Club. For more information about Payments Canada, please visit payments.ca