PAYMENTS CANADA

CONSULTATION

LYNX POLICY FRAMEWORK

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Introduction

As part of our Modernization program, Payments Canada[1] is developing a new high-value payments system, Lynx, to replace Canada's current Large Value Transfer System (LVTS) for wire payments. Lynx will:

- Facilitate the secure transfer of irrevocable payments between Payments Canada member financial institutions;
- Be a Real-Time Gross Settlement System (RTGS) that will comply with the Bank of Canada's *Risk-Management Standards for Designated Financial Market Infrastructures*;
- Seek to support Canada's current needs and be adaptable to future changes in technology and business processes in an effective manner; and
- Provide a safe and secure foundation that supports a dynamic payments environment.

Foundational to developing a new system is ensuring that there is a sound legal framework grounded in statutory authority consisting of by-laws and rules supported by guidelines and best practice statements. This paper is Payments Canada's primary vehicle to consult with members and stakeholders on the fundamental policy elements of Lynx before developing and seeking regulatory approval of the by-law that will provide the legal basis for the new system. It provides an overview of the expected **financial risk framework** for Lynx and invites comments on the key policies that will underpin Lynx regarding:

➔ **Access** (eligibility to participate directly in the system);
➔ **Finality** of a payment to a payee[2]; and
➔ **Deduction of service charges** from the original amount of a Lynx payment.

Payments Canada welcomes input on the proposals and questions set out in this paper. We also welcome feedback on the following questions:

- Have we achieved an appropriate balance between our public policy objectives of efficiency, safety, and soundness in the proposals set out in this consultation paper?
- Are you supportive of the policy proposals?
- Are there additional considerations or implications that we have not identified?

Payments Canada invites interested parties to provide comments regarding these proposals by November 15, 2019 to consultation@payments.ca.

Context & Considerations

The LVTS is a systemically important financial market infrastructure that facilitates the transfer of irrevocable payments between Canadian financial institutions.[3] In 2018, the LVTS settled 9.5 million

[1] Payments Canada refers to the Canadian Payments Association doing business as Payments Canada.

[2] "Payee" is the person or entity to whom the amount of the payment is to be paid or credited, whether or not that person is the ultimate beneficiary of that amount.

[3] For reference, the LVTS processes payments in real-time while settlement occurs at the end of cycle (end of day) by multilaterally netting payment obligations between participants. The LVTS also employs a survivor pays system where participants apportion a predetermined collateral pool (additional settlement obligation) that can be used to effect settlement in the event that a participant defaults. Additionally, the Bank of Canada provides a residual guarantee of settlement in the unlikely event that two or more participants simultaneously default, and there is insufficient collateral to cover the default.

transactions worth a total value of $45.6 trillion (approximately 24 times Canada's 2018 GDP). That represents a daily average of 37,814 transactions valuing $181.1 billion.

The introduction of our new high value payments system is a "once in a generation" event. It allows Payments Canada to take a fresh look at policies that have been practiced for up to two decades to determine whether they continue to remain relevant or if a new approach is necessary. That said, many of the policies that have been established in the LVTS were forward thinking and will remain relevant for Lynx.

In developing the policies proposed in this paper, Payments Canada was guided by the following:

- Payments Canada's **mandate and public policy objectives** established through the *Canadian Payments Act* (as set out in Figure 1).
- The Bank of Canada's **oversight requirements** for systemically important financial market infrastructures.
- The **Vision for the Payments Ecosystem (2016)**, which highlighted the need for Canada and Canadian businesses to remain globally competitive as the payments landscape evolves both in Canada and globally. Canada's core payments systems must also operate as platforms to more effectively meet evolving end-user[4] needs by fostering greater innovation, competition, and partnership between participants.
- The **Modernization Target State (2017)**, which defines Payments Canada's Modernization program, including descriptions of the planned modernized systems and their fundamental support structures, such as risk and regulatory frameworks, and access models.
- The **existing LVTS framework** of by-laws, rules, guidelines and best-practices related to Payments Canada's public policy objectives, including consideration of end-user interests. Collectively, these existing policies have been developed through thorough and careful analysis and consultation with members, stakeholders and regulators. In developing the framework to underpin Lynx, Payments Canada is assessing elements of the current framework to determine what should be carried forward, or re-defined to support the Lynx environment.
- Engagement with relevant member and stakeholder committees throughout the policy analysis process.

Figure 1 - Payments Canada's Mandate & Public Policy Objectives (as established in the *Canadian Payments Act*)

The objects of Payments Canada are to:		
Establish and operate national systems for the clearing and settlement of payments and other arrangements for the making or exchange of payments.	Facilitate the interaction of its clearing and settlement systems and related arrangements with other systems or arrangements involved in the exchange, clearing or settlement of payments.	Facilitate the development of new payment methods and technologies.
In pursuing its objectives, the Payments Canada shall promote the **efficiency, safety and soundness** of its clearing and settlement systems and take into account the **interests of users**.		

[4] User is defined in the *Canadian Payments Act* as a person who is a user of payment services but is not a Payments Canada member financial institution.

Lynx Financial Risk Framework

The Lynx financial risk framework, as set out in the Modernization Target State, is one of the more significant changes in moving from LVTS to Lynx. These changes will impact how Lynx participants manage intraday liquidity and process payments.

Lynx is a RTGS payment system that will settle payments on an individual gross basis in real-time providing for finality of payment and certainty of settlement in central bank money.[5] Credit risk exposure in Lynx will be fully covered by system participants rather than relying on a residual guarantee from the Bank of Canada.

In order for payments to settle in real-time, the participant sending the payment must have a sufficient amount of intraday liquidity to cover the full value of the payment. Lynx will also provide the option for the timing of payments to be controlled using a combination of queuing, intraday liquidity recycling, and payment offsetting to reduce the amount of intraday liquidity required to settle payments.

Lynx will settle payments using intraday liquidity generated from intraday credit limits provided by the Bank of Canada. The daily credit limit for each participant is defined as the value of securities pledged to the Bank of Canada after the applicable haircut[6] and allocated to Lynx. At any time during the day, the intraday liquidity available to each participant is the sum of their Bank of Canada credit limit and the net of payments sent and received by the participant.

Elements of the Financial Risk Framework are being defined for Lynx to ensure that Payments Canada's public policy objectives related to efficiency, safety and soundness are properly promoted within the Lynx system. Foundational elements of this framework will be set out or enabled through the Lynx by-law; details of the framework are provided in the Lynx rules and procedures.

See Appendix A for further details.

Proposals for the Lynx Policy Framework

Many of the policies that have been established in the LVTS environment remain relevant for Lynx. With some minor changes to account for the nature of the Lynx system and its RTGS design, the policy proposals set out in this consultation do not markedly differ from the current policy framework set out in the LVTS environment. These policy issues have undergone extensive and broad consultation processes with members, stakeholders, and regulators in the past. After reassessing the matters of access, payment finality to the payee, and deduction of charges, it is suggested that the policy considerations largely remain relevant today.

1. Access

a) Proposals

The Bank of Canada's *Risk Management Standards for Designated Financial Market Infrastructures (Standard 18: Access and Participation)* requires a financial market infrastructure such as Lynx to have "objective, risk-based and publicly disclosed criteria for participation, which permit fair and open

[5] As noted in the Principles for Financial Market Infrastructures: Central bank money is a liability of a central bank, in this case in the form of deposits held at the central bank, which can be used for settlement purposes. Settlement in central bank money typically involves the discharge of settlement obligations on the books of the central bank of issue.

[6] A haircut refers to the discount given to the value of the collateral pledged by participants to the Bank of Canada. The haircut is necessary to protect against market risks (i.e., the decline in the market value of the collateral).

access." Taking that into consideration, **Payments Canada is proposing the following policy directions related to access:**

- ***All Payments Canada members will be eligible for Lynx participation*** – Payments Canada is proposing that all Payments Canada members as currently defined within the *Canadian Payments Act* be eligible to become direct Lynx participants, provided they have completed any application procedures set out in the rules; established and maintain a settlement account at the Bank of Canada[7]; and have met the technical and other requirements that may be set out in the rules, by-laws, and service level descriptions.

- ***No eligibility restrictions on affiliated participants*** – Affiliated members (i.e. related through any type of control or ownership) will be eligible to become Lynx participants. With respect to Payments Canada's framework of by-laws, rules and service level descriptions, all participants (affiliated or otherwise) will be treated as distinct and separate entities. Each participant will be required to have a separate settlement account and loan facility with the Bank of Canada. As well, each participant will be required to comply with the operational, business continuity, risk-related and other obligations within the by-laws and rules, including the requirements to have their own connections to the CPA Services Network (CSN) and the Society for Worldwide Interbank Financial Telecommunication (SWIFT). Before finalizing proposals related to opening access to affiliates, Payments Canada will be assessing possible operational risks, as well as conditions that might be appropriate for affiliates in a contingency environment.

- ***Non-members will not be eligible to be Lynx participants*** – The *Canadian Payments Act* is the enabling legislation that sets out required and eligible Payments Canada membership, defining the institutions that may ultimately be able to participate in the payments system. Institutions that are not members of Payments Canada will not be eligible to become Lynx participants.

b) Considerations and Rationale

Restricting affiliate participation in LVTS was necessary because allowing such participation resulted in greater risk exposure for the Bank of Canada and other participants in the system. The Lynx risk model allows for more opportunity for direct participation than the LVTS model permitted. The RTGS model ensures that credit risk exposure is fully covered by its participants where transactions are completed on an individual basis with immediate irrevocability. This risk model is designed so that there can be no settlement default in Lynx. Removing barriers in the rules that have become unnecessary in the Lynx environment enables more open access to direct participation.

To ensure the safety and soundness of the payments system, it is important that the legal framework underpinning Lynx is enforceable. Payments Canada can only enforce compliance of its members and as such, only members of Payments Canada will be eligible to become Lynx participants.

> *Payments Canada welcomes perspectives and input on what potential operational risks or considerations affiliated participants could pose in a Lynx environment or in the event that Lynx participants need to move to a contingency environment.*

[7] The process, criteria and requirements for obtaining a settlement account are established by the Bank of Canada.

2. Finality of Payment to the Payee

a) Proposals

Current policies related to finality of a payment to a payee are set out in sections 43-51 of *By-law No. 7 Respecting the Large Value Transfer System*.[8] These provisions require that, upon receiving a payment message, the receiving participant must make the amount of the payment message finally and irrevocably available to the payee either at the end of the LVTS cycle or upon reasonable request by the payee for the payment amount. The by-law also defines exceptions to this requirement.[9] The timeline for when funds must be credited to the payee after the LVTS cycle has ended varies by exception. Generally, funds must be credited to the payee's account either before the next business day or as soon as practicable in the given circumstances.

The LVTS by-law also sets out provisions related to errors and an inability to credit a payee. If the amount of the payment message has not yet been made available to the payee, errors can be corrected or the payment can be returned. Where a payment cannot be made available to the payee because a prior restriction has been placed on the account, the receiving participant shall return the amount of the payment. These by-law provisions, together with the associated LVTS rules and the *Guideline for Misdirected LVTS Payments*, make up the policies related to finality of payment to payees within the LVTS environment.

As part of the creation of a new by-law and rules that will form the legal framework to support the new system, **Payments Canada is proposing the following related to finality of payment to the payee for Lynx:**

- ***Maintain the current policies related to finality of payment to the payee, setting the stage for possible future enhancements.*** The current provisions within the LVTS by-law related to finality of payment to the payee continue to remain relevant and should be carried over into the Lynx framework. However, Payments Canada is proposing that the by-law could also enable Payments Canada to establish a shorter period within the rules that could be defined, as appropriate, at some point in the future.

- ***Maintain the guidelines for misdirected Lynx payments***. The *Guideline for Misdirected LVTS Payments* continues to provide appropriate and effective guidance on the steps to resolve issues related to misdirected payments and should also be carried over into the Lynx environment.

b) Considerations and Rationale

These proposals provide important assurances to payment system users and participants around obligations, liabilities and finality of Lynx payments. Establishing a sound framework for finality of a Lynx payment to a payee is crucial to ensure the sound functioning of the economy; important transactions for goods, services and property require trust that a final and irrevocable payment has been made.

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[8] A by-law conferring a substantive right (e.g. finality of payment) is still generally seen to be somewhat more secure (enforceable and less likely to a successful jurisdictional challenge) than an identical rule. This is partly attributable to the statutory instrument nature of by-laws (including the more stringent enactment and approval processes), and given that rules remain subordinate/subject to the by-laws. Additionally, by-laws, as regulations under the Statutory Instruments Act, have the weight of law. Rules are not treated in the same way and are expressly excluded from the application of SIA under subsection 2(3) of our legislation.

[9] Exceptions include instances where the branch of the payee's account is closed when the payment message is received, if the payment message is received too close to the end of the LVTS cycle, or if there is a technical malfunction affecting the receiving participant's ability to credit a payee.

With respect to the timing of payment to a payee, Payments Canada considered many factors in developing these proposals, including:

- ***International Practices*** - Finality of payment rules differ significantly between jurisdictions. Some jurisdictions have defined timeframes within 90 minutes, others require end-of-day, while others do not set out requirements, leaving it up to contractual arrangements between participants and their clients.
- ***Payments Canada's Public Policy Objectives*** - In developing its by-laws and rules, Payments Canada must consider its public policy objectives of safety, soundness and efficiency, while at the same time taking into account user interests. Recent RFi Group surveys provide some insight into the overall satisfaction for timeliness of funds received/paid from wire payments by businesses in Canada. The surveys found that a majority of Canadian businesses were satisfied with the timeliness of funds received/paid from wire payments.[10]
- ***Legal & Regulatory Considerations*** - Legal and regulatory requirements to which Lynx participants are subject are also important considerations. A participant's ability and timing to make the amount of a payment finally and irrevocably available to a payee is impacted by various legal and regulatory considerations, including: anti-money laundering and anti-terrorist financing requirements, solvency and contractual agreements.
- ***System Considerations*** - An obligation to provide finality to a payee can only be established at a time following receipt by the receiving participant who is aware that the payment has settled. In this regard, the time a payment takes to pass through the system's liquidity savings mechanisms or queuing has no bearing on the timing for payment finality to a payee. The obligation to provide payment finality within a given timeframe can only commence following the successful passing of the payment through the system.
- ***Participant Operational Considerations*** - A participant must consider their business requirements, and ensure payments pass through necessary internal processes and risk controls before providing funds to payees. Within the current environment, LVTS payments that are able to be straight-through processed (STP) are generally credited to payees within one hour. Approximately 65 per cent of all LVTS payments are STP and can be quickly credited to a payee. However, we have heard from our members that the manual processes, checks and balances required for non-STP payments take time to process and require an end-of-day timeframe. As members continue to improve and automate processes, it may become more practical to shorten timeframes. With this in mind, it is important that the by-laws and rules provide sufficient flexibility to accommodate these changes in the future.

Regarding the handling of misdirected payments, Payments Canada believes that a guideline (similar to the one that is currently established for LVTS) creates a shared understanding between participants on the steps to take when funds from a misdirected payment have been applied to a payee account, without undermining the importance of finality for Lynx payments. Payments Canada believes that a guideline remains appropriate (versus a requirement within a by-law or rule) for the following reasons:

- Establishing mandatory requirements for the handling of misdirected payments could infringe on the participant-customer contractual relationship and be inconsistent with the terms of participant-customer agreements;
- Difficulty in establishing the process to be followed in all cases, given the challenge of establishing legal responsibility for an error;
- Potential for requiring disclosure of information contrary to existing privacy laws; and

[10] RFi Research Canada SME Banking Council H2 2018 and RFi Research Canada Commercial Banking Council H2 2018.

- A bylaw cannot be used to affect any right or remedy that a participant or its customer might have under general law. Legal remedies under common/civil law exist that allow the payee to recover funds from a misdirected payment from the unintended payee.

Does the policy setting a minimum service level of end of day (or upon reasonable request) for finality of payment meet your current business needs? Do you feel the timing within which you currently receive finality and irrevocability of payment for wire payments will continue to meet your business needs in Lynx?

Do you agree that the Guideline for Misdirected LVTS Payments will continue to provide effective resolution to issues related to misdirected payments? Would it continue to be effective if the number of direct Lynx participants increased in the future?

3. Deduction of Service Charges

a) Proposals

Existing LVTS policies related to the deduction of service charges include the following:

- By-law No. 7, section 45 sets out how payment finality is deemed to occur, indicating that the amount of the payment message provided to the payee could be "less any service charges (subject to any provisions that may be set out in the rules regarding the disclosure and the manner of processing of services charges)"; and

- The *Industry Best Practice: Deduction of Charges for the Receipt of LVTS Payments* encourages all members (participants and non-participants) to voluntarily adopt a practice to credit the account of the recipient with the full amount sent by the originator, handling any fees as part of a separate transaction, in accordance with any agreements between the financial institution and its client.

In reviewing current policies related to the deduction of service charges, **Payments Canada proposes that the current by-law provisions and the *Industry Best Practice* be maintained and carried over into the Lynx environment**.

c) Considerations and Rationale

By-law provisions that permit the deduction of service charges from the original amount of a wire payment enables flexibility for financial institutions and their wire customers to establish how they would like to process the fees in a manner that is preferable to them based on efficiencies and proprietary contractual arrangements. While the deduction of service charges "off the top" is not a common practice for retail payments (both within Canada and across the globe), it is a common practice for wire payments around the world. Practices for deducting charges are often only defined by a participant's own proprietary practices and customer agreements and will vary from one participant to the next both within and across various markets. In many instances, participants lack the operational capability to efficiently invoice wire charges separately. The posting systems of some participants are configured to deduct fees automatically; changing these processes would have significant impact to participants and would require changes to existing customer agreements.

While we understand that, for wire payments, it is common practice for receiving participants to credit the beneficiary with the amount of a wire transfer less any applicable service charges, it does not lend itself to automated reconciliation and can cause some confusion for the payee. It is for this reason that Payments Canada would like to continue to encourage voluntary adoption of practices to credit the payee with the full amount sent by the originator. Payments Canada believes that the *Industry Best Practice* that came into effect in 2005 continues to remain relevant in the Lynx environment. Repurposed for Lynx, this best practice statement will continue to provide guidance for all Payments Canada members (not just LVTS/Lynx participants) in their provision of Canadian dollar wire transfers.

Through the SWIFT gpi initiative, the global banking community has collaborated to put in place a new standard for handling cross-border payments. One important aspect of this standard seeks to create greater transparency regarding fees. With SWIFT's vision to have all cross-border payments over its network leveraging this standard by the end of 2020, Canadian banks are in the process of adopting SWIFT gpi for the purposes of cross-border wires. As part of this initiative, payment originators and beneficiaries will have greater transparency and predictability on costs, routes and expected delivery of their funds. As this standard is adopted around the world for cross-border wire payments, there may be an impact on policies for domestic payments. Payments Canada will monitor this initiative closely to understand any implications for Canada.

Will the current flexible framework for the deduction of service charges continue to meet your business needs?

Does the Industry Best Practice continue to remain relevant and provide appropriate guidance on the deduction of service charges?

Future Considerations

ISO 20022

Lynx will support ISO 20022[11] and allow for future migration to the standard. In advance of the migration to ISO 20022, Payments Canada will examine the development of policies around the roles, responsibilities and liabilities related to remittance information and their potential reach to indirect participants. The Lynx by-law is being developed in a flexible way to ensure that appropriate ISO policies can be efficiently implemented in the future.

On-Us Transactions

As part of the overall policy framework supporting Lynx, Payments Canada will review the existing *Best Practice for the Uniform Treatment of Wire Payments*. This is a voluntary best practice in the LVTS environment where endorsing financial institutions make a commitment to treat on-us payments in the same manner as LVTS payments. Customers making a wire payment may not know that the transfer is an on-us credit and therefore not subject to the benefits of Payments Canada's LVTS framework such as finality of payment and irrevocability.[12] This causes uncertainty in the marketplace

[11] ISO 20022 is a messaging standard framework that defines message structure and content in a common language for messaging in payments, cash management reporting, securities, cards, foreign exchange and trade services. For further information please visit: https://www.iso20022.org/

[12] "On-us" transactions refer to transactions between a payee and payor where both the payee and payor are customers of the same financial institution. These transactions do not settle through Payments Canada's systems and are completed as transactions within the financial institution's proprietary systems, which means they are not subject the same protection granted to payments settling within Payments Canada's systems.

and creates concerns regarding transparency. For these reasons, it will be necessary to update the *Best Practice for the Uniform Treatment of Wire Payments* within the Lynx environment.

Possible Future Legislative Change

The proposal to allow all Payments Canada members to be eligible to become direct Lynx participants has been developed with only the current membership in mind. Should the Government of Canada decide to expand Payments Canada membership in the future (e.g. to non-financial institution payment service providers, or other financial market infrastructures), this direction will have to be re-assessed to ensure the access framework for Lynx continues to remain appropriate.

Next Steps

Payments Canada will consider any comments, questions or concerns from responses to the proposals set out in this paper and incorporate appropriate policies into the draft Lynx by-law, working with its member and stakeholder committees. The by-law, as a statutory instrument, will then need to go through the regulatory process, including initial publishing in the Canada Gazette.

Payments Canada invites interested parties to provide comments regarding these proposals by November 15, 2019 to consultation@payments.ca.

Appendix A

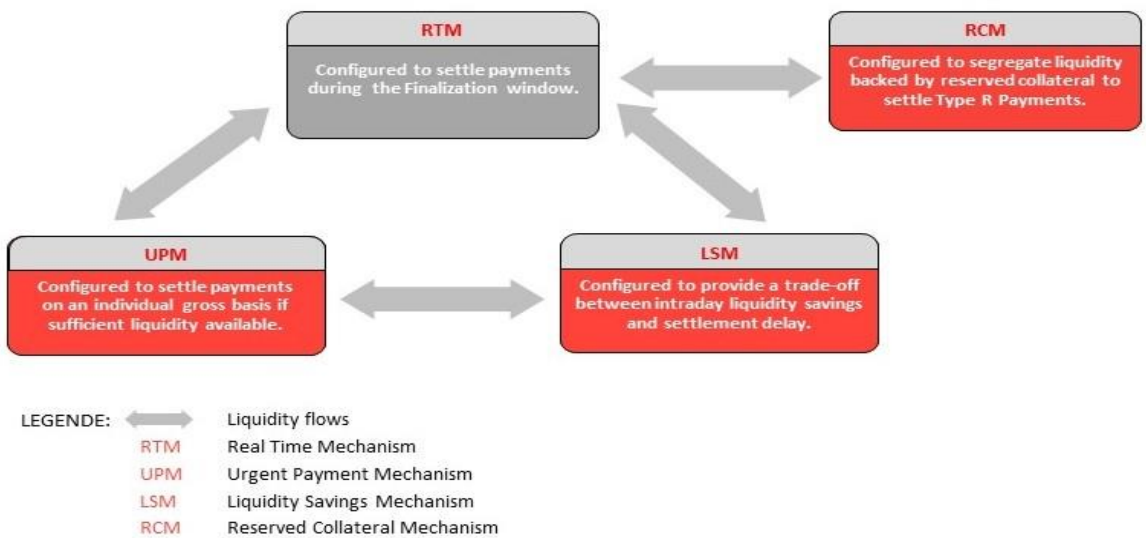
1. Lynx Settlement Mechanisms

Lynx will be comprised of several individual settlement mechanisms, each with its own allocated pool of liquidity for settling payments and each operating independently. While liquidity can be transferred between settlement mechanisms, payments must remain in the settlement mechanism to which they were sent.

Participants will choose which settlement mechanism they would like to use to settle each payment by taking into consideration each mechanism's configuration. The settlement mechanism chosen by a participant to process a payment is the same settlement and liquidity pool that the receiving participant will receive the payment. All participants must be active in all of the settlement mechanisms regardless of whether they choose to settle payments using all mechanisms. This is important in order to facilitate the receipt of payments from participants who use all settlement mechanisms.

Each settlement mechanism has a unique purpose and is configured to settle payments in a way that meets a business need. The primary distinction between settlement mechanisms is the sending participant's tolerance for delay in the processing of each payment. Certain payments are of a time critical nature while other payments could be delayed, and made and settled later during the business day. Details of the various mechanisms are summarized in Figure 2 and set out in more detail below.

Figure 2: Lynx Settlement Mechanisms



The **Real Time Mechanism (RTM)** will only be used to settle payments during the finalization window each day when participants are attempting to flatten their positions using interbank payment messages. The RTM is also used to manage a participant's credit limit, intraday loan, and unapportioned liquidity. It is the main link to the Bank of Canada's High Availability Banking System (HABS)[13].

[13] HABS is a specialized computer system built by the Bank of Canada to manage and value quickly and accurately the collateral pledged by participants.

The **Urgent Payment Mechanism (UPM)** is designed to settle payments on an individual gross basis, Payments routed to this mechanism are those that must settle without delay to provide certainty of settling the payment before a specific time or otherwise as soon as possible.

The **Liquidity Savings Mechanism (LSM)** is designed to reduce the amount of intraday liquidity required to settle a payment where the participant does not require the payment to settle immediately. Offsetting and liquidity recycling are tools participants can use to reduce the amount of intraday liquidity required to settle payments. Payments routed to this mechanism are those where processing can be delayed.

The **Reserved Collateral Mechanism (RCM)** is designed to support the settlement of payments using liquidity generated through the pledging of reserved collateral.[14] In order to ensure the intraday liquidity generated from reserved collateral is used for its intended purposes, the RCM will only allow payments to be made to the Bank of Canada.

2. Liquidity Risk and Efficiency Management Tools for Participants

Lynx fully mitigates credit risk in the settlement process; it ensures that no exposure to credit risk is generated among participants during the settlement process since payments settle individually in real time. The primary sources of financial risk in Lynx are:

- Insufficient intraday liquidity to settle payments on time; and
- Dislocations between payments and intraday liquidity across settlement mechanisms.

Lynx participants have the ability to inject intraday liquidity into the system to meet payment obligations by pledging additional collateral to the Bank of Canada through HABS. Additionally, participants can move liquidity between mechanisms. This tool is useful when a participant receives payments in one mechanism, but chooses to process payments through another. For example, if a participant receives payments through the UPM, but chooses to process payments through the LSM, the participant can transfer the liquidity from payments received in the UPM in order to meet their payment obligations in the LSM.

Payment queueing is fundamental to liquidity savings and supports Lynx's liquidity recycling and payment offsetting algorithms.

Intraday Liquidity Recycling refers to the use of payments received by participants as a source of intraday liquidity to in turn settle their own payments. To achieve liquidity savings using recycling, payments are not always processed in real-time and can be queued until there is sufficient intraday liquidity from payments received.

Payment offsetting is intended to reduce the amount of time payments spend in the queue. This is accomplished through the use of algorithms that identify offsetting groups of payments that cannot otherwise be settled on an individual gross basis, thereby reducing settlement delay and increasing intraday liquidity efficiency.

Queue management allows Lynx participants to view and manage their payments in each of the settlement mechanism queues. Lynx provides the following capabilities to allow participants to manage their queued payments:

[14] Reserved collateral refers to collateral pledged by participants to the Bank of Canada that may only be used to back a Type R payment.

- Alter the sequential ordering of queued payments from the automatic sequence, which is based on time of entry into the queue
- Change the priority level assigned to a payment in order to increase or decrease the priority level
- Cancel a payment
- Remove a payment from the queue

There is no limit on the amount of time a payment may remain in queue however, if there is still insufficient liquidity at the end of the daily operating cycle to settle a queued payment, Lynx will discard (reject) the payment and it will have to be resubmitted in the next operating cycle.

3. Bilateral Limits

Each Lynx participant is responsible for managing its own liquidity in each settlement mechanism. Lynx provides all participants with the ability to set bilateral limits on each of the other participants in the LSM. This tool allows a participant to place a limit on the net debit position between itself and another participant, limiting the value of payments that a participant is willing to send to the other participant without receiving payments in return. The use of bilateral limits provides the following benefits:

- Participants are able to regulate liquidity outflows by avoiding one-sided outflows;
- Payments are more synchronized; and
- Payment behaviour is influenced by encouraging participants to submit payments as early as possible during the operating cycle.

4. Risk Management Tools for Payments Canada

Payments Canada will determine the minimum amount of liquidity each participant must start the day with in order to be eligible to send and receive payments. Payments Canada will also determine the minimum required liquidity for each settlement mechanism.[15] The Minimum Liquidity Requirements are designed to: 1) ensure there is sufficient liquidity to allow Lynx's settlement algorithms to begin settling payments; 2) provide a mechanism for participants to validate that they have funded their accounts; and 3) to partially mitigate free-riding.[16]

The Lynx Financial Risk Framework will include throughput guidelines[17] that are intended to promote synchronization in the flow of payments, which will reduce the intraday liquidity requirements at the system level. The expectation is that by meeting throughput requirements, participants will receive a non-trivial proportion of payments in a timely fashion that they can then recycle to make their own payments. The desired outcome of all participants meeting their throughput requirements is a more efficient payment system from an intraday liquidity and payment processing perspective.

5. Non-viability and Financial Institution Recovery and Resolution

Canadian financial institutions are subject to a variety of regulations, including those that relate to their financial condition and viability. The treatment of a Lynx participant whose viability is in question is set

[15] Where a particular payment mechanism does not have a minimum liquidity requirement, the minimum required liquidity can be set at zero.

[16] Free-riding refers to instances where participants acquire and conserve liquidity by not sending payments until they receive payments, reducing a participant's need to draw on intraday credit. Free riding creates inefficiencies in the processing of payments, and could hinder the synchronized flow of payments in the system.

[17] Throughput guidelines encourage participants to send a certain percentage of their expected payments through the system before a certain time within the cycle.

out in applicable federal or provincial legislation and regulations. As is the case with the LVTS today, the Lynx by-laws and rules will be designed such that they do not conflict with existing legislation.