Large Open Positions Reporting (LOPR)

LOPR SAIL Business Design Guide for Approved Participants

Document ID:	LOPR-MR-001E
Document Version:	1.2
Publication Date:	2011-06-02

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LOPR-MR-001E, Document Version 1.2

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Document History

Version	Date	Change Description
1.0	2011-01-14	First approved version for distribution
1.1	2011-04-12	Requested modifications in section 4.3.1: • Owner Id.(remove reference to SIN and SSN) Requested modifications in section 5.2.1 to fields: • LongQuantity/ShortQuantity (indicate either or both can be populated, if neither, position will be invalid)
1.2	2011-06-02	Requested modifications in section 4.3.1: • Modified last bullet item Updated Appendix A; Terminology • Removed 'BI' • Removed SIN and SSN Modified e-mail address on Back cover: • Changed EFFOR@m-x.ca to SAMSUPPORT@m-x.ca

Document Notes

Date	Description

Typographic Conventions

Convention	Meaning
Abbreviated menu commands	This document uses abbreviated menu. For example, "Click **Display > Toolbars > Standard**" means that you should click the **Display** menu, point to **Toolbars**, and click the **Standard** entry.
Boldface type	**Boldface** type is used for commands, keywords, file names URLs, or other information that you must use literally. Name of windows, dialogs, and other controls also appear in boldface type.
Initial Capital Letters	The first letter of the names of menus, dialog boxes, dialog box elements, and commands are capitalized.
<Text in angle brackets>	Angle brackets are used for variables and values that you must provide.
Emphasized type	Emphasized type is used for words and phrases that need to be emphasized, as for new terms defined in the text. Italicized type is also used for foreign languages terms.
`Monospace`	Code and script examples appear in a `monospace` font.
Plus sign in text	Keyboard shortcuts are indicated by a plus sign separating key names. For example, **Ctrl+F1** means that you must press the **Ctrl** and **F1** keys at the same time.

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Chapter 1 Introduction

1.1 Objective and Scope

The LOPR SAIL Business Design Guide for MX-R, developed by the Information Technology (IT) division of the Montréal Exchange Inc., a member of the TMX Group Inc., provides information to guide the prospective Bourse de Montréal ("MX") Approved Participants in the functional design of their application intended to interface with the MX-R Large Open Position Reporting (LOPR) System in its native SOLA® Access Information Language (SAIL) interface.

1.2 Audience

The target audience for the LOPR SAIL Business Design Guide is anyone working at either the business or Information Technology (IT) level of an organisation interested in the functional design of the MX-R LOPR platform for the reporting of Large Open Positions.

- Business analysts and project managers should pay special attention to the first Chapters of this guide as it provides a high-level view of the MX-R LOPR features and requirements.
- Software developers should familiarize themselves with all sections of the LOPR SAIL Business Design Guide.

1.3 Services Definitions

Services definitions are described in the following section.

1.3.1 SAIL (SOLA Access Information Language) LOPR Interface

The SAIL LOPR interface provides Approved Participants with the functionality required to interact with the MX-R LOPR System through the standard IP (Internet Protocol).

1.3.2 Messaging Provided

The messages provided are classified into two distinct groups as shown below.

- Solicited messages are messages which are sent by the MX-R LOPR System in response to or acknowledgment of an inbound request from an Approved Participant (AP). An example of such a message is an acknowledgement to an Account Entry (used for Account creation).
- Unsolicited messages are messages which are sent by the MX-R LOPR System and are not sent in response to an inbound request from an Approved Participant. An example of such a message is the dictionary of instruments sent to the Approved Participant on successful login to the system.

Chapter 2 Reporting Services by MX LOPR System

2.1 Introduction

The MX-R LOPR System, through its SAIL (SOLA® Access Information Language) protocol, manages the reporting of large open positions on options, futures, and futures on options. This document describes the message requirements for declaring positions on these instruments and for entering account information.

In order to enter positions, Approved Participants need to be aware of the instrument identification as known to the MX-R LOPR System. Once accounts and positions have been reported to the MX-R LOPR System, a daily Position Limit report is generated and made available to MX-R Staff for position limit monitoring and compliance.

The functionality available to Approved Participants and MX-Regulations are as displayed in the graphic below.

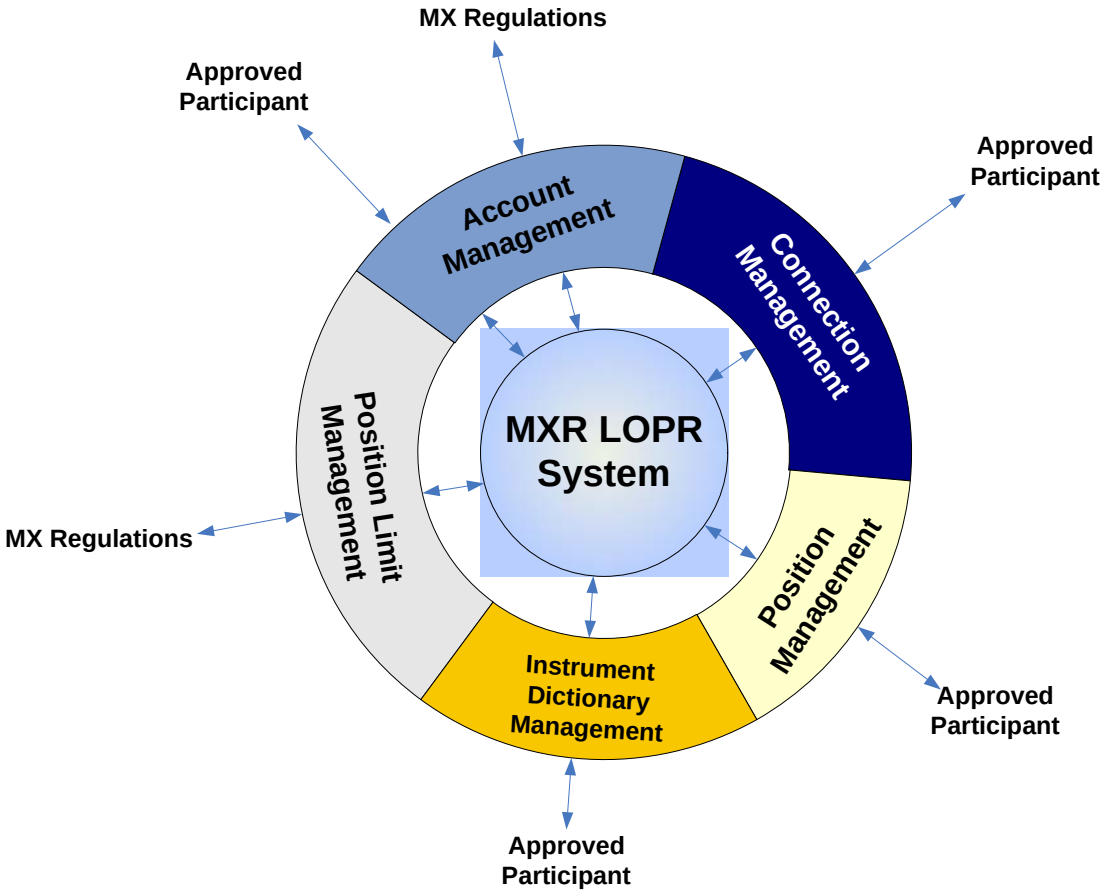


Figure 1: Services offered by SOLA® LOPR Reporting

2.2 Account Management

Prior to sending out any positions, accounts must be declared to the MX-R LOPR System. The Account Management Service allows APs to declare their clients' account information, edit this account information, as well as delete any account which no longer exists.

MX Regulations staff is allowed to create a new account, edit an existing account, or delete an account on behalf of an Approved Participant. When such an action is initiated, the Approved Participant will receive the appropriate account acknowledgement from the MX-R LOPR System.

2.3 Instrument Dictionary Management

In order to submit positions, Approved Participants must obtain the dictionary of instruments known to the MX-R LOPR System. The dictionary of instruments is sent in several Bulk Instrument messages at login. Approved Participants must map their instrument definition (option, futures, and future options) to the MX-R LOPR instrument definition when sending positions via the SAIL protocol.

2.4 Position Management

The Position Management Service allows Approved Participants to submit positions, modify previously declared positions, as well as delete a previously declared position.

Positions must be declared on a daily basis.

An Approved Participant who does not have any positions to declare for a given day must still explicitly inform the MX-R LOPR System that he has no positions to declare.

2.5 Position Limit Management

The Position Limit Management Service is exclusively available to MX-R staff. It enables positions declared by the Approved Participants on behalf of their clients to be aggregated by account owner.

A daily Position Limit report is produced by the MX-R LOPR System and is available for MX Regulations only. Approved Participants do not have access to this report.

Chapter 3 Connection Management

3.1 Overview

This chapter presents the messages required for connection management. The dynamic of messages sent to and received from the MX-R LOPR System is explained in the technical communication figures in the next sections.

Each participant has a user ID and password coded in an MD5 format using the time present in the message. (MD5 is an algorithm used to verify data integrity through the creation of a 128-bit message digest from data input).

3.2 Legend for Technical Communication Figures

The legend for Technical Communication Figures is described in the following sections.

3.2.1 User Sequence ID

This field is numeric and is present in all business messages. It is a sequential number that is used to check if there is a gap in the incoming messages within a connection session. The first business message for the session must be set to 1. All technical messages sent to the client (Heart Beat, Connection Acknowledgement, etc.) show the next expected User Sequence ID.

3.2.2 Message Sequence ID

This field is a message ID managed by the MX-R LOPR System. It is present in most of the messages sent by the MX-R LOPR System to the Approved Participant. When the AP connects to the MX-R LOPR System during the day, he can ask for message retransmission starting from a specific Message ID.

3.2.3 Message Type

After the message length, the two next characters of all SAIL messages represent the Message Type (see the LOPR SAIL Specifications Guide for MX-R).

3.3 User Connection and Disconnection

3.3.1 First Time User Connection (Message Type TC)

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
First Time User Connection		
TC (User Connection) with the ***Message ID*** field set to 0 [1]	→	
	←	**TK** (Connection Acknowledgement) with the expected ***User Sequence ID*** field set to 1 [2]

Figure 2: First user connection

1. Approved Participant sends first message for connection
2. MX-R LOPR System sends an acknowledgment TK for the TC message

Message ID (Participant inbound)

For the first connection, the only valid value for the User's Message ID is zero.

The MX-R LOPR System response indicates the next expected User Sequence ID is 1.

Session ID

When the Approved Participant connects, he must set the Session ID to blank spaces. The acknowledgment contains the current Session ID. If it is not blank spaces, the system will act as if it was blank spaces.

Protocol ID

In the User Connection Message, the Approved Participant specifies the protocol ID for the connection. When the SAIL protocol version changes, the Approved Participant is able to communicate using the previous protocol version for a period of time. The expiration of the previous protocol time period will be communicated by MX Regulation. If the specified protocol ID is not supported, an error message (Message Type TE) is sent.

3.3.2 User Connection during the Session (Reconnection), Retransmission of All Messages

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
User Connection during the Session, Retransmission of All Messages We assume that three messages were sent by the user before the reconnection		
TC (User Connection) with the ***Message ID*** field set at 0 [1]	→	
	←	**TK** (Connection Acknowledgement) with the expected ***User Sequence ID*** field set at 4 [2]
		AA1 (Message 1) [3]
		AA1 (Message 2) [3]
		AA1 (Message 3) [3]

Figure 3: User connection during session - retransmission of all messages

1. Approved Participant connects and indicates he wants retransmission of his messages from the beginning of the session (Message ID is 0)
2. MX-R LOPR System sends a TK (Connection Acknowledgment) message
3. MX-R LOPR System sends all messages from the beginning of the session (where AA is used to represent a generic message type)

Message ID (Participant inbound)

Setting the Message ID to 0, the User indicates that he wants retransmission of his messages from the beginning of the session. In the above example, messages AA1, AA2 and AA3 are retransmitted to the Approved Participant (since these are the only 3 messages that have been sent during this session).

Expected User Sequence ID (MX-R LOPR SYSTEM outbound)

When the Approved Participant connects, and it is not for the first time, the acknowledgement message indicates the next expected User Sequence ID (4 in this example).

3.3.3 User Connection during the Session (Reconnection), Retransmission from Specific Message

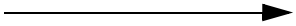
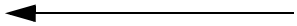
APPROVED PARTICIPANT		MX-R LOPR SYSTEM
User Connection during the Session, Retransmission from Specific Message We assume that three messages were sent by the user before the reconnection		
TC (User Connection) with the ***Message ID*** field set to the ID of the message which has to be retransmitted (for example AA3)[1]		
		**TK** (Connection Acknowledgement) with the expected ***User Sequence ID*** field set at 4 [2]
		AA3 (message is retransmitted) [3]

Figure 4: User connection during session - retransmission from specific message

1. Approved Participant connects and indicates he wants retransmission of his messages from a specific Message Sequence ID (AA3 in the above example)
2. MX-R LOPR System sends a Connection Acknowledgement (TK) with the next expected User Sequence ID
3. MX-R LOPR System sends messages (starting with Message Sequence ID AA3) which were requested for retransmission

Message ID (Participant Inbound)

Setting the Message ID to AA3, the user asks for retransmission of his messages starting from AA3.

Expected User Sequence ID (MX-R LOPR SYSTEM Outbound)

When the Approved Participant connects, and it is not for the first time, the acknowledgement message indicates the expected User Sequence ID (4 in this example).

3.3.4 User Disconnection by MX-R LOPR System: Heartbeat Missing

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Approved Participant Disconnection by MX-R LOPR System: Heartbeat Missing Assume Inactivity Interval is set to 1 in the User Connection (TC) message		
	←	**TH** (Heartbeat Request) with the expected ***User Sequence ID*** field set to 5 [1]
TI (Heartbeat - Response) with the ***Message ID*** field set to 5 [2]	→	
	←	**TH** (Heartbeat Request) with the expected ***User Sequence ID*** field set to 5 [3]
AA1 (Generic Inbound Business Message) with the ***Message ID*** field set to 5 [4]	→	
	←	**AA2** (Acknowledgment to the business message AA) [5]
	←	**TH** (Heartbeat Request) with the expected ***User Sequence ID*** field set to 6 [6]
No business messages or heartbeat response TI are sent from the Participant		↕ After the 2nd Heartbeat period, the Approved Participant is disconnected [7]

Figure 5: Approved Participant disconnection by MX-R LOPR System: Heartbeat missing

1. MX-R LOPR System sends a TH (Heartbeat Request) message
2. Approved Participant responds with a TI (Heartbeat Response) message
3. MX-R LOPR System sends another TH (Heartbeat Request) message
4. Approved Participant sends a business message (where AA1 represents the message type of the business message)
5. MX-R LOPR System acknowledges the business message (represented here by AA2)
6. MX-R LOPR System sends a TH (Heartbeat Request) message
7. After a predefined Heartbeat period without any heartbeat response TI or any business messages from the participant, MX-R LOPR System considers that the Approved Participant is no longer connected and automatically forces a disconnection of the Approved Participant.

When the Approved Participant connects, he specifies the inactivity interval corresponding to the number of non-responded Heartbeat Request messages (Message Type TH) the system must count before disconnecting. A Heartbeat Request message can be responded to by a Heartbeat Response (Message Type TI) or by any other message.

In the example above, the Approved Participant has requested to be disconnected after a period of one heartbeat.

After a second period of heartbeats without any Heartbeat Response, or any other messages from the Approved Participant, MX-R LOPR System disconnects the Approved Participant

3.3.5 User Disconnection by Approved Participant

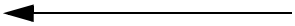
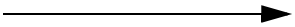
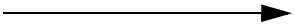
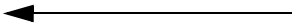
APPROVED PARTICIPANT		MX-R LOPR SYSTEM
User Disconnection by Approved Participant		
		**TH** (Heartbeat Request) with the expected ***User Sequence ID*** field set to 3 [1]
TI (Heartbeat Response) with the ***Message ID*** field set to 3 [2]		
TD (User Disconnection) [3]		
		**TL** (Disconnection Acknowl-edgement) [4]

Figure 6: User disconnection by Approved Participant

1. MX-R LOPR System sends a TH (Heartbeat Request) message
2. Approved Participant responds with a TI (Heartbeat Response)
3. Approved Participant sends a TD (User Disconnection) message
4. MX-R LOPR System responds with a TL (Disconnection Acknowledgement)

The client requests a disconnection.

MX-R LOPR System sends a Disconnection Acknowledgement (TL message) to confirm that the client has been disconnected.

3.4 Error Management

This section describes error management.

3.4.1 Incorrect Incoming Message

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Incorrect Incoming Message		
	←	**TH** (Heartbeat Request) with the expected ***User Sequence ID*** field set to 3 [1]
TI (Heartbeat Response) with the ***Message ID*** field set to 3 [2]	→	
XX (Business erroneous message) with the ***Message ID*** field set to 3 [3]	→	
	←	**TE** (Error Notice) with the expected ***User Sequence ID*** field set to 4 [4]

Figure 7: Incorrect incoming message

1. MX-R LOPR System sends a TH (Heartbeat Request) message
2. Approved Participant responds with a TI (Heartbeat Response)
3. Approved Participant sends a XX (erroneous message) message
4. MX-R LOPR System responds with a TE (Error Notice) message

The Error Notice message (Message Type TE) explains the error (here Message Type is unknown to MX-R LOPR System). Client remains connected.

3.4.2 Out of Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Out of Sequence		
TC (User Connection) with the ***Message ID*** field set to 0 [1]	→	
	←	**TK** (Connection Acknowledgement) with the expected ***User Sequence ID*** field set to 1 [2]
AA (Generic Business Message) with the ***Message ID*** field set to 5 [3]	→	
	←	**TO** (Out of Sequence) with the expected ***User Sequence ID*** field set to 1 [4]

Figure 8: Out of sequence at connection

1. Approved Participant sends first message for connection
2. MX-R LOPR System sends a Connection Acknowledgement (TK) for the TC message
3. Approved Participant sends business message (represented in the above example by AA) with a value in the ***Message ID*** field which is out of sequence from MX-R LOPR System side (5 instead of 1)
4. MX-R LOPR System responds with a TO (Out of Sequence) message with the ***User Sequence ID*** field with the expected User Sequence ID of 1

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Out of Sequence after Connection		
AA! (Business Message) with the ***Message ID*** field set to 4 [1]	→	
	←	**AA2** (Acknowledgment of the business message AA1) [2] with next user sequence number of 4
AA3 (Business Message) with the ***Message ID*** field set to 7 [3]	→	
	←	**TO** (Out of Sequence) with the expected ***User Sequence ID*** field set to 5 [4]

Figure 9: Out of sequence after connection

1. Approved Participant sends business message with correct expected Message ID (represented here by message AA1 and Message ID 4).
2. MX-R LOPR System acknowledges the inbound message AA1 by message AA2.

3. Approved Participant sends a business message (represented by AA3) with a value in the Message ID field which is out of sequence from MX-R LOPR System side.
4. MX-R LOPR System responds with a TO (Out of Sequence) message with the User Sequence ID field with the correct number.

When the Approved Participant does not send the right User Message ID, MX-R LOPR System responds with an 'Out of Sequence' message (Message Type TO). The incoming message is not processed and the user is disconnected. The 'Out of Sequence' message indicates the expected User Sequence Number. The user must reconnect and restart with its User Sequence ID equal to the value indicated in the User Connection Acknowledgement message (Message Type TK).

3.4.3 End of Transmission

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
End of Transmission		
AA1 (Business Message) with the ***Message ID*** field set at 4 [1]	→	
	←	**AA2** (Business Message Ack) with ***Message ID*** field set at 4 [2]
AA3 (Business Message) with the ***Message ID*** field set at 5 [3]	→	
	←	**TH** (Heartbeat Request) with the expected ***User Sequence ID*** field set at 6 [4]
	←	**AA4** (Business Message Ack) with ***Message ID*** field set at 5 [5]
TI (Heartbeat Response) with the ***Message ID*** field set to 6 [6]	→	
	←	**TT** (End of Transmission) with the expected ***User Sequence ID*** field set at 6 [7]
AA5 (Business Message of a Trade Entry) with the ***Message ID*** field set at 6 [8]	→	
	Approved Participant who is disconnected does not get a response [9]	

Figure 10: Out of sequence at connection

1. Approved Participant sends a business message (represented by AA1)
2. MX-R LOPR System acknowledges the business message (represented by AA2)
3. Approved Participant sends another business message (represented by AA3)
4. MX-R LOPR System sends a TH (Heartbeat Request) message

5. MX-R LOPR System acknowledges the business message AA4
6. Approved Participant responds with a TI (Heartbeat Response) message
7. MX-R LOPR System sends TT (End of Transmission) message to indicate end of a session.
8. Approved Participant sends a new business message (represented by AA5)
9. MX-R LOPR System, which has already disconnected the Approved Participant, does not send back any further message

MX-R LOPR SYSTEM sends an 'End of Transmission' message (Message Type TT), indicating the end of the session.

The next day, the Approved Participant must start the connection cycle and reset their User Sequence ID counter.

In this example, the last inbound message has not received a response.

Chapter 4 Account Management Services

4.1 Introduction

The Account Management Service allows:

- An Approved Participant to create, modify, or delete an account
- MX Regulations to create, modify, or delete an account on behalf of an Approved Participant

4.2 Overview of Account Management Messages

4.2.1 Inbound Messages

The following account management inbound messages are supported for creating, modifying, and deleting an account.

Table 1: Account Management Inbound Messages

INBOUND MESSAGE	MESSAGE NAME	MESSAGE TYPE
Creation/Modification of an Account	Account Entry	AN
Deletion of an Account	Account Delete	AD

4.2.2 Outbound Messages

The following account management outbound messages are returned by the MXR LOPR System on the creation, modification and deletion of an account.

Table 2: Account Management for Outbound Messages

OUTBOUND MESSAGE	MESSAGE NAME	MESSAGE TYPE
Acknowledgement of successful account creation/update	Account Acknowledgement	KR
Acknowledgement of successful account deletion	Account Deletion Acknowledgement	KA
Summary of all active accounts (on login)	Account Summary	JY

4.3 Account Management Scenarios

The following Account Management scenarios are outlined in the next section. Each scenario describes the preconditions required, the messages involved and sequencing of messages, as well as the status (if any) returned by the system.

Table 3: Scenarios for Account Management

SCENARIOS FOR ACCOUNT MANAGEMENT
Approved Participant creates/updates an account
Approved Participant deletes an account
MX Regulations creates/updates an account on behalf of an Approved Participant
MX Regulations deletes an account on behalf of an Approved Participant
Summary of active accounts for that AP received at login by the Approved Participant

4.3.1 Approved Participant Creates or Updates an Account

Summary

An Approved Participant sends an Account Entry (**AN**) message which leads to the creation or update of an account.

Preconditions

None

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Successful creation/update of an Account		
AN [1] (Account Entry)	→	
	←	**KR** [2](Account Acknowledge-ment)
Account cannot be created/updated		
	←	**ER** (Error Message)

Figure 11: Approved Participant creates/updates an account

1. Account Entry (AN) to create a new account or update an existing account
2. Successful creation of an Account is signalled by the field Response Status equal to 'C' (Entry Created) or equal to 'U' (Entry Updated)

- Approved Participant sends an Account Entry (**AN**). The following fields are mandatory in the creation or update of an account:
  - Account Number which uniquely identifies the account by the Approved Participant.
  - Owner ID which is the unique identification identifying the person owning the Account Number. In the case of a company, the Owner ID contains the Tax Identification Number (TIN)
  - Identification of the owner such as Name, Address, City, State, Phone, Fax and Email
  - Account Owner Type
  - Account Type
  - Hedger or Speculator
- MX-R LOPR System validates the **AN** message and responds with a **KR** (Account Acknowledgement) message with the following Response Status:
  - The Response Status 'C' indicates that the account has been successfully created.
  - If the account already exists, the Response Status 'U' indicates that the account has been successfully updated.
- If the **AN** message is invalid, an **ER** (Error Notice) is sent to the Approved Participant with an appropriate error code.

4.3.2 Approved Participant Deletes an Existing Account

Summary

An Approved Participant sends an Account Delete (**AD**) message to delete an existing account.

Preconditions

Account has previously been created and is still active, that is, not deleted.

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Successful deletion of an Account		
AD [1] (Account Delete)	→	
	←	**KA** [2](Account Delete Acknowledgement)
Account cannot be deleted		
	←	**ER** (Error Message)

Figure 12: Approved Participant deletes an account

1. Account Delete must contain the Account Number known to the AP. This field is mandatory.
2. A KA (Account Delete Acknowledgement) message is sent on successful deletion of the account

- Approved Participant sends an Account Delete (**AD**) message which contains the Account Number of the account to be deleted.
- MX-R LOPR System validates the **AD** message and responds with a **KA** (Account Delete Acknowledgement) message on successful account deletion.
- If the **AD** message is invalid or the account does not exist, an **ER** (Error Notice) is sent to the Approved Participant with an appropriate error code.

4.3.3 MX Regulations Creates or Updates an Account on Behalf of an Approved Participant

Summary

MX Regulations creates or updates an Account on behalf of an Approved Participant. In this case, the Approved Participant will receive the successful acknowledgement of the created or updated account or an Error Message if the account cannot be created or updated.

Preconditions

None

Message Sequence

MX REGULATIONS		MX-R LOPR SYSTEM		APPROVED PARTICIPANT
Successful Account Creation/Update by MX-R				
AN [1] (Account Entry)	→			
	←	**KR** [2] (Account Acknowledgement)		
		KR [2] (Account Acknowledgement)	→	
Account cannot be created/updated by MX-R				
	←	**ER** (Error Message)		
		ER (Error Message)	→	

Figure 13: MX Regulations creates or updates an Account on behalf of an Approved Participant

1. Account Entry (AN) to create a new account or update an existing account
2. Successful creation of the Account is signalled by the field Response Status equal to 'C' (Entry Created) or 'U' (Entry Updated)
   The KR (Account Acknowledgement) is also sent to the Approved Participant.

- MX Regulations sends an Account Entry (AN) message
- MX-R LOPR System validates the AN message and responds with a KR (Account Acknowledgement) message with the following Response Status:
  - The Response Status 'C' indicates that the account has been successfully created.
  - If the account already exists, the Response Status 'U' indicates that the account has successfully been updated.
- If the account creation/update fails, an ER (Error Notice) is sent to the Approved Participant with an appropriate error code.

4.3.4 MX Regulations Deletes an Account on Behalf of an Approved Participant

Summary

MX Regulations deletes an Account on behalf of an Approved Participant by sending an Account Delete (**AD**) message. In this case, the Approved Participant will receive an acknowledgement that the account has been deleted. An Error message (**ER**) is sent if the account cannot be deleted.

Preconditions

Account must exist

Message Sequence

MX REGULATIONS		MX-R LOPR SYSTEM		APPROVED PARTICIPANT
Successful Account Deletion				
AD [1] (Account Delete)	→			
	←	**KA** [2] (Account Delete Acknowledgement)		
		KA [2] (Account Delete Acknowledgement)	→	
Account cannot be deleted				
	←	**ER** (Error Message)		
		ER (Error Message)	→	

Figure 14: MX Regulations creates or updates an Account on behalf of an Approved Participant

1. Account Delete contains the Account Number to be deleted
2. Successful deletion of the Account is acknowledged by a KA (Account Delete Acknowledgement) message.
   The KA message is also sent to the Approved Participant

- MX Regulations sends an Account Entry (**AD**) message with Account Number to be deleted
- MX-R LOPR System validates the **AD** message and responds with a **KA** (Account Delete Acknowledgement) message on successful account deletion.
- The **KA** (Account Delete Acknowledgement) message is sent to the Approved Participant to notify him that the account has been deleted.
- If the account deletion fails, an **ER** (Error Notice) is also sent to the Approved Participant with an appropriate error code.

4.3.5 Account Summary on Successful Login

Summary

When an Approved Participant logs on to the MX-R LOPR System, he can specify in the TC (User Connection) message to receive the JY (Account Summary) message. This message contains the list of all active accounts which are known to the MX-R LOPR System which the Approved Participant had previously created, or have been created by MX Regulations on his behalf.

Preconditions

Successful login

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Successful Login		
TC [1] (User Connection)	→	
	←	**TK** [2] (User Connection Acknowledgement)
		JY [3] (Account Summary)
Login failed		
	←	**ER** (Error Message)

Figure 15: Out of sequence after connection

1. User Connection (TC) message specifies that Account Summary (JY) is to be received at login.
2. Successful login (TK) message is followed by the Account Summary (JY) message.
3. Several JY messages are sent, one JY message per account.

- Approved Participant connects to the MX-R LOPR System using a **TC** (User Connection) message.
- If the **JY** (Account Summary) message is specified in the **TC** message, the Approved Participant receives a summary (list) of all active accounts which were created by him or by MX-R on his behalf.

Chapter 5 Position Management Service

5.1 Introduction

The Position Management Service allows

- An Approved Participant to submit, update, or delete a position.
- MX Regulation is not allowed to submit, update, or delete a position on behalf of an Approved Participant.

Overview of Position Management Messages

5.1.1 Inbound Messages

The following position management inbound messages are supported:

Table 4: Position Management Inbound Messages

INBOUND MESSAGE	MESSAGE NAME	MESSAGE TYPE
Creation or Update of a position	Position Entry	PN
Deletion of a previously submitted position	Position Delete	PD
End of a position submission	Position Delimiter	PU

5.1.2 Outbound Messages

The following position management outbound messages are returned by the MX-R LOPR System on the creation, modification, and deletion of a position.

Table 5: Position Management Outbound Messages

OUTBOUND MESSAGE	MESSAGE NAME	MESSAGE TYPE
Acknowledgement of successful position creation or update	Position Acknowledgement	KB
Acknowledgement of successful position deletion	Position Delete Acknowledgment	KF

5.2 Position Management Scenarios

The following Position Management scenarios are outlined in the next section. Each scenario describes the preconditions required, the messages involved, and sequencing of messages, as well as the status (if any) returned by the system.

Table 6: Scenarios for Position Management

SCENARIOS FOR POSITION MANAGEMENT
Approved Participant creates or updates a position
Approved Participant deletes a position
Approved Participants does not have any position to report

5.2.1 Approved Participant Creates or Updates a Position(s)

Summary

An Approved Participant sends a Position Entry (PN) message to create a new position or updates a previously created position on a given instrument.

Preconditions

- Instrument must be known in the MX-R LOPR System
- Account has previously been created and is still active (not deleted)

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Successful submission of a Position(s)		
PN [1] (Position Entry)	→	
	←	**KB** [2] (Position Acknowledgement)
Position cannot be created		
	←	**ER** (Error Message)

Figure 16: Approved Participant creates or updates a Position

1. Position Entry (PN) to create a new position or update an existing position. Several PN messages can be sent, one PN per position
2. For each Position Entry (PN) message resulting in successful creation of a position, a Position Acknowledgement (KB) message is returned with Response Status 'C' (Entry Created) or 'U' (Entry Updated)

- Approved Participant sends a Position Entry (**PN**). The PN message must contain the following mandatory fields:
  - Account Number which identifies the account previously submitted and created
  - Group ID and Instrument ID which identifies the MX-R LOPR System instrument identification for the instrument. The Group Id and Instrument Id are obtained from the Bulk Instrument message (refer to Chapter Instrument Management).
  - Either the LongQuantity and/or ShortQuantity can be populated. If both fields are not present, the position is considered to be invalid.
- A Position Entry (**PN**) message is required to create or update a position per instrument. Several Position Entry messages can be sent, each one creating or updating a position per instrument.
- If a Position Entry (**PN**) is received on a previously created position on a given instrument, the MX-R LOPR System will automatically update that position with the information received in the **PN** message.
- MX-R LOPR System validates each **PN** message and responds with a **KB** (Position Acknowledgement) message for each PN message received with the following Response Status:
  - The Response Status 'C' indicates that the position has been successfully created.
  - If the position already exists, the Response Status 'U' indicates that the position has been successfully updated.
- If the **PN** message is invalid, an **ER** (Error Notice) is sent to the Approved Participant with an appropriate error code.

5.2.2 Approved Participant Deletes a Previously Reported Position

Summary

An Approved Participant sends a Position Delete (PD) message to delete a previously reported position on a given instrument and Account Number.

Preconditions

- Position has previously been reported
- Account has previously been created and is still active (not deleted)

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Successful deletion of a Position		
PD [1] (Position Delete)	→	
	←	**KF** [2] (Position Delete Acknowledgement)
Position cannot be deleted		
	←	**ER** (Error Message)

Figure 17: Approved Participant deletes a previously declared position

1. Position Delete (PD) must contain the Instrument and Group Id (obtained from the Bulk Instrument message) and the Account Number.
2. For each Position Delete (PD) message resulting in successful deletion of a position, a Position Delete Acknowledgement (KF) message is returned.

- The Approved Participant sends a Position Delete (**PD**) message. The **PD** message must contain the following mandatory fields:
  - Instrument, identified by the Instrument ID and Group ID as obtained from the Bulk Instrument message,
  - Account Number holding that instrument.
- MX-R LOPR System validates each **PD** message and responds with a **KF** (Position Delete Acknowledgement) message for each PD message received.
- If the **PD** message is invalid, an **ER** (Error Notice) is sent to the Approved Participant with an appropriate error code.

5.2.3 Approved Participants Does not have Any Position to Report

Summary

Positions need to be reported on a daily basis. However, if the Approved Participant does not have any position to declare to the MX-R LOPR System, he must nevertheless explicitly notify the system by sending a Position Delimiter (PU) message. Failure to do so will be interpreted by the system as failure of the Approved Participant to declare positions.

Preconditions

- None

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
No positions to declare		
PU [1] (Position Delimiter)	→	
	←	**KO** [2] (Standard Acknowledgement)

Figure 18: Approved Participant deletes a previously declared position

1. Approved Participant declares that he has no position to report by sending a Position Delimiter (PU) message without any Position Entry (PN) messages.
2. A Standard Acknowledgement (KO) message is sent by the MX-R LOPR System to acknowledge the PU message.

- The Approved Participant sends a Position Delimiter (**PU**) message without any Position Entry (**PN**) to declare that he has no position to report for that day.
- A Standard Acknowledgement (**KO**) message is sent as acknowledgement.

Chapter 6 Instrument Management

6.1 Introduction

The Instrument Management Service allows

- An Approved Participant to download the dictionary of instruments which are known to the MX-R LOPR System. When reporting a position on an instrument, the Approved Participant must use the Instrument ID and Group ID as identified in the MX-R LOPR System.

6.2 Overview of Instrument Management Messages

6.2.1 Inbound Messages

None

6.2.2 Outbound Messages

The following Instrument Management outbound messages are supported:

Table 7: Instrument Management Outbound Message

OUTBOUND MESSAGE	MESSAGE NAME	MESSAGE TYPE
Broadcast of MX-R LOPR dictionary of instruments	Bulk Instrument	BI

6.3 Instrument Management Scenario

The following Instrument Management scenario is outlined in the next section. It describes the preconditions required, the messages involved, and sequencing of messages, as well as the status (if any) returned by the system.

Table 8: Scenarios for Instrument Management

SCENARIOS FOR INSTRUMENT MANAGEMENT
Approved Participant receives Instrument Dictionary from MX-R LOPR System

6.3.1 Instrument Dictionary on Successful Login

Summary

When an Approved Participant logs on to the MX-R LOPR System, he can specify in the TC (User Connection) message to receive the BI (Bulk Instrument) message. This message contains the lists of all known instruments in the MX-R LOPR System.

Preconditions

Successful login

Message Sequence

APPROVED PARTICIPANT		MX-R LOPR SYSTEM
Successful Login		
TC [1] (User Connection)	→	
	←	**TK** [2] (User Connection Acknowledgement)
		BI [3] (Bulk Instrument)
No Login		
	←	**ER** (Error Message)

Figure 19: Approved Participant receives dictionary of instruments

1. User Connection (TC) message specifies that Bulk Instrument (BI) is to be received at login.
2. Successful login is acknowledge by a User Connection Acknowledgement (TK) message
3. One or several BI messages are sent on successful login. Each BI message contains the dictionary of instruments known to the MX-R LOPR System.

- Approved Participant connects to the MX-R LOPR System using a TC (User Connection) message. The BI message must be specified in the TC message for the dictionary of instrument to be sent to the Approved Participant on successful login.

6.4 MX-R LOPR System Instrument Identification

The Bulk Instrument (BI) message contains a list of instruments, where each instrument is identified by its SAIL Instrument ID and SAIL Group ID. Furthermore the instrument characteristics are sent in the message as follows:

- Call Put Code identifies whether the instrument is a Call (C) or Put (P) option. In case of a future, this field is blank.
- Strike Price is the strike price of the call or put option. In case of a future, this field is blank.
- The Class Symbol identifies the root symbol of the option or the class symbol of the future.
- The Expiration Date is the date at which the instrument expires.
- The External Symbol is also provided so that the Approved Participant can perform a quick look-up of the instrument and its corresponding SAIL Instrument and Group ID. The External Symbol has the following structure:

CLASS SYMBOL	EXPIRATION	CALL/PUT CODE	STRIKE PRICE
6 Chars.	6 chars. (YYMMDD)	C or P	Price

Appendix A Terminology

A.1 Acronyms

The following acronyms are used in this document.

Table 9: Acronyms

TERM	DEFINITION
AP	Approved Participant
IT	Information Technology
LOPR System	Large Open Position Reporting System
MX	Bourse de Montréal or Montréal Exchange Inc.
MX-R	Montreal Exchange Inc. - Regulatory
SAIL	SOLA® Access Information Language
TIN	Tax Identification Number

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