



Bourse de
Montréal

Technical Notice

15-008

DESTINATION: Montréal Exchange Participants

FROM: Market Access Manager

OBJECT: Swap Futures and Request for Quote Enhancements (RFQ)

DATE: October 8, 2015

Montreal Exchange is pleased to announce the launch of Eris-Based Canadian Dollar Interest Rate Swap Futures and an enhancement to its Request for Quote (RFQ). This notice aims to provide participants with the technical and product specifications in order to support the new Swap futures contract and RFQ.

In September 2014, Montréal Exchange (MX) and Eris Exchange announced a licencing agreement to offer trading and clearing of Canadian dollar swap futures based on the Eris Methodology (see [Press Release](#)). Planned for a Q2 2016 product launch, the Eris-Based Canadian Dollar Interest Rate Swap Futures contract will have an impact on the various MX services found below. Participants and vendors must support the new HSVF UDP Multicast version D4 in order to receive the dissemination of the new product messages.

Alongside the new Swap futures contract, the MX has taken the opportunity to enhance its RFQ functionality to allow participants to specify whether they are seeking bids or offers.

While both swap futures and RFQ will be offered in version D4, they may not be activated at the same time. The MX will communicate production and testing dates to its participants in the coming months. Please note that certification is mandatory for both initiatives.

Overview of impacted protocols, report and services

Service	SWAP	RFQ	Comments
SAIL		√	New protocol B0
			Order entry & trade notification uses the Sail InstrumentID and GoupID as found in the SWAP Future Instrument key
FIX		√	Same as any other Futures, order entry and execution use tag = 55(Symbol) & tag 200 (MaturityMonthYear) to be mapped with Swap Instrument Key in HSVF
HSVF UDP multicast	√	√	New protocol D4
HSVF Unicast			Swap and enhanced RFQ not supported
Trade Management system (TMS)			Swap Give-up & allocation will be allowed
Clearing API			
ATR			
Drop Copy			
EoD Participant Activity Report	√		Instrument list layout modification
E-Gains			

To support the introduction of swap futures, MX will also produce Start & End of Day files available on an FTP server. The files will contain contract details and daily settlement prices. They will be similar to what Eris publishes. Specification and layout details will be communicated at a later date.

1. Swap

1.1. HSVF Multicast Impacts

The introduction of swap futures requires a new set of messages, which will be supported in version D4.

Message type	Field Name	Change
CW: Swap Future Trade - New - 58 bytes	Message Header	(11)
	Exchange I. D.	(1) (A)
	Root Symbol	(3) (X)
	Expiry Month	(1) (A)
	Expiry Year	(2) (N)
	Expiry Day	(2) (N)
	Tenor	(2) (N)
	Fixed Rate	(5) (N)
	Fixed Rate Fraction Indicator	(1) (X)
	Trade Volume	(8) (N)
	Trade Price	(6) (N)
	Trade Price Fraction Indicator	(1) (X)
	Net Change Sign +/-	(1) (X)
	Net Change	(6) (N)
	Net Change Fraction Indicator	(1) (X)
	Timestamp	(6) (N)
Price Indicator Marker	(1) (X)	
DW: Swap Future Request for Quote (RFQ) New - 37 bytes	Message Header	(11)
	Exchange I.D.	(1) (A)
	Root Symbol	(3) (X)
	Expiry Month	(1) (A)

Message type	Field Name	Change	
	Expiry Year	(2) (N)	
	Expiry Day	(2) (N)	
	Tenor	(2) (N)	
	Fixed Rate	(5) (X)	
	Fixed Rate Fraction Indicator	(1) (X)	
	Requested Size	(8) (X)	
		(1) (X)	
	Requested Market Side	Possible values B: Buy S: Sell 2: Both	
FW: Swap Future Quote - New - 53 bytes	Message Header	(11)	
	Exchange I.D.	(1) (A)	
	Root Symbol	(3) (X)	
	Expiry Month	(1) (A)	
	Expiry Year	(2) (N)	
	Expiry Day	(2) (N)	
	Tenor	(2) (N)	
	Fixed Rate	(5) (N)	
	Fixed Rate Fraction Indicator	(1) (X)	
	Bid Price	(6) (X)	
	Bid Price Fraction Indicator	(1) (X)	
	Bid Size	(5) (X)	
	Ask Price	(6) (X)	
	Ask Price Fraction Indicator	(1) (N)	
Ask Size	(5) (X)		
Instrument Status Marker	(1) (X)		
HW: Swap Future Market Depth New - 175 bytes	Message Header	(11)	
	Exchange I.D.	(1) (A)	
	Root Symbol	(3) (X)	
	Expiry Month	(1) (A)	
	Expiry Year	(2) (N)	
	Expiry Day	(2) (N)	
	Tenor	(2) (N)	
	Fixed Rate	(5) (N)	
	Fixed Rate Fraction Indicator	(1) (X)	
	Instrument Status Marker	(1) (A)	
	Number of Level	(1) (N)	
	<- Up to 5 times ->	Level	(1) (X)
		Bid Price	(6) (X)
		Bid Price Fraction Indicator	(1) (X)
		Bid Size	(5) (X)
		Number of Bid Orders	(2) (X)
		Ask Price	(6) (X)
		Ask Price Fraction Indicator	(1) (N)
		Ask Size	(5) (X)
Number of Ask Orders	(2) (X)		
IW: Swap Future Trade Cancellation New - 50 bytes	Message Header	(11)	
	Exchange I.D.	(1) (A)	
	Root Symbol	(3) (X)	
	Expiry Month	(1) (A)	
	Expiry Year	(2) (N)	
	Expiry Day	(2) (N)	
	Tenor	(2) (N)	
	Fixed Rate	(5) (N)	
	Fixed Rate Fraction Indicator	(1) (X)	

Message type	Field Name	Change
JW: Swap Future Instrument keys New - 179 bytes	Volume	(8) (N)
	Trade Price	(6) (N)
	Trade Price Fraction Indicator	(1) (X)
	Timestamp	(6) (N)
	Market Price Indicator	(1) (X)
	Message Header	(11)
	Exchange I.D.	(1) (A)
	Root Symbol	(3) (A)
	Expiry Month	(1) (A)
	Expiry Year	(2) (N)
	Expiry Day	(2) (N)
	Tenor	(2) (N)
	Fixed Rate	(5) (N)
	Fixed Rate Fraction Indicator	(1) (X)
	Maximum Number of Contracts per Order	(6) (N)
	Minimum Number of Contracts per Order	(6) (N)
	Maximum Threshold Price	(6) (N)
	Maximum Threshold Price Fraction Indicator	(1) (X)
	Minimum Threshold Price	(6) (N)
	Minimum Threshold Price Fraction Indicator	(1) (X)
	Tick Increment	(6) (X)
	Tick Increment Fraction Indicator	(1) (X)
	Market Flow	(2) (X)
	Group Instrument	(2) (X)
	Instrument I.D.	(4) (X)
	External Symbol	(30) (X)
	Contract Size	(8) (N)
	Tick Value	(6) (N)
	Tick Value Fraction Indicator	(1) (X)
	Currency	(3) (A)
	Effective Date	(6) (A)
	Initial Effective Date	(6) (A)
	Cash Flow Alignment Date	(6) (A)
	Payment Frequency	(2) (X)
	Reset Frequency	(2) (X)
	Notional Principal Amount	(9) (N)
	Day Count Convention	(1) (A)
	First Payment Date	(6) (A)
	Next Payment Date	(6) (A)
	First Reset Date	(6) (A)
	Next Reset Date	(6) (A)
	Previous Reset Date	(6) (A)
NW: Swap Future Summary New - 160 bytes	Message Header	(11)
	Exchange I.D.	(1) (X)
	Root Symbol	(3) (A)
	Expiry Month	(1) (A)
	Expiry Year	(2) (N)
	Expiry Day	(2) (N)
	Tenor	(2) (N)
	Fixed Rate	(5) (N)
	Fixed Rate Fraction Indicator	(1) (X)
	Bid Price	(6) (N)
	Bid Price Fraction Indicator	(1) (X)

Message type	Field Name	Change
	Bid Size	(5) (X)
	Ask Price	(6) (N)
	Ask Price Fraction Indicator	(1) (X)
	Ask Size	(5) (X)
	Last Price	(6) (N)
	Last Price Fraction Indicator	(1) (X)
	Open Price	(6) (N)
	Open Price Fraction Indicator	(1) (X)
	High Price	(6) (N)
	High Price Fraction Indicator	(1) (X)
	Low Price	(6) (N)
	Low Price Fraction Indicator	(1) (X)
	Settlement Price	(6) (N)
	Settlement Price Fraction Indicator	(1) (X)
	Net Present Value (A)	(11) (N)
	Net Present Value Fraction Indicator	(1) (X)
	Historical Coupon (B)	(11) (N)
	Historical Coupon Fraction Indicator	(1) (X)
	Price Alignment Interest (C)	(11) (N)
	Price Alignment Interest Fraction Indicator	(1) (X)
	Net Change Sign +/-	(1) (X)
	Net Change	(6) (N)
	Net Change Fraction Indicator	(1) (X)
	Volume	(8) (N)
	Previous Settlement Price	(6) (N)
	Previous Settlement Price Fraction Indicator	(1) (X)
	Previous Reset Rate	(6) (X)
	Previous Reset Rate Fraction Indicator	(1) (X)
	Open Interest	(7) (N)
QW: Swap Future Beginning of Summary New - 12 bytes	Message Header	(11)
	Exchange I.D.	(1) (A)
Market Feed Indicators	New value:	
	Second letter	S: Swap

1.2. Participant Activity Reports (PAR)

New fields will be added to support the definition of swap instruments in the PAR (dictionary) instrument file. The following fields will be added to the csv file.

Starting at the Swap launch date, we will no longer support the old format.

Field name	FMT	Max Length	Definition
FixedRate	N	8	The fixed rate of the Swap Future. Empty if not required.
Tenor	N	2	The contract duration in years. Empty if not required.
EffectiveDate	N	8	The start date (YYYYMMDD) of the first accrual period. Empty if not required.

2. Request For Quote

2.1. SAIL Impact

Message type	Field Name	Change
QS: Request for Quote with Side	Incoming Messages Header (Message Type: QS)	
	Group	(X) (2)
	Instrument	(X) (4)
	Quantity	(X) (8)
	MarketSide	(N) (1) Possible values B: Buy S: Sell 2: Both
QW: Request for Quote with Side Acknowledgement	Incoming Messages Header (Message Type: QW)	
	Group	(X) (2)
	Instrument	(X) (4)
	Quantity	(X) (8)
	MarketSide	(N) (1) Possible values B: Buy S: Sell 2: Both

2.2. Fix Impact

Message type	Tag Name	Change
R: Quote Request	New Tag 54 = Side	Possible values: 1: Buy

Message type	Tag Name	Change
		2: Sell 3: Both

2.3. HSVF Impact

Message type	Field Name	Change
D: Options Request for Quote (RFQ) DB: Future Options Request for Quote (RFQ) DF: Futures Request for Quote (RFQ) DS: Strategy Request for Quote (RFQ)	New Field Request Market Side	(1) (X) Possible values B: Buy S: Sell 2: Both

Documentation

HSVF, SAIL, FIX and EoD PAR documentation have been updated and are now available. The following versions include Swap and RFQ specifics:

- HSVF Multicast Specifications Guide
- SAIL Business Design Guide for MX
- SAIL Specifications Guide for MX
- SOLA FIX Specifications Guide for MX
- SOLA FIX Business Design Guide for MX
- End-Of-Day Participant Activity Report

Contact Information

If you have any further questions or need information, please contact the Technical Help Desk.

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We thank you for your cooperation.

Technical Help Desk

The launch by Bourse de Montréal Inc. (the "Bourse") of the Eris-Based Canadian Dollar Interest Rate Swap Futures contracts and the contract specifications below are subject to the approval of the Rules and Policies Committee of the Board of Directors of the Bourse, to the self-certification process established under the Quebec *Derivative Act* (CQLR chapter I-14.01) and to other regulatory approvals or formalities. This document and the information it contains are therefore subject to change. This document is provided to you for information purposes only. The Bourse makes no representations or warranties in connection with this product or its contemplated specifications. This document shall in no way be interpreted as an obligation on the part of the Bourse to launch this product with these specifications or at all.

Specifications

ERIS-BASED CANADIAN DOLLAR INTEREST RATE SWAP FUTURES*	
Contract structure	C\$100,000 notional principal whose value is based upon the difference between a stream of semi-annual fixed interest payments and a stream of semi-annual floating interest payments based on three-month CDOR over a defined term to maturity.
Fixed Rate	Pre-determined rate set by Bourse de Montreal which will remain static throughout the life of the contract.
Floating Rate Index	Three-month Canadian Dollar Offered Rate ("CDOR")
Effective Date	Quarterly International Monetary Market ("IMM") dates (3rd Wednesday of each March, June, September and December)
Cash Flow Alignment Date ("CFAD")	The date used for aligning all fixed and floating Reset Dates, and for determination of the Expiration Date. CFAD derived by adding the contract Underlying Tenor to the Effective Date.
Reset Dates	Dates defining the beginning and end of fixed and floating interest accrual periods. The CFAD will be used as the basis for determining Reset Dates. Each Reset Date is subject to adjustment based on Modified Following convention ¹ .
Fixing Dates	The Effective Date and each Reset Dates.
Remaining Tenor:	The period of time from the current day to the CFAD.
	Fixed Leg <ul style="list-style-type: none"> • Reset frequency: Semi-Annual • Day Count Convention: Act/365 • Currency: CAD • Holiday Calendar(s): Canada (Toronto) • Business Day Convention: Modified Following with adjustment to period end dates
Swap Futures Leg Conventions	Floating Leg <ul style="list-style-type: none"> • Reset Frequency: Quarterly • Day Count Convention: Act/365 • Currency: CAD • Holiday Calendar(s): Canada (Toronto) • Business Day Convention: Modified Following with adjustment to period end dates
Contract Type	Cash-settled
Underlying Tenor	The period of time from the Effective Date to the CFAD. Tenors available: 2,5,10 years
Expiration Date	The final date to which fixed and floating amounts accrue. The last date of the contract. The Expiration Date is determined by applying the Modified Following rule to the CFAD.
Last Trading Day	The last day on which the Contract can be traded is the valid business day preceding the Expiration Date.
Price Quotation	Per C\$100 nominal value
Daily Settlement Price	The Daily Settlement Price for each Contract is defined as: $S_t = 100 + A_t + B_t - C_t$ <p> S_t = settlement price at time t A_t = net present value of the future cash flows at time t, based on OIS discounting B_t = value of the historical fixed and floating amounts from first trade date C_t = Price Alignment Interest ("PAI") </p> <p>The Daily Settlement Price will be calculated with 3 decimals of precision (e.g., 100.123).</p> <p>PAI is a cumulative value calculated daily by applying the Canadian Overnight Repo Rate Average (CORRA) rate to the contract's NPV, using Floating Leg day count convention specified above. PAI will start accruing on the first trade date.</p>
Final Settlement Price	$S_{\text{final}} = 100 + B_{\text{final}} - C_{\text{final}}$ S_{final} = Settlement price on the Expiration Date B_{final} = Historical fixed and floating amounts from the first trade date through the Expiration Date C_{final} = PAI, on the Expiration Date

¹ The first following day that is a valid business day unless that day falls in the next calendar month, in which case the first preceding valid business day.

Quoting Convention	<p>Each Contract Price has an implicit Net Present Value (NPV), as represented in the following formula:</p> $\text{Contract Price} = 100 + A_{\text{implicit}} + B_t - C_t, \text{ where}$ <p>A_{implicit} is the implicit NPV per Contract determined by the market (divided by 1,000 to normalize to a C\$100 nominal value),</p> <p>B_t is the value of the historical fixed and floating amounts,</p> <p>C_t is price alignment interest ("PAI") at time t.</p> <p>The B and C components are calculated by the Bourse de Montreal before market open, with the C component based on the CORRA rate published on the previous day. The C component is updated during the day once the CORRA rate is published.</p>
Trading Convention	Buy = pay fixed , Sell = receive fixed
Minimum Price Fluctuation	<p>0.005 = C\$5 per contract where the lesser of the Remaining Tenor or Underlying Tenor is 2 years and less.</p> <p>0.01 = C\$10 per contract where the lesser of the Remaining Tenor or Underlying Tenor is greater than 2 years.</p>
Position Reporting Threshold	250 contracts
Position Limit	<p>There are no position limits for Eris-Based Canadian Dollar Interest Rate Swap Futures.</p> <p>Notwithstanding the above paragraph, the Bourse may if it sees fit or deems necessary to ensure the integrity and fairness of the market impose specific position limits on one or more Approved Participants, or clients.</p>
Price Limit	None
Minimum margin requirements	Information on minimum margin requirements can be obtained from the Bourse as they are subject to periodic changes.
Trading hours	<p>Regular session: 6:00** a.m. to 4:00 p.m.</p> <p>Note: During early closing days, the regular session closes at 1:30 p.m. ** \pm 15 seconds.</p>
Clearing corporation	Canadian Derivatives Clearing Corporation (CDCC).
Ticker symbol	<p>Each Contract has a specific 3 characters symbol:</p> <p>First character: Contract identifier: R = Eris CAD Interest Rate Swap Future</p> <p>Second character: Fixed Rate (1 = the first Fixed Rate defined for an Underlying Tenor and an Expiration Date, 2 = the 2nd Fixed Rate defined for an Underlying Tenor and Expiration Date, n = the nth Fixed Rate defined for an Underlying Tenor and Expiration Date).</p> <p>Third character: Underlying Tenor (Z = 2 Years, F = 5 Years, B = 10 Years)</p>

* Eris CAD Interest Rate Swap Futures are based on the Eris Methodology™, Eris' product design for constructing capital-efficient futures, which incorporates intellectual property, expertise and patent-pending innovations.