ERIS EXCHANGE

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| TO: | Eris Exchange Market Participants |
| FROM: | Eris Exchange Control Center |
| NOTICE: | #17-M04 |
| DATE: | February 16, 2017 |
| SUBJECT: | Eris SwapBook CLOB Release 2017 |

This Notice serves to inform Eris Exchange, LLC ("Exchange") participants of the latest enhancements release to the Eris Exchange electronic trading platform, Eris SwapBook.

## Overview

Eris Exchange will be releasing the below listed enhancements to Eris SwapBook, including specific changes to the FIX Market Data and FIX Orders APIs. Eris Exchange has made available updated API Specifications on the Eris website at http://www.erisfutures.com/APIs. Additionally, a technical review of the new features is available at http://www.erisfutures.com/EE/Eris-SwapBook-Enhancements.pdf.

### Eris SwapBook Enhancements

1) Pre-listing of all Eris Standards instruments, On-the-Run and Off-the-Run aged, Ultra Forwards and Invoice Swap Futures, totaling approximately 400 instruments
2) Ability to request IOI (Indication of Interest) for any active or aged instrument, allowing multiple IOI requests with a single instrument
3) Distribution of Theoretical Prices for full curve of Eris Standards
4) Dissemination of Settlement Price and Reference Data via FIX Market Data feed
5) Support for Modification of Partially Filled Orders

## Target Release Dates

- DEMO Environment: February 22, 2017
- PROD Environment: April 24, 2017

## Testing

Email Eris Exchange Client Services at clientservices@erisfutures.com or call 646-961-4480 to coordinate testing in the DEMO environment and schedule conformance testing for supported features.

## Impact to Trading Firms

Firms connecting to Eris SwapBook directly via FIX API will require development and conformance testing. There are a set of mandatory changes and a set of optional changes, described below.

### Mandatory features

**1) Pre-listing of all Eris Standards**

- The current Security List consists of approximately 30 instruments. The new FIX Security List will contain over 400 Eris Standards instruments including Primary On-the-Run and Off-the-Run (Aged), Ultra Forwards, Invoice Swap Futures.

- All Eris Standards instruments will follow the same FIX tag 55 (Symbol) schema for the life of the contract. Tag 65 has an adjusted schema based on lifecycle of contract. See Eris website for updated FIX Instrument List specification.

| | Eris Standards Contract Type | Supported Tenors | Tag 55 Format | Tag 65 Supported Values |
|---|---|---|---|---|
| OUTRIGHTS | **Primary Standards** | 2Y, 3Y, 4Y, 5Y, 7Y, 10Y<br>12Y, 15Y, 20Y and 30Y | Tenor' '-' 'Currency'<br>'Effective Date' 'Coupon Rate'<br><br>*(Coupons match OTC MAC Swaps)* | IMM OTR1 **A**<br>IMM OTR A<br>IMM OLD A<br>IMM OLD1 A<br>*All intervening OLD states through maturity*<br>IMM OLDn A |
| OUTRIGHTS | **Ultra Forward Standards** | 2Y, 3Y, 4Y, 5Y, 7Y, 10Y<br>12Y, 15Y, 20Y and 30Y | Tenor' '-' 'Currency'<br>'Effective Date' 'Coupon Rate'<br><br>*(Coupons distinct from coupons of Primaries)* | IMM OTR42 **B**<br>*All intervening OTR states through OTR1*<br>IMM OTR1 B<br>IMM OTR B<br>IMM OLD B<br>IMM OLD1 B<br>*All intervening OLD states through maturity*<br>IMM OLDn B |
| OUTRIGHTS | **Invoice Swap Futures**<br>*(also referred to as Cheapest to Deliver Standards)* | Contracts available against:<br>2Y T-Note, 5Y T-Note, 10Y T-Note, Ultra 10Y T-Note, US T-Bond, Ultra US T-Bond | Admin Defined Value<br><br>*Ex: 'ISF-2T-USD YYYYMMDD 1.234'* | ADMIN1<br>*All intervening values*<br>ADMIN200 |
| SPREADS | **Eris Standards Rolls:**<br>OTR vs OTR1 A | 2Y, 3Y, 4Y, 5Y, 7Y, 10Y,<br>12Y, 15Y, 20Y and 30Y | Anchor Leg Tag 55 Value' /<br>'Calculated Leg Tag 55 Value'<br><br>*Ex: 2Y-USD 20170315 1.250/ 2Y-USD 20170621 1.250* | Supported Anchor Leg States:<br>OTR A<br>OTR B<br>Supported Calculated Leg States:<br>OTR1 A<br>OTR1 B |
| SPREADS | **Eris Standards Rolls:**<br>OLD vs OTR | 2Y, 3Y, 4Y, 5Y, 7Y, 10Y,<br>12Y, 15Y, 20Y and 30Y | Anchor Leg Tag 55 Value' /<br>'Calculated Leg Tag 55 Value'<br><br>*Ex: 2Y-USD 20161221 1.250/ 2Y-USD 20170315 1.250* | Supported Anchor Leg States:<br>OLD A<br>OLD B<br>Supported Calculated Leg States:<br>OTR A<br>OTR B |

## 2) IOI Active Instruments

- Sending and receiving IOI messages is now much easier. Multiple IOI requests now permissible in same trading session for the same Eris Standards instrument. IOIs for active, pre-listed, Standards instruments enable Independent Software Vendors with compatibility to support IOI submissions.

- To listen for IOI messages, market data subscription will include 35=V, 269=I, 55=NA to capture IOI on all pre-listed instruments noted above. See the technical review presentation noted above for more detail.

## 3) Order Modification for Partial Fills

- Existing order modification on an order which has been partially filled results in rejection of order modification request, with the partially filled order remaining active on the order book. The remaining order must be canceled/replaced with new order.

- Modifications to partially filled orders will now be accepted (not rejected), provided that the quantity of the modified order is greater than the sum of the filled amount plus the amount that is in the process of matching.

- While there are no FIX changes in this feature enhancement, firms should recertify to assure operation behavior matches expectation.

## Optional features

### 1) Theoretical Prices

- Eris Exchange will calculate and publish theoretical prices for full curve on all 400+ Eris Standards instruments, once per second for any market without a live quote. This includes On-the-Run, Off-the-Run, Ultra Forwards and Invoice Swap Futures.
- Firms certifying for this functionality will be required to support new FIX tag 1070 in the Market Data API. FIX tag 1070 will have value of '0' to classify price as "indicative".
- Theoretical prices will be published in two price formats: NPV and Futures Price.

### 2) Settlement Price and Reference Data

- Daily settlement data and contract reference data will now be disseminated in FIX Market Data API.
- Data will be published in FIX Market Data feed 3 times per each trading session, approximate times listed below:
  - 3:00am ET: Includes data published in 'Eris_Instruments_YYYYMMDD_Prev_PAI_Rate'
  - 9:15am ET: Includes data published in 'Eris_Instruments_YYYYMMDD_TopDay_PAI_Rate'
  - 4:40pm ET: Includes data published in 'Eris_Instruments_YYYYMMDD_Settles'

| FIX Tag | Settlement Data Field Name |
|---|---|
| 38000 | NPV (A) |
| 38001 | Float NPV |
| 38002 | Fixed NPV |
| 38003 | Accrued Coupons (B) |
| 38004 | ErisPAI (C) |
| 38006 | Daily Incremental ErisPAI |
| 38007 | Previous ErisPAI |
| 38008 | Prior Settlement Price |
| 38009 | Fed Funds Rate (%) |
| 38010 | Fed Funds Date |
| 38011 | Previous Settlement Date |
| 38013 | Fair Coupon % |
| 38023 | PV01 |
| 38024 | Settlement Price (Final) |
| 38012 | Settlement Price *(Unrounded)* (100 + A + B – C) |
| 38025 | Settlement NPV |
| 75 | Date |
| 7337 | Accrual Days |
| 746 | Open Interest |
| 5731 | DV01 |

| FIX Tag | Reference Data Field Name |
|---|---|
| 38005 | ErisPAI Date |
| 38014 | Fixed Payment |
| 38015 | Next Fixed Payment Date |
| 38016 | Nex Fixed Payment Amount |
| 38017 | Floating Payment |
| 38018 | Next Floating Payment Date |
| 38019 | Next Floating Payment Amount |
| 38020 | Next Fixing Date |
| 38021 | Tag 55(T+1) (Symbol) |
| 38022 | Tag 65(T+1) (SymbolSfx) |
| 38026 | Short Name |
| 5512 | First Trade Date |
| 9280 | Nominal |

For questions, please contact the Eris Control Center, ErisControlCenter@erisfutures.com, 888-587-2699, Option1