

BM&FBOVESPA

The New Exchange



PUMA Trading System UMDF 2.0 Derivatives Migration

Customer Impact Document

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Revision History

| Date | Version | Description | Author |
|-----------------------------|---------|--------------------|--------|
| Aug 14 th , 2014 | 1.0.0 | - Initial version. | JLRM |
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1. Introduction

This document outlines the possible impact on client systems due to the migration of the Derivatives Matching Engine to the latest version of the PUMA Trading System, to enable compatibility with version 2.0 of the UMDF PUMA protocol. This newer version is the same one used in the Cash Equities Matching Engine. The scope of this manual is describing the impacts on the messages which are transmitted for market data only, as the order entry interface has already been upgraded previously.

This set of impacts described in this document **will require** recertification for all customers, and our certification environment already contains the upgraded version, and hence customers may already solicit access and request a retest session.

In order to allow customers to adapt to the changes, BVMF will continue to publish market data using the previous format (UMDF PUMA 1.6 Derivatives), in parallel to the UMDF 2.0 Derivative channels until **NOV/2017**. This migration to the UMDF PUMA 2.0 format is important to allow making full use of the new engine features and harmonize with Equities in terms of functionality.

For accessing this new UMDF 2.0 Derivatives channels, please refer to the UMDF 2.0 Derivatives Channels Definition file:

http://www.bmfbovespa.com.br/en_us/services/trading/bm-fbovespapuma-trading-system/for-developers-and-vendors/umdf-unified-market-data-feed/

Be advised that to access this new channels a new Template file will be required. This template file is accessible in:

<ftp://ftp.bmf.com.br/FIXFAST/templates/Production/templates-PUMA.xml>

For the actual dates for the migration plans see Chapter 3 (Key Dates).

1.1. Dependencies

It is assumed that the reader of this document has knowledge of the basic functioning of the FIX protocol and UMDF PUMA specification (market data). For more information regarding these protocols, please refer to:

http://www.bmfbovespa.com.br/en_us/services/trading/bm-fbovespapuma-trading-system/

http://www.bmfbovespa.com.br/en_us/services/trading/bm-fbovespapuma-trading-system/for-developers-and-vendors/umdf-unified-market-data-feed/

1.2. Abbreviations

| Abbreviation | Description |
|--------------|---|
| BVMF | Bolsa de Valores, Mercadorias & Futuros, or BM&FBOVESPA. |
| FAST | FIX Adapted for Streaming – a specification for data compression to reduce bandwidth usage, especially for market data feeds. |
| FIX | Financial Information Exchange Protocol |
| GSN | Gerência de Suporte à Negociação – BM&FBOVESPA Trading Support Team |
| PUMA | PUMA Trading System |
| UMDF PUMA | Unified Market Data Feed |

1.3. Glossary

| Term | Definition |
|-------------|--|
| BM&FBOVESPA | Securities, Commodities and Futures Exchange, located in São Paulo, Brazil. For more information, visit BM&FBOVESPA's web site at http://www.bmfbovespa.com.br . |
| Market Data | A collective term for quotes, last sales, volume statistics and other information used by the market to evaluate trading opportunities. |
| Matching | The process by which two counter-parties that have engaged in a trade compare the settlement details of the trade provided by both. Matching is done to verify all aspects of a trade and ensure that all parties agree on the terms of the transaction. |
| Security | A stock, bond or contract that has been authorized for trading on, and by, a registered exchange. Each exchange has different criteria to determine a security's eligibility for listing. |

2. Market Data

This chapter outlines the market data functionality for UMDF PUMA 2.0 Derivatives. For this document only the Derivatives specific changes will be highlighted. For the whole UMDF 2.0 specification, please refer to the full document, mentioned in section 1.1 (above).

2.1. Security List message (35=y)

- New domains for tag 167-SecurityType (also replaced OPTEXC for OPTEXER, for consistency)
- Changed the way to represent information about legs, removing tags 37009-LegType and 37010-BuyersPerspective, now using 609-LegSecurityType and 624-LegSide
- Stopped using tag 561-RoundLot in favor of the new singleton repeating group 1234-NoLotTypeRules
- No longer using tag 9219-InstrumentID
- No longer using tag 6937-Asset, the information can be obtained from tag 55-Symbol
- Started using the repeating group 870-NoInstrumentAttrib to carry instrument attributes
- Started using tags 1194-ExerciseStyle and 201-PutOrCall for options
- Started using tag 460-Product to identify Derivatives segment
- Started using tag 1300-MarketSegmentID to identify the market segment

2.2. Incremental (35=X) and Snapshot (35=W) messages

- For trades (269=2), now able to replay the Exchange last trade (277=U), Leg trades (277=1) and also Marketplace entered trades (277=2)
- Started using tag 336-TradingSessionID to indicate if the trade happened in a non-regular session (336=6)
- Started using the Delete From functionality (279=4 on 269=2)

2.3. Security Status message (35=f)

- Started using the new Phase/State mechanics, using tag 1174-SecurityTradingEvent (values 102 and 101, to indicate following the group or not)
- Started using tag 336-TradingSessionID
- Possibility to enable new Phase/State = 101-Final Closing Call (for future use)
- No longer using tag 75-TradeDate
- Started using tag 342-TradSesOpenTime

2.4. News message (35=B)

- Review of the domain of tag 6940-NewsSource
- Started using tag 1472-NewsID
- Started using encoded messages (tags 358-EncodedHeadlineLen, 359-EncodedHeadline, 354-EncodedTextLen and 355-EncodedText)

3. Key dates

The certification environment has been open since Oct, 19, 2016. Customers should request certification until Nov, 30, 2017, when PUMA Derivatives 1.6 will be decommissioned.