PUMA Trading System – Drop Copy Service

Customer Impact Document

Version: 1.0

Last modified: 07/07/2021

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Change Log

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July 7, 2021	1.0	-	New drop copy service information	LMG

INFORMAÇÃO PÚBLICA – PUBLIC INFORMATION

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All matters related to rules and specifications herein are made subject to and are superseded by official B3 rules. Current rules should be consulted in all cases concerning contract specifications.

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PUMA Trading System – Drop Copy Service
CUSTOMER IMPACT DOCUMENT

REVISION HISTORY

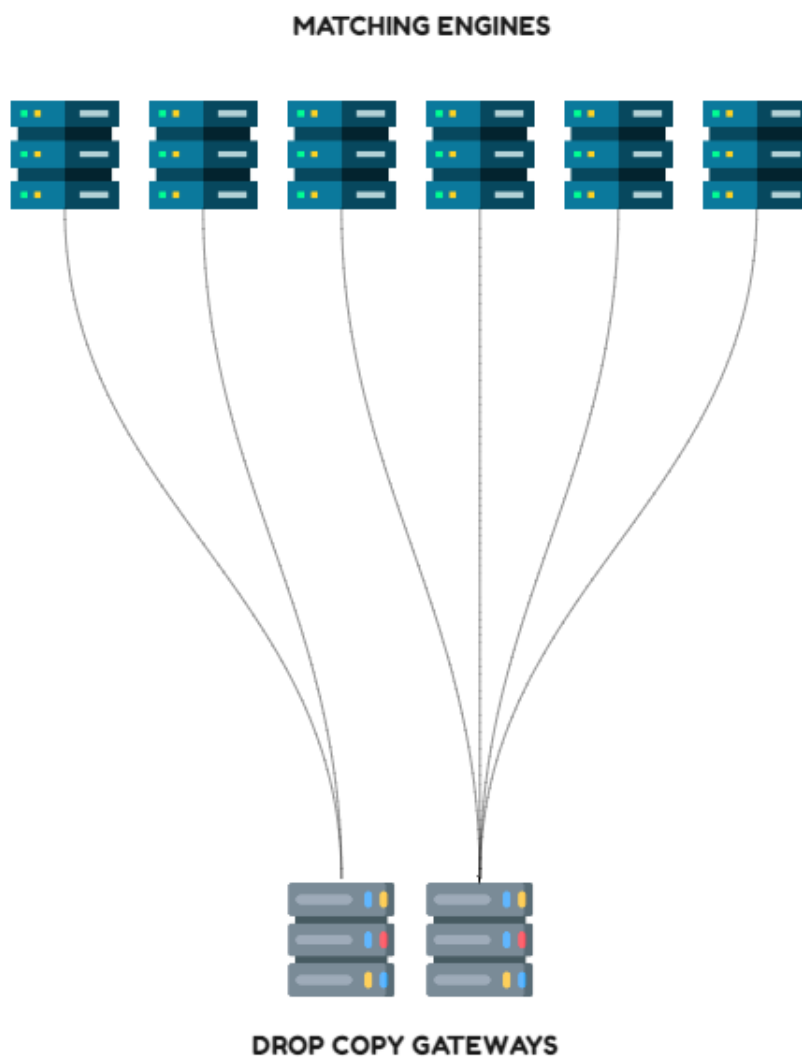| Date	Version	Description	Author
07/07/2021	1.0	New drop copy service information	LMG

1.1 Abbreviations

Abbreviation	Description
FAST	FIX Adapted for Streaming – a specification for data compression to reduce bandwidth usage, especially for market data feeds.
FIX	Financial Information Exchange Protocol
PUMA	PUMA Trading System
SSN	B3 Trading Support Team / Superintendência de Suporte à Negociação

2. New Drop Copy Service

B3's Drop Copy gateways are receiving a major update. A new FIX engine has been developed and will be used alongside simpler infrastructure and operational models, further detailed in this document's next sections.

2.1 Infrastructure model

B3's new Drop Copy service will operate in a matching-engine affinity manner. This means that each gateway will be responsible for listening exclusively to all messages coming from one or more matching engines as shown below:

MATCHING ENGINES

DROP COPY GATEWAYS

The following table depicts the list of gateways for each market segment, and the IDs of the matching engines listened by them:

Drop Copy Instance	Market Segment	Market Segment IDs
DCPE01	Equities	88
DCPE02	Equities	84
DCPE03	Equities	86
DCPE04	Equities	80, 82
DCPE05	Equities	90, 92, 94
DCPD01	Futures	72
DCPD02	Futures	68, 70, 74, 76, 78

As a result, participants may need to change client systems to support multiple FIX sessions (at least 1 per gateway).

The rules mechanism has been changed to a per-segment configuration and will be equal among all Drop Copy gateways of that segment.

2.2 Session CompIDs and suffixes

To make operations simpler, B3 will add a suffix to all the FIX sessions to differentiate the session CompID for each gateway, as shown in the following table:

Drop copy instance	Session CompID
DCPD01	B3202**01**
DCPD02	B3202**02**

2.3 Slow consumer handling

Slow consumers are FIX sessions that started to lag behind its message reception rate. B3's Drop Copy gateway will consider any FIX session a "slow consumer" when it cannot completely write a new message on the TCP channel.

If a FIX session's internal buffer grows too much and reaches an unhealthy size for our gateway according to operational standards, your Drop Copy FIX client will be disconnected.
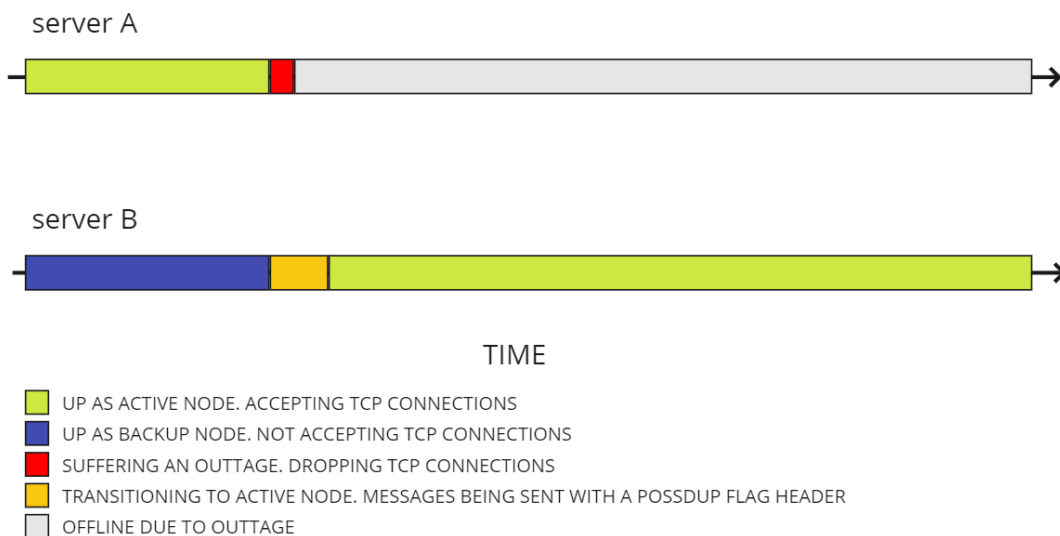
2.4 Failover model and network connectivity

The new Drop Copy will have a different connectivity model. Every instance will have an active and a backup node. TCP connections will only be allowed at the active node and both IP addresses will be provided for participants.

In case of a failover scenario, the suggested behavior is to attempt connection at both IP addresses at every 3 seconds.It should be noted that in a failover scenario, it might take some time for the backup node to finish its transition to active node status.

Also, during this transition phase, as soon as the backup node becomes the primary, some messages might be sent to client systems with a PossDupFlag set as true (43=Y).

2.4.1 Failover example scenario

This section shows how the transition between nodes occurs during a failover scenario. Considering servers A e B as being the same Drop Copy instance, but with different IP addresses, the following picture shows the sequence of events in a time-line manner.

server A

server B

TIME

- UP AS ACTIVE NODE. ACCEPTING TCP CONNECTIONS
- UP AS BACKUP NODE. NOT ACCEPTING TCP CONNECTIONS
- SUFFERING AN OUTTAGE. DROPPING TCP CONNECTIONS
- TRANSITIONING TO ACTIVE NODE. MESSAGES BEING SENT WITH A POSSDUP FLAG HEADER
- OFFLINE DUE TO OUTTAGE

3. Key dates

The implementation of the Drop Copy service is expected to occur on Q4/2022, with certification and production dates for the migration to be made available via Circular Letters and Trading Support notifications.