



J-GATE

Alternative Data Service J-GATE Drop Copy Data Specification

Version 1.0

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JPX Market Innovation & Research, Inc.

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Revision history

#	Date	Chapter	Change description	Remark
1	2023/8/7	-	Initial version.	Version 1.0

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1 About This Specification

1.1 Introduction

This is a specification document for “J-GATE Drop Copy Data”, one of datasets of the Alternative Data Service (“the Service”). It mainly describes information necessary for users of the Service to handle the dataset.

It is prohibited to redistribute this document.

2 Service Details

2.1 Data Overview

J-GATE Drop Copy Data is a set of JSON LINES files containing order/trade-related broadcast and query information disseminated by J-GATE via OMnetAPI.

The use of the data is limited to trading participants who own sponsoring sub-participant codes. Osaka Exchange, Inc. (“OSE”) obtains drop copy on behalf of the sub-participants, create files of each API message, and JPX Market Innovation & Research, Inc. (“JPXI”) provides the files to the users. OMnetAPI users to be used to receive the drop copy are issued by OSE as necessary and are only used by OSE internally for creating the data. There is no usage fee for the OMnetAPI users issued at this time.

In the event that a momentary spike of trading flow or network traffic or any other circumstances make it difficult to poll fast enough to keep up with broadcast messages, OSE calls appropriate queries to retrieve missed data and saves it also in JSON LINES files.

One file records trading data from J-GATE online start to end per API message type.

2.2 Eligible API Message Type

Broadcast name	Description
BO5	Firm Order Book VIB (Order acceptance and result notice)
BO93	Mass Quote Update BROADCAST (OUCH Enter MM Order acceptance notice)
BD6	Dedicated Trade Information VIB (Trade execution notice)

If the broadcast messages above are missed, they are retrieved by the query messages below respectively.

Query name	Description
MH507	Proxy Order History QUERY (Request to retrieve order acceptance and result notice (proxy))
MH93	Query Mass Quote Update QUERY (Request to retrieve OUCH Enter MM Order acceptance and result notice)
CQ10	Query missing trade QUERY (Request to retrieve trade execution notice)

3 Drop Copy Data File

3.1 File Specification

File name	Format	Character code	Line feed code
<user_id>_ B05_<sub_participant_id>_<partition>_ yyyymmdd.jsonl	JSON LINES	UTF-8	LF
<user_id>_ B093_<sub_participant_id>_<partition>_ yyyymmdd.jsonl	JSON LINES	UTF-8	LF
<user_id>_ BD6_<sub_participant_id>_<country_c>-<market_c>-<instrument_group_c>_ yyyymmdd.jsonl	JSON LINES	UTF-8	LF
<user_id>_ MA507_<sub_participant_id>_<partition>_ yyyymmdd.jsonl	JSON LINES	UTF-8	LF
<user_id>_ MA93_<sub_participant_id>_<partition>_ yyyymmdd.jsonl	JSON LINES	UTF-8	LF
<user_id>_ CA10_<sub_participant_id>_<country_c>-<market_c>-<instrument_group_c>_ yyyymmdd.jsonl	JSON LINES	UTF-8	LF

The file names are composed of each part below:

- <user_id>: Sponsoring user ID used to receive drop copy. (It is added by OSE as necessary and is only used for creating the data.)
- <sub_participant_id>
 - For B05/B093/MA507/MA93: Sub-participant ID to whom B05 and B093 are addressed.
 - For BD6/CA10: Sub-participant ID who received BD6.
- <partition>: Partition number of trading series.
- <country_c>: Value of country_c in series struct.
- <market_c>: Value of market_c in series struct.
- <instrument_group_c>: Value of instrument_group_c in series struct.

3.2 JSON Data Structure

Field name	Type	Example value	Description
timestamp	number	1671601071	UNIX time when Sponsoring user received API message.
nanoseconds	number	584372917	Nanosecond part of time when Sponsoring user received API message.
is_queried	boolean	False	Flag to indicate that the data has been retrieved by query because of a missed sequence, etc.
name	string	"BO5"	Name of API message.
data	object or array	-	Actual data portion of API message.

One line in JSON format represents information of each struct (Named Struct) contained in messages obtained by a single polling or query.

The actual data portion of API response messages is printed in the "data" field.

It is basically set in the JSON field as object type when it contains information of a single order or trade. However, when an answer to a query such as MA507 or CA10 consists of data of multiple orders or trades, it is treated as array type.

For BO93/MA93, `ext_mass_quote_update_t/answer_ext_mass_quote_update_t` fields are printed as they are. However, for BO5/BD6/MA507/CA10, the included struct can change each time as they are VIM.

Mapping of struct types and JSON types is as below.

Struct field type	JSON field type	Remark
<code>int8_t, int16_t, int32_t, int64_t, uint8_t, uint16_t, uint32_t, uint64_t</code>	integer	-

char, char array	string	-
quad_word	string (hexadecimal)	Example) 69F7CFC2:000770A0
struct	object	-
struct array	array	-

If a field in string type includes non-ASCII data, it is presented in Unicode escape format. If it has a value in a character code other than Unicode, it is uniformly rendered as “¥ufffd”.


```
timestamp":{"tv_sec":1684717241,"tv_nsec":905867214}}}]}
```


