

Alternative Data Service Service Guide

Version 1.5

August 2023

JPX Market Innovation and Research, Inc.

JPX Market Innovation and Research, Inc. ("JPXI") shall not be liable to any persons or entities for any disadvantages or problems whatsoever arising from the use of information contained in this document.

The contents of this document are subject to change without notice.

Revision history

#	Date	Chapter	Change description	Remark
1	2021/9/21	-	Initial version.	-
2	2021/10/6	3.1.3	Added a disclaimer about the possibility of missing content in the dataset due to unexpected system issue or rapid increase of orders and trades in a day.	Version 1.1
3	2022/4/1	1 4.2 4.3 5	Revision due to transfer of service jurisdiction to JPX Market Innovation and Research, Inc.	Version 1.2
4	2022/9/20	3.1.2	Added explanations about data upload timing and data availability of a holiday trading day.	Version 1.3
5	2022/10/31	3.1.1 5	Added GW/TAP stats file and PTP Offset stats file to System Stats Data	Version 1.4
6	2023/8/7	1 3.1.1 3.1.2 3.1.3 5	Modified to add Drop Copy Data. Added points to note about possibilities of missing data.	Version 1.5

TABLE OF CONTENTS

1 SERVICE OVERVIEW 1

2 DATA SERVICE ENVIRONMENT 2

3 DATASET OVERVIEW 3

3.1 OSE DATA (INCLUDING TOKYO COMMODITY EXCHANGE, INC. (“TOCOM”) DATA) 3

 3.1.1 List of Data 3

 3.1.2 Upload Frequency 4

 3.1.3 Points to Note 5

3.2 TSE DATA 6

 3.2.1 List of Data 6

 3.2.2 Upload Frequency 6

 3.2.3 Points to Note 7

4 CONTRACT AND FEE 8

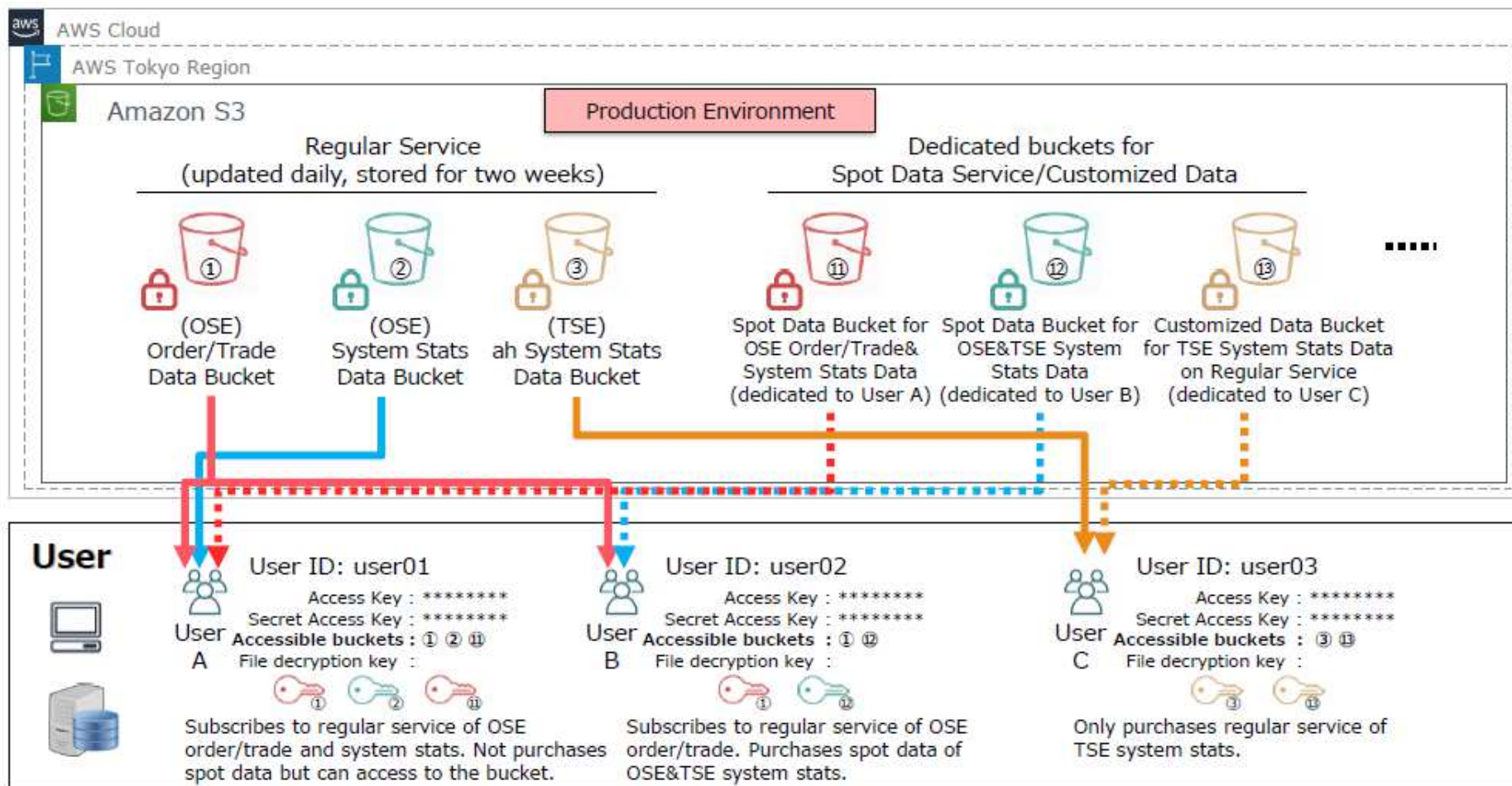
4.1	CONTACT	8
4.2	PROCESS BEFORE USAGE START	8
4.3	FEE (REGULAR SERVICE)	9
5	PRICE LIST	10
6	PROHIBITED ACTS, PENALTIES, DISCLAIMER	13
7	INQUIRY	14

1 Service Overview

- Osaka Exchange, Inc. (“OSE”) launched “Alternative Data Service” (“the Service”) in July 2019, which offers new data that is expected to contribute to the development of securities market. Tokyo Stock Exchange, Inc. (“TSE”) also launched the Service in August 2020. Both services are offered by JPXI from April 2022.
- The Service is offered in an environment described in “2. Data Service Environment”.
- As described in “3. Dataset Overview”, six types of data: “J-GATE Information (Order/Trade Data)”, “J-GATE Information (System Stats Data)”, “J-GATE Information (Timestamp Data)”, “J-GATE Information (ITCH Binary Data)”, “J-GATE Information (ITCH Historical CSV Data)”, and “J-GATE Information (Drop Copy Data)” as OSE Data (Including Tokyo Commodity Exchange, Inc. (“TOCOM”) Data), and one type of data: “arrowhead Information (System Stats)” as TSE Data are offered.
- Users need to agree on “Terms and Conditions for Alternative Data Service” stipulated by JPXI when they apply for the Service and sign the contract.
- Users can choose from the following two options according to their needs and preferences.
 - ✓ Regular Service: Data is updated daily and available on an AWS-S3 bucket. The data uploaded to the bucket is deleted in about two weeks.
 - ✓ Spot Data Service: Historical data for the certain period of time which users specify in an application is available.

2 Data Service Environment

- For the Production environment, users are granted access permission to the Service which they subscribe to for the duration of the contract.
- For the Spot Data Service, the purchased data is provided in the user's dedicated bucket for a certain period of time.



3 Dataset Overview

3.1 OSE Data (Including Tokyo Commodity Exchange, Inc. (“TOCOM”) Data)

3.1.1 List of Data

Name	Overview	File
J-GATE Information (Order/Trade Data)	<p>J-GATE orders and trades event by event.</p> <p>The data includes “Immediate or Cancel” orders (e.g. FOK, FAK etc.) which are unavailable on API or ITCH.</p> <p>Information that can identify the trader (e.g. participant code, user IDs) is not included.</p>	CSV file containing trading data of all products in OSE and TOCOM markets.
J-GATE Information (System Stats Data)	<p>Data related to running status of Matching Engine, ITCH and OUCH servers of J-GATE (e.g. CPU usage, Memory usage, NIC usage, PTP time synchronization offset value, transaction volume per GW/TAP, etc.).</p>	CSV file containing stats for each resource per server in chronological order.
J-GATE Information (Timestamp Data)	<p>Timestamps of each order message recorded on network paths in Arrownet and J-GATE.</p> <p>The data shows the time when an individual order message passes each timestamping point in nanoseconds.</p> <p>Information that can identify the trader (e.g. participant code, user IDs) is not included.</p> <p>The data might miss some of the order information when the number of orders rapidly increases in a day or some malformed packets in the traffic cause any unexpected issues in relevant system.</p>	CSV file containing timestamps at each timestamping point per order message.

J-GATE Information (ITCH Binary Data)	<p>Binary data of messages in Full Order Information (ITCH data) disseminated by J-GATE3.0 via ITCH protocol.</p> <p>The data needs to be decoded according to a designated binary format before being used.</p>	Binary file containing ITCH data per multicast group.
J-GATE Information (ITCH Historical CSV Data)	<p>CSV data of messages in Full Order Information (ITCH data) disseminated by J-GATE2.0 via ITCH protocol.</p> <p>It is only available through the Spot Data Service.</p> <p>The data only covers Full Order Information (ITCH data) disseminated from July2016 to September 2021 when J-GATE2.0 was running. It does not cover any data from the J-GATE3.0 launch and onward. (Historical) data from the J-GATE3.0 launch and onward can be purchased as J-GATE Information (ITCH Binary Data) above through the Spot Data Service.</p>	CSV file containing ITCH data per multicast group.
J-GATE Information (Drop Copy Data)	<p>Data of order/trade-related broadcast messages for each user disseminated by J-GATE via OMnetAPI.</p> <p>It is only available through the Regular Service.</p> <p>It is only available for trading participants who own sponsoring sub-participant codes, and they can only view the data for their own users (trading participants), because the data includes trading information that can identify the traders.</p> <p>Furthermore, for information security reasons, the data is uploaded to an S3 bucket that is only accessible from certain IP addresses. In applying for the data, users need to submit a global IP address from which they access the bucket.</p>	JSON LINES file containing broadcast data per sub-participant code.

3.1.2 Upload Frequency

- For J-GATE Information (Order/Trade Data), J-GATE Information (System Stats Data), J-GATE Information (Timestamp Data), J-GATE Information (ITCH Binary Data), and J-GATE Information (Drop Copy Data), data for the previous day is basically provided by 15:00 of the

day. (E.g. The data for Sep 23, 2021 is uploaded by 15:00 of Sep 24, 2021. For details, see specification of each data. All times are in JST.)

- J-GATE Information (ITCH Historical CSV Data) is not uploaded daily because it is only provided through the Spot Data Service covering historical data from August 2016 to September 2021.
- Historical data for the Regular Service is kept in the server for about two weeks. If older data is needed, it can be purchased as per the Spot Data Service.
- Data for a holiday trading day is also uploaded, in principle, by 15:00 of the following day.

3.1.3 Points to Note

- All data is encrypted by AES256bit and compressed in zip format. A password for decryption can be found on a service environment information form to be sent after users applied for the Service. (However, ITCH Historical CSV Data is not encrypted and only compressed in zip format.)
- Any devices and communications users need to access the production environment must be prepared and paid for by the users.
- In the event of J-GATE failure, other unexpected incidents or rapid increase of the order flows, the data may be entirely unavailable or partially miss some of the entries. If the data cannot be provided within the day, notification will be emailed to the emergency contact address. Furthermore, historical data purchased through the Spot Data Service may be missing part of the data.
- All data is basically uploaded by 15:00 of the day, but it may be delayed if there are more orders than expected.
- The Spot Data Service only offers data of at least two-week old. (E.g., As of April 23, 2021, data for April 8, 2021 and before is available.)
- Data of the Spot Data Service is kept in the server for about two weeks from upload. Please download the data while it is available.
- J-GATE Information (Drop Copy Data) may take a few months from an application to the usage start due to capacities of our system.

3.2 TSE Data

3.2.1 List of Data

Name	Overview	File
arrowhead Information (System Stats)	<p>Data related to status of arrowhead servers or other information.</p> <ol style="list-style-type: none">1. Symbol Allocation Information2. CPU Usage Rate (GW and Trading Servers)3. Number of Orders per Millisecond (GW Servers, per Resource Groups)4. Number of Executions per Millisecond (GW Servers, per Symbols)5. FLEX Throttling Count6. Number of Connected Virtual Servers (per GW Servers)7. Virtual Server Allocation Information <p>*#1-6 is common data for all users. *#7 is customized data for each user, and only available to user having LLT or Participant Code.</p>	See data catalogue for details.

3.2.2 Upload Frequency

- System Stats data on the business day is basically provided three times a day: Morning by 8:50, Daytime by 11:55, EOD by 19:00 of the day. (See data catalogue for details. All times are in JST.)
- #1 is provided at Morning; #2, #6, and #7 are provided at Morning, Daytime, and EOD; #3, #4, and #5 are provided at EOD.
- Historical data for the Regular Service is kept in the server for about two weeks. If older data is needed, it can be purchased as per the Spot Data Service.

3.2.3 Points to Note

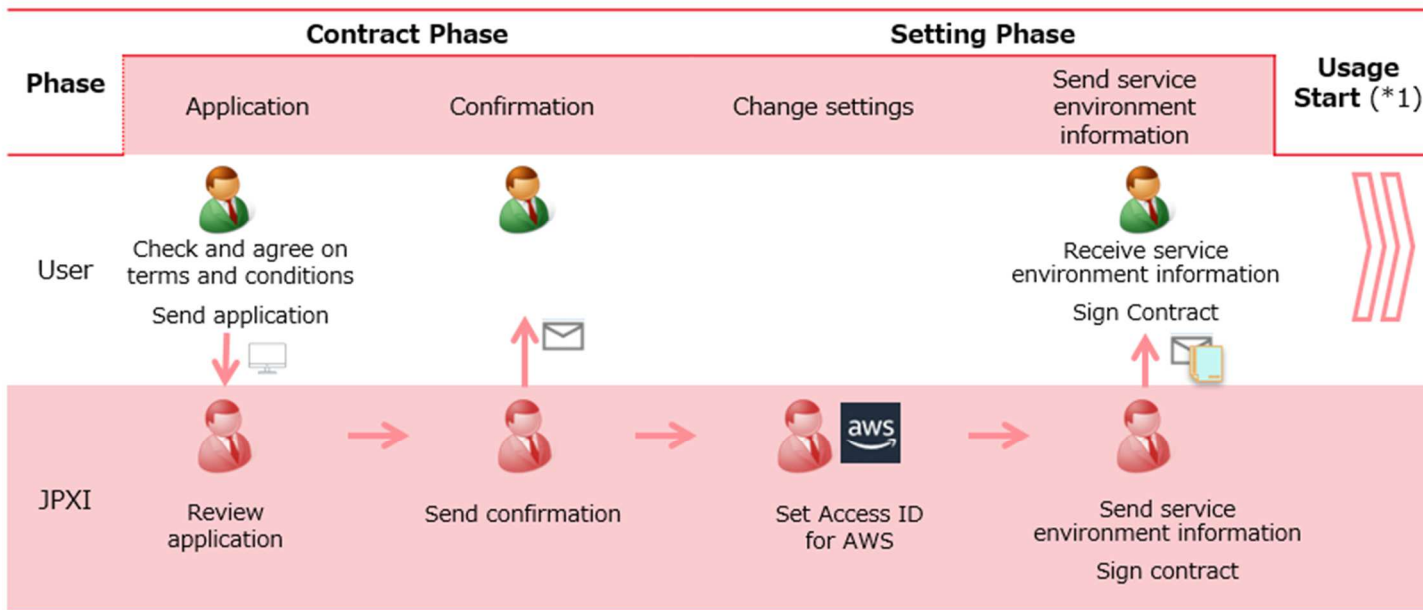
- Any devices and communications users need to access the production environment must be prepared and paid for by the users.
- In the event of arrowhead failure or other unexpected incidents, the data may be unavailable or delayed. If it happens, notification will be emailed to the emergency contact address.

4 Contract and Fee

4.1 Contact

E-mail: jpx-alternativedata@jpx.co.jp

4.2 Process Before Usage Start



*1: See operation manuals for data download.

*The process above is an example of the Regular Service. The Spot Data Service has additional steps of contract, billing, and payment before sending a service environment information.

4.3 Fee (Regular Service)

- The first month's fee is pro-rate.
- However, for J-GATE Information (Timestamp Data), the first month is free of charge if deemed appropriate by JPXI.
- The invoice for the current month is emailed on around the 15th of the month. Please make the payment through bank transfer by the date specified on the invoice.

The Spot Data Service has additional steps of contract, billing, and payment before sending a service environment information.

5 Price List

It is prohibited to externally distribute to third parties the information acquired through the Service.

For conditions of the Affiliated companies, application process, etc., please contact us at jpx-alternativedata@jpx.co.jp.

Data type	Regular Service (per month)		Spot Data Service (per day) (*1)	
	Internal use only (*2)	Shared with Affiliated Companies (*3)	Internal use only	Shared with Affiliated Companies
J-GATE Information (Order/Trade Data)	JPY 450,000	JPY 600,000	JPY 20,000	JPY 30,000
J-GATE Information (System Stats Data)	JPY 300,000	JPY 450,000	JPY 15,000	JPY 20,000
J-GATE Information (Timestamp Data)	Variable depending on the number of OUCH Login IDs (IDs to be used to enter orders in J-GATE) owned by the user. (*4)			
J-GATE Information (ITCH Binary Data)	JPY 80,000	JPY 120,000	JPY 4,000	JPY 6,000
J-GATE Information (ITCH Historical CSV Data)	(*5)	(*5)	JPY 2,000	JPY 3,000
J-GATE Information (Drop Copy Data)	JPY 600,000	(*7)	(*7)	(*7)
arrowhead Information (System Stats)	JPY 300,000	JPY 450,000	JPY 15,000	JPY 20,000

(*1) In the Spot Data Service, data can be purchased from a minimum of five business days. Please note that it will take some time to deliver the data since the whole process will start after confirming the payment.

arrowhead Information (System Stats) offers data for June 1, 2020 and onward. For J-GATE Information, data availability varies for each data type, as shown in the table below. Order/Trade Data and System Stats Data for September 21, 2021 and before have different file names and formats. Contact us for details.

Data type	Data availability period
J-GATE Information (Order/Trade Data)	Data for July 1, 2019 ~
J-GATE Information (System Stats Data) (*6)	Data for July 1, 2019 ~
J-GATE Information (Timestamp Data)	Data for September 21, 2019 ~
J-GATE Information (ITCH Binary Data)	Data for September 21, 2019 ~
J-GATE Information (ITCH Historical CSV Data)	Data for July 19, 2016 ~ September 17, 2021
J-GATE Information (Drop Copy Data)	Not available in the Spot Data Service.

(*2) Internal use only: Data can be only used by the contracting party.

(*3) Shared with Affiliated Companies: In addition to the use by the contracting party, data can be shared with the Affiliated Companies which JPXI has approved.

(*4) The table below shows the number of OUCH Login IDs and corresponding fees of the Timestamp Data. The fee for the month is determined by the number of OUCH Login IDs at the beginning of the month.

Number of OUCH Login IDs	Regular Service (per month)		Spot Data Service (per day)	
	Internal use only	Shared with Affiliated Companies	Internal use only	Shared with Affiliated Companies
91~	JPY 600,000	JPY 900,000	JPY 30,000	JPY 45,000
31~90	JPY 450,000	JPY 600,000	JPY 22,500	JPY 33,750
0~30	JPY 200,000	JPY 300,000	JPY 10,000	JPY 15,000

(*5) ITCH Historical CSV Data is only available through the Spot Data Service.

(*6) PTP offset stats file and GW/TAP stats file offer data for October 31, 2022 and onward.

(*7) Drop Copy Data is only available for internal use of the Regular Service.

6 Prohibited Acts, Penalties, Disclaimer

- For prohibited acts, penalties, and disclaimer, please see “Terms and Conditions for Alternative Data Service”.
- For the Regular Service and the Spot Data Service, each file can be downloaded from the service environment up to five times.
- The Spot Data Service is available from a minimum of data for five business days.
- Delinquency and any other breach of what’s set down in “Terms and Conditions for Alternative Data Service” may result in the revocation of Access ID to the service environment.

7 Inquiry

For any inquiries on J-GATE Information and arrowhead Information, please contact us at the email address or the inquiry form listed below:

E-mail: jpx-alternativedata@jpx.co.jp

Inquiry form: <https://reg18.smp.ne.jp/regist/is?SMPFORM=lhmc-lbmflg-61d243111a4c5a3ffc6c5800bf890edf>