READINESS TEST PROCEDURES

**HKEX Orion Market Data Platform
Derivatives Datafeed Products
(OMD-D)**

Version 1.3
19 May 2017

DOCUMENT HISTORY

Distribution Version

Version	Date of Issue	Comments
V1.0	2 January 2014	First Issue
V1.1	25 April 2014	Updated the submission date for Appendix A
V1.2	17 June 2014	Updated the Appendix A – OMD-D Readiness Test Result Declaration Form
V1.3	19 May 2017	Update test details for Test Condition 6.5 in Session 7

Table of Contents

1   Introduction

HKEX Orion Market Data Platform ("OMD") is developed to provide real-time market information in digital form. The Information Vendors and Exchange Participants/End Users, collectively referred as "Clients", can subscribe to the services of OMD to receive real-time digital market data from HKEX.

Clients intending to make direct connection to the OMD host to receive market data are required to complete a Readiness Test conducted in the HKEX Open Test Environment with positive results. The Readiness Test aims to facilitate Clients' verification of the technical readiness of their feed handlers for receiving and processing OMD messages.

This document specifies the testing procedures in the Readiness Test for **Derivatives Market Datafeed Products (OMD-D)**.

HKEX reserves the rights to change and fine-tune the Readiness Test requirements from time to time.

The intended readers of this document are the technical personnel of the OMD Clients.   In order to be granted direct access to the OMD host, Clients must submit a completed declaration form for their readiness. The authorized person for the declaration should also read this document to understand the Readiness Test requirements.

2   Pre-requisites

Clients are required to fulfill the pre-requisite requirements below before proceeding to the Readiness Test:

• Development of feed handler in accordance with OMD Interface Specification
• Successful testing of the feed handler with OMD onboarding tools
• Connection to the End-to-End Open Test Environment according to the OMD Connectivity Guide

3   Testing Approach & Readiness Policy

The Readiness Test is a "self-test" in the sense that Clients will be provided with an Answer Book of expected results of all test cases for them to verify if their feed handlers can interpret the OMD messages correctly and handle the technical features of OMD properly.

Basically, the scope of the test in Chapter 6 is applicable to clients of all OMD datafeed products unless otherwise specified.

Clients must participate in all test sessions in the Readiness Test unless specified otherwise and achieve positive results. After successful completion of the Readiness Test, Clients are required to declare their readiness by submitting a Readiness Test Result Declaration Form ("the Declaration Form") in Appendix A with authorized signature.

If a Client fails to obtain any of the expected results in the Readiness Test, the Client should re-test their feed handler in the open test environment before requesting another test slot to re-conduct the Readiness Test.

4   Readiness of Indirect Connection Clients

Clients who are providing OMD feeds in OMD original format to the indirect connection OMD Clients are required to ensure the readiness of such indirect connection Clients by providing the proper OMD environment to them to complete all Readiness test scenarios as indicated in this document.

5   Test Arrangement and Procedure

In general, during the Readiness Test a stream of OMD multicast messages will be sent over a number of multicast channels same as the production setting as detailed in the OMD Connectivity Guide for Derivatives Market Datafeed Products ("the Connectivity Guide").
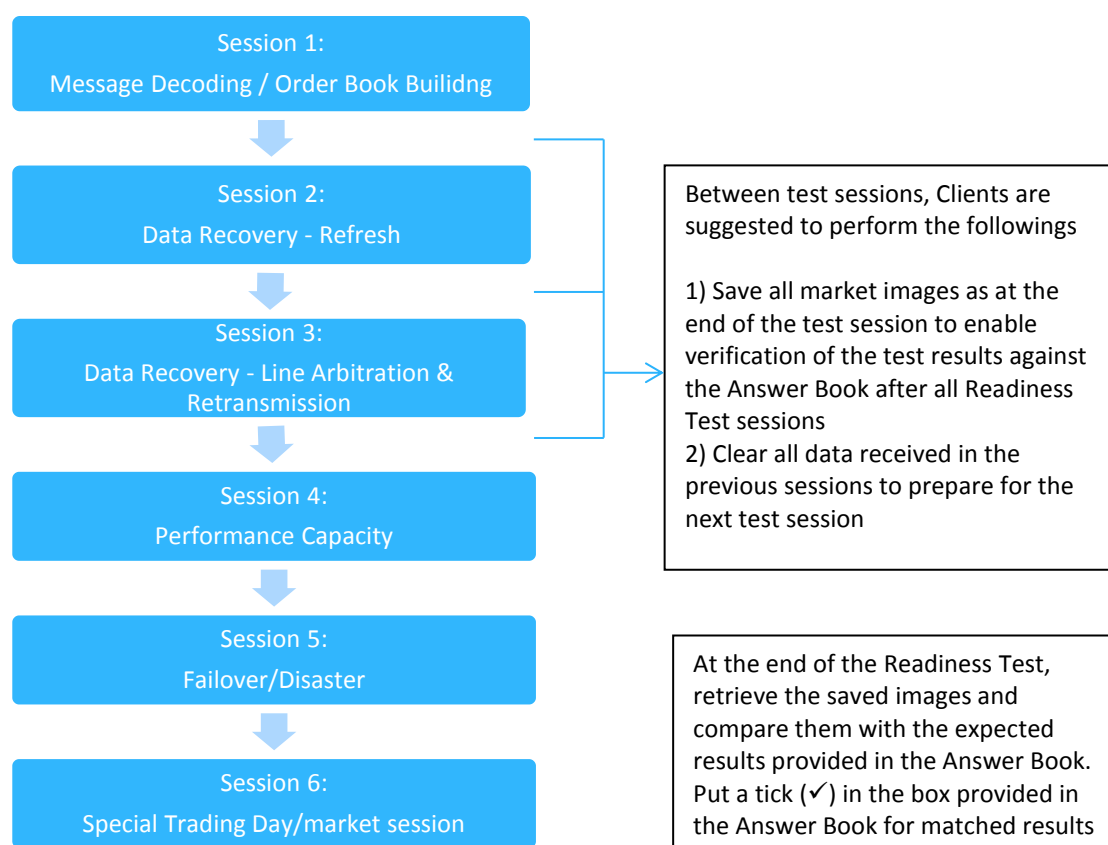
The Readiness Test will be conducted according to a test time table which covers all trading sessions in a normal trading day (i.e. T & T+1 sessions) and special trading days (i.e. half trading day and T session only trading day) .   Clients should refer to the "OMD-D End-to-End-Test Session Rundown" for the actual test time tables with time set for each trading session status. Clients are required to conduct the Readiness Test according to the test time table.

There will be 6 test sessions arranged in the Readiness Test to cover the 6 test scopes as stated below. Clients will need to restart their applications, or clear the cached data between test sessions, as different data sets will be used for different sessions.

Before the commencement of the Readiness Test, Clients are required to refer to the latest Readiness Test Answer Book published by HKEX which covers details of messages and conditions to be checked in the 6 Readiness Test sessions and the expected results. By comparing the test results with the HKEX provided expected answers, Clients can verify their systems' readiness to proceed to the next on-boarding stage – OMD Market Rehearsal and declare to HKEX their successful completion of the Readiness Test should their results match the expected results in the Answer Book without discrepancies.

The diagram below illustrates the flow in the Readiness Test (test sessions 1 to 6)

Readiness Test Flow Diagram

Session 1:
Message Decoding / Order Book Builidng

Session 2:
Data Recovery - Refresh

Session 3:
Data Recovery - Line Arbitration & Retransmission

Session 4:
Performance Capacity

Session 5:
Failover/Disaster

Session 6:
Special Trading Day/market session

Between test sessions, Clients are suggested to perform the followings

1) Save all market images as at the end of the test session to enable verification of the test results against the Answer Book after all Readiness Test sessions
2) Clear all data received in the previous sessions to prepare for the next test session

At the end of the Readiness Test, retrieve the saved images and compare them with the expected results provided in the Answer Book. Put a tick (✓) in the box provided in the Answer Book for matched results

6 Scope of Test

The Readiness Test covers test cases in the following 5 areas:

Test Area	Objectives	Test Conditions
1. Message Decoding, Order Book Building & Active Instrument State ("AIS") Determination	All data messages specified in the OMD Interface Specification will be transmitted to enable Clients to ensure their correct interpretation of each data field received from the OMD datafeed.	Section 7.1 1 – 2
	Market status messages with various combinations will be disseminated to enable Clients to verify the logic in their application for determining the Active Series State of series	Section 7.1 2.6
	Data messages resulting from various trading activities will be transmitted to enable Clients to verify the logic in their application for order book management below: Market Depth Information　　Applicable to Clients* Aggregate Order Book Update　　DS　DP Add/Modify/Delete Order & Trade　　　　　DF * Notes　DS　Derivatives Standard 　　　　DP　Derivatives Premium 　　　　DF　Derivatives FullTick	Section 7.1 2.9
2. Data Recovery (Refresh)	Simulation of various data loss scenarios to enable Clients to verify the ability of their feed handler to recover lost data by Refresh [1].	Section 7.2 3.3 – 3.4
3. Data Recovery (Line Arbitration & Retransmission)	Simulation of various data loss scenarios to enable Clients to verify the ability of their feed handler to recover lost data by the following methods: a.　Line Arbitration b.　Retransmission [1][2]	Section 7.2 3.1 - 3.2 4
4. Performance / Capacity	Transmission of high volume data to enable Clients to ensure the ability of their feed handler to meet the capacity requirements.	Section 7.2 5.1
5. Failover / Disaster Recovery	Simulation of the following exceptional scenarios to enable Clients to verify the built-in processes in their feed handlers for such scenarios: a.　Failover of OMD real-time data publisher b.　Failover of Refresh service c.　Failover of Retransmission service d.　Sequence Reset again before market open e.　Failover to the Disaster Recovery (DR) site	Section 7.2 6.1 6.2 6.5 6.3 6.4
6. Special Trading	Simulation of the following special Trading Days to	Section 7.2

---

[1] Certain exception situations on the Clients side that may require refresh or retransmission from OMD such as late connection to OMD, application restart, client network failure, etc. are not expected to be conducted during the Readiness Test, Clients need to simulate the scenarios during the End-to-End Open Test environment.

[2] Clients are required to test their processing of negative logon response and negative retransmission response during the End-to-End Open Test environment which includes i) duplicated logon, ii) logon with invalid username, iii) retransmission request – invalid / unauthorized channel ID, iv) retransmission request – message range exceeding maximum OMD cached messages, v) retransmission request – message range exceeding maximum sequence range, and vi) retransmission request – exceeding daily retransmission request limit. Various retransmission request limits will be set to a sufficient small value to facilitate the Clients to test their capability in processing negative response from OMD.

Day/Market Sessions	enable Clients to verify their system capability in handling these scenarios:	
	a. Half Trading Day	7.1
	b. Trading Day without T+1 session	7.2

7   Test Conditions

This section lists out the conditions to be covered in both functional and technical aspects. A Client should ensure that its system meets all of the test conditions before participating in the Readiness Test.

7.1   Functional Tests

Test Condition	Details	IS* Reference
1	***Handling of Control Messages***	
1.1	*Heartbeat* messages in all multicast channels in Line A and/or Line B *Expected result:* *Clients should be able to check system/line healthiness by Heartbeat messages*	Control Messages (3.4.1)
1.2	*Sequence Reset* messages in all multicast channels at Start of Day *Expected result:* *Upon receipt of Sequence Reset messages, Clients should clear all cached data, subscribe to the refresh channels for current market state then process (cached) real-time messages.*	Control Messages (3.4.2)
2	***Handling of Market Data Messages***	
2.1	*Commodity Definition* messages of selected tradable commodities	Reference Data (3.7.1)
2.2	*Class Definition* messages corresponding to the *Commodity Definition* available	Reference Data (3.7.2)
2.3	*Series Definition Base* messages corresponding to the *Class Definition* available	Reference Data (3.7.3)
2.4	*Series Definition Extended* messages corresponding to the *Class Definition* available and in most cases paired with *Series Definition Base* available	Reference Data (3.7.4)
2.5	*Combination Definition* messages corresponding to the *Series Definition Base* available	Reference Data (3.7.5)
2.6	*Market Status* messages to define various Trading Session State(TSS) and Instrument Session State (ISS) of instruments	Status Data (3.8.1)
2.7	*Series Status* messages to change suspension/resumption status for instruments	Status Data (3.8.2)
2.8	*Commodity Status* messages to change suspension/resumption status for commodities	Status Data (3.8.2)
2.9	A series of Order Book messages (*Add Order* & *Delete Order* & *Trade*) covering various book operations during various trading sessions in a normal trading day	Order Book Data (3.9.1, 3,9.3, 3.10.1)
2.10	*Aggregate Order Book Update* messages covering various aggregate book management operations	Order Book Data (3.9.4)

Test Condition	Details	IS* Reference
2.11	*Orderbook Clear* messages will be sent intraday	Order Book Data (3.9.5)
2.12	*Quote Request* messages will be sent intraday	Order Book Data (3.9.6)
2.13	*Trade/Trade Amendment* messages covering new trades, trade cancellation and trade rectification will be sent during various trading sessions in a normal trading day	Trade & Price Data (3.10.1, 3.10.2)
2.14	*Trade Statistics* messages covering T session and T+1 session will be transmitted	Trade & Price Data (3.10.3)
2.15	*Series Statistics* messages covering T session and T+1 session will be sent	Trade & Price Data (3.10.4)
2.16	*Calculated Opening Price* messages with null price and non-zero price will be sent	Trade & Price Data (3.10.5)
2.17	*Estimated Average Settlement Price* will be sent throughout the day	Trade & Price Data (3.10.6)
2.18	*Market Alert* will be sent	News (3.11.1)
2.19	Clearing Information including *Open Interest* and *Implied Volatility* will be sent intraday *Expected result:* • *Data field values decoded by Clients match the expected values provided in the Answer Book* • *Information of same series is updated correctly from various records including Series Definition Base, Series Definition Extended & Combination Definition (for combo series only)* • *Order Books (10BBO + remaining) maintained by Clients match the expected results provided in the Answer Book* • *Trade Records maintained by Clients match the expected results provided in the Answer Book* • *Active Instrument States derived by Clients match the expected results provided in the Answer Book* • *Trade Statistics for T and T+1 sessions are updated correctly by Clients and match the expected results provided in the Answer Book*	Clearing Information (3.12.1, 3.12.2)

7.2   Technical Tests

Test Condition	Details	IS* Reference
3	***Data Recovery***	
3.1	A gap will be introduced in a single line, either Line A or Line B. Client detects missing packets in one line and to process the packet from the other line, in other words, Client arbitrates and merges the duplicated contents received in Line A and Line B for subsequent processing *Expected Result:* *Clients are able to detect the gap in Line A and/or Line B. Clients are able to merge the duplicated messages from Line A and Line B for different sets of dual multicast channels for subsequent message decoding and processing and able to detect gaps in the multicast packets received. From there the Clients can arbitrate the two lines to fill in any gaps detected in any one of the two lines.*	Gap Detection (4.1) Line Arbitration (4.2)
3.2	A large gap will be introduced to both Line A and Line B expecting the Client to request the latest market state images from the refresh service. Client correctly processes the *Refresh Complete* message and applies it to their current cache of market data. *Expected Result:* *Clients are able to join the refresh channel and recover the latest market image up to the current point whilst processing real-time market data. The final image of specific series/indexes should match perfectly the expected results provided in the Answer Book.*	Refresh (3.6.1, 4.4)
4	***Retransmission Service***	
4.1	*Heartbeat* messages in retransmission service	Control Messages (3.4.1)
4.2	Client sends *Logon* message with valid username expecting OMD to respond with a *Logon Response* message with <u>SessionStatus</u> set to 0 (Session Active). Client processes *Logon Response* message. Test the reception of positive *Retransmission Response*: Client sends *Retransmission Request* message with valid channel ID and valid <u>BeginSeqNum</u> / <u>EndSeqNum</u> fields expecting OMD accepts its request with *Retransmission Response* set to 0 (Request accepted) <u>RetransStatus</u> if the messages requested will not exceed any retransmission system limits as stated in the OMD Interface Specifications	Retransmission (3.5.1, 3.5.2, 3.5.3, 4.3)

Test Condition	Details	IS* Reference
4.3	Client processes *Retransmission Response* message. Client processes the requested lost messages in unicast transmission following receipt of a positive *Retransmission Response* message and can fill in the gap detected in real-time multicast channels for the subsequent processing *Expected Result for Test Conditions 4.1 – 4.6:* *Clients are able to detect missing packets and are able to recover the missing messages from the retransmission server for continuation of real-time market data processing. The final image of specific series/indexes should match perfectly the expected results provided in the Answer Book*	Retransmission (3.5.4, 4.3)
5	***Performance / Capacity***	
5.1	Market Data will be disseminated at increasing rates on all OMD datafeed products. Clients are expected to receive market data volume at a rate that will drive to the peak bandwidth requirements for each datafeed product. 　　1.　50% of maximum 　　2.　100% of maximum Clients must handle all rates without dropping data. The Answer Book will provide the Sequence Number of the last message. Clients should check their last Sequence Number that they receive against the provided number and make sure that there is no gap in the Sequence Number of messages received. *Expected Result:* *Clients are able to handle full capacity for all of their subscribed OMD datafeed products in the same set of SDNet/2 or HSN circuits without losing multicast data, which is a symptom of an overloaded link in a chain. The last Sequence Number received in each channel should be identical to the Sequence Number provided in this Answer Book. Also the final image of specific series/indexes should match perfectly the expected results provided in the Answer Book*	N/A Performance Testing

Test Condition	Details	IS* Reference
6	*<u>Failover / Disaster Recovery</u>*	
6.1	Failover of real-time Publisher process *Expected Result:* *Clients are able to handle Publisher failover without experiencing any interruption and can continue to receive real-time market data after the failover.* *The final image of specific series/indexes, in particular for DS Clients the aggregate order book and trade of specific series should match perfectly the expected results provided in the Answer Book.*	Error Recovery (2.2.4.1)
6.2	Failover of Refresh Service process *Expected Result:* *Clients will receive a Sequence Reset (100) message in each of the refresh channels after Refresh Service process (RFS) failover if they're subscribing to the refresh channels. Clients are expected to handle RFS failover properly without affecting the reception of real-time market data and can capture a full latest market image from RFS for their processing.* *The final image of specific series/indexes should match perfectly the expected results provided in the Answer Book*	Error Recovery (2.2.4.1)
6.3	Sending second sets of *Sequence Reset* messages in real-time multicast channels before market open *Expected Result:* *Clients will receive a Sequence Reset (100) message in each of the channels they subscribed before market open. Clients should be able to replace the previously received series information by the correct one received after the reception of this Sequence Reset (100). The final image of specific series/indexes should match perfectly the expected results provided in the Answer Book*	Control Message (3.4.2)
6.4	OMD simulates DR site failover *Expected Result:* *Clients are able to handle DR site failover gracefully including the handling of Disaster Recovery Signal (105) message, recovery from refresh service and merging of refresh image into real-time market data. The final image of specific securities/indexes, should match perfectly the expected results provided in the Answer Book.*	Error Recovery (2.2.4.2)

Test Condition	Details	IS* Reference
6.5	Primary Retransmission server will be stopped and only the secondary server remains operational. Clients are required to connect to the secondary and make retransmission requests.[3] _Expected Result:_ _Clients are able to detect failure of Retransmission Server (RTS) A and auto-switch to reconnect to RTS B for the recovery of missing packets. The final image of specific series/indexes should match perfectly the expected results provided in the Answer Book_	Retransmission (3.5.3, 4.3)
7	_**Special Trading Day / Market Sessions**_	
7.1	Half Trading Day _Expected Result:_ _Clients are able to handle the half trading day market status update signal at the end of this testing period._ _The market status update received in the test session should match perfectly the expected results provided in the Answer Book._	
7.2	No T+1 Session Trading day _Expected Result:_ _Clients are able to handle the trading day without T+1 session._ _The market status update received in the test session should match perfectly the expected results provided in the Answer Book._	

* IS refers to the latest OMD Interface Specifications for Derivative Market Datafeed Products – Binary Protocol published by HKEX.

---

[3] HKEX will set the limit on "Maximum Number of Request per Day" to a sufficient small value (i.e. 10 as planned) in the Secondary Retransmission server during this test session to set the test conditions for the Clients to test their capability of processing negative retransmission response for exceeding daily retransmission request limit, Clients are required to make 10+ retransmission requests when connecting to the Secondary Retransmission server to verify that they can process negative response from OMD correctly.

Appendix A – OMD-D Readiness Test Result Declaration Form

To: HKEX-IS – Market Data, Markets Division   Email: IVSupport@hkex.com.hk

All Real-time direct connection clients are required to return this form by email to HKEX-IS for arranging release of OMD-D Datafeed(s) at least 21 business days prior to the target release date

I hereby on behalf of <_____ *(Company Name)* > ("the Company") declare that the Company has successfully completed the Readiness Test by using the software specified in the Section A.2 for the OMD datafeed products specified in Section A.1 below and the test results as detailed in Section A.3 are true and correct.

A.1   Please check the OMD-D datafeed products covered in this Declaration Form

☐ Derivatives Standard (DS) ☐ SOM ☐ Non-SOM ☐ Derivatives Trade	☐ Derivatives Premium (DP) ☐ SOM ☐ Non-SOM	☐ Derivatives FullTick (DF) ☐ SOM ☐ Non-SOM	☐ Index Feed

A.2   Declaration of Software Version

Software Name	Version Number	Readiness Test Completion Date

A.3   Test Results Declared

Test Session	Test Results *(please check applicable items)*
1. Message Decoding, Order Book Building and Active Instrument State ("AIS") Determination	☐ All data fields in all messages are correctly interpreted and match the expected values provided in the Answer Book ☐ All Aggregate Order Book (10 best bid/offers) are correctly built with all updates matching the expected results provided in the Answer Book ☐ Full Order Book are correctly built with all updates matching the expected results provided in the Answer Book ☐ All Market State messages are correctly interpreted matching the expected results provided in the Answer Book
2. Data Recovery (Refresh)	☐ Latest market images are successfully obtained from Refresh service with all data fields matching the expected values provided in the Answer Book
3. Data Recovery (Line Arbitration and Retransmission)	☐ Lost data are successfully recovered from line arbitration and/or retransmission and the recovered data match the expected values provided in the Answer Book ☐ Exceptions in Retransmission are handled properly with results same as those stated in the Answer Book ☐ We have tested our system on its ability to handle all possible status codes returned from the Retransmission server in response to our request and we are satisfied with the test results
4. Performance / Capacity	☐ Our feed handler can handle the peak traffic installed for the datafeed products checked in Section A.1 without any data loss
5. Failover / Disaster Recovery / Exception Handling	☐ Our feed handler can handle the failover scenarios covered in the Readiness Test with all data field values remaining intact and identical to expected values provided in the Answer Book ☐ The operation of switching our feed handler to the DR site is smooth with all data fields remaining intact and identical to expected values provided in the Answer Book ☐ We have tested our system on its ability to reflect the latest market snapshot in time in the event of late connection or reconnection to OMD and we are satisfied with the test results
6. Special Trading Day Market Signal Handling	☐ Our feed handler can handle different markets status update for different market scenarios. ☐ Our feed handler can handle the reset arrangement of trade statistic and series statistic before T+1 session begins. (Covered in Test Session 1)

By signing below, I consent to the processing of my personal data in accordance with the Privacy Policy Statement (see overleaf).

A.4   Authorized Signature

Company Name   : _____

Name of Authorized Person   : _____   Title   : _____

Signature   : _____   Date   : _____

Privacy Policy Statement

Hong Kong Exchanges and Clearing Limited, and from time to time, its subsidiaries (together the "**Group**") (and each being "**HKEX**", "**we**", "**us**" or "**member of the Group**" for the purposes of this Privacy Policy Statement as appropriate) recognise their responsibilities in relation to the collection, holding, processing, use and/or transfer of personal data under the Personal Data (Privacy) Ordinance (Cap. 486) ("**PDPO**"). Personal data will be collected only for lawful and relevant purposes and all practicable steps will be taken to ensure that personal data held by us is accurate. We will use your personal data which we may from time to time collect in accordance with this Privacy Policy Statement.

We regularly review this Privacy Policy Statement and may from time to time revise it or add specific instructions, policies and terms. Where any changes to this Privacy Policy Statement are material, we will notify you using the contact details you have provided us with and, where required by the PDPO, give you the opportunity to opt out of these changes by means notified to you at that time. Otherwise, in relation to personal data supplied to us through the HKEX website or otherwise, continued use by you of the HKEX website or your continued relationship with us shall be deemed to be your acceptance of and consent to this Privacy Policy Statement, as amended from time to time.

If you have any questions about this Privacy Policy Statement or how we use your personal data, please contact us through one of the communication channels set out in the "Contact Us" section below.

We will take all practicable steps to ensure the security of the personal data and to avoid unauthorised or accidental access, erasure or other use. This includes physical, technical and procedural security methods, where appropriate, to ensure that the personal data may only be accessed by authorised personnel.

Please note that if you do not provide us with your personal data (or relevant personal data relating to persons appointed by you to act on your behalf) we may not be able to provide the information, products or services you have asked for or process your requests, applications, subscriptions or registrations, and may not be able to perform or discharge the Regulatory Functions (defined below).

Purpose
From time to time we may collect your personal data including but not limited to your name, mailing address, telephone number, email address, date of birth and login name for the following purposes:

1. to process your applications, subscriptions and registration for our products and services;
2. to perform or discharge the functions of HKEX and any company of which HKEX is the recognised exchange controller (as defined in the Securities and Futures Ordinance (Cap. 571)) ("Regulatory Functions");
3. to provide you with our products and services and administer your account in relation to such products and services;
4. to conduct research and statistical analysis;
5. to process your application for employment or engagement within HKEX to assess your suitability as a candidate for such position and to conduct reference checks with your previous employers; and
6. other purposes directly relating to any of the above.

Direct marketing
Where you have given your consent and have not subsequently opted out, we may also use your name, mailing address, telephone number and email address to send promotional materials to you and conduct direct marketing activities in relation to HKEX financial services and information services, and financial services and information services offered by other members of the Group.

If you do not wish to receive any promotional and direct marketing materials from us or do not wish to receive particular types of promotional and direct marketing materials or do not wish to receive such materials through any particular means of communication, please contact us through one of the communication channels set out in the "Contact Us" section below. To ensure that your request can be processed quickly please provide your full name, email address, log in name and details of the product and/or service you have subscribed.

Identity Card Number
We may also collect your identity card number and process this as required under applicable law or regulation, as required by any regulator having authority over us and, subject to the PDPO, for the purpose of identifying you where it is reasonable for your identity card number to be used for this purpose.

Transfers of personal data for direct marketing purposes
Except to the extent you have already opted out we may transfer your name, mailing address, telephone number and email address to other members of the Group for the purpose of enabling those members of the Group to send promotional materials to you and conduct direct marketing activities in relation to their financial services and information services.

Other transfers of your personal data
For one or more of the purposes specified above, your personal data may be:

1. transferred to other members of the Group and made available to appropriate persons in the Group, in Hong Kong or elsewhere and in this regard you consent to the transfer of your data outside of Hong Kong;
2. supplied to any agent, contractor or third party who provides administrative, telecommunications, computer, payment, debt collection, data processing or other services to HKEX and/or any of other member of the Group in Hong Kong or

elsewhere; and
3. other parties as notified to you at the time of collection.

How we use cookies
If you access our information or services through the HKEX website, you should be aware that cookies are used. Cookies are data files stored on your browser. The HKEX website
automatically installs and uses cookies on your browser when you access it. Two kinds of cookies are used on the HKEX website:

Session Cookies: temporary cookies that only remain in your browser until the time you leave the HKEX website, which are used to obtain and store configuration information and administer the HKEX website, including carrying information from one page to another as you browse the site so as to, for example, avoid you having to re-enter information on each page that you visit. Session cookies are also used to compile anonymous statistics about the use of the HKEX website.

Persistent Cookies: cookies that remain in your browser for a longer period of time for the purpose of compiling anonymous statistics about the use of the HKEX website or to track and record user preferences.

The cookies used in connection with the HKEX website do not contain personal data. You may refuse to accept cookies on your browser by modifying the settings in your browser or internet security software. However, if you do so you may not be able to utilise or activate certain functions available on the HKEX website.

Compliance with laws and regulations
HKEX and other members of the Group may be required to retain, process and/or disclose your personal data in order to comply with applicable laws and regulations or in order to comply with a court order, subpoena or other legal process (whether in Hong Kong or elsewhere), or to comply with a request by a government authority, law enforcement agency or similar body (whether situated in Hong Kong or elsewhere) or to perform or discharge the Regulatory Functions. HKEX and other members of the Group may need to disclose your personal data in order to enforce any agreement with you, protect our rights, property or safety, or the rights, property or safety of our employees, or to perform or discharge the Regulatory Functions.

Corporate reorganisation
As we continue to develop our business, we may reorganise our group structure, undergo a change of control or business combination. In these circumstances it may be the case that your personal data is transferred to a third party who will continue to operate our business or a similar service under either this Privacy Policy Statement or a different privacy policy statement which will be notified to you. Such a third party may be located, and use of your personal data may be made, outside of Hong Kong in connection with such acquisition or reorganisation.

Access and correction of personal data
Under the PDPO, you have the right to ascertain whether we hold your personal data, to obtain a copy of the data, and to correct any data that is inaccurate. You may also request us to inform you of the type of personal data held by us. All data access requests shall be made using the form prescribed by the Privacy Commissioner for Personal Data ("**Privacy Commissioner**") which may be found on the official website of the Office of the Privacy Commissioner or via this link https://www.pcpd.org.hk/english/publications/files/Dforme.pdf

Requests for access and correction of personal data or for information regarding policies and practices and kinds of data held by us should be addressed in writing and sent by post to us (see the "Contact Us" section below).

A reasonable fee may be charged to offset our administrative and actual costs incurred in complying with your data access requests.

Termination or cancellation
Should your account or relationship with us be cancelled or terminated at any time, we shall cease processing your personal data as soon as reasonably practicable following such cancellation or termination, provided that we may keep copies of your data as is reasonably required for archival purposes, for use in relation to any actual or potential dispute, for the purpose of compliance with applicable laws and regulations and for the purpose of enforcing any agreement we have with you, for protecting our rights, property or safety, or the rights, property or safety of our employees, and for performing or discharging our functions, obligations and responsibilities.

General
If there is any inconsistency or conflict between the English and Chinese versions of this Privacy Policy Statement, the English version shall prevail.

Contact us
By Post:
Personal Data Privacy Officer
Hong Kong Exchanges and Clearing Limited
12/F., One International Finance Centre
1 Harbour View Street
Central
Hong Kong

By Email:
DataPrivacy@HKEX.COM.HK