

## **HKEX Orion Market Data Platform – Derivatives Market (OMD-D)**

### **Frequently Asked Questions (FAQs)**

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## **General**

### **1. Will it be compulsory for Exchange Participants to receive market data from OMD?**

It is not compulsory for Exchange Participants to receive market data from OMD though OMD is strategically positioned as the unique ticker plant for HKEX securities and derivatives markets in the long run. Market data dissemination will eventually be discontinued from the matching engine in order to maximize the processing efficiency of the trading systems. By that time, Exchange Participants may choose to receive market data directly from OMD or indirectly via information vendors. The schedule of which is however not yet determined.

Now, Exchange Participants may continue to receive market data from AMS/3 Open Gateway (OG) for securities market and HKATS OAPI Network Gateway (NG) for derivatives market subject to the development of the respective trading systems in future. However, please note that relevant approval from HKEX-IS is required if Exchange Participants disseminates the market data from OG and NG to third parties (including but not limited to group companies, system vendors).

### **2. Is there any plan to launch derivatives market data in MMDH?**

HKEX derivatives market data, including futures and options data, are not available in MMDH currently. Subject to market demand, HKEX may consider adding derivatives market data in future.

### **3. Why aren't Exchange Participants allowed to access the market data directly from HKATS/Genium?**

In order to achieve matching efficiency and optimal performance of the trading system, the capacity of the trading system will be dedicated to the functions of matching engine whereas market data systems will take up the functions of market data distribution and this enables the Exchange to develop a wide range of market data feed products to meet the diversified needs of the market participants. EPs are hence advised to receive market data from OMD ultimately.

## Product

### **4. Why does HKEX offer multiple product feeds to the market?**

Single product feed will limit the development of low latency feed as huge data volume may increase the bandwidth requirement and hence social cost to the market. Different product feeds will offer choice to the customers on market data latency, content as well as bandwidth requirements.

### **5. We want the fastest feed which should be the FullTick feed, but it does not have statistics. This makes it difficult for me to decide which product to choose.**

FullTick feed is positioned to provide low latency data to the customers for building their order books. Only the core market data, i.e. orders and trades, will be carried to guarantee the performance of the feed. Clients who would like to receive statistics calculated by HKEX may wish to subscribe to Standard or Premium feed.

### **6. Why couldn't we receive the order information during the auction session from FullTick feed which should be the most premium feed?**

Streaming full order book feed is new to the Hong Kong derivatives market and hence we adopt a prudent approach of not disseminating the individual order information during the auction session to avoid any possible market manipulation during the price discovery process.

### **7. Will aggregate market depth (10BBOs) information be offered in OMD Derivatives FullTick?**

OMD Derivatives FullTick is a new datafeed product which is positioned as a market-by-order feed providing individual orders and trade information only. Aggregate market depth (or market by price) information on conflation mode will continue to be carried by OMD Derivatives Standard (DS). Should clients wish to obtain market by price information on a streaming basis, they may consider subscribing to OMD Derivatives Premium (DP).

### **8. Which indices will be provided in OMD Index Feed?**

Please refer to Appendix A of OMD Interface Specifications for Securities Market & Index Datafeed Products to have complete indices list of OMD

Index Feed.

**9. Will index information continue to be available in other product feeds aside from the Index Feed?**

OMD is optimized to disseminate specific market data contents via multiple product feeds. Index information will only be contained in the OMD Index Feed.

**10. OMD does not provide retransmission of all trade tickers. Can HKEX add it back to OMD?**

OMD does not support recovery of all trade tickers for a given trading day. Client can however receive the latest market snapshot from the refresh server which facilitates intraday startup or customer side outages. For the interest of those customers who may wish to recover every tick for a given trading day, HKEX will consider offering the corresponding end of day trade data product for customer subscription or purchase on an as-needed basis.

**11. Does OMD-D provide the minimum tick size and the contract size information?**

Both the minimum tick size and contract size are static information which is defined in the contract specifications from day one and unlikely to change in the life of the contracts. However, OMD-D provides the contract size information in view of the arrangement for capital actions where the contract size may be adjusted together with the strike price. Other static information such as the minimum tick size is not available in the OMD-D at present. Clients may wish to refer to the contract specification of each derivatives product on HKEX website for such information.

**12. How can we obtain commodity code mapping table?**

We will provide an updated commodity code mapping table to clients in OMD-D corner.

**13. What is the difference between Trade Statistics (360) and Series Statistics (363)?**

Trade Statistics (360) is provided in Derivatives Standard (DS) while Series Statistics (363) is provided in Derivatives Premium (DP). The content of both messages are the same except Trade Statistics (360) carries DealSource and AggregateQuantity of the latest deal (which can

comprise multiple trades) as Trade Detail message in PRS Plus and PRS. Alternatively, DP provides information on individual trades, instead of after their consolidation into deals, with Trade (350) and Trade Amendment (356) messages which are separate from the Series Statistics (363).

**14. Do Exchange Participants need to obtain Series Identity from CG/NG or would OMD-D have this Series Identity as well?**

OMD-D is a different system from HKATS OAPI. Please refer to Section 3.7 of OMD-D Interface Specification (available at OMD Project Corner at HKEX website) for the reference data arrangement. OrderBookID is used as the unique identifier for the tradable series, except that it is not available for next day effective series. The message (304) carries the unique key of series in OAPI and the symbol name. Clients can make reference to those fields.

**15. If our program only subscribes to Stock Options Market (SOM), will we receive the Non-SOM market data as well?**

Clients could only receive data of the market which their program subscribes to since the host IPs for SOM and Non-SOM are different.

## Licence / Fees

**16. Is there any licence we should apply for if we subscribe Derivatives Premium for internal use?**

If the data is only for internal use, clients should apply End-user Licence. Market Data Vendor Licence should be applied instead if clients would like to redistribute the data to their customers. Different licence fees and connection fees are applied to different OMD-D datafeed product and usage purpose. Clients can visit HKEX website for details on the charges for the OMD-D datafeeds.

**17. If information vendors/licensed end-users subscribe to Derivatives FullTick and provide 10BBO with individual order breakdown within the 10BBO, what Subscriber Fee/Individual User Fee is chargeable, level 2 or FullTick?**

Any data with individual order information will be subject to the Subscriber Fee/Individual User Fee of Continuous Access - Full Book, i.e. \$300 per unit per month.

**18. If information vendors subscribe to more than one OMD datafeed products, what Redistribution Fees/End-User Licence Fees and Connection Fees are applicable?**

If information vendors/licensed end-users subscribe to more than one OMD datafeed products, e.g. DS and DP, the Redistribution Fees/End-User Licence Fees and Connection Fees for the first connection of both of these feeds are payable. If information vendors/licensed end-users subscribe to more than one set of the same OMD datafeed, e.g. 2 sets of DP, the following fees will apply:

- i. One Redistribution Fee/End-User Licence Fee of DP
- ii. One Connection Fee for the first set of standard connection of DP; and
- iii. One Connection Fee for an additional set of standard connection of DP.

**19. If information vendors subscribe to both DP and DF, can they provide information from DP feed (10BBO, Statistics, Estimated Average Settlement Price, Open Interest and Implied Volatility) to their DF subscribers? What is the relevant Subscriber Fee?**

Yes, information vendor who subscribes DF can provide level 2 data services with applicable fees, e.g. HK\$90 per subscriber unit per month,

subject to it being 10BBO and without individual order information.

- 20. With the implementation of OMD, the data transmission has been changed to multicast transmission from unicast transmission. Each set of SDNet lines will by design receive concurrent multicast data streams from the OMD host. Would our company be forced to pay dual live connection fee?**

With the transmission protocol changed to multicast, one set of standard connection service will include two set of SDNet lines or HSN ports carrying two concurrent multicast data streams. Clients will only be subject to one set of connection fee if they only subscribe to one set of standard connection service.

- 21. Would Exchange Participants be offered free connections to OMD-D?**

HKEX will offer a waiver on the End-user Licence fee and Connection fee for 2 OMD Derivatives Standard feed connections for each EP who connects directly to OMD-D for market data for internal use and enter into End-user licence agreement with HKEX.

- 22. We are an Exchange Participant and we currently source market data from HKATS API for internal use and for external redistribution to clients. We are not subject to any market data fees as covered by the Deed of Undertaking. Would there be any change to this arrangement upon the rollout of OMD-D?**

No. Exchange Participants that use and redistribute HKATS API sourced market data would continue to be free of charge. Exchange Participants would only be subject to OMD fees if they use and redistribute market data sourced from OMD product feeds.

## **On-boarding**

### **23. When will the CG\* be terminated in considering that OMD Derivatives FullTick (DF) is going to roll out soon?**

The CG\* interim solution, which was intended to enable those EPs who have confirmed subscription of OMD-D Derivatives FullTick (“DF”) access to the MQ7 message on their CG connection temporarily until OMD-D DF was in production, will be terminated within 3 months after the OMD-D initial rollout. HKEX Derivatives Trading will serve the official termination notice to those EPs with CG\* interim solution.

### **24. Does OMD-D have any conformance test?**

Due to the multicast nature, we are not able to monitor the test progress and results of clients. Same as OMD-C, we would have a Readiness Test for OMD-D which aims to facilitate clients’ verification of the technical readiness of their feed handlers for receiving and processing OMD messages. Clients are required to complete the test cases in the answer book provided by HKEX and submit the test results of the answer after completion of the test.

### **25. Can the OMD simulator be run on different platforms?**

The OMD simulator can run on Linux only. However, the client’s feed handler can either run on the same or a different machine as the OMD simulator, providing clients the flexibility to develop their feed handlers on a non-Linux platform.

### **26. Can we use third party applications and ask them to perform OMD testing on behalf of us?**

Yes, HKEX launched a new test service to allow independent software vendors (ISVs) to conduct testing on behalf of their clients. Clients could also use software versions provided by ISVs which have already passed the Readiness Test.

However, please note that this test service only applies to testing in the test environment, which includes Open Test, Practice Session, Certification / Readiness test. The client has to participate in Market Rehearsal (MR) and Post-Release Test (PRT) itself with its own circuits for connection before it can receive live production market data.

**27. What is the difference between OMD-D Readiness Test (RT) Environment and OMD-D HKATS Test Environment?**

In the OMD-D RT Environment, only canned data is used for conducting OMD-D Open Test, Practice Session and Readiness Test. OMD-D HKATS Test Environment is same as the HKATS OAPI Development Environment with OMD-D available to enable OMD-D EPs clients to perform loop test with the HKATS, the HKEX Derivatives Market Trading System.

**28. Does our company need to perform Readiness Test if we use the software provided by an ISV?**

No. Readiness Test will be performed by ISV but SCT, MR and PRT will need to be performed by their company being the Market Data Licensee having direct OMD-D connection with HKEX.

**29. How can DP and DF clients receive Deal Source information as Trade statistics (360) is only provided for DS clients?**

DS is positioned to carry trade information at deal level (or trade ticker level) which contains the aggregated quantity and the Deal Source (e.g. normal matching) of the latest deal (which can comprise multiple trades) from the trading system.

DP and DF are positioned to provide individual trade information with Trade (350) and Trade Amendment (356) messages which however cannot be mapped with the Deal Source and therefore Deal Source information is not provided via DP and DF.

**30. OMD currently offers various recovery functions including Line Arbitration, Retransmission (RTS) and Refresh (RFS Snapshot) services. Are they all mandatory requirements for OMD-D implementation?**

Line Arbitration: It is the quickest and most efficient means to recover from packet drops due to a single-point glitches on the dual network paths from OMD to the client's servers. Line Arbitration is a mandatory requirement to all feed providing vendors.

Retransmission: It is the only means to recover lost trade messages as trades are not recoverable through Refresh. For packet loss beyond the protection of line arbitration, retransmission is also the quickest means to

recover the lost data from OMD in sub-seconds compared with refresh. Retransmission is a mandatory requirement to all clients.

Refresh: It is a prerequisite for the client to handle OMD's DR, clients' late connection to OMD and significant packet loss by clients. Refresh is a mandatory requirement to all clients

## Technical Details

**31. For Retransmission server, is there any limitation on the number of Logon requests per day?**

There is no limitation on the number of Logon requests per day but there are limitations on (1) number of retransmission requests in a day; and (2) maximum sequence range requested. The number of concurrent sessions to a Retransmission server is also restricted to one for each User ID. In other words, each User ID cannot perform more than one concurrent retransmission session at the same time. Please refer to the Interface Specifications for the different parameters applicable to retransmission service.

**32. How many retransmission User ID and IP addresses will be assigned if our company subscribes to one set of Derivatives Premium connections and one set of Derivatives FullTick connections?**

Two unicast IP addresses and one retransmission User ID will be assigned to each set of product feed. If one set of DP and one set of DF are subscribed to, clients will be assigned four unicast IP addresses and two retransmission User IDs.

**33. If additional number of retransmission User ID and IP addresses are required, will there be any additional fees?**

Yes, additional retransmission User ID and IP addresses can be assigned subject to additional set of connection fees.

**34. Can we have more than one retransmission ID in testing environment?**

Yes, clients can try to apply for more than one retransmission IDs in testing environment subject to Exchange's discretion.

## **Network Arrangement**

**35. Can we share the same set of SDNet/2 circuits for their subscription to both OMD Securities datafeed products and OMD Derivatives datafeed products?**

Yes, sharing of same set of production SDNet/2 circuits by more than one OMD datafeed product of different markets (i.e. securities market datafeed and derivatives market datafeed) is allowed. Clients who adopt the shared line mode should, however, make a thorough assessment of the possible operational risks and complexity in troubleshooting (latency, connectivity, etc) associated with line sharing. Troubleshooting support from HKEX will be limited under line sharing given the increased complexity.

**36. Can Exchange Participants share the same set of SDNet/2 circuits with trading traffic (orders and trades) and market data traffic?**

Yes. Exchange Participants who would like to share the same SDNet/2 circuits with trading traffic (orders and trades) and market data traffic are only allowed to do so if all the traffic on the circuits belongs to the same market (i.e. either securities market or derivatives market). OMD-Index, which is market neutral, can be carried on the same circuits with securities market or derivatives market. For example, Exchange Participants of derivatives market may use the same SDNet/2 circuits for their access to OMD-D DP, OMD-Index and HKATS Central Gateways. Clients who plan to share SDNet/2 circuits should, however, make a thorough technical assessment of the possible operational risks and complexity in troubleshooting (latency, connectivity, etc.) associated with such an approach. Troubleshooting support from HKEX will be limited under such circuit sharing given the increased complexity.

**37. Can we share the same set of SDNet/2 circuits for both OMD-D testing environment and OMD-D production environment?**

No, SDNet/2 circuits cannot be shared between OMD-D testing environment and OMD-D production environment.

**38. In testing environment, could we share the same set of SDNet circuits for OMD-C, OMD-D and trading traffic?**

The sharing principle for testing environment would be the same as

production environment. Testing lines can be shared across OMD-C and OMD-D for testing purpose only. Same set of lines cannot be used for production and testing purposes. Therefore, if clients reconfigured the OMD-C testing lines to production mode, they are required to install another set of lines for OMD-D open/readiness test.

**39. Can we use the existing OMD-C SDNet production lines to receive OMD-D production data?**

To minimize the implementation risk, clients are required to use dedicated SDNet lines for OMD-D at initial rollout. Merging SDNet lines with other production systems will only be arranged after the OMD-D stabilization period.

**40. Can the two lines of each SDNet set be provided by two different network carriers?**

Clients are not allowed to lease the 2 SDNet lines for the same SDNet line-set from 2 different network carriers. Since different network carriers may have different routing configurations and protocols, mixing different carriers' SDNet lines in this way may not work.

**41. As a feed-providing vendor, how many circuits do I need to install for receiving OMD datafeed product in order to comply with the minimum technical requirement from HKEX?**

Feed-providing vendors are required to install at least two circuits with concurrent multicast transmission from OMD in order to serve the "dual live connections" requirement. To serve the same requirement, line arbitration is mandatory to OMD feed-providing vendors.

**42. Do OMD-C and OMD-D use same VLAN?**

No. They use different VLANs.

**43. Are HKATS OAPI Environment and OMD-D HKATS Test Environment using the same subnet?**

No. They use different subnets.