




# How To Become **An Exchange Participant**



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香港交易及結算所有限公司



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Interested entities are encouraged to consult their independent legal adviser for advice in the process of applying to become participants of the relevant exchange at HKEx.



## PREFACE

This publication serves as a reference for parties interested in becoming broker participants (Exchange Participants) of The Stock Exchange of Hong Kong Limited and/or Hong Kong Futures Exchange Limited which are wholly owned subsidiaries of Hong Kong Exchanges and Clearing Limited.

### **This Publication Comprises Two Parts:**

The first part gives an overview of the qualifications and criteria for becoming an Exchange Participant. Application procedures, costs and clearing arrangements are included for easy reference.

The second part introduces the history, development and regulation of the Hong Kong securities and derivatives markets. It also covers the products, trading mechanism, and clearing and settlement procedures that are essential to the daily operations of Exchange Participants.

Appendices that list supporting information on the securities and derivatives markets are included as well. The information includes capital requirements, basic set-up costs, summaries of securities and derivatives market products, transaction costs, market makers' obligations and incentives, etc.

For application forms and further information on becoming an Exchange Participant, you are encouraged to:

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Becoming An

**Exchange Participant**



## 1. BECOMING AN EXCHANGE PARTICIPANT

### 1.1 GENERAL

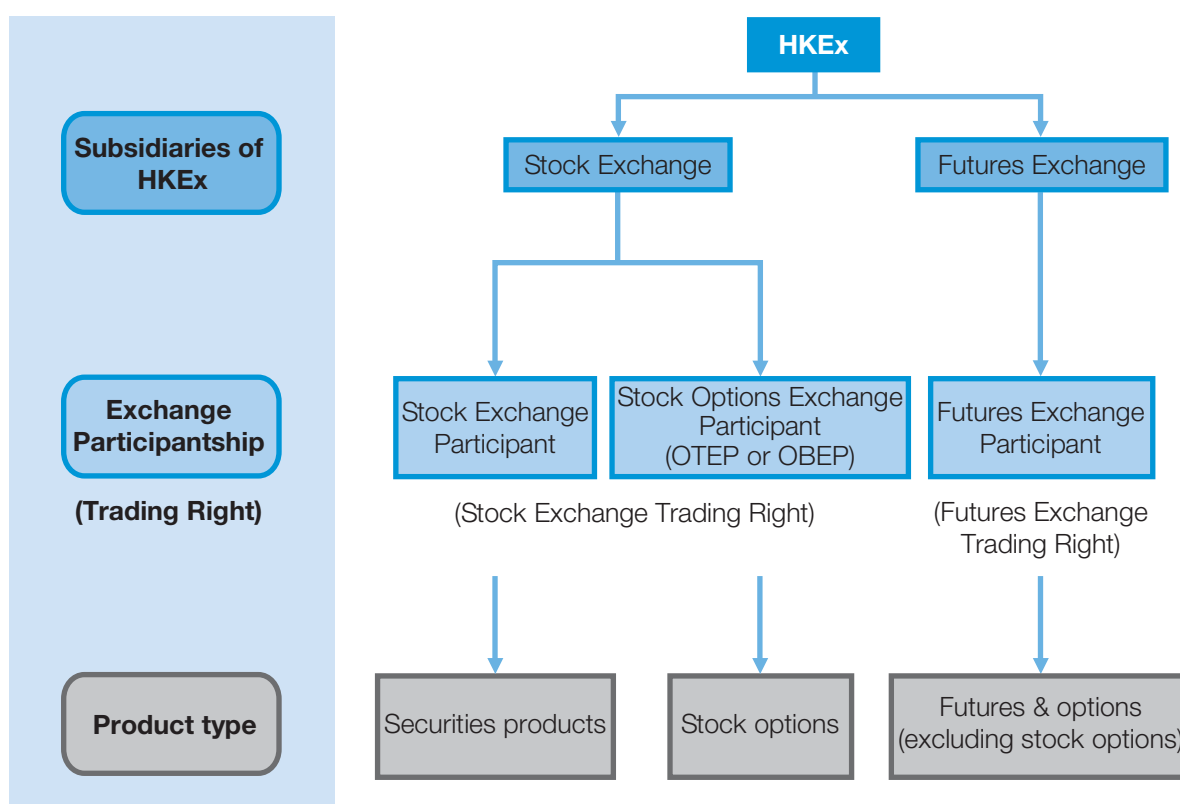
Hong Kong Exchanges and Clearing Limited (HKEx) is the holding company of The Stock Exchange of Hong Kong Limited (Stock Exchange), Hong Kong Futures Exchange Limited (Futures Exchange), Hong Kong Securities Clearing Company Limited (HKSCC), HKFE Clearing Corporation Limited (HKCC) and The SEHK Options Clearing House Limited (SEOCH).

Any broker-dealer that intends to operate a brokerage business for products available on HKEx, using the trading facilities of the Stock Exchange and/or Futures Exchange, must be admitted and registered as an Exchange Participant of that Exchange.

- Stock Exchange Participants are entitled to deal in securities products such as equity securities, equity warrants, Exchange Traded Funds, derivative warrants and Callable Bull/Bear Contracts, etc.
- Futures Exchange Participants may deal in all futures and options, with the exception of stock options.
- Brokers that intend to offer stock options brokerage services have to apply to the Stock Exchange to become Stock Options Exchange Participants. Stock Exchange has two types of options participants: Options Trading Exchange Participant (OTEP) and Options Broker Exchange Participant (OBEP). OTEP can directly trade options through HKATS while OBEP can only trade options through an OTEP. Please refer to [http://www.hkex.com.hk/eng/market/hkex\\_part/criteria/admissioncriteria\\_options.htm](http://www.hkex.com.hk/eng/market/hkex_part/criteria/admissioncriteria_options.htm) for more details.

An Exchange Participant must hold at least one Trading Right in the Stock Exchange or Futures Exchange.

#### HKEx Participantship Structure



## 1.2 PREREQUISITE TO BEING AN EXCHANGE PARTICIPANT

Prior to applying to become an Exchange Participant, broker-dealers have to be registered with the Securities and Futures Commission (SFC) as a Licensed Corporation.

### 1.2.1 Registration with the SFC

Unless exempted, any broker-dealer intending to offer brokerage services for securities products (including stock options) or derivatives products available on HKEx has to be licensed by the SFC as a Licensed Corporation, enabling it to carry out Type 1 (dealing in securities) or Type 2 (dealing in futures contracts) Regulated Activities.

Firms may also apply to carry out other Regulated Activities such as advising on futures contracts, providing automated trading services, asset management, etc. [Please refer to Appendix I](#) and the SFC website at [www.sfc.hk](http://www.sfc.hk) for details.

#### Summary of the Applicable SFC Regulated Activities

Product	Regulated Activity
Securities products (including stock options)	Type 1 Dealing in securities
Futures and options (excluding stock options)	Type 2 Dealing in futures contracts

Individuals who engage in Regulated Activities have to be licensed by the SFC as Licensed Representatives.

#### Summary of the Licence Requirements:

Entity	Criteria
Corporation	<ul style="list-style-type: none"> <li>• A corporate body</li> <li>• At least two Responsible Officers for each Regulated Activity</li> <li>• Remain fit and proper</li> <li>• Able to comply with the financial resources requirements</li> <li>• Adequately insured against prescribed risks for certain Regulated Activities</li> </ul>
Representative	<ul style="list-style-type: none"> <li>• Remain fit and proper</li> <li>• Comply with all competence requirements</li> <li>• Responsible Officers must have sufficient authority within the Licensed Corporation</li> </ul>

The above requirements are not exhaustive. For details, please refer to the “Licensing Information Booklet” available on the SFC website.



## 1.2.2 Criteria for becoming an Exchange Participant

Once licensed by the SFC as a Licensed Corporation qualified to carry out Type 1 or Type 2 Regulated Activity, the broker-dealer may apply to HKEx to become an Exchange Participant through acquiring a Trading Right of the relevant exchange. It is not necessary for the broker-dealer to separately register the Licensed Representatives with HKEx.

### Summary of the Requirements for Becoming an Exchange Participant

Exchange Participantship	Stock Exchange Participant/ Stock Options Exchange Participant	Futures Exchange Participant
<b>Legal Status</b>	<ul style="list-style-type: none"> <li>Be a company limited by shares incorporated in Hong Kong</li> </ul>	
<b>SFC Registration</b>	<ul style="list-style-type: none"> <li>Be a Licensed Corporation qualified to carry out Type 1 Regulated Activity under the Securities and Futures Ordinance</li> </ul>	<ul style="list-style-type: none"> <li>Be a Licensed Corporation qualified to carry out Type 2 Regulated Activity under the Securities and Futures Ordinance</li> </ul>
<b>Trading Right</b>	<ul style="list-style-type: none"> <li>Holder of a Stock Exchange Trading Right</li> </ul>	<ul style="list-style-type: none"> <li>Holder of a Futures Exchange Trading Right</li> </ul>
<b>Financial Standing</b>	<ul style="list-style-type: none"> <li>Good financial standing and integrity</li> </ul>	
<b>Financial Resources Requirement</b>	<ul style="list-style-type: none"> <li>Comply with the minimum capital requirement, liquid capital requirement and other financial resources requirements as specified by the Securities and Futures (Financial Resources) Rules and the Exchange. <a href="#">Please refer to Appendix II for details.</a></li> </ul>	

## 1.3 CLEARING ARRANGEMENT

An Exchange Participant may obtain the necessary clearing facilities by either becoming a Clearing Participant of the respective clearing house, or by maintaining an approved clearing arrangement with a General Clearing Participant.

### Summary of Clearing Houses, Products Cleared and Systems Used

Clearing House	Product Type	Clearing System
Hong Kong Securities Clearing Company Limited (HKSCC)	Securities products	Central Clearing and Settlement System (CCASS)
HKFE Clearing Corporation Limited (HKCC)	Futures and options (excluding stock options)	Derivatives Clearing and Settlement System (DCASS)
The SEHK Options Clearing House Limited (SEOCH)	Stock options	Derivatives Clearing and Settlement System (DCASS)

Please refer to Section 2.3 for details of the clearing houses, systems, access methods and other settlement matters.

Please also refer to Appendix II for the financial requirements of Clearing Participants.

## 1.4 COSTS INVOLVED

In addition to basic business costs, an Exchange Participant will incur one-time set-up costs, deposits, as well as periodic and/or variable charges.

### Summary of Major Cost Items

Item	One-time	Periodic/Variable
<b>Exchange Costs/Deposits</b>	<ul style="list-style-type: none"> <li>Exchange Participantship deposits</li> </ul>	<ul style="list-style-type: none"> <li>Exchange Participant subscription fee</li> </ul>
<b>Clearing Costs/Deposits</b>	<ul style="list-style-type: none"> <li>Guarantee Fund/Reserve Fund Contribution</li> </ul>	<ul style="list-style-type: none"> <li>Clearing software licence fee</li> </ul>
<b>System Access Costs</b>	<ul style="list-style-type: none"> <li>Hardware costs</li> <li>Software costs</li> <li>Installation charges</li> </ul>	<ul style="list-style-type: none"> <li>Communication line charges</li> <li>Maintenance fee</li> <li>Software licence fee</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>Consideration of Exchange Trading Right</li> </ul>	

The costs specified herein cover only the major items and are not exhaustive.

Please refer to [Appendix III](#) for updated figures on major cost items.

## 1.5 APPLICATION PROCEDURE

### Apply to the SFC and HKEx

Apply to the SFC for registration as a Licensed Corporation for the specified Regulated Activity

Submit completed application forms to HKEx, together with supporting documents, applicable deposits and payment for Trading Right



### Trading Infrastructure Set-up

Consider the type of market access (Please refer to section 2.2 for details)

Order hardware, set up connections and run system tests for the set-up of trading front-ends



### Clearing Arrangement\*

Obtain clearing facilities by either:

i. Becoming a Clearing Participant of the respective clearing house by

- Submit application documents for Clearing Participantship

- Clearing System Set-up:

  - Open designated bank accounts

  - Install clearing system terminal

  - Set up delegated user accounts for system access

OR

ii Maintaining an approved clearing arrangement with a General Clearing Participant

(\*Please refer to section 2.3 for details)

**Trading can commence after obtaining the relevant participantship and completion of the set-up of trading and clearing arrangement**



Market

**Information**

## 2. MARKET INFORMATION

### 2.1 GENERAL

#### 2.1.1 Overview of HKEx Markets

##### *Introduction*

HKEx is a leading global operator of exchanges and clearing houses based in Hong Kong, Asia's premier international financial centre, and one of the world's largest exchange groups by market capitalisation.

HKEx operates the securities and derivatives markets and their related clearing houses and is the frontline regulator of listed companies in Hong Kong. It also owns the London Metal Exchange (LME) in the UK, the world's premier base metals market.

In Hong Kong, HKEx regulates listed issuers and administers listing, trading and clearing rules. It also provides services, primarily at the wholesale level, to participants and users of its Exchanges and Clearing Houses, including issuers and intermediaries (such as investment banks or sponsors, securities and derivatives brokers, custodian banks and information vendors) which service investors directly. These services comprise trading, clearing and settlement, deposit and nominee services and information services across multiple products and asset classes.

HKEx operates the only recognised stock market and futures market in Hong Kong through its wholly-owned subsidiaries, the Stock Exchange and Hong Kong Futures Exchange Limited. HKEx also operates four clearing houses, which are the only recognised clearing houses in Hong Kong: Hong Kong Securities Clearing Company Limited (HKSCC), HKFE Clearing Corporation Limited (HKCC), the SEHK Options Clearing House Limited (SEOCH) and OTC Clearing Hong Kong Limited (OTC Clear). HKSCC, HKCC and SEOCH provide integrated clearing, settlement, depository and nominee activities to their participants, while OTC Clear provides OTC interest rate derivatives and non-deliverable forwards clearing and settlement services to its members. HKEx provides market data through its data dissemination entity, HKEx Information Services Limited.

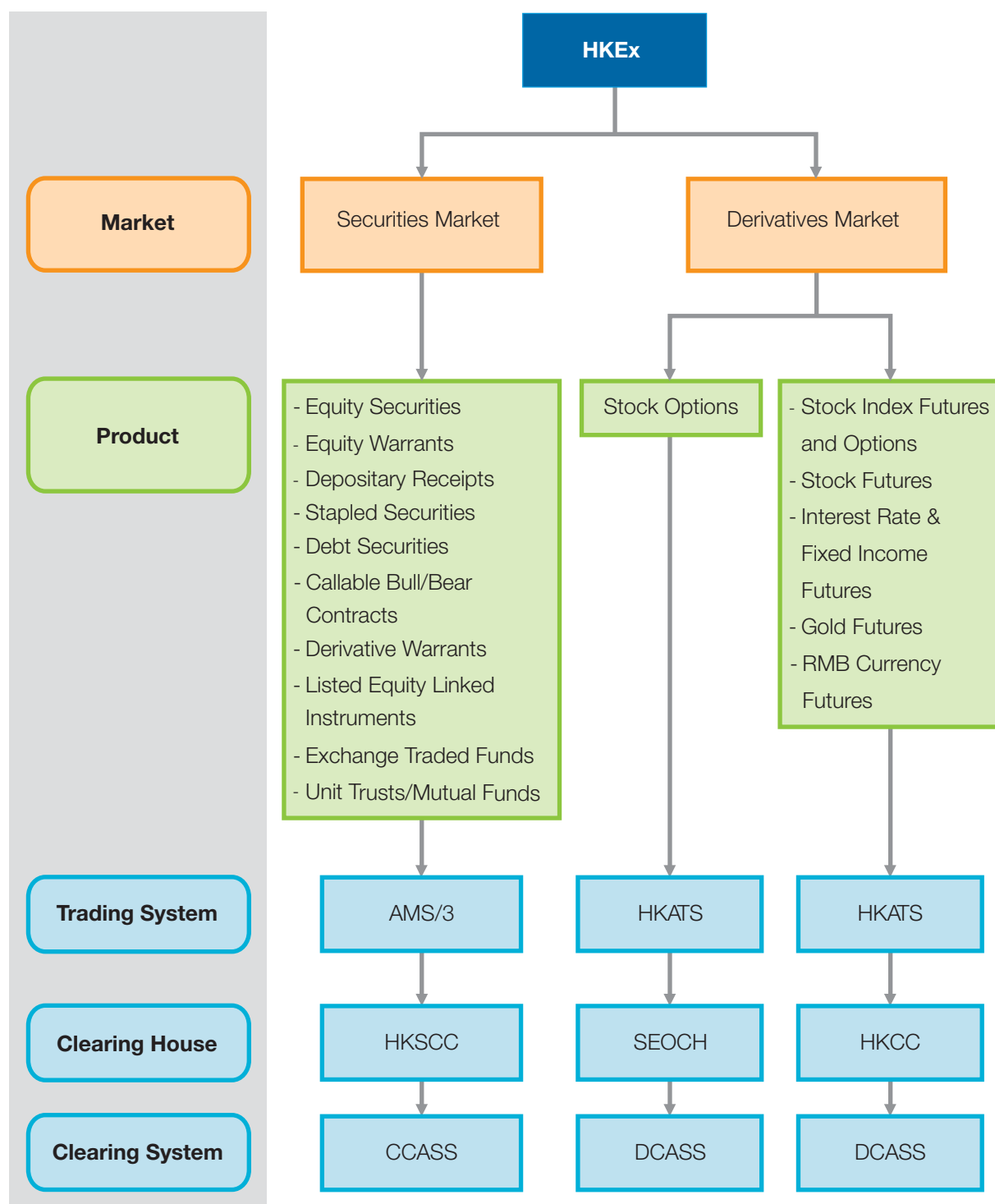
HKEx has a global leadership position in base metals futures and options trading through the LME. The LME brings together participants from the physical industry and the financial community to create a robust and regulated market where there is always a buyer and a seller, where there is always a price and where there is always the opportunity to transfer or take on risk-24 hours a day. The LME also has close links to industry. The LME provides producers and consumers of metal with a physical market of last resort and the ability to hedge against the risk of rising and falling world metal prices.

HKEx is also an equal joint-venture partner with the Shanghai Stock Exchange and Shenzhen Stock Exchange in China Exchanges Services Company (CESC), which is registered and incorporated in Hong Kong. CESC aims to contribute to the further internationalisation of China's capital markets and provide global investors with exposure to the world's second largest economy. It develops cross-border indices based on products traded on the three markets, develops industry classifications for listed companies, and creates information standards and products.



**Increased Participation from International Investors**

According to the latest annual Cash Market Transaction Survey done by HKEx, overseas investors contributed more to total securities market turnover in Hong Kong than local investors and brokers' principal trading, accounting for about 46 per cent in aggregate. They are mainly from the US (13%) and Europe (18%, including the UK (12%)); the contribution from Asia is also significant (11%). The latest annual Derivatives Market Transaction Survey also found relatively high overseas investor participation in Hong Kong's derivatives market (27%). More than 60 origins of overseas investors in the securities market and close to 30 in the derivatives markets were reported in the surveys. These survey results reflect Hong Kong's status as a well-developed financial centre which has attracted investors from around the world.



## 2.1.2 Regulatory Framework

The principal regulator of Hong Kong's securities and derivatives markets is the SFC, which is an independent statutory body established by the Securities and Futures Commission Ordinance in 1989. That ordinance and nine other securities and futures related ordinances were consolidated into the Securities and Futures Ordinance (SFO), which came into operation on 1 April 2003.

The functions of the SFC are, in summary, to supervise the marketplace, regulate the securities and futures industry, provide investor protection, minimise financial crime and market misconduct, cooperate with other securities and futures regulators, promote Hong Kong's competitiveness as a financial centre, and provide expert support to the Government.

## 2.1.3 Products

### **Securities Products**

The large variety of products in the securities market includes equity securities, equity warrants, derivative warrants, Callable Bull/Bear Contracts, debt securities, Exchange Traded Funds, etc.

### **Derivatives Products**

Derivatives are offered on equities, equity indices, interest rates and commodities. The Futures Exchange is one of the leading derivatives markets in Asia Pacific.

[Please refer to Appendix IV for a summary of the products and relevant information.](#)

## 2.1.4 Transaction Fees

The following fees apply to each securities and/or derivatives transaction.

### Types of Transaction Fees

Type	Fee
SFC-related fees	SFC Levy Investor Compensation Levy
HKEx-related fees	Trading Fee/Exchange Fee Trading Tariff
Broker-related fee	Brokerage Commission

The above fee types are non-exhaustive and are for reference only.

[Please refer to Appendix VI for details.](#)

## 2.1.5 Taxation

### **Stamp Duty**

Stamp duty, payable by both the buyer and seller to the Government, is levied on each transaction in registered chargeable securities according to the value of the transaction. Special stamp duty concessions are available for market makers in certain markets.

A transfer deed stamp duty is also payable by the registered shareholder on each new transfer deed, independent of the quantity of shares traded.

Cash settled structured products and Exchange Traded Funds that track an index comprising not more than 40% of Hong Kong stocks may be exempted from stamp duty.

### **Withholding Tax**

In general, there is no withholding tax on interest or dividends in Hong Kong. A withholding tax, subject to the home jurisdictions of the overseas companies, will be collected by the overseas companies or their withholding agents on dividends paid to HKSCC.

### **Capital Gains Tax**

There is no capital gains tax from Hong Kong. Subject to the home jurisdictions of the overseas companies, there may be capital gains tax for the shareholders of overseas companies.

### **Profits Tax**

Profits tax is only payable by a corporation on profits arising from transactions in securities and/or derivatives that constitute a business carried on in Hong Kong. Normally this will apply only to transactions carried out by financial institutions (including brokerage firms) for their own accounts.

[Please refer to Appendix VI for details.](#)

## 2.1.6 Trading Right

An Exchange Participant is required to be a holder of a particular Trading Right in order to trade certain products.

The table below shows the Trading Right required for different products.

### **Trading Right**

<b>Product Type</b>	<b>Trading Right</b>
Securities products (including equity securities and structured products such as derivative warrants) and stock options	Stock Exchange Trading Right
Futures and options (excluding stock options)	Futures Exchange Trading Right

All Trading Rights are issued by the Exchanges and are non-transferable. For details and updated information, please refer to related documents on the HKEx website.

## 2.2 TRADING MECHANISM

### 2.2.1 Securities Market

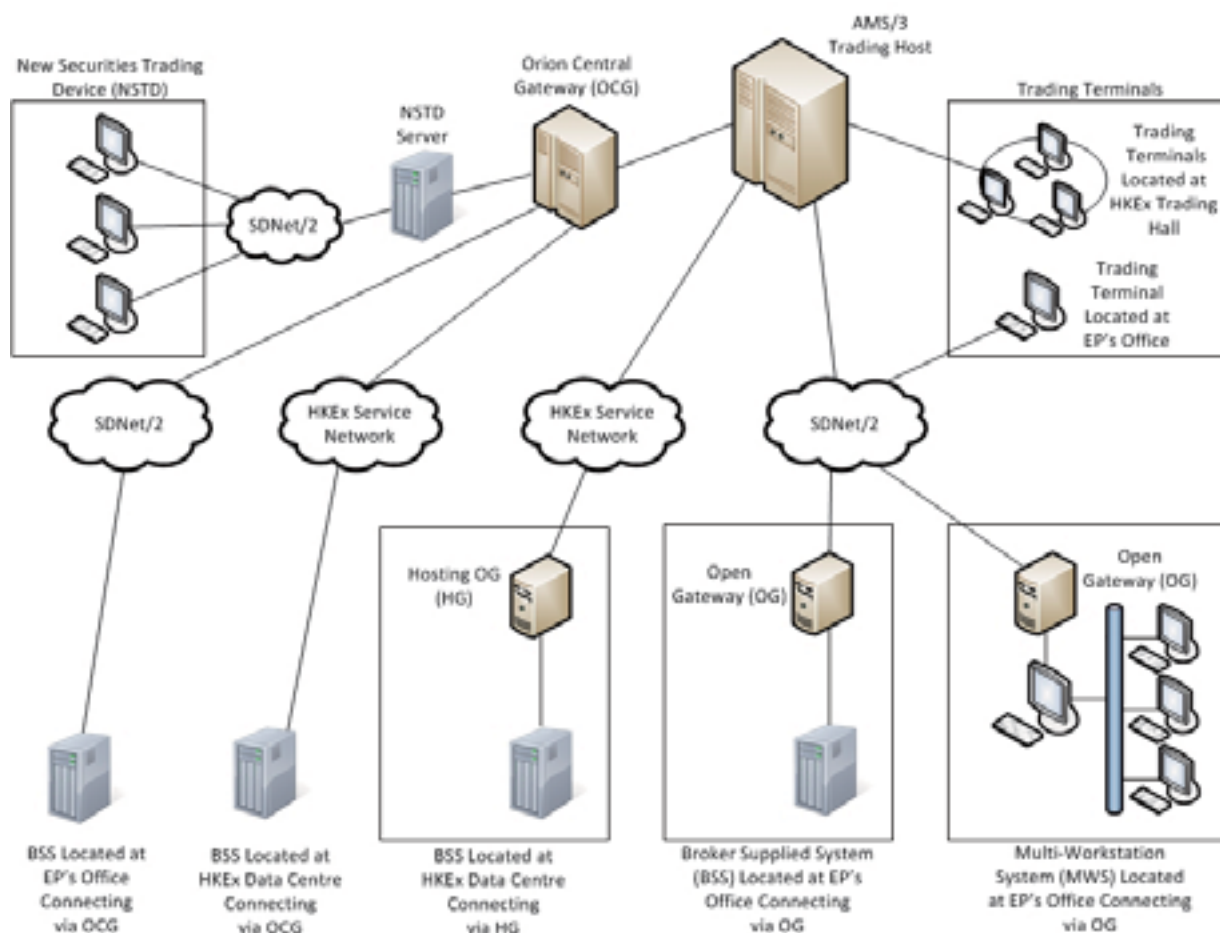
#### (A) Third Generation Automatic Order Matching and Execution System (AMS/3)

##### (i) Overview

The Stock Exchange introduced the AMS/3 trading system in October 2000. The system has gone through several upgrades with the latest version AMS/3.8 launched in December 2011. The AMS/3 trading system incorporates an open interface with Exchange Participants' in-house computer systems. This improves access to the Stock Exchange's marketplace and helps to reduce the risk and costs of securities trading.

AMS/3 is based on the multiple market trading model. Different from the central market model (effectively a single market), AMS/3 supports concurrent and continuous trading in multiple markets, each market having its own products, timetable, trading method and trading rules. Based on their arrangements with HKEx, brokers can participate and conduct trading activities in different markets.

### AMS/3 Overview



**(ii) Broker Access Method**

In AMS/3, brokers need to subscribe to either a Trading Terminal, an Open Gateway or a Orion Central Gateway to conduct trading. HKEx continues to upgrade its trading infrastructure; hence not all options may be supported at the time of application. Please refer to Appendix III.A for the current Broker Access Methods available.

– **Terminal Approach**

With Trading Terminals, brokers use the traditional data entry and screen-based enquiry system to gain access to the market. Transaction throughput is confined by the rate of data input.

Trading Terminals support trading functionalities, including access to multiple markets and various order types.

– **Open Gateway Approach**

With the Open Gateway, brokers are provided with access to the Stock Exchange's trading system which enables them to transmit and receive orders/transactions and data electronically.

The Open Gateway also enables brokers to inter-change electronic data, in the format of interface messages, with the Stock Exchange's AMS/3 Trading Host. Brokers can use electronic data to support market analysis or to perform other trading operations. A throttle mechanism is installed in each Open Gateway to manage transaction flow from brokers' systems. Brokers may purchase additional throttle(s) from the Stock Exchange to improve their throughput capacity to meet their needs.

– **Orion Central Gateway Approach**

Orion Central Gateway is a replacement of Open Gateway. With the Orion Central Gateway, brokers are provided with access to the Stock Exchange's trading system which enables them to transmit and receive orders/transactions electronically without any onsite gateway hardware.

The Orion Central Gateway also enables brokers to inter-change electronic data, in the format of interface messages, with the Stock Exchange's AMS/3 Trading Host. Brokers can use electronic data to perform other trading operations. A throttle mechanism is installed in the Orion Central Gateway to manage transaction flow from brokers' systems. Brokers may purchase additional throttle(s) from the Stock Exchange to improve their throughput capacity to meet their needs.

When choosing between the Trading Terminal, Open Gateway and Orion Central Gateway approach, brokers should consider the following factors:

- The Trading Terminal provides both market access and trading facilities. With the Open Gateway or Orion Central Gateway, brokers need to connect the gateway to a trading facility to support their trading operations.
- The Trading Terminal does not support connection to any external system.

- With the Open Gateway providing market accessibility functions, brokers need to select a trading facility to be connected to the Open Gateway. There are two choices for the trading facility:

**1) Multi-workstation System (MWS)**

The MWS is a Windows-based trading facility offered by HKEx. It enables a multi-user operating environment together with improved trading functions and features. It is only applicable for off-floor trading. Some of the key features of MWS are: graphical user interface, online order book management, interface to investor access channels, risk management functions, quote processing facility, multiple broker configuration and user profile management.

**2) Broker Supplied System (BSS)**

A BSS is a broker's in-house developed system or a third-party software package developed by commercial vendors.

- With the Orion Central Gateway providing market accessibility functions, brokers need to select a facility to be connected to the Orion Central Gateway. There are two choices for the trading facility:

**1) New Securities Trading Device (NSTD)**

The NSTD is a Windows-based trading facility developed and supported by a third-party software vendor for HKEx. It is a replacement for Trading Terminal and MWS. It enables a multi-user operating environment together with improved trading functions and features. Some of the key features of NSTD are: multiple windows graphical user interface, online order book management, market data and charts, risk management functions, multiple broker configuration and user profile management.

**2) Broker Supplied System (BSS)**

A BSS is a broker's in-house developed system or a third-party software package developed by commercial vendors.



## (B) Trading Information

### (i) Trading Sessions

#### ***Pre-opening Session***

The pre-opening session consists of four periods: the order input period, pre-order matching period, order matching period and blocking period.

During the order input period, only at-auction orders and at-auction limit orders are accepted. Orders will be accumulated and updated in the trading system continuously and may be modified or cancelled.

During the pre-order matching period, only at-auction orders are accepted. The modification or cancellation of orders is not allowed. This helps avoid significant changes in the Indicative Equilibrium Price (IEP) and hence contributes to the determination of a fair market price. Input of all manual trade types are allowed during the order input and pre-order matching period.

During the order matching period, no input, modification or cancellation of orders is allowed. The final IEP of securities is determined during this period. IEP is the price at which the maximum number of shares can be traded if matching occurs at that time. Orders will be matched in order type (at-auction orders first), price and time priority at the final IEP. No input of manual trades is accepted during the order matching period. Information on pre-opening session trades is disseminated to the market.

During the blocking period, no terminal activities are allowed except for enquiries. Terminal activities resume with the commencement of the morning continuous trading session.

#### ***Continuous Trading Session***

The continuous trading session consists of the morning session, extended morning session and afternoon session. The extended morning session is only for some unlisted but trading-only securities. In the continuous trading session, orders are continuously executed in strict price and time priority. An order entered into the system at an earlier time must be executed in full before an order at the same price entered at a later time is executed. During the continuous trading session, only limit orders, enhanced limit orders and special limit orders are accepted, with an option for an “all-or-nothing qualifier”.

For details of the trading sessions, please refer to [Appendix V](#).

**(ii) Order Types**

AMS currently supports the following order types for automatching:

***Pre-opening Session***

AMS/3 accepts at-auction and at-auction limit orders during the pre-opening session.

- **At-auction Order**

An at-auction order is an order with no specified price and is entered into AMS/3 for execution at the final IEP. It enjoys a higher order matching priority than an at-auction limit order and will be matched in time priority at the final IEP.

Any outstanding at-auction orders will be cancelled after order matching.

- **At-auction Limit Order**

An at-auction limit order is an order with a specified price. An at-auction limit order with a specified price at or more competitive than the final IEP (in case of buying, the specified price is equal to or higher than the final IEP, or in case of selling, the specified price is equal to or lower than the final IEP) may be matched at the final IEP. An at-auction limit order will be matched in price and time priority at the final IEP. No at-auction limit order will be matched at a price worse than the final IEP.

Any outstanding at-auction limit orders at the end of the pre-opening session will be carried forward to the continuous trading session and treated as limit orders provided that the specified price of that at-auction limit order does not deviate a certain number of times or more from the nominal price. Such orders will be put in the price queue of the input price.

***Continuous Trading Session***

AMS/3 accepts limit, enhanced limit, special limit orders, etc during the continuous trading session as long as the order price input into AMS/3 (i) does not deviate a certain number of times or more from the nominal price, if available, and (ii) follows the quotation rules unless the restriction is waived.

- **Limit Order**

A limit order will allow matching only at the specified price. The sell order input price cannot be made at a price below the best bid price, if available, whereas the buy order input price cannot be made at a price above the best ask price, if available.

Any outstanding limit order will be put in the price queue of the input price.

- **Enhanced Limit Order**

An enhanced limit order will allow matching of up to a certain number of price queues.

Any outstanding enhanced limit order will be treated as a limit order and put in the price queue of the input price.

- **Special Limit Order**

A special limit order will allow matching of up to a certain number of price queues at a time provided that the traded price is not worse than the input price. A special limit order has no restriction on the input price as long as the order input price is at or below the best bid price for a sell order or at or above the best ask price for a buy order.

Any outstanding special limit order will be cancelled and will not be stored in the AMS/3.

[Please refer to Appendix V for more detailed information.](#)

**(iii) Short Selling**

Regulated short selling is the sale of a Designated Security which the seller does not own and is consummated by the delivery of securities borrowed by or for the account of the seller.

With the exception of Securities Market Maker Short Selling by a Securities Market Maker, Structured Product Liquidity Provider Short Selling by a Structured Product Liquidity Provider, Designated Index Arbitrage Short Selling by a Designated Index Arbitrage Short Selling Participant, Stock Futures Hedging Short Selling by a Designated Stock Futures Hedging Short Selling Participant, Structured Product Hedging Short Selling by a Structured Product Hedging Participant and Options Hedging Short Selling by a Market Maker or an Options Hedging Participant (please refer to Schedules 14, 15 and 18 of the Rules of the Exchange for details), the major requirements for Exchange Participants to participate in short selling are as follows:

- Exchange Participants who conduct short selling transaction must have the presently exercisable and unconditional right to vest the security in the purchaser;
- Short selling shall be limited to transactions in Designated Securities effected on the Exchange during the Continuous Trading Session;
- Exchange Participants must, when inputting a short selling order into the AMS/3 system, indicate such matters and in such manner as the Exchange shall from time to time determine, that the order is a short selling order;
- Exchange Participants must follow the tick rule which stipulates that short sales of Designated Securities be made at prices not below the best current ask price except where the Designated Security is a Market Making Security approved by the SFC to be excluded from the application of tick rule; and
- Exchange Participants engaged in short selling shall comply at all times with the Securities and Futures Ordinance as amended from time to time, and the regulations regarding short selling in the Eleventh Schedule to the Rules of the Exchange as approved by the Exchange from time to time.

### (iv) Market Making/Liquidity Provision

#### **Market Making**

Market making is allowed for Designated Exchange Traded Funds and securities traded under the Pilot Programme. Exchange Participants who are interested to become market makers can apply for Securities Market Maker (SMM) permits from the Stock Exchange, the granting of such permits depends on the fulfilment of certain criteria. SMM are obliged to provide bid and ask quotes according to the following requirements:

- within the maximum spread of two-sided market making orders;
- no less than the minimum quantity of board lots;
- enter such orders within a specified period of time after occurrence of Wide Spread; and
- the minimum time that the order should be held in the system.

Please refer to the Fourteenth Schedule in the Rules of the Exchange of the Stock Exchange for details.

#### **Liquidity Provision**

Exchange Participants may act as liquidity providers for the issuers of structured products, such as Derivative Warrants, Listed Equity Linked Instruments and Callable Bull/Bear Contracts, performing the duties of providing liquidity for relevant structured products. Liquidity providers are generally obliged to provide bid/ask quotes within a maximum spread and with a minimum quantity of board lots.

Details of the obligations of the liquidity providers are specified in the listing documents of the structured products by the issuers.

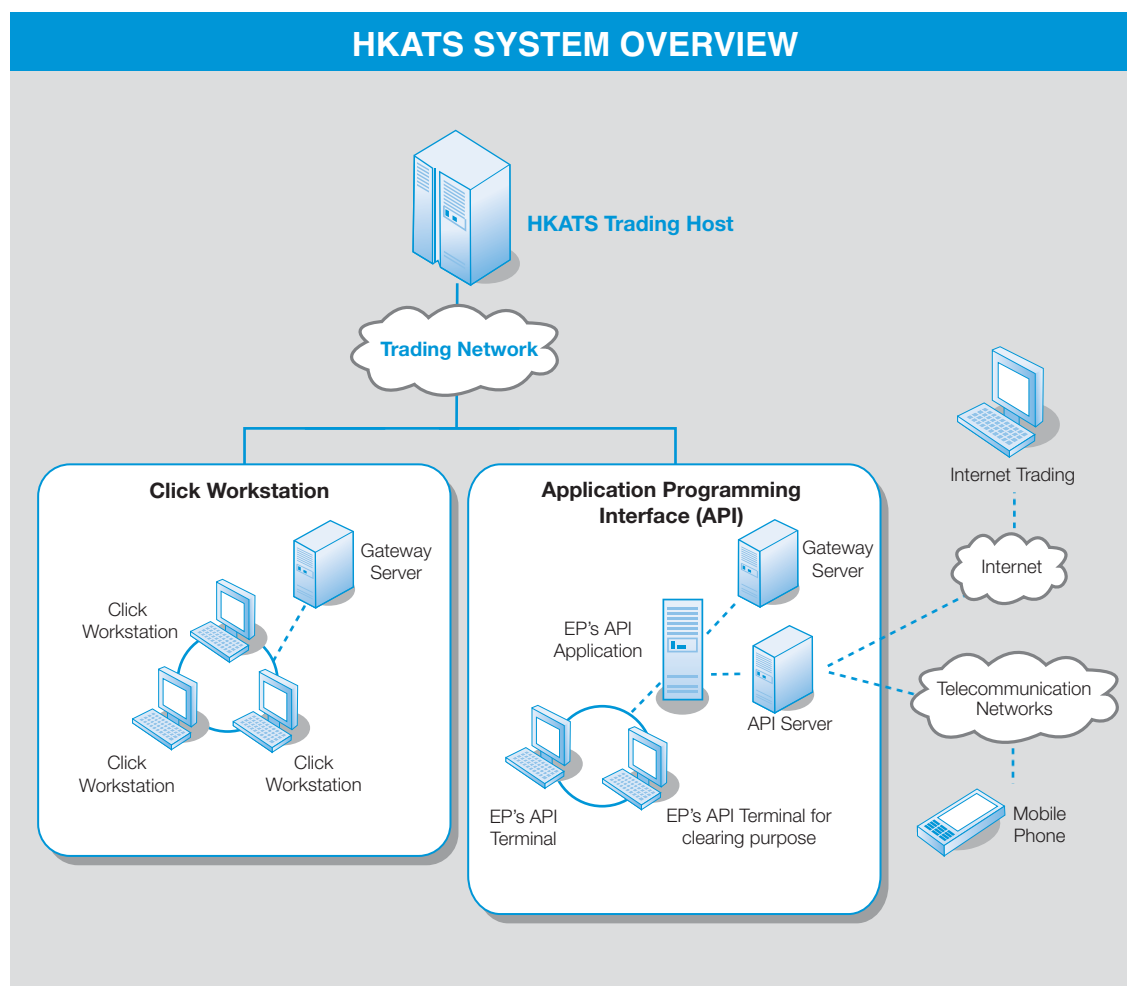
Please refer to the Eighteenth Schedule in the Rules of the Exchange of the Stock Exchange for details.

## 2.2.2 Derivatives Market

### (A) Hong Kong Futures Automated Trading System (HKATS)

#### (i) Overview

All futures and options are traded electronically through HKATS which is a transaction-based network system. Trading on HKATS is conducted through HKATS workstations or self-developed systems located at the premises of Exchange Participants. The system displays current market information and automatically matches buy/sell orders based on price/time priority.



#### (ii) Access Method

Exchange Participants may access HKATS directly through Workstations (with an interface programme) or Application Programming Interface (API).

#### **Central Gateways**

Participants can directly connect to the HKEx host servers via Central Gateways as the primary access points. These Central Gateways are located on the high speed message bus of the central system and thereby provide significant improvements in transaction latency.

### **Click Workstation Approach**

Each workstation is installed with an interface programme, Click Trade, which connects HKATS users through a Network Gateway from Exchange Participant's site to the central marketplace. Click will be available from HKEx for installation as the trading frontend software in the initial rollout but support for the software will ultimately be discontinued, tentatively in 2017.

### **Application Programming Interface (API) Approach**

The API is the customer interface to HKATS. The interface enables programming of fast and reliable business transactions. All trades are synchronous and sequential, that is the API processes only one transaction and process at a time. However, a single transaction may contain many operations, requests or orders, forcing central resources to process different requests concurrently.

Through the use of the API, Exchange Participants can connect their in-house trading front-ends, clearing and risk management systems to HKATS.

### **(iii) System Set-up Requirement**

The minimum requirements for each HKATS access connection are a personal computer, SDNet lines, routers, switch, connection cable(s) and the application software. The maximum number of HKATS access connections for each Exchange Participant is based on its business volume and needs. Exchange Participants may request more connections to increase their trading capacity to match their business demand.

[Details of the set-up costs are outlined in Appendix III.](#)

Exchange Participants that wish to install more workstations at any location, using multiple APIs per workstation or have trading workstations at different locations will need to acquire additional lines, routers, switches and gateway nodes. Exchange Participants will be required to acquire additional equipment necessary to meet their particular network communication requirements.

## **(B) Trading Information**

### **(i) Pre-market Opening and Order Types**

The pre-market opening mechanism serves to establish an orderly market open and greatly enhances market efficiency. During the pre-market opening, the Calculated Opening Price (COP) is established before the market open without matching orders. At present, the pre-market opening is only available for the trading of Hang Seng Index-related futures contracts and H-shares Index futures contracts.

Pre-market Opening consists of three trading sessions – the pre-opening session, pre-open allocation session and open allocation session.

During pre-market opening, brokers are allowed to enter auction orders, limit orders and inactive orders.



**Pre-market Opening Session**

Session	Description
Pre-opening	<ul style="list-style-type: none"> <li>• For auction orders, limit orders and inactive orders only</li> <li>• Orders may be modified and cancelled</li> <li>• Unfilled and unexpired orders from the previous day are included</li> <li>• Continuous update of COP</li> </ul>
Pre-open Allocation	<ul style="list-style-type: none"> <li>• For auction orders and inactive orders only</li> <li>• No activation of inactive orders, order modification or cancellation</li> </ul>
Open Allocation	<ul style="list-style-type: none"> <li>• No input, modification or cancellation of auction orders or limit orders</li> <li>• Input of inactive orders allowed</li> <li>• Orders will be matched in order type, price and time priority at the COP at the end of the period</li> <li>• If there exists a COP, unmatched auction orders will be converted into limit orders at the COP</li> <li>• If there is no COP, unmatched auction orders will be converted to limit orders at best bid and ask prices</li> <li>• If there is no COP and no best bid and ask prices in the market, unmatched auction orders will remain as inactive orders in the order book</li> <li>• Unmatched limit orders will be converted to normal limit orders</li> </ul>

***Auction Orders***

Auction Orders are placed without a limit price and are only for the pre-market opening period. An auction order is an order to buy or sell in the market at the COP. All auction orders will be displayed and matched on a time priority basis. Unmatched auction orders are converted to limit orders on the market open.

***Limit Orders***

Limit orders will be matched automatically (provided that there is sufficient quantity on the opposite side) by HKATS if the COP is at the limit price or better. Limit orders with a bid that is higher than the COP or an ask price that is lower than the COP will be displayed at the COP. Any unmatched limit orders entered during the pre-opening period will remain as limit orders after the market open.

***Inactive Orders***

Brokers can also enter inactive orders in HKATS during the pre-market opening and they have the option of activating these orders later.

Please refer to Appendix V for details.

**(ii) Block Trade Facility**

A block trade is two large orders (buy and sell) privately negotiated outside the public auction market.

The block trade facility benefits existing over-the-counter market participants by allowing them to use the clearing services and the guarantee provided by HKEX's clearing houses. The block trade facility is offered for all products, contract months and strike series listed on HKATS with some exceptions, such as the mini contracts.

To qualify for consideration for the block trade facility, trades must fulfill the following:

- Negotiated and registered through HKATS during the normal trading hours of the contracts;
- Meet the applicable minimum volume. Aggregation of orders to meet the minimum volume or combination of orders to generate a strategy trade are not allowed unless certain criteria have been met; and
- Within permitted price ranges.

For details, please refer to [Appendix VII](#).

### **(iii) Tailor-Made Combination**

The Tailor-Made Combination Function is a combination trade facility that enables market participants to create self-defined futures and options strategies through a single order. Like standard orders for options series and futures contracts, TMC orders are matched by HKATS on a price/time priority basis. A combination of future and/or option contracts of the same underlying can be included in a single Tailor-Made Combination.

### **(iv) Market Making**

Liquidity is provided by market makers for some products in the derivatives market. Futures Exchange Participants may apply to make a market by itself or by way of a market making arrangement where either regulated entities or entities with proven financial strength may perform market making through the Exchange Participants.

For stock options, upon satisfying the approval criteria, Stock Options Exchange Participants may apply to become a market maker for different stock option classes.

There are two kinds of obligations: response to quote requests (QR) or provision of continuous quotes (CQ).

The obligations of market makers vary among asset classes and generally comprise the following requirements:

- for at least a certain percentage of QR or CQ performance (eg 70%);
- for a minimum number of contracts;
- within a maximum spread;
- remain valid for a certain period of time; and
- within a certain period of time (applies to QR only).

In compliance with the obligations, market makers are entitled to discounts on Exchange Trading Fees as an incentive.

In addition to enjoying discounts in exchange fees, stock options market makers are also granted stamp duty exemptions by the Hong Kong Government on securities transactions resulting from hedging activities from stock options market making activities.

For more details of market maker obligations and incentives, please refer to [Appendix VIII](#).

## 2.3 CLEARING, SETTLEMENT AND RISK MANAGEMENT

### 2.3.1 Securities Market

#### (A) Clearing House – HKSCC

Clearing and settlement of transactions in eligible securities listed and/or traded on the Stock Exchange are carried out through the Central Clearing and Settlement System (CCASS) operated by the Hong Kong Securities Clearing Company Limited (HKSCC), which is a wholly-owned subsidiary of HKEx.

In addition to securities clearing and settlement services, HKSCC provides depository services, common nominee services, stock borrowing and lending services and electronic application services for initial public offerings, as well as tendering services for Exchange Fund Notes, specified instruments and Central Moneymarkets Unit instruments.

Clearing Participant of HKSCC described in this section includes General Clearing Participant, Direct Clearing Participant, Custodian Participant, Stock Pledgee Participant and Clearing Agency Participant. In general, for trades resulted from executions through AMS/3 (Exchange trades), Clearing Participant refers to General Clearing Participant and Direct Clearing Participant.

#### (B) Clearing and Settlement System – CCASS

CCASS was introduced in June 1992. It is a computerised book-entry system that clears and settles transactions of securities listed and/or traded on the Stock Exchange. It is built on an open, robust, secure and flexible modularised architecture, and is designed to provide efficient and dynamic clearing and settlement services.

CCASS reduces scrip circulation in the market by the immobilisation of share certificates delivered by Clearing Participants in HKSCC's central securities depository. Settlement is electronically recorded as debits or credits to Clearing Participants' stock accounts in CCASS.

Ordinary shares, preference shares, registered warrants, provisional allotment letters representing nil-paid rights, unit trusts, funds (Exchange Traded Funds), debt securities (Exchange Fund Notes and Hong Kong Government Retail Bonds), structured products (derivative warrants, Callable Bull/Bear Contracts and Equity Linked Instruments) listed and/or traded on the Stock Exchange are eligible for admission into CCASS.

#### (C) Access Method

Clearing Participants' computers can link to the CCASS host system through two communication channels – CCASS Terminals or the Participant Gateway (PG).

These are placed in Clearing Participants' offices and served as the front-ends to the CCASS system. Both channels are connected to the CCASS host system via SDNet, which is a robust and high-efficiency closed user group network based on Frame Relay technology. It uses TCP/IP protocols with high security protection by means of firewalls and intrusion detection systems.

##### (i) CCASS Terminal

Clearing Participants gain access to CCASS through a browser-based terminal, the CCASS Terminal. Through CCASS Terminals, Clearing Participants can enquire about their portfolios, stock

movements and transactions. They can also input data, upload files and download reports. Based on their business needs, Clearing Participants can choose between different network connection packages.

### (ii) Participant Gateway (PG)

The PG is a technical device installed at the Clearing Participants' premises to provide an access point through which their back-office systems can communicate with CCASS on a message basis. Adoption of PG is optional.

## (D) Investor Participation

HKSCC's Investor Account Service was launched in May 1998. It allows individual and corporate investors to open stock accounts in CCASS directly and become Investor Participants.

An Investor Account is in effect a depository account for share custody that allows an investor to have legal and physical control over his/her shares. Purchases and sales of stocks by Investor Participants and related settlements will continue to be handled through Clearing Participants. Each Investor Participant receives activity statements and monthly statements directly from HKSCC, and may enquire about his account balance via the CCASS Phone System or the CCASS Internet System.

## (E) Clearing and Settlement

### (i) Clearing Procedures

Transactions in eligible securities accepted for clearing and settlement in CCASS are primarily (i) Exchange trades between two Exchange Participants, or (ii) Settlement Instructions (SIs) between any two Clearing Participants, or (iii) Investor Settlement Instructions (ISIs) involving a Clearing Participant and an Investor Participant, or (iv) clearing agency transactions resulted from exercised options trades (EOT) from SEOCH.

For Exchange trades, trade data and trade amendment data are automatically transmitted from the Stock Exchange's trading system (AMS/3) to CCASS on each trade day (T). Clearing Participants receive Provisional Clearing Statements of their stock and money positions through their CCASS Terminals each trade day (T) for reconciliation purposes. Final Clearing Statements are available to Clearing Participants on T+1 for confirmation purposes.

Exchange trades in eligible securities effected on the Stock Exchange between two Exchange Participants are settled in CCASS either under the Continuous Net Settlement (CNS) system, where HKSCC acts as the central counterparty to both the buying and selling Clearing Participants and guarantees settlement of these trades; or under the Isolated Trade (IT) system on a trade-for-trade basis where HKSCC simply acts as a facilitator. Under the CNS system, trades are settled on a continuous net basis where an overdue stock position of a Clearing Participant on one day is carried forward to the next settlement day and offset against any opposite net stock position in the same security due for settlement on that day.

SI transactions are used to effect broker-custodian/clearing agency transactions, stock borrowing and lending, stock pledging and portfolio movements in CCASS. They require the input of SIs by both delivering and receiving Clearing Participants. Clearing is effected by matching the mandatory fields of the instructions. For Investor Participants, ISI is used to transfer shares between a Clearing Participant and an Investor Participant.

EOTs are transmitted directly from the derivatives clearing system of SEOC to CCASS at day end. There is no need for Clearing Participants to input such trade details into CCASS. Upon receipt of EOTs, HKSCC accepts them for settlement under the CNS system and clearing agency transactions are cleared in the same way as Exchange trades.

## (ii) Settlement Procedures

All Exchange trades and EOTs are settled on T+2 through electronic debit and credit entries to Clearing Participants' stock accounts either by batch settlement runs at stated times, or via the input of a Delivery Instruction (DI) by the delivering Clearing Participant which is effected immediately upon input.

HKSCC has set up a compulsory borrowing facility in CCASS to enhance market liquidity. Clearing Participants can lend securities to HKSCC as principal. HKSCC attempts to borrow securities from stock lenders in CCASS to close out any outstanding long CNS positions at the end of T+2. For failed settlements, HKSCC will execute a compulsory buy-in on T+3 to purchase the shares needed to close out a Clearing Participant's outstanding short CNS position, unless an exemption is granted under certain specified circumstances. The defaulting Clearing Participant will be responsible for the cost of the shares purchased and subject to penalties.

Settlement of SIs is effected by debits and credits directly between the stock accounts of the delivering and receiving Clearing Participants respectively during the batch settlement run. DIs can be used by the delivering Clearing Participant to give immediate effect upon input to settle matched SIs where there are sufficient securities in the specified account to be debited.

ISIs are processed immediately after affirmation. Otherwise, ISIs are processed during the batch settlement runs in CCASS. DI is not available to Investor Participant.

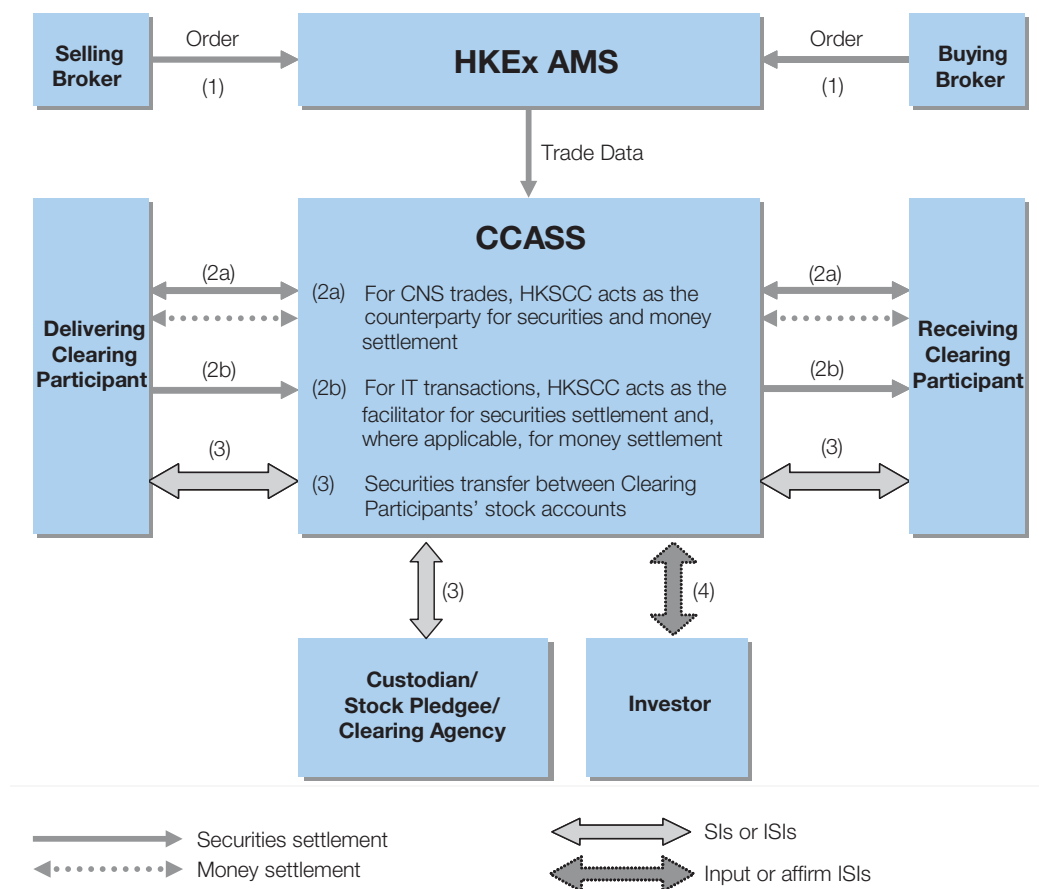
In order to facilitate money settlement in CCASS, Clearing Participants and Investor Participants are required to establish a HKD designated bank account with a designated bank and authorise HKSCC to make electronic debits and credits to this account.

Settlement of Exchange trades and EOTs under CNS System is on a Delivery versus Payment (DVP) basis. HKSCC generates payment instructions for money settlement for all transactions settled by DVP in CCASS, and submits them to the clearing system of the Hong Kong Interbank Clearing Limited (HKICL) for same day processing. The finality of funds will be confirmed by no later than 6:00 pm of the same business day.

The settlement of SIs and ISIs is either on a Free of Payment (FOP), DVP or Real-time Delivery versus Payment (RDP) basis.

The RDP service is offered for the settlement of SIs and ISIs to eliminate credit risk. Under the Real-time Gross Settlement system, the securities are put on-hold in CCASS while payments are being processed by the designated bank of the Clearing Participant or Investor Participant, which sends a payment instruction to HKICL. HKICL sends payment confirmations to HKSCC once the payment has been effected. The shares that have been put on-hold are then delivered to the stock account of the receiving Clearing Participant or Investor Participant.

### Illustration of Settlement Procedures



Notes:

- (1) Orders are executed and confirmed through the Stock Exchange's trading system (AMS/3).
- (2a) The majority of Exchange trades and EOTs are cleared and settled under the CNS system with HKSCC acting as the counterparty to both Clearing Participants. Securities settlement is by electronic book-entry. Money settlement is processed via HKICL.
- (2b) Alternatively, Clearing Participants can settle Exchange trades between themselves on a trade-for-trade basis under the IT system. Securities settlement is by electronic book-entry. Money obligations may be settled through CCASS or outside CCASS according to Clearing Participants' own arrangements.
- (3) Securities transfer may also be effected by SIs entered by both Clearing Participants involved in transactions which may be broker-custodian/clearing agency transactions, stock borrowing and lending transactions, stock pledging or portfolio movements.
- (4) ISIs may be input by a Clearing Participant to transfer shares into or out of an Investor Account. ISIs input by a Clearing Participant on DVP or RDP basis must be affirmed by the counterparty Investor Participant. An Investor Participant or a Clearing Participant may also input ISIs to transfer shares to its counterparty's stock account on a FOP basis, subject to pre-defined criteria. Affirmation by the Investor Participant may not be required.

### (iii) Third Party Clearing (TPC) and Settlement Agent

The introduction of TPC in the securities market gives Stock Exchange Participants the option not to become a General or Direct Clearing Participant in CCASS and outsource clearing functions to a General Clearing Participant that provides clearing services to Exchange Participants.

Under TPC, an Exchange Participant with no clearing participation in CCASS is referred to as a Non-clearing Participant.

A Settlement Agent is a service provider appointed by a Clearing Participant to access CCASS and conduct settlement and other activities in CCASS on behalf of the Clearing Participant without changing the Clearing Participant's principal obligations with HKSCC.

## (F) Risk Management

HKSCC is the central counterparty to Exchange trades and EOTs that are to be settled under CNS. It also operates a central securities depository which manages good titles of shares deposited in the depository. HKSCC faces two major sources of risks in its operation: the risk of undertaking settlement of Exchange trades and EOTs, and the risk of ensuring good titles of shares in the depository.

Risk management measures are employed to mitigate the risks. They include releasing shares to Clearing Participants with long CNS positions after the relevant money obligations are confirmed settled and paying Clearing Participants with short CNS positions after they have delivered shares for settlement; marking to market all open CNS positions on a daily basis; requiring Clearing Participants to provide marks, concentration collateral, margin and additional collateral requirement; requiring Clearing Participants to contribute to the Guarantee Fund ([please refer to Appendix III for details](#)); and not granting immediate credit for material share deposits until completion of registration into the name of HKSCC Nominees Limited.

Please refer to the HKEx website for further details of CCASS risk management measures.

## (G) Clearing and Settlement Fees

HKSCC charges its Clearing Participants on a user-pay principle. Different fees are imposed on different services, such as settling an Exchange trade and enjoying various nominee services.

For Investor Participants, different minimum and maximum fees for individual charge types might be applied.

[Please refer to Appendix VI for updated figures and details.](#)

### 2.3.2 Derivatives Market

#### (A) Clearing Houses – HKCC and SEOCH

Depending on the product nature, derivatives traded on HKEx’s exchanges are either cash-settled or physical-settled.

At present, there are two clearing houses which are wholly-owned subsidiaries of HKEx responsible for the clearing and settlement of derivatives traded on HKEx.

All futures and options (excluding stock options) traded on the Futures Exchange are cleared through HKFE Clearing Corporation Limited (HKCC) while stock options traded on the Stock Exchange are cleared through The SEHK Options Clearing House Limited (SEOCH).

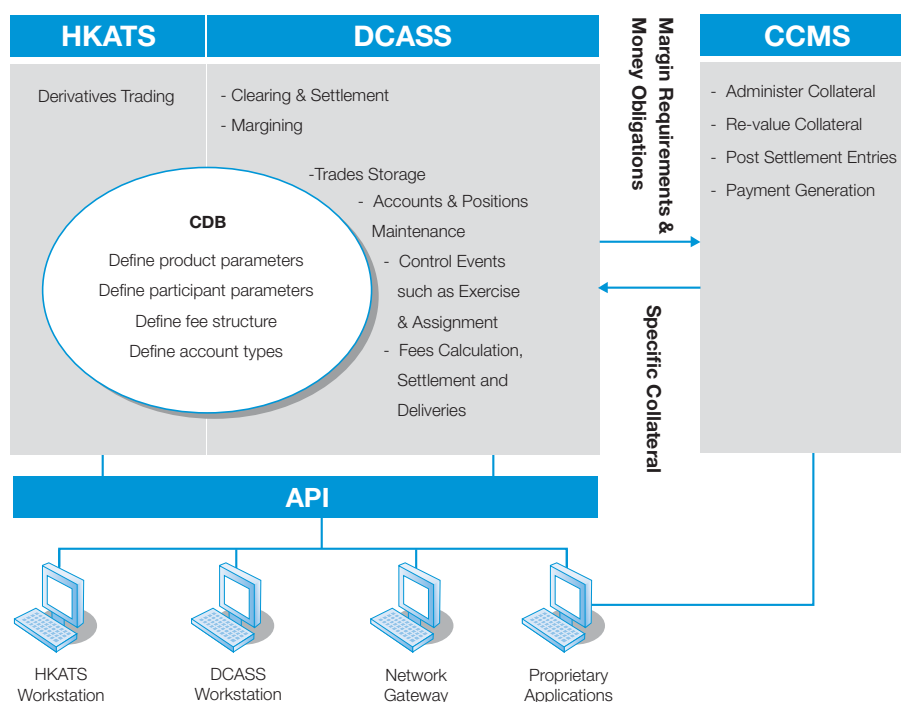
#### (B) Clearing and Settlement System – DCASS

The Derivatives Clearing and Settlement System (DCASS) is the clearing and settlement system for the derivatives products of HKEx.

DCASS is a fully electronic and automated clearing and settlement system capable of supporting different types of derivatives products, including futures and/or options on stock indices, stocks, interest rate, fixed income and commodities. It provides a common clearing platform and operational procedures for all derivatives products. It also provides a seamless interface for derivatives trading and clearing, which reduces cost through common hardware, software and communication links.

DCASS comprises the core derivatives clearing and settlement functionalities, the margining engine and the Common Collateral Management System (CCMS). CCMS supports the settlement function and management of collateral for the securities and derivatives markets. It accommodates a wide range of collateral types.

The following diagram shows a logical overview of DCASS including the seamless interface between HKATS and DCASS for the flow of trades. The common database (CDB), API and operation control functions are shared between HKATS and DCASS.





**(C) Access Method**

Clearing Participants can access DCASS through DCASS Terminals or through an API.

Both access methods are connected through Participants' Network Gateways (NGs) or HKEx's Central Gateways (CGs). The NG is installed in the Participant's premises as a dedicated device, while CG is located in the HKEx's premises.

**(i) DCASS Terminal**

Clearing Participants can access DCASS through the Windows-based DCASS Terminals. The Terminals are connected to the OM gateway and then to the DCASS Host System through SDNet.

**(ii) Application Programming Interface (API)**

The API connectivity provided by DCASS allows Clearing Participants to connect their own back-office system applications and third-party back-office system applications on a host-to-host basis to the DCASS host. This facilitates straight-through processing for improved operational efficiency and reduced risk.

**(D) Clearing and Settlement**

Each Clearing Participant will need to open two bank accounts for House and Client respectively for each applicable settlement currency at one of the settlement/designated banks for settlement purposes. Clearing Participant of HKCC is allowed to open additional bank account for its Market Maker account which is of a client nature.

Each Clearing Participant is required to execute the uniform Direct Debit Mandates to its settlement/designated bank, authorising the bank to release funds to the account of HKCC or SEOCH upon request for the settlement of the daily margin calls, losses arising from variation adjustments, outstanding debit and any other liabilities due to HKCC or SEOCH.

All fund transfers, whether for amounts collected from or payable to a Clearing Participant, are initiated by HKCC or SEOCH issuing a Direct Debit Instruction or Direct Credit Instruction to the settlement/designated bank as applicable.

The final delivery of physical-settled products takes place according to the underlying derived from expired or exercised derivatives contracts, e.g. Clearing Participants of HKCC to effect settlement of Exchange Fund Note directly between them through the real-time Delivery against Payment facility of the Central Moneymarkets Unit ("CMU") of the HKMA and SEOCH to settle stock transactions resulting from the EOTs with SEOCH Participants via HKSCC.

**(E) Risk Management**

In every matched transaction executed through HKATS, HKCC or SEOCH becomes the buyer to every seller and the seller to every buyer, assuming the opposite side of each transaction. HKCC and SEOCH hold each Clearing Participant accountable for every position it carries regardless of whether the position is being carried for its own account or for its clients. To address the counterparty risk arising from clearing and guaranteeing all transactions, HKCC and SEOCH have in place various risk management measures.

**(i) Financial Requirements for Participants**

Applications to become Clearing Participants of HKCC and SEOCH must meet basic capital requirements. Both HKCC and SEOCH require Clearing Participants to maintain minimum liquid capital at the higher of the amount specified by HKCC and SEOCH or under the Securities and Futures (Financial Resources) Rules.

Different categories of Clearing Participants are subject to different capital requirements. [Please refer to Appendix II for the capital requirements of various categories of Clearing Participants of HKCC and SEOCH.](#)

#### (ii) Margin Requirements

HKCC and SEOCH demand payments of clearing house margins from Clearing Participants for all products cleared through their facilities based on the margin levels as determined by the clearing houses from time to time with reference to historical price volatilities, current and anticipated market conditions, and other relevant information. The Exchanges also establish minimum margin levels for Exchange Participants' financially strongest clients.

HKCC and SEOCH adopt Portfolio Risk Margining System of HKEx (PRiME) to compute clearing house requirements while allowing Exchange Participants to use Standard Portfolio Analysis of Risk (SPAN<sup>1</sup>) to calculate margin requirements for their own clients based on the minimum margin levels established by the Exchanges. PRiME is a SPAN compatible margining methodology.

The proprietary positions in the house accounts of the Clearing Participants maintained with the clearing houses are margined on a net basis. The client positions in the omnibus client accounts are margined on a gross basis without any margin offsets between positions belonging to different individual clients. Eligible positions with offset nature of a client are allowed to allocate to the client offset claim account in which positions are maintained on a gross basis but margined on a net basis. Clearing Participants can also record their client positions that belong to the same client in the individual client accounts which are margined on a net basis. Exchange Participants can impose margin requirements that are higher than the minimum requirements set by the Exchanges on their clients according to each client's individual circumstances.

Clearing Participants of HKCC and SEOCH must satisfy any regular and ad-hoc margin calls within the time period stipulated by the clearing houses. Margin requirements must be settled in cash or other collateral as stipulated by the clearing houses.

#### (iii) Position Limits

To ensure the integrity of the market, HKCC and SEOCH impose Capital Based Position Limit (CBPL) to each Clearing Participant based on its latest Liquid Capital to ensure the credit risk exposure of Clearing Participant is commensurate with its financial strength.

Clearing Participant in breach of its CBPL must take remedial action to observe compliance within the timeline set by the clearing houses. Should a Clearing Participant intend to hold positions in excess of its original limits, it must increase its position limits by arranging additional liquid capital with the clearing house where appropriate.

#### (iv) Reserve Funds

The Reserve Funds support the derivatives clearing houses' obligations as counterparty to each contract. In case a Clearing Participant of HKCC or SEOCH defaults, the clearing house may use its Reserve Fund to meet its outstanding liabilities.

The Reserve Funds are financed by the Clearing Participants' contributions and other financial resources. Clearing Participants of HKCC and SEOCH have to deposit initial contributions to the Reserve Funds as required under their corresponding category of Clearing Participantship ([please refer to Appendix II for details](#)) and meet the demand for additional contributions to the Reserve Funds as determined by the clearing houses from time to time in response to market fluctuations and increased risk exposures.

### (F) Clearing and Settlement Fees

HKCC Participants are charged mainly settlement/exercise fees for settling futures/options contracts, while SEOCH Participants are charged mainly exercise fees for exercising options contracts. [Please refer to Appendix VI for more details.](#)

<sup>1</sup> SPAN is a registered trademark of the Chicago Mercantile Exchange.

## 2.4 MARKET DATA

HKEx market data is delivered by HKEx Orion Market Data Platform (OMD), an integrated low-latency platform rolled out in phases in 2013 and 2014. OMD offers market data for all asset classes traded on HKEx markets to Exchange Participants, information vendors and end investors, and provides a suite of market datafeed products with content, market depth and bandwidth requirement tailored to meet the needs of different types of customer.

Any parties who wish to redistribute HKEx market data should sign the Market Data Vendor Licence Agreement with HKEx Information Services Limited (HKEx-IS). Besides, Exchange Participants who wish to source data directly from HKEx for internal use should sign the Market Data End-User Licence Agreement with HKEx-IS.

For Exchange Participants, market data dissemination from AMS Open Gateway (OG) for securities market and HKATS OAPI Network Gateway (NG) for derivatives market will eventually be discontinued. By that time, Exchange Participants may choose to receive market data directly from OMD or indirectly via information vendors.

### 2.4.1 Real-time Market Data

OMD offers a suite of datafeed products for both securities market (OMD-C<sup>1</sup>) and derivatives markets (OMD-D<sup>2</sup>):

#### a. Securities Market Data (OMD-C)

OMD-C delivers real-time data of all securities products traded on SEHK which include equities, REITs, debt securities, exchange-traded funds, unit trusts/mutual funds, equity-linked instruments, derivatives warrants, callable bull/bear contracts, etc.

Datafeed products offered by OMD-C are Securities Standard (SS), Securities Premium (SP) and Securities FullTick (SF) datafeeds:

Datafeed Product	Update Rate	Content
1. Securities Standard (SS)	Conflated. 2,000 messages per second	Market by price (10 levels)
2. Securities Premium (SP)	Streaming. 40,000 messages per second	Market by price (10 levels)
3. Securities FullTick (SF)	Streaming. 60,000 messages per second	Market by order (tick-by-tick full depth)

<sup>1</sup> OMD-C was launched in September 2013. Clients may also connect to the Mainland Market Data Hub in Shanghai for receiving OMD-C SS datafeed.

<sup>2</sup> OMD-D would be launched tentatively in Q3 2014. Prior to OMD-D launch, HKEx derivatives data is delivered via PRS and PRS Plus datafeeds which offer price depth of 5 levels.

## b. Derivatives Market Data (OMD-D)

OMD-D delivers real-time data of all derivatives products traded on HKFE and stock options market of SEHK, which include stock futures and options, equity index futures and options, interest rate and fixed income products, commodities products, etc.

Datafeed products offered by OMD-D are Derivatives Standard (DS), Derivatives Premium (DP) and Derivatives FullTick (DF) datafeeds:

Datafeed Product	Update Rate	Content
1. Derivatives Standard (DS)	Conflated. 80,000 messages per second	Market by price (10 levels)
2. Derivatives Premium (DP)	Streaming. 130,000 messages per second	Market by price (10 levels + 11th aggregated book level)
3. Derivatives FullTick (DF)	Streaming. 130,000 messages per second	Market by order (tick-by-tick full depth)

### 2.4.2 Historical Market Data

HKEx offers historical data products for on-line subscription via HKEx website. The historical data can be used by Exchange Participants and other end investors for reference and for technical and quantitative research analysis, forecasting and other purposes:

**Historical Full Book** offers complete order book information for every order and trade of HKEx's securities and derivatives market<sup>1</sup>.

**Historical Trading Data** offers trade file, trade tickers file, over 10 years of end of-day data and intraday historical tick data for securities and derivatives markets, day-end closing data, month-end closing data, short-selling records, bid/ask records and trade and order files.

**Stock Static Data** provides distinctive static data for equity securities, warrants, debt securities, unit trusts and structured products.

**Stock Master File** provides the stock information for next trading day and also the updated number of outstanding shares.

**Corporate Documents** provides an archive of corporate documents published by listed issuers in Hong Kong with data going back to as early as 1990.

**Entitlement Records** provides a history of listed companies' announcements regarding shareholders' entitlements going back to as early as 1970. It also covers share splits and share consolidation histories.

<sup>1</sup> Historical Full Book for derivatives market would be available upon launch of OMD-D

## 2.5 HKEX HOSTING SERVICES

### 2.5.1 Introduction

HKEx offers Hosting Services, including low-latency co-location with HKEx markets, at its state-of-the-art data centre at Hong Kong's Tseung Kwan O Industrial Estate. The data centre can support up to 1,200 racks at an average power allocation of 6kVA per rack.

All Exchange Participants are welcome to subscribe and the participation of Hosting Services is completely voluntary.

### 2.5.2 Key Features

The Hosting Services offer an array of outstanding capability including:

- Purpose-built data centre provides the high standard of security, power and cooling. HKEx Hosting Data Centre is designed to meet Tier-4 data centre specification and is LEED Gold certified.
- Low latency access to HKEx Securities Trading and Derivatives Market
- Low latency direct market data feeds
- Interactive ecosystem environment supporting electronic trading
- Broad telecommunications carrier access

### 2.5.3 Hosting Services Ecosystem

An open accessibility concept enables and accelerates the development of an ecosystem of Exchange Participants, buy-side trading firms, information vendors, technology vendors, and network service providers, that creates a high value financial “marketplace” supporting electronic trading.



#### 2.5.4 HKEx Hosting Connectivity Services

Superior connectivity among ecosystem members is made possible by a series of high speed local networks:

- **HKEx Service Network (HSN)** provides eligible users consolidated fibre connection to HKEx market data, Securities Trading and Derivatives Market systems
- **Ecosystem Network (ESN)** enables users to access services on offer by other ecosystem members
- **Cross Connects (XCN)** put ecosystem members in touch through direct copper or fibre connection
- **Hosting Services Testing Network (HSTN)** provides consolidated copper connection to testing environments of Orion Market Data, Orion Central Gateway and Genium.

#### 2.5.5 Pricing and Lead-time

The prevailing pricing of Hosting Services is published at [www.hkex.com.hk/eng/prod/hosting/pricing.htm](http://www.hkex.com.hk/eng/prod/hosting/pricing.htm). The standard lead-time for provisioning is 14 to 28 days upon order confirmation.

#### 2.5.6 Enquiry

For more information, please browse [www.hkex.com.hk/hostingservices](http://www.hkex.com.hk/hostingservices) or contact Hosting Services Business Development team at email: [hostingservices@hkex.com.hk](mailto:hostingservices@hkex.com.hk) or telephone: +852 2211 6447

## Glossary

<b>AMS</b>	<b>Automatic Order Matching and Execution System</b> , the electronic trading platform for the securities market.
<b>AMS/3</b>	<b>Third Generation Automatic Order Matching and Execution System</b> , the third generation of AMS which is based on a multiple market trading model and has multiple market access channels.
<b>API</b>	<b>Application Programming Interface</b> , a customer interface enabling the trading front-end to be connected to the HKATS host in the derivatives market, or an interface between the settlement back-office system and the DCASS host.
<b>BSS</b>	<b>Broker Supplied System</b> , a trading facility connected to the Open Gateway or Orion Central Gateway in the securities market. It is either a broker's in-house developed system or a third-party software package developed by commercial vendors.
<b>CCASS</b>	<b>Central Clearing and Settlement System</b> , a computerised book-entry system that clears and settles transactions of securities listed and/or traded on the Stock Exchange.
<b>CCMS</b>	<b>Common Collateral Management System</b> , a system that supports management of collateral in the securities and derivatives markets.
<b>CDB</b>	<b>Common Database</b> , a database that defines products and participant parameters, fee structures and account types. It is shared between HKATS and DCASS.
<b>CNS</b>	<b>Continuous Net Settlement</b> , a system under which HKSCC guarantees settlement for Exchange trades. Trades are settled on a continuous net basis where an overdue stock position of a Clearing Participant on one day is carried forward to the next settlement day and offset against any opposite net stock position in the same securities due for settlement on that day.
<b>COP</b>	<b>Calculated Opening Price</b> , the price calculated during the pre-market opening period. It serves as the market opening price for certain derivatives products.
<b>CQ</b>	<b>Continuous Quote</b> , the provision of continuous quotes for some derivatives products by market makers.
<b>DCASS</b>	<b>Derivatives Clearing and Settlement System</b> , the clearing and settlement system for derivatives products.
<b>DI</b>	<b>Delivery Instruction</b> , an instruction given by a Clearing Participant to deliver securities for settlement in CCASS.
<b>DVP</b>	<b>Delivery versus Payment</b> , a securities settlement arrangement in which the delivery of securities takes place as soon as payment is made for them and confirmed final and irrevocable.

<b>FOP</b>	<b>Free of Payment</b> , a basis under which a Clearing Participant or an Investor Participant transfers securities to its counterparty's stock account and make their money settlement outside CCASS without involving HKSCC.
<b>HKATS</b>	<b>Hong Kong Futures Automated Trading System</b> , the electronic trading platform for futures and options in the derivatives market.
<b>HKCC</b>	<b>HKFE Clearing Corporation Limited</b> , the clearing house through which all futures and options, excluding stock options, traded on the Futures Exchange are cleared and settled.
<b>HKEx</b>	<b>Hong Kong Exchanges and Clearing Limited</b> , the holding company of the Stock Exchange, the Futures Exchange and the respective clearing houses. It is the operator and frontline regulator of the central securities and derivatives marketplace in Hong Kong.
<b>HKICL</b>	<b>Hong Kong Interbank Clearing Limited</b> , a private company jointly owned by the Hong Kong Monetary Authority (HKMA) and the Hong Kong Association of Banks which provides interbank clearing and settlement services to all banks in Hong Kong and operates a central clearing and settlement system for public and private debt securities on behalf of the HKMA.
<b>HKSCC</b>	<b>Hong Kong Securities Clearing Company Limited</b> , the clearing house through which the transactions of eligible securities listed and/or traded on the Stock Exchange are cleared and settled.
<b>IEP</b>	<b>Indicative Equilibrium Price</b> , the price calculated during the order matching period. It serves as the market opening price for securities products.
<b>ISI</b>	<b>Investor Settlement Instruction</b> , an instruction used to transfer securities in CCASS between a Clearing Participant and an Investor Participant.
<b>IT</b>	<b>Isolated Trade</b> , a settlement process on a trade-for-trade basis where HKSCC acts as a facilitator instead of the central counterparty to both the buying and selling Clearing Participants. HKSCC will not guarantee settlement of these trades.
<b>MWS</b>	<b>Multi-workstation System</b> , a Windows-based trading facility developed by the Stock Exchange for connection to the Open Gateway in the securities market.
<b>OCG</b>	<b>Orion Central Gateway</b> , brokers are provided with access to the Stock Exchange's trading system which enables them to transmit and receive orders/ transactions electronically without any onsite gateway hardware
<b>OG</b>	<b>Open Gateway</b> , a gateway through which brokers are provided with access to the Stock Exchange's trading system which enables them to transmit and receive orders/transactions and data electronically.
<b>OMD</b>	<b>HKEx Orion Market Data Platform</b> , an integrated low-latency platform to deliver market data for all asset classes traded on HKEX markets.



<b>PG</b>	<b>Participant Gateway</b> , a gateway which is a technical device installed at the Clearing Participants' premises to provide an access point through which their back-office systems can communicate with CCASS on a message basis.
<b>QR</b>	<b>Quote Request</b> , a request made by an Exchange Participant through HKATS, asking a market maker to respond by providing bid/ask quotes for selected derivatives products.
<b>RDP</b>	<b>Real-time Delivery versus Payment</b> , a service offered for the settlement of SIs and ISIs to eliminate credit risk. Under this service, the securities are put on-hold in CCASS and will not be delivered to the stock account of the receiving Clearing Participant or Investor Participant until payment confirmations are received by HKSCC.
<b>SEOCH</b>	<b>The SEHK Options Clearing House Limited</b> , the clearing house through which stock options traded on the Stock Exchange are cleared and settled.
<b>SFC</b>	<b>Securities and Futures Commission</b> , an independent non-governmental statutory body outside the civil service, responsible for regulating the securities and futures markets in Hong Kong.
<b>SI</b>	<b>Settlement Instruction</b> , an instruction between any two Clearing Participants of HKSCC.
<b>SMM</b>	<b>Securities Market Maker</b> , a market maker in selected securities market products.
<b>T</b>	<b>Trade day</b> , the day on which trading is conducted.
<b>TPC</b>	<b>Third Party Clearing</b> , an arrangement where a Stock Exchange Participant elects not to become a Clearing Participant in CCASS and have its trades cleared and settled by a General Clearing Participant.

