Section A – Notes to the Application

a. **Orion Central Gateway – Securities Market (OCG-C) Session:** OCG-C in the application form and explanatory note has the same meaning of Central Gateway (CG) as defined in the Rules of the Exchange. CG means a hardware and software component operated by the Exchange, which provides the communications interface between the HKEX Orion Trading Platform – Securities Market (OTP-C) and Exchange Participants' (EPs') Broker Supplied Systems (BSS). EPs may connect their Broker Supplied System (BSS) to CG via subscription to one or more CG sessions. The CG session is for trading (i.e. for orders/ trades submission) only and do not carry securities market data. EPs may subscribe to market data directly from HKEX Orion Market Data Platform – Securities (OMD-C) or indirectly via information vendors. For each CG session an EP subscribes, it may apply for a Backup CG session.

b. **Message Protocol:** A CG session can support either Binary or FIX message protocol. Selection must be specified before the connection. EP should refer to the interface specifications of CG for details of these two message protocols at http://www.hkex.com.hk/eng/market/sec_tradinfra/ocg/orioncg.htm.

c. **IP Address Scheme for CG/BSS:** It will be provided separately in the Connectivity Guide HKEX Orion Central Gateway – Securities Market (OCG-C) . EPs should assign the IP addresses within their own usable IP address range to the CG session. IP addresses which have already been assigned by other EPs will not be allowed to be used.

d. **Testing Requirement of a CG Session under application:** A full cycle of BSS conformance test shall include offline simulator test, end-to-end test and rollout test. BSS testing package can be downloaded via Electronic Communication Platform (ECP). Potential EP, who has submitted OCG-C Session Application Form, may contact HKEX – Participant General Enquiry Hotline at 2840-3626 for collection of the BSS testing package. After submission of positive simulator test and end-to-end test results, HKEX will schedule EP to conduct rollout test to verify the connection among BSS, the CG session and OTP-C Host via production circuits.

Below is the different types of conformance test required for the application for a new CG session:

	BSS Version	Network to be connected	Type of Conformance Test required to conduct		
			Offline Simulator Test	End-to-End Test	Rollout Test
Application for a new CG session	New BSS	New SDNet/2 or HSN	Yes	Yes	Yes
	New BSS	Existing SDNet/2 or HSN	Yes	Yes	Yes (*"Not Required" if EP agrees with limited support/ troubleshoot from HKEX during weekdays*)[NB1]
	Existing BSS	New SDNet/2 or HSN	No	No	Yes
	Existing BSS	Existing SDNet/2 or HSN	No	No	Yes (*"Not Required" if EP agrees with limited support/ troubleshoot from HKEX during weekdays*)[NB1]

[NB1] Rollout test is applicable for a new CG session application. If the new CG session will connect to existing SDNet/2 or HSN and EP wishes not to participate in the Rollout Test, EP is required to complete and return the "Application for Exemption from Conducting Rollout Test".

(Updated in January 2023)

If exemption is granted, the EP applied for the new CG session will undertake all possible technical and/or operational risks that may have been resulted from non-participation in Rollout Test to verify connection of the new CG session. The EP also warrants that it will not request HKEX to carry out any troubleshooting or changes in production environment for, and not limited to, server hardware, system software, network setting or network equipment (e.g. circuits, router, switch & firewall), from Monday to Friday in case of failure in connection of the new CG session during initial rollout.

e. **Rollout the New CG Session:** EP may rollout the new CG session after successful completion of required test(s), submission of offline simulator test confirmation reply, end-to-end test confirmation reply, end-to-end test result via test portal website, BSS Declaration and rollout notification to HKEX by giving not less than 1 week in advance notice.

f. **Relocation of Existing Circuits Connected to BSS:** EP has to inform HKEX by submitting the "Requisition Form for Change of BSS Connection Information for Orion Central Gateway – Securities Market (OCG-C) / Drop-Copy Session" at least 1 week advance notice prior to the effective date and submission of positive Rollout Test feedback form. EP is required to participate in the Rollout Test. If EP wishes not to participate in the Rollout test, it is required to complete and return the "Application for Exemption from Conducting Rollout Test". If the exemption is granted, the EP undertakes all possible technical and/or operational risks that may have been resulted from non-participation in Rollout Test to verify connection of the BSS after relocation. The EP also warrants that it will not request HKEX to carry out any troubleshooting or changes in production environment for, and not limited to, server hardware, system software, network setting or network equipment (e.g. circuits, router, switch & firewall), from Monday to Friday in case of failure in connection of the BSS after the relocation.

g. **Trading Right/ Standard CG Throttle Rate Assignment:** One standard CG throttle rate allows for the throughput of two messages per second. Each CG session can be assigned up to 250 standard CG throttle rates (including throttle rates by trading right assignment, throttle rates arising from trading right entitlements, additional throttle rates acquired from the Exchange and throttle rates subscribed under Throttle-on-Demand Scheme and/or Monthly Throttle Subscription Scheme). CG throttle rates are for trading through OTP-C which cannot be transferred to China Connect Central Gateway (CCCG) for trading via China Stock Connect System (CSC), and vice versa.

h. **Message Rate Throttling:** All in-bound messages such as order submission, trade report, etc. are collectively referred to as messages. Messages exceeding the entitled message rate will be rejected and BSS should be able to re-submit the message(s) when necessary. HKEX reserves the right to disconnect a CG session, without any further exchange of messages, if that CG session is found to be violating the entitled message rate excessively.

i. **Broker Number Assignment:** EP is required to assign at least one broker number to each CG session. EP may request for additional, new broker number(s) for assignment to a CG session but the quantity should not be more than the standard throttle rate(s) assigned. Each EP cannot have more than 80 broker numbers in total for all trading devices connected to OTP-C and CSC. As such, maximum 80 broker numbers can be assigned to one CG session. One broker number cannot be assigned to multiple CG sessions or facilities for trading purpose. HKEX reserves the right to accept or reject the request of additional new broker number without further explanation.

j. **Circuit and Network Switch Installation:** Dual-circuit connection is required for connecting to each CG session. EP can either install dedicated dual circuits for CG session(s), or share the same dual circuits of CG session(s) with other HKEX applications, depending on the type of network subscription. Please refer to the table below for details. EP should ensure sufficient bandwidth to meet the needs of different HKEX applications, and consider system resiliency.

Type of network subscription	Other HKEX applications allowed to **share same circuits with CG session(s)**					
	Drop-Copy	OMD-C	CCCG	CC Drop-Copy	OMD-CC	Kill Switch
(i) SDNet/2 circuit	✓	✓	✓	✓	✓	✓
(ii) SDNet/2 ASP connection	✓	✓	✓	✓	✓	✓
(iii) HSN	✓	✓	✓	✓	✓	✓
(iv) HSN Virtual Port Service	✓	✓	✓	✓	✓	✓

✓   *allow to share same circuits with CG session(s)*
X   *not allow to share same circuits with CG session(s)*

Type of network subscription:

(i) via SDNet/2 circuits provided by Accredited Vendor. The contact information of Accredited Vendors is posted at HKEX website

https://www.hkex.com.hk/Services/Connectivity/SDNet-2/Securities-Trading-(OTPC-Shanghai-and-Shenzhen-Connect)?sc_lang=en

(ii) via SDNet/2 Application Service Provider (ASP) connection provided by ASP. ASP subscribes SDNet/2 circuits from Accredited Vendor, provides shared SDNet/2 circuit connectivity to multiple EPs, and manages network connectivity on behalf of its service subscribers. However, there is a cap on the number of EPs and turnover market share on each SDNet/2 ASP connection to minimize concentration risk. EP may check with the ASP for details before subscribing to the services. In addition, EP should check with the ASP circuit number, IP addresses and installation date in order to fill in the form of Application for Central Gateway.

For more information on ASP connections, please refer to "Frequently Asked Questions" of SDNet/2 on HKEX website
http://www.hkex.com.hk/Global/Exchange/FAQ/Securities-Market/Trading/SDNET-2?sc_lang=en.

(iii) via HKEX Service Network (HSN) provided by HKEX Hosting Services. The contact information of HKEX Hosting Services is posted at HKEX website http://www.hkex.com.hk/services/connectivity/hosting-services?sc_lang=en.

(iv) via HSN Virtual Port Service provided by HKEX Hosting Services Approved ASP. Multiple EPs' trading facilities can be aggregated on the same HSN connection. However, there is a cap on number of EPs and turnover market share on each aggregated HSN connection to minimize concentration risk. EP may check with the HKEX Hosting Services Approved ASP before subscribing to the services. In addition, EP should check with the HKEX Hosting Services Approved ASP circuit number, IP addresses and installation date in order to fill in the form of Application for Central Gateway.

EP is responsible for arranging with network provider directly for circuits and network switch(es) installation, quotation and billing arrangement. EP should ensure the readiness of circuits and network switch(es) prior to connecting to CG session. For further details on network configuration, EP should refer to the Connectivity Guide HKEX Orion Central Gateway – Securities Market (OCG-C).

For market data related arrangement, please contact HKEX-IS by sending email to marketdata@hkex.com.hk.

k. Bandwidth Requirement: The minimum bandwidth requirement for CG session is 40 Kbps/throttle rate.

l. Monthly Fee for CG Session/ Backup CG Session: The monthly fee will be charged at amounts depending on the number of standard CG throttle rates assigned (including trading right, standard CG throttle rate arising from trading right, standard CG throttle rate acquired from the Exchange, any assigned under the Monthly Throttle Subscription Scheme but excluding any assigned under the Throttle-on-Demand Scheme) to the CG session/ Backup CG session (i.e. low, standard and high capacity) rolled out as at the first trading day of each month. The fee is calculated on a full calendar month basis. A new CG session/ Backup CG session rolled out on the 2nd trading day or afterwards during the month will be charged of the monthly fee in the following month. There will be no refund of CG session/ Backup CG session fee for the month if the termination is effective during the month. Please refer to Section B – "Fees and Charges" for details of charges.

m. Monthly Fee for Trading Right/ Standard CG Throttle Rate arising from Trading Right entitlements or Acquired from the Exchange Assigned to a CG Session: The monthly fee will be charged base on the number of trading right/ standard CG throttle rate assigned to the CG session as at the first trading day of each month. The fee is calculated on a full calendar month basis. There will be no adjustment on the movement of trading right/ standard CG throttle rate during the month. Please refer to Section B – "Fees and Charges" for details of charges.

n. Monthly Fee for Standard CG Throttle Rate under Monthly Throttle Subscription Scheme Assigned to a CG Session: The subscription of Monthly Throttle and assignment to CG session will be charged on a full calendar month basis. Any Monthly Throttle rate which is being subscribed for less than a full calendar

month will nevertheless be charged for a full calendar month. Please refer to Section B – "Fees and Charges" for details of charges.

o. **Daily Fee for Standard CG Throttle Rate under Throttle-on-Demand Scheme Assigned to a CG Session:** The application of standard CG throttle rate under Throttle-on-Demand Scheme is on daily basis. It will be charged base on the number of standard CG throttle rate applied times daily rate at HK$200 per throttle.   Please refer to Section B – "Fees and Charges" for details of charges.

p. **Backup Arrangement for CG Session:** In order to reduce disruption to the EP's trading operations due to failure of its CG/BSS, for each CG session, EP may apply for a backup CG session for connection from a backup CG/BSS in its office or in its business continuity centre by providing a maximum 3 additional IP addresses to HKEX for the same Comp ID.   EP can connect to its backup CG session via the backup CG/BSS and continue trading without prior notification to HKEX.   EP should take note that at any time, only one of the 4 BSS IP addresses (i.e. 1 primary and 3 backup IPs) is allowed to connect by using the assigned Comp ID.

q. **HKEX Orion Market Data Platform – Securities Market (OMD-C) Connection:** EP may choose to receive market data directly from OMD-C or indirectly via information vendors for internal use.   If EP chooses the former, EP needs to enter into the Market Data End-User Licence Agreement with HKEX Information Services Limited (HKEX-IS).   EP can choose Securities Standard (SS), Securities Premium (SP) or Securities FullTick (SF) connection.   Under the Market Data End-User Licence Agreement, each EP using OCG-C (previously known as OCG) will be given two OMD-C SS connections free of charge on End-User Licence Fees and Connection Fees.   If EP chooses OMD-C SP and/ or OMD-C SF or does not use OCG-C, no fee exemption will be given.   For redistribution of OMD-C market data, EP is required to obtain a Market Data Vendor Licence Agreement and subject to the corresponding fees of all the three OMD-C datafeed products.   For details of OMD-C service and charges, you may refer to http://www.hkex.com.hk/services/market-data-services/infrastructure/hkex-orion-market-data-platform-securities-market-omd-c?sc_lang=en or contact HKEX-IS by sending email to marketdata@hkex.com.hk.

Separately, EP who provides and/ or subscribes securities market data display terminals from other HKEX-IS licensed information vendors for its own internal usage purposes are eligible to claim for 20 free securities market data display units in total for each month.   For details, please refer to the Declaration Form as posted in HKEX website.

Section B – Fees and Charges

a. One-Time Charge

Fee Type	Amount (HK$)
Administration fee for each CG session or backup CG session	$20,000
Standard CG throttle	$50,000 each

b. Monthly Fee

Chargeable Item	Amount (HK$)
CG Session Fee or Backup CG Session Fee depending on the number of standard CG throttle rates assigned (including any assigned under the Monthly Throttle Subscription Scheme but excluding any assigned under the Throttle-on-Demand Scheme): Low Capacity Up to 20 standard CG throttle rates assigned	$2,000 for the 1st session for trading or its backup of each EP; $7,500 for each other session
Standard Capacity 21 – 60 standard CG throttle rates assigned	$10,000 for each session

High Capacity
     61 – 100 standard CG throttle rates assigned
     101 – 150 standard CG throttle rates assigned
     151 – 200 standard CG throttle rates assigned
     201 – 250 standard CG throttle rates assigned
	$15,000 for each session
	 $20,000 for each session
	 $25,000 for each session
	 $30,000 for each session

Each Stock Exchange Trading Right assigned to a CG session	$480
Each standard CG Throttle Rate arising from Stock Exchange Trading Right entitlement and assigned to a CG session	$480
Each standard CG Throttle Rate acquired from the Exchange and assigned to a CG session	$960
Each standard CG Throttle Rate under Monthly Throttle Subscription Scheme and assigned to a CG session	$2,000

c. Daily Fee

Chargeable Item	Amount (HK$)
Each standard CG Throttle Rate under Throttle-on-Demand Scheme and assigned to a CG session	$200