

Regular Data Center Failover Rehearsal for Market Data Systems on 27 August 2022

Systems: Orion Market Data – Securities (OMD-C) and Mainland Market Data Hub (MMDH)

Time (HKT)	Activity	Action – for participating OMD-C and MMDH Clients
Date: 27 August 2022 (Saturday)		
Data Center Failover Rehearsal		
10:30	OMD-C and MMDH are ready for connection in Primary Data Center	<ul style="list-style-type: none"> OMD-C and MMDH Clients to connect to OMD-C / MMDH and receive OMD-C / MMDH messages in Primary Data Center.
11:30 – 12:00	Pre-Opening Session	
12:00 – 12:30	Continuous Trading Session	

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Time (HKT)	Activity	Action – for participating OMD-C and MMDH Clients
Anytime between 12:15 and 12:30	<p>Simulation of Primary Data Center service outage and failover to Secondary Data Center for Market Data and Trading System:</p> <ul style="list-style-type: none"> - Failover OMD-C from Primary Data Center to Secondary Data Center - Shutdown MMDH until OMD-C in the Secondary Data Center is ready <p><i>[HKEX-IS will simulate the notification of incident to OMD-C & MMDH Clients and advise Clients to stay alert to HKEX's announcement on the trading arrangement and service resumption. Emails for rehearsal will all be tagged with "Regular Data Center Failover on 27 August 2022" in the email subject.]</i></p>	<ul style="list-style-type: none"> • OMD-C Clients to execute their contingency arrangement upon the detection of OMD-C Data Center failover by the receipt of DR Status "1" (DR in progress) in DR Signal (105) message. • MMDH Clients will be disconnected temporarily. Clients please execute their contingency arrangement, <i>if needed.</i>
Around 13:30	<p>OMD-C located on Secondary Data Center is ready for connection</p> <p><i>[HKEX-IS will notify OMD-C Clients on the readiness of OMD-C on Secondary Data Center and the trading arrangement]</i></p> <p>MMDH will be restarted for connecting to OMD-C on Secondary Data Center</p> <p><i>[HKEX-IS will notify MMDH Clients for service resumption and advise clients to reconnect to MMDH servers and the trading arrangement]</i></p>	<ul style="list-style-type: none"> • OMD-C Clients to connect to the OMD-C on Secondary Data Center upon receiving DR Status "2" (DR completed) in DR Signal (105) message. • MMDH Clients to re-establish connection to the MMDH Primary Data Center upon notification.
13:45	Order Cancel Session	

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Time (HKT)	Activity	Action – for participating OMD-C and MMDH Clients
14:00 – 15:00	Continuous Trading Session	<ul style="list-style-type: none"> • OMD-C and MMDH Clients to check if OMD-C / MMDH messages can be received and processed normally after data center failover.
15:00 – 15:10	Closing Auction Session	
Upon completion of Matching ~15:10	Day Close	
15:30	End of Rehearsal <ul style="list-style-type: none"> - OMD-C will switch back to Primary Data Center. - MMDH will be shut down to reconnect to the OMD-C on Primary Data Center. MMDH Clients will be disconnected. 	<ul style="list-style-type: none"> • OMD-C and MMDH Clients to take appropriate actions to clean all test messages disseminated during the rehearsal period.
Result Confirmation		
Before 17:00	OMD-C and MMDH Clients please confirm your rehearsal result by completing the online Rehearsal Result Confirmation Form	
Connectivity Test for Reconnecting to the Primary Data Center (Optional)		
22:30 – 00:00	OMD-C and MMDH are ready for connection in Primary Data Center	<ul style="list-style-type: none"> • OMD-C and MMDH Clients to connect to OMD-C / MMDH in Primary Data Center.
00:00	OMD-C shutdown	<ul style="list-style-type: none"> • OMD-C and MMDH Clients to take appropriate actions to clean all messages received from OMD-C / MMDH during the rehearsal period.

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

System: Orion Market Data – Derivatives (OMD-D)

Time (HKT)	Activity	Action – for participating OMD-D Clients
Date: 27 August 2022 (Saturday)		
Data Center Failover Rehearsal		
11:30	OMD-D is ready for connection in Primary Data Center	<ul style="list-style-type: none"> OMD-D Clients to connect to OMD-D and receiving OMD-D messages in Primary Data Center
11:45 – 12:00	Market Pre-Open	
12:00 – 12:30	Market Open	
Anytime between 12:15 and 12:30	Simulation of Primary Data Center service outage and failover to Secondary Data Center for Market Data and Trading System <ul style="list-style-type: none"> Failover OMD-D from Primary Data Center to Secondary Data Center <i>[HKEX-IS will simulate the notification of incident to OMD-D Clients and advise Clients to stay alert to HKEX's announcement on the trading arrangement and service resumption. Emails for rehearsal will all be tagged with "Regular Data Center Failover on 27 August 2022" in the email subject.]</i>	<ul style="list-style-type: none"> OMD-D Clients to execute their contingency arrangement upon the detection of OMD-D Data Center failover by the receipt of DR Status "1" (DR in progress) in DR Signal (105) message.

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Time (HKT)	Activity	Action – for participating OMD-D Clients
Around 13:10	OMD-D located on the Secondary Data Center is ready for connection <i>[HKEX-IS will notify OMD-D Clients on the readiness of OMD-D on Secondary Data Center and the trading arrangement]</i>	<ul style="list-style-type: none"> OMD-D Clients to connect to the OMD-D on Secondary Data Center upon receiving DR Status “2” (DR completed) in DR Signal (105) message.
13:25 – 13:45	Market Pre-Open	<ul style="list-style-type: none"> OMD-D Clients to check if OMD-D messages can be received and processed normally after data center failover.
13:45 – 15:15	Market Open	
15:15	Market Close	
15:30 – 16:00	After Hour Trading Session (“AHT”) Market Open (T+1 session)	
16:00	AHT Close (T+1 session)	
16:15	End of Rehearsal - OMD-D will switch back to Primary Data Center	<ul style="list-style-type: none"> OMD-D Clients to take appropriate actions to clean all test messages disseminated during the rehearsal period.
Result Confirmation		
Before 17:00	OMD-D Clients please confirm your rehearsal result by completing the online Rehearsal Result Confirmation Form	
Date: 28 August 2022 (Sunday)		
Connectivity Test for Reconnecting to the Primary Data Center (Optional)		
00:00 – 03:00	OMD-D ready for connection in Primary Data Center	<ul style="list-style-type: none"> OMD-D Clients to connect to OMD-D in Primary Data Center.

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Time (HKT)	Activity	Action – for participating OMD-D Clients
03:00	OMD-D shutdown	<ul style="list-style-type: none">• OMD-D Clients to take appropriate actions to clean all messages received from OMD-D during the rehearsal period.

System: Orion Market Data – China Connect (OMD-CC)

Time (HKT)	Activity	Action – for participating OMD-CC Clients
Date: 27 August 2022 (Saturday)		
Data Center Failover Rehearsal		
10:30	OMD-CC is ready for connection in Primary Data Center	<ul style="list-style-type: none"> • OMD-CC Clients to connect to OMD-CC and receive OMD-CC messages in Primary Data Center
11:00 – 11:30	Continuous Auction Session	
11:30	Mid-day Close	
Anytime between 12:15 and 12:30	Simulation of Primary Data Center service outage and failover to Secondary Data Center for Market Data system: <ul style="list-style-type: none"> - Failover OMD-CC failover to Secondary Data Center <i>[HKEX-IS will simulate the notification of incident to OMD-CC Clients and advise Clients to stay alert to HKEX's announcement on the service resumption. Emails for rehearsal will all be tagged with "Regular Data Center Failover on 27 August 2022" in the email subject.]</i>	<ul style="list-style-type: none"> • OMD-CC Clients to execute their contingency arrangement upon the detection of OMD-CC Data Center failover by the receipt of DR Status "1" (DR in progress) in DR Signal (105) message.
Around 13:30	OMD-CC located on Secondary Data Center is ready for connection <i>[HKEX-IS will notify OMD-CC Clients on the readiness of OMD-CC on Secondary Data Center]</i>	<ul style="list-style-type: none"> • OMD-CC Clients to connect to the OMD-CC on Secondary Data Center upon the receipt of DR Status "2" (DR completed) in DR Signal (105) message.

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Time (HKT)	Activity	Action – for participating OMD-CC Clients
14:00 – 15:00	Continuous Auction Session	<ul style="list-style-type: none"> • OMD-CC Clients to check if OMD-CC messages can be received and processed normally after failover to Secondary Data Center.
15:00 – 15:05	Exchange Intervention	
15:05	Day Close	
15:30	End of Rehearsal - OMD-CC will switch back to Primary Data Center	<ul style="list-style-type: none"> • OMD-CC Clients to take appropriate actions to clean all test messages disseminated during the rehearsal period.
Result Confirmation		
Before 17:00	Please confirm your test result by completing the online Rehearsal Result Confirmation Form	
Connectivity Test for Reconnecting to the Primary Data Center (Optional)		
22:30 – 00:00	OMD-CC is ready for connection in Primary Data Center	<ul style="list-style-type: none"> • OMD-CC Clients to connect to OMD-CC in Primary Data Center.
00:00	OMD-CC shutdown	<ul style="list-style-type: none"> • OMD-CC Clients to take appropriate actions to clean all messages disseminated from OMD-CC during the testing period

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

System: Issuer Information feed Service (IIS)

Time (HKT)	Activity	Action – for participating IIS Clients
Date: 27 August 2022 (Saturday)		
Data Center Failover Rehearsal		
10:30	IIS is ready for logon in Primary Data Center	<ul style="list-style-type: none"> IIS Clients to connect to IIS in Primary Data Center and receive testing new news and attachments.
10:30 – 12:30	IIS disseminates testing news on Primary Data Center	
Anytime between 12:15 and 12:30	Simulation of Primary Data Center service outage and failover to Secondary Center Data: <ul style="list-style-type: none"> - Failover IIS failover from Primary Data Center to Secondary Data Center <i>[HKEX-IS will simulate the notification of incident to IIS Clients and advise Clients to stay alert to HKEX's announcement on the trading arrangement and service resumption. Emails for rehearsal will all be tagged with "Regular Data Center Failover on 27 August 2022" in the email subject.]</i>	<ul style="list-style-type: none"> IIS Clients to execute their contingency arrangement upon HKEX-IS notification.
Around 13:00	IIS located on Secondary Data Center is ready for connection <i>[HKEX-IS will notify IIS clients on the readiness of IIS on Secondary Data Center]</i>	<ul style="list-style-type: none"> IIS Clients to connect to the IIS on Secondary Data Center.
13:00 – 14:30	IIS disseminates testing news on Secondary Data Center	<ul style="list-style-type: none"> IIS Clients to check if testing news and attachments can be received and processed normally after failover to Secondary data center.

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Time (HKT)	Activity	Action – for participating IIS Clients
15:30	End of Rehearsal - IIS will switch back to Primary Data Center	<ul style="list-style-type: none"> IIS Clients to take appropriate actions to clean all test messages disseminated during the rehearsal period.
Result Confirmation		
Before 17:00	IIS Clients please confirm your test result by completing the online Rehearsal Result Confirmation Form	
Connectivity Test for Reconnecting to the Primary Data Center (Optional)		
22:30 – 00:00	IIS is ready for logon in Primary Data Center	<ul style="list-style-type: none"> IIS Clients to connect to IIS in Primary Data Center.
00:00	IIS shutdown	<ul style="list-style-type: none"> IIS Clients to take appropriate actions to clean all test messages disseminated during the testing period.

HKEX INFORMATION SERVICES LIMITED

(A wholly-owned member of the Hong Kong Exchanges and Clearing Limited Group)

Important Notes to Clients:

1. For fault reporting, please call our Connectivity Project & Support Hotline at (852) 2211 6558 during the drill.
2. All messages disseminated during the testing period should be treated as non-production data and should be cleaned after the drill.
3. In any case, all participating Clients should complete the appropriate day-end works including file / database backup, system restoration / fallback and etc. before, during and / or after the drill.
4. Contingency Arrangements on Typhoon, Extreme Conditions and Rainstorm Warning on the day of the drill:
 - a. In case Typhoon Signal No. 8 or above or Extreme Conditions or Black Rainstorm Warning is issued/ announced or continues to be in force anytime from 07:00 to before 11:00 on the drill day, the drill will be cancelled and will not be resumed for the rest of the day.
 - b. In case Typhoon Signal No. 8 or above or Extreme Conditions is issued on or after 11:00 on the drill day, the drill will be terminated 15 minutes thereafter.
 - c. In case Black Rainstorm Warning is issued on or after 11:00 on the drill day, the drill will continue until completion.
 - d. In any case, all participating Clients should complete the appropriate day-end works including file / database backup, system restoration / fallback and etc before, during and / or after the drill.