

**Regular Data Centre Failover Rehearsal for Market Data Systems**

**Date: 7 September 2024 (Saturday)**

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

Time (HKT)	Activity	Action – for participating OMD-C and MMDH Clients
<b>Date: 7 September 2024 (Saturday)</b>		
<b>Data Centre Failover Rehearsal</b>		
10:30	<b>OMD-C and MMDH</b> are ready for connection in Primary Data Centre	<ul style="list-style-type: none"> <li>• <b>OMD-C</b> and <b>MMDH</b> Clients to connect to OMD-C / MMDH and receive OMD-C / MMDH messages in Primary Data Centre.</li> <li>• All of the 4 OMD-C retransmission servers are available for OMD-C Clients to connect.</li> </ul>
11:30 – 12:00	Pre-Opening Session	
12:00 – 12:30	Continuous Trading Session	
Anytime between 12:15 and 12:30	Simulation of Primary Data Centre service outage and failover to Secondary Data Centre for Market Data and Trading System: <ul style="list-style-type: none"> <li>- Failover <b>OMD-C</b> from Primary Data Centre to Secondary Data Centre</li> </ul> <i>[We will simulate the notification of incident to OMD-C &amp; MMDH Clients and advise Clients to stay alert to HKEX’s announcement on the trading arrangement and service resumption. <b>Emails for rehearsal will all be tagged with “Regular Data Centre Failover on 7 September 2024” in the email subject.</b>]</i>	<ul style="list-style-type: none"> <li>• <b>OMD-C</b> Clients to execute their contingency arrangement upon the detection of OMD-C Data Centre failover by the receipt of DR Status “1” (DR in progress) in DR Signal (105) message.</li> <li>• <b>MMDH</b> Clients’ connectivity would not be impacted and would continuously receive heartbeat messages <b>only</b> during site failover.</li> </ul>

Time (HKT)	Activity	Action – for participating OMD-C and MMDH Clients
Around 13:30	<b>OMD-C</b> located in Secondary Data Centre is ready for connection <i>[We will notify OMD-C &amp; MMDH Clients on the readiness of OMD-C in Secondary Data Centre and the trading arrangement]</i>	<ul style="list-style-type: none"> <li><b>OMD-C</b> Clients to connect to the OMD-C in Secondary Data Centre upon receiving DR Status “2” (DR completed) in DR Signal (105) message.</li> </ul>
13:45	Order Cancel Session	<ul style="list-style-type: none"> <li><b>OMD-C</b> and <b>MMDH</b> Clients to check if OMD-C / MMDH messages can be received and processed normally after data Centre failover.</li> <li>Only 2 OMD-C retransmission servers located at Secondary Data Centre are available for OMD-C Clients to connect.</li> </ul>
14:00 – 15:00	Continuous Trading Session	
15:00 – 15:10	Closing Auction Session	
Upon completion of Matching ~15:10	Day Close	
15:30	End of Rehearsal - <b>OMD-C</b> will switch back to Primary Data Centre.	<ul style="list-style-type: none"> <li><b>OMD-C</b> and <b>MMDH</b> Clients to take appropriate actions to clean all test messages disseminated during the rehearsal period.</li> </ul>
<b>Result Confirmation</b>		
Before 17:00	<b>OMD-C and MMDH Clients please confirm your rehearsal result by completing the <a href="#">online Rehearsal Result Confirmation Form</a></b>	
<b>Connectivity Test for Reconnecting to the Primary Data Centre (Optional)</b>		
22:30 – 00:00	<b>OMD-C and MMDH</b> are ready for connection in Primary Data Centre	<ul style="list-style-type: none"> <li><b>OMD-C</b> and <b>MMDH</b> Clients to connect to OMD-C / MMDH in Primary Data Centre.</li> </ul>
00:00	<b>OMD-C and MMDH</b> shutdown	<ul style="list-style-type: none"> <li><b>OMD-C</b> and <b>MMDH</b> Clients to take appropriate actions to clean all messages received from OMD-C / MMDH during the rehearsal period.</li> </ul>

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

Time (HKT)	Activity	Action – for participating OMD-D Clients
<b>Date: 7 September 2024 (Saturday)</b>		
<b>Data Centre Failover Rehearsal</b>		
11:30	<b>OMD-D</b> is ready for connection in Primary Data Centre	<ul style="list-style-type: none"> <li>• <b>OMD-D</b> Clients to connect to OMD-D and receiving OMD-D messages in Primary Data Centre</li> <li>• All of the 4 OMD-D retransmission servers are available for OMD-D Clients to connect.</li> </ul>
11:45 – 12:00	Market Pre-Open	
12:00 – 12:30	Market Open	
Anytime between 12:15 and 12:30	Simulation of Primary Data Centre service outage and failover to Secondary Data Centre for Market Data and Trading System - Failover <b>OMD-D</b> from Primary Data Centre to Secondary Data Centre  <i>[We 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. <b>Emails for rehearsal will all be tagged with “Regular Data Centre Failover on 7 September 2024” in the email subject.</b>]</i>	<ul style="list-style-type: none"> <li>• <b>OMD-D</b> Clients to execute their contingency arrangement upon the detection of OMD-D Data Centre failover by the receipt of DR Status “1” (DR in progress) in DR Signal (105) message.</li> </ul>
Around 13:10	<b>OMD-D</b> located in Secondary Data Centre is ready for connection <i>[We will notify OMD-D Clients on the readiness of OMD-D in Secondary Data Centre and the trading arrangement]</i>	<ul style="list-style-type: none"> <li>• <b>OMD-D</b> Clients to connect to the OMD-D in Secondary Data Centre upon receiving DR Status “2” (DR completed) in DR Signal (105) message.</li> </ul>
13:35 – 13:45	Market Pre-Open	<ul style="list-style-type: none"> <li>• <b>OMD-D</b> Clients to check if OMD-D messages can be received and processed normally after data Centre</li> </ul>

Time (HKT)	Activity	Action – for participating OMD-D Clients
13:45 – 15:15	Market Open	failover.  • Only 2 OMD-D retransmission servers located at Secondary Data Centre are available for OMD-D Clients to connect.
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 Centre	• <b>OMD-D</b> Clients to take appropriate actions to clean all test messages disseminated during the rehearsal period.
<b>Result Confirmation</b>		
<b>Before 17:00</b>	<b>OMD-D Clients please confirm your rehearsal result by completing the <a href="#">online Rehearsal Result Confirmation Form</a></b>	
<b>Date: 8 September 2024 (Sunday)</b>		
<b>Connectivity Test for Reconnecting to the Primary Data Centre (Optional)</b>		
09:00 -- 11:00	<b>OMD-D</b> ready for connection in Primary Data Centre	• <b>OMD-D</b> Clients to connect to OMD-D in Primary Data Centre.
11:00	<b>OMD-D</b> shutdown	• <b>OMD-D</b> Clients to take appropriate actions to clean all messages received from OMD-D during the rehearsal period.

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

Time (HKT)	Activity	Action – for participating OMD-CC Clients
<b>Date: 7 September 2024 (Saturday)</b>		
<b>Data Centre Failover Rehearsal</b>		
10:30	<b>OMD-CC</b> is ready for connection in Primary Data Centre	<ul style="list-style-type: none"> <li>• <b>OMD-CC</b> Clients to connect to OMD-CC and receive OMD-CC messages in Primary Data Centre</li> </ul>
11:00 – 11:30	Continuous Auction Session	
11:30	Mid-day Close	
Anytime between 12:15 and 12:30	Simulation of Primary Data Centre service outage and failover to Secondary Data Centre for Market Data system: <ul style="list-style-type: none"> <li>- Failover <b>OMD-CC</b> failover to Secondary Data Centre</li> </ul> <i>[We will simulate the notification of incident to OMD-CC Clients and advise Clients to stay alert to HKEX's announcement on the service resumption. <b>Emails for rehearsal will all be tagged with "Regular Data Centre Failover on 7 September 2024" in the email subject.]</b></i>	<ul style="list-style-type: none"> <li>• <b>OMD-CC</b> Clients to execute their contingency arrangement upon the detection of OMD-CC Data Centre failover by the receipt of DR Status "1" (DR in progress) in DR Signal (105) message.</li> </ul>
Around 13:30	<b>OMD-CC</b> located in Secondary Data Centre is ready for connection <i>[We will notify OMD-CC Clients on the readiness of OMD-CC in Secondary Data Centre]</i>	<ul style="list-style-type: none"> <li>• <b>OMD-CC</b> Clients to connect to the OMD-CC in Secondary Data Centre upon the receipt of DR Status "2" (DR completed) in DR Signal (105) message.</li> </ul>
14:00 – 15:00	Continuous Auction Session	

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

**System: Issuer Information feed Service (IIS)**

Time (HKT)	Activity	Action – for participating IIS Clients
<b>Date: 7 September 2024 (Saturday)</b>		
<b>Data Centre Failover Rehearsal</b>		
10:30	IIS is ready for logon in Primary Data Centre and Secondary Data Centre	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to connect to IIS in Primary Data Centre and/or Secondary Data Centre and receive testing news and attachments.</li> </ul>
10:30 – 12:30	IIS disseminates testing news in Primary Data Centre and Secondary Data Centre.	
Anytime between 12:15 and 12:30	Simulation of Primary Data Centre service outage and failover to Secondary Centre Data: <ul style="list-style-type: none"> <li>- Failover IIS failover from Primary Data Centre to Secondary Data Centre</li> </ul> <i>[We will simulate the notification of incident to IIS Clients and advise Clients to stay alert to HKEX’s announcement on the service resumption. <b>Emails for rehearsal will all be tagged with “Regular Data Centre Failover on 7 September 2024” in the email subject.</b>]</i>	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to execute their contingency arrangement upon notification.</li> </ul>
Around 13:00	IIS located in Secondary Data Centre is ready for connection <i>[We will notify IIS clients on the readiness of IIS in Secondary Data Centre]</i>	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to connect to the IIS in Secondary Data Centre.</li> </ul>
13:00 – 14:30	IIS disseminates testing news in Secondary Data Centre	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to check if testing news and attachments can be received and processed normally after failover to Secondary data Centre.</li> </ul>
15:30	End of Rehearsal <ul style="list-style-type: none"> <li>- IIS will switch back to Primary Data Centre</li> </ul>	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to take appropriate actions to clean all test messages disseminated during the rehearsal period.</li> </ul>

Time (HKT)	Activity	Action – for participating IIS Clients
<b>Result Confirmation</b>		
Before 17:00	IIS Clients please confirm your test result by completing the <a href="#">online Rehearsal Result Confirmation Form</a>	
<b>Connectivity Test for Reconnecting to the Primary Data Centre (Optional)</b>		
21:00 – 22:00	IIS is ready for logon in Primary Data Centre and/or Secondary Data Centre	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to connect to IIS in Primary Data Centre and/or Secondary Data Centre.</li> </ul>
22:00	IIS shutdown	<ul style="list-style-type: none"> <li>• <b>IIS Clients</b> to take appropriate actions to clean all test messages disseminated during the testing period.</li> </ul>

**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 at or after 09:00 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 is issued on or after 09:00 on the drill day, the drill will be terminated 15 minutes thereafter.
  - c. In case Black Rainstorm Warning is issued during the drill, 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.