HKEX
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Rollout of HKATS and DCASS Upgrade

Information Package for

Exchange Participants

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1. Introduction

The Market Rehearsal for the upgrade of Hong Kong Futures Automated Trading System ("HKATS") and Derivatives Clearing and Settlement System ("DCASS") from Genium INET Platform to the upgraded version of platform ("Upgrade") was completed successfully with positive feedback from the Participants. Hong Kong Exchanges and Clearing Limited ("HKEX") is pleased to announce that the Upgrade will be launched on **6 May 2019 (Monday)**.

HKEX will upgrade HKATS and DCASS from Genium INET to the Upgrade during the weekend immediately before the launch day ("Cutover Period"). A Post-Release verification session will be available **from 9:00 a.m. to 12:00 noon on 5 May 2019 ("Sunday").** It is **mandatory for all Exchange Participant ("EP")** to participate in the Post-Release verification session to perform connectivity test.

During the Cutover Period, i.e. after the close of business on 3 May 2019 (including T+1 close on Saturday, 4 May 2019) but before the Post-Release verification session on 5 May 2019 (Sunday), EPs should setup the workstation for HKATS Online (with Chrome version 68.0.3440.106) and PTRM (with Chrome version 680.0.3440.106 and Java version 8), upgrade HKATS OMnet Application Programming Interface (OAPI) programs (if applicable) and other internal systems to the Upgrade.

Upon the launch of the Upgrade, there will be a two-week stabilisation period, starting from 6 May 2019 (Monday) to the end of T-Session on 17 May 2019 (Friday) (Stabilisation Period). During the Stabilisation Period, in the unlikely situation where the upgraded platform encounter irreparable incidents, HKEX may, as a last resort, trigger the "Fallback Plan for HKATS and DCASS Upgrade to Genium INET Platform" (the Fallback Plan) to revert to the existing HKATS and DCASS Genium INET application for resumption of trading and clearing services. EPs should **NOT** dispose or decommission their Genium INET CLICK Trade workstations, Network Gateway, HKATS OAPI programs and other internal systems, where applicable, before the end of the Stabilisation Period.

This Rollout Information Package aims to provide a detailed guideline for EPs to plan out their activities before, during, and after the Upgrade. A "**HKATS Rollout Activity Checklist**" is provided in Appendix A for EP's quick reference. Detailed rollout arrangements related to clearing operations will be provided to Clearing Participants via a separate circular and Information Package.

EPs should note that the information contained in this Rollout Information Package, together with other related documents (in particular, the Fallback Plan) which are available on the HKATS and DCASS Upgrade web corner on HKEX webpage, are essential for the smooth transition from the Genium INET platform to the Upgrade platform. EPs are strongly advised to pass a copy of this Rollout Information Package to their IT / systems support teams / OAPI and market data system vendors as soon as possible.

2. Preparation for the Rollout

2.1 HKATS Logon Passwords

For the Post-Release verification session to be performed on 5 May 2019 (Sunday), EPs should logon to HKATS via their HKATS Online workstation, PTRM workstation and upgraded HKATS OAPI programs (if applicable) with the passwords as of day end of 3 May 2019 (including T+1 close on Saturday, 4 May 2019). In addition, EPs are reminded to keep records of their passwords for accessing HKATS, including the to-be-retired Network Gateway connectivity, until the end of the Stabilisation Period.

On the launch day of the Upgrade, EPs should use the same HKATS logon passwords which have already been verified during the Post-Release verification session on 5 May 2019 (Sunday).

2.2 HKATS Online

Existing CLICK Trade user ID and password will be used for the logon of HKATS Online after the Upgrade. The HKATS Online workstation should meet the minimum Genium configuration with Google Chrome browser version 68.0.3440.106 installed. EPs should have practised the HKATS Online features during the Market Rehearsal. Detailed descriptions of the HKATS functions are documented in the "HKATS USER'S GUIDE – HKATS Online" which is available at HKEX website.

2.3 HKATS OAPI Programs

EPs can use existing OAPI user ID (Central Gateway connection only) and password to logon HKATS after the Upgrade. Upon the launch of the Upgrade, EPs should connect to HKATS with the certified HKATS OAPI programs for the Upgrade. EPs should ensure their EPs OAPI programs are set/configured with the appropriate library (**version 9.1.16**), parameters, including facility types, logon passwords, network configuration (such as

subnet masks and default gateways etc.) and port numbers of HKEX's Central Gateways (CGs), where applicable.

2.4 Pre-Trade Risk Management ("PTRM")

EPs can use existing PTRM user ID and password to logon HKATS Risk Functions GUI after the Upgrade. The workstation should meet the minimum configuration with Google Chrome browser version 68.0.3440.106 and Java version 8 installed.

2.5 Outstanding Orders

EPs are reminded that all "Until Expiry" orders and "Specified Date" orders that remain outstanding in HKATS Genium INET Platform after market close on 3 May 2014 (including T+1 close on Saturday, 4 May 2019) will NOT be carried forward to the Upgrade Platform. EPs are reminded to make necessary arrangement to re-enter these orders via HKATS Online or an OAPI application on or after the Rollout Day.

2.6 Arrangement of Technical and Operational Supports

EPs should always arrange adequate support from their internal IT / system support teams and/or system vendors, especially from the Cutover Period until the end of the Stabilisation Period.

Moreover, EPs are required to arrange operational staff to perform the connectivity test and data verification during the Post-Release verification session on 5 May 2019 (Sunday).

3. Post-Release Verification Session

3.1 Post-Release Verification

To minimise the risk of having unexpected technical problems on the launch day and to ensure the smooth transitions of trading operations, **all EPs are required to participate in the Post-Release Verification Session, from 9:00 a.m. to 12:00 noon on 5 May 2019 (Sunday) and test ALL HKATS login ID and passwords,** including HKATS Online, OAPI and PTRM. For HKATS Online, EPs should logon via the designated URL as assigned, with CLICK Trade login ID and password as of day end of 3 May 2019 (including T+1 close on Saturday, 4 May 2019).

3.2 Schedule for Post-Release Verification Session on 5 May 2019 (Sunday)

Time	Session	Action
9:00 a.m. to 12:00 noon	Post-Release Verification session	Logon to HKATS with existing login ID and password: *For HKATS Online users:* • Logon via the assigned URL of HKATS Online connection • Setup user profile *For HKATS OAPI users (CG only):* • Same as current production connection setting, connect to HKATS via the assigned Central Gateways. *For PTRM users:* • Same as current production connection setting, connect to HKATS via the assigned Central Gateways. ➢ Only enquiry functions will be available ➢ **NO** order and trade activity is allowed
12:00 noon	End of Post-Release Verification session	Logout from the Upgraded Platform

3.3 Communication Channels

Under normal situation, HKEX will communicate with the designated contact persons of the EP via e-mail and/or phone calls.

In the event of cancellation or postponement of the Post-release verification session, if contingency happened before 7:00 a.m. on 5 May 2019 due to unexpected reasons, HKEX will inform EP of the ad-hoc arrangements via e-mails and/or phone calls.

EP should ensure that their designated contact persons for the Post-Release verification session are reachable during the prescribed time and the relevant e-mails and mobile phone numbers submitted to HKEX must be accurate.

3.4 Typhoon and Rainstorm Arrangement

Typhoon Arrangement

1. If typhoon signal no.8 or above is hoisted and not lowered before 7:00 a.m. on the Post-Release verification day, the Post-Release verification session will be cancelled.

2. If typhoon signal no.8 or above is hoisted after 9:00 a.m. and before the completion of Post-Release verification session, the Post-Release verification session will be terminated 15 minutes after typhoon signal no. 8 or above is hoisted.

Rainstorm Arrangement

1. If black rainstorm warning is issued and not lowered before 7:00 a.m. on the Post-Release verification day, the Post-Release verification session will be cancelled.

2. If black rainstorm warning is issued during Post-Release verification session, activities will proceed as scheduled.

4. HKATS and DCASS Upgrade Launch Day and Stabilisation Period

4.1 HKATS Logon

On the launch day, 6 May 2019 (Monday), EPs are highly recommended to logon to HKATS earlier to ensure their operations and trading activities can be performed smoothly.

EPs who have encountered any connection problem please contact HKATS Hotline at 2211 6360[1].

4.2 Maintain Genium INET Platform Infrastructure until the End of the Stabilisation Period

To cater for the unlikely situation where HKATS has to fallback to Genium INET Platform, from the Cutover Period until the end of the Stabilisation Period, EPs are requested to follow the below guidelines:

a. Genium INET Platform Network Gateways ("NG")

EPs must retain and keep their Genium INET Platform NGs **POWERED ON**. In case of fallback, HKEX would re-establish Genium INET HKATS and DCASS connection to EP's Genium INET NGs.

b. CLICK Trade workstations

EPs are required to retain their Genium INET CLICK Trade shortcuts at the CLICK Trade workstations for accessing Genium INET HKATS through NGs in case of fallback.

c. HKATS OAPI Programs

EPs are required to maintain their HKATS OAPI Programs for Genium INET so as to reinstate their operations in case of fallback. Alternatively, EP may resort to CLICK Trade in case of fallback.

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[1] All calls to the HKATS hotline would be recorded. Please refer to the following link for HKEX privacy policy statement:
http://www.hkex.com.hk/eng/global/privacy_policy.htm

d. HKATS Logon Passwords and User Access Profiles

To ensure EPs can access to Genium INET HKATS in case of fallback, EPs are reminded to keep records of their passwords for accessing HKATS until the completion of the Stabilisation Period. In case of fallback, EPs should logon HKATS via CLICK Trade, HKATS OAPI programs (if applicable) and PTRM with their passwords as of day end of 3 May 2019 (including T+1 close on Saturday, 4 May 2019).

APPENDIX A:
HKATS and DCASS Upgrade Rollout Activity Checklist for EP

ITEMS TO BE CHECKED	√
(A) Before the HKATS and DCASS Upgrade	
1. Study this document ("Rollout of HKATS and DCASS Upgrade – Information Package for Exchange Participants")	
2. Provide HKEX with your up-to-date emergency contact (including mobile phone number(s) and email address(s)) of responsible officer and trading staff, if applicable	
3. Pass this Rollout Information Package to your internal IT support or system vendor (including OAPI and market data) and ensured that they would provide necessary support	
4. Obtain an alternative market data source for your trading platform, if applicable, should you rely on Network Gateway for market data before the Upgrade	
5. Make backups of production data after the close of business on 3 May 2019 (including T+1 close on Saturday, 4 May 2019), if applicable	
(B) During Post-Release Verification Session (9:00 a.m. to 12:00 noon on 5 May 2019)	
6. <u>For HKATS Online users:</u> Logon to HKATS through Google Chrome browser version 68.0.3440.106. Customize user profiles (workspace) for production use on 6 May 2019	
7. <u>For PTRM users:</u> Delete all Java caches before logon. Logon to HKATS through Google Chrome browser version 68.0.3440.106 and Java version 8	
8. <u>For OAPI users:</u> Use the proper OAPI programs that have passed the certification test and configure your OAPI programs with appropriate parameter values for connection(s) to Central Gateway	
(C) On Rollout Date (6 May 2019)	
9. <u>For HKATS Online users:</u> Logon to HKATS through Google Chrome browser version 68.0.3440.106. Customize user profiles (workspace) for production use	
10. <u>For PTRM users:</u> Delete all Java caches before logon. Logon to HKATS through Google Chrome browser version 68.0.3440.106 and Java version 8	
11. <u>For OAPI users:</u> Use the proper OAPI programs that have passed the certification test and configure your OAPI programs with appropriate parameter values for connection(s) to Central Gateway	
12. Re-enter your "Until Expiry" orders and/or "Specified Date" orders (if necessary) via HKATS Online or OAPI program	
(D) During the Stabilisation Period (6 May 2019 to 17 May 2019)	
13. Maintain your Genium INET CLICK Trade workstation, OAPI Programs, and other in-house arrangement, where applicable, in order to reinstate their operations in case of fallback	

	ITEMS TO BE CHECKED	√
14.	Keep the Genium Network Gateway power up until the end of Stabilisation Period	
15.	Keep those passwords of HKATS and PTRM user ID as at the close of business on 3 May 2019 (including T+1 close on Saturday, 4 May 2019) during the Stabilisation Period	
16.	Ensure that proper records of necessary trading information are well kept in case of fallback	

APPENDIX B: Connections

(EP please note connection to secondary data centre will not be available except for the situation of site failover.)

1. HKATS Online connections
   Participants are required to update the host table in their HKATS Online workstations before the Post-Release Verification session and logon to the assigned URL of <u>primary data centre only</u>.

HKEX's Data Centre	Gateway number	IP Address (Server Name)	Host Table Update	TCP / Port No.	URL of HKATS/ DCASS Online connection
Primary	1	10.151.14.155 (pgencdw001)	10.151.14.155 pgencdw001.hkex.com.hk	8082	https://pgencdw001.hkex.com.hk:8082/login
	2	10.151.14.156 (pgencdw002)	10.151.14.156 pgencdw002.hkex.com.hk		https://pgencdw002.hkex.com.hk:8082/login
	3	10.151.14.101 (pgenrgw001)	10.151.14.101 pgenrgw001.hkex.com.hk		https://pgenrgw001.hkex.com.hk:8082/login
	4	10.151.14.102 (pgenrgw002)	10.151.14.102 pgenrgw002.hkex.com.hk		https://pgenrgw002.hkex.com.hk:8082/login
Secondary	5	10.152.14.155 (sgencdw001)	10.152.14.155 sgencdw001.hkex.com.hk		https://sgencdw001.hkex.com.hk:8082/login
	6	10.152.14.156 (sgencdw002)	10.152.14.156 sgencdw002.hkex.com.hk		https://sgencdw002.hkex.com.hk:8082/login
	7	10.152.14.101 (sgenrgw001)	10.152.14.101 sgenrgw001.hkex.com.hk		https://sgenrgw001.hkex.com.hk:8082/login
	8	10.152.14.102 (sgenrgw002)	10.152.14.102 sgenrgw002.hkex.com.hk		https://sgenrgw002.hkex.com.hk:8082/login

2. OAPI connection (same as current production setting)

HKEX's Data Centre	Gateway	IP Address Range
Primary	Primary CG	As assigned, range from 10.151.5.57-73 and 10.151.5.133-134
	Backup CG	10.151.5.74; 10.151.5.53-56
Secondary	Primary CG	As assigned, range from 10.152.5.43-44; 10.152.5.59-73 and 10.152.5.133-134
	Backup CG	10.152.5.74-78

EP are reminded to have proper Default Gateway setting defined for their OAPI connections through CG.

Connections via	Default Gateway
SDNet	172.xxx.xxx.254 or 10.xxx.xxx.254
HSN	10.119.xxx.254

3. PTRM connection (same as current production setting):

HKEX's Data Centre	Web Server Gateway	IP Address	Port Number	URL
Primary	PGENRGW001	10.151.14.101	8090 to 8093	https://pgenrgw001.hkex.com.hk:8090/grx https://pgenrgw001.hkex.com.hk:8091/grx https://pgenrgw001.hkex.com.hk:8092/grx https://pgenrgw001.hkex.com.hk:8093/grx
	PGENRGW002	10.151.14.102	8090 to 8093	https://pgenrgw002.hkex.com.hk:8090/grx https://pgenrgw002.hkex.com.hk:8091/grx https://pgenrgw002.hkex.com.hk:8092/grx https://pgenrgw002.hkex.com.hk:8093/grx
Secondary	SGENRGW001	10.152.14.101	8090 to 8093	https://sgenrgw001.hkex.com.hk:8090/grx https://sgenrgw001.hkex.com.hk:8091/grx https://sgenrgw001.hkex.com.hk:8092/grx https://sgenrgw001.hkex.com.hk:8093/grx
	SGENRGW002	10.152.14.102	8090 to 8093	https://sgenrgw002.hkex.com.hk:8090/grx https://sgenrgw002.hkex.com.hk:8091/grx https://sgenrgw002.hkex.com.hk:8092/grx https://sgenrgw002.hkex.com.hk:8093/grx