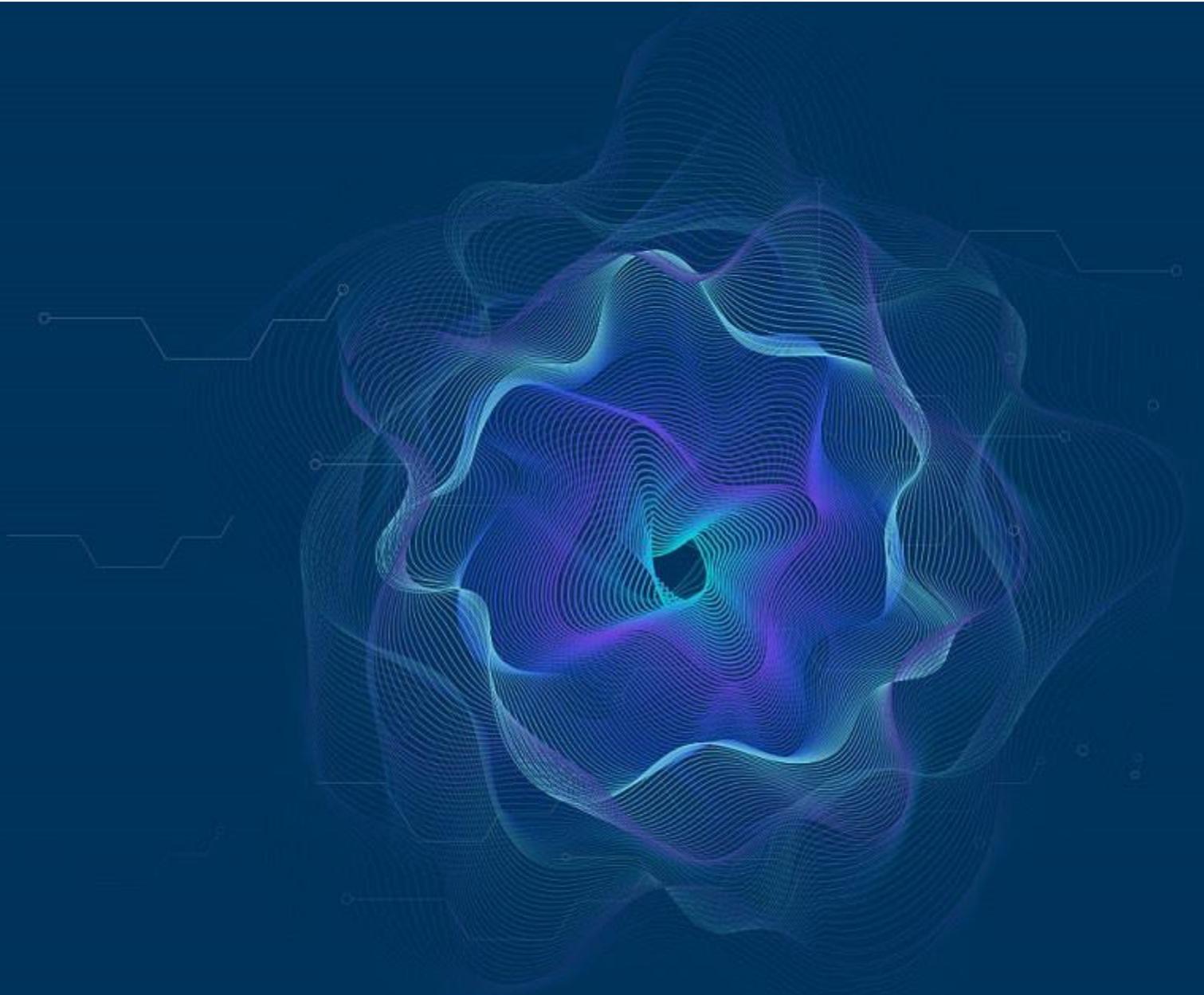


**HKEX Synapse**

Frequently Asked Questions



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## A. General

### A1. What is HKEX Synapse?

HKEX Synapse (“Synapse”) is a new integrated post-trade platform and workflow tool, generating a single source of truth for settlement instructions for its landmark Stock Connect programme. Synapse simultaneously generates settlement instructions and provides near instantaneous status updates to all parties along the settlement chain, facilitating concurrent processing, providing greater efficiency and transparency to Northbound Stock Connect’s market participants, while connecting them to a more seamless post-trade workflow. Synapse will alleviate existing market challenges and standardise the current information and instruction transmission process in relation to transactions under the Northbound Stock Connect Programme. Asset Managers (“AMs”), Global Custodians (“GCs”), Local Custodians (“LCs”), Exchange Participants (“EPs”) and Clearing Participants (“CPs”) will all benefit from the improved connectivity.

### A2. What is the rationale behind introducing Synapse?

Synapse aims to address some of the common challenges that have arisen amongst market participants by improving the efficiency and transparency of Northbound Stock Connect settlement for institutional investors. This new integrated post-trade platform and workflow tool will streamline post-trade processes and facilitate more global institutional investors accessing the Mainland China market via Stock Connect.

### A3. Is Synapse mandatory for all CCASS participants?

No. Synapse is an optional service to help streamline processes before Northbound Stock Connect settlement takes place in CCASS.

### A4. Will Synapse replace CCASS for securities settlement?

No. Synapse will not replace CCASS but rather interface with CCASS.

### A5. Is the transaction data stored in Hong Kong, with a Hong Kong entity?

Synapse is running in HKEX data centres in Hong Kong so that all data is kept in Hong Kong.

### A6. What is Synapse’s data retention period?

Synapse online retention period is 31 calendar days for settlement instructions. Similarly, for inactivated funds / accounts, they will be retained in Synapse for 31 calendar days. Synapse Users are encouraged to keep record of all Synapse’s data by their own for internal usage / reference if needed.

### A7. Where can I find more information about Synapse?

Please refer to our Synapse webpage ([www.hkex.com.hk/synapse](http://www.hkex.com.hk/synapse)) for more information.

## B. Eligibility

### **B1. What are the eligibility requirements to use the Synapse service?**

For buy side chain, institutional investors (i.e. AMs) interested in participating in Synapse will need to have an existing Special Segregated Account (“SPSA”) with their custodian for Northbound Stock Connect. Their respective GCs and LCs (and the LC has to be an existing CCASS participant) are also eligible to participate.

For sell side chain, the execution brokers (i.e. EPs who are China Connect Exchange Participant) and the corresponding CPs (who are China Connect Clearing Participant) are eligible to participate.

The AMs, GCs, LCs, EPs and CPs are collectively known as Synapse Users.

Apart from the Synapse Users, Synapse also supporting Designated Service Providers (“DSP”) if applicable such as Asset Manager’s Middle Office Outsourcing Operator (“AMOO”) appointed by AM, Exchange Participant’s Middle Office Outsourcing Operator (“EPOO”) appointed by EP & Clearing Participant’s Account Operator (“AO”) appointed by CP. Please also refer to FAQ Section F for access permission under DSP arrangement.

### **B2. Do we have to use a specific trade matching platform for trade allocation in order to be a Synapse User?**

Yes. At the initial launch of Synapse, HKEX is initially accepting settlement instructions from DTCC for Synapse and the use of CTM™, ALERT Database (“ALERT”), Settlement Instruction Manager (“SIM”) and Settlement Status Manager (“SSM”) are prerequisites in order to participate in Synapse.

I.e. institutional investors and their interested brokers are required to use DTCC's CTM™ for post-trade allocation, ALERT for enrichment of standing settlement instructions (“SSI”), SIM for generation of settlement instruction and SSM for exception management.

We will continue to explore opportunities to accept instructions from other matching platforms in line with the Synapse T&Cs.

### **B3. If one of the Synapse Users on the settlement chain (AM, GC, LC, EP, or CP), does not utilise Synapse, will the Synapse process still work?**

The buy-side chain consists of the AM, GC and LC, while the sell-side chain consists of the EP and CP.

In order to participate in Synapse, either the entire buy-side chain or the entire sell-side chain must be onboarded. Maximum benefits will be attained if both the buy-side and the sell-side chains are on the platform, but the Synapse workflow will still operate, albeit with fewer benefits, if only one of the chains is onboarded.

Note that for AMs and EPs using CTM™ for trade allocation and ALERT for SSI enrichment, once the fund has been onboarded to Synapse, all Stock Connect settlement instructions of that fund should be processed through Synapse.

### **B4. Can Non Clearing Participants (“NCPs”) participate in Synapse?**

Yes, with the condition that the sell-side chain consisting of the NCP and its corresponding

General Clearing Participant (“GCP”) are both using Synapse, and the NCP performs its trade allocation via CTM™.

**B5. As an institutional investor, if my brokers are not Synapse Users, can I still join Synapse?**

As long as your AM and broker are using CTM™ for trade allocation and ALERT for trade enrichment (with the AM also using SIM and SSM), even if the broker is not a Synapse User, the institutional investor can still join Synapse, along with its GC and LC, to complete the buy-side chain.

**B6. Can an institutional investor utilise Synapse while also trading with multiple brokers on Stock Connect?**

Yes. Synapse can accommodate multiple brokers as long as your AM and brokers conduct the trade allocation via CTM™ and your GC and LCs are using Synapse.

**B7. What happens if a Broker / EP becomes insolvent or otherwise is suspended by HKEX?**

In general, Synapse Users and DSPs have to meet the eligibility requirements outlined in [FAQ Section B1 and B2 throughout the participation in Synapse](#). HKEX reserves the rights to suspend or terminate the Synapse Users or DSPs in case of Synapse Users or DSPs fail to meet the eligibility requirements.

For Synapse User who is subject to suspension, Synapse will reject any new incoming settlement instructions received from CTM™ that is related to that suspended Synapse User starting from the effective date of the suspension. Other functions and activities of the suspended Synapse User will remain unchanged.

For Synapse User or DSP who is subject to termination, their access to Synapse will be terminated starting from the effective date of termination.

In either case, HKEX will inform the suspended / terminated Synapse Users or DSPs as well as the Synapse Users or DSPs that are related to that suspended / terminated Synapse Users or DSPs of the suspension or termination as soon as possible.

**B8. How does Synapse support AMs with multiple Custodians?**

An AM is required to perform fund onboarding for both ALERT and Synapse. As a part of the fund onboarding process in Synapse, the AM is required to select the relevant GC of the fund, after which Synapse will pass the onboarding request to that GC for confirmation. A similar process will require the GC to setup its corresponding LC. The onboarding process is complete upon confirmation from the LC.

Synapse operates on a fund level, so if an AM uses multiple GCs, Synapse will capture each of these relationship chain on a fund by fund basis.

## C. Service Scope

### **C1. What are the operating hours of Synapse?**

Synapse will be operational from 7:00 am to 12:00 am HKT Monday to Friday (which is also a business day when the Northbound Stock Connect is available for trading). Please refer to the Synapse User Guide for detail of different Synapse Operating modes in specified time during the Northbound trading day.

### **C2. Will Synapse support SPSA account opening?**

No. The SPSA opening process will remain unchanged and will continue to be managed via HKEX Access Management Portal.

### **C3. Will Synapse support linked trades?**

No. Linked trades are out of Synapse's scope.

### **C4. Will Synapse support free of payment ("FOP") trades?**

Yes. FOP transactions will be supported by Synapse.

### **C5. Will Synapse support Master SPSA?**

Master SPSA and Synapse are distinct initiatives that work with and complement each other. Synapse supports all SPSA related transactions received from CTM™. Master SPSA groups SPSA accounts together for pre-trade checking purposes, which then gets allocated on an SPSA-by-SPSA basis after the trade is executed. Master SPSA is only related to the trade execution while Synapse services post-trade related activities.

As long as any SPSA related trades flow through CTM™ (irrespective of the nature of the upstream execution), and where the AM has opted to settle via Synapse, such matched agreed allocations will be received by Synapse for settlement.

### **C6. Does Synapse support the Account Operator model and Middle office outsourcing?**

Yes. Synapse will support both Account Operator model and Middle office outsourcing.

### **C7. Will Synapse manage On-Exchange ("CNS") transactions?**

No. CNS transactions are out of Synapse's scope, and will continue to be processed by the CPs.

### **C8. Will Synapse support Repo or Collateral trades?**

No. Repo or collateral trades are out of Synapse's scope.

### **C9. Will Synapse support OTC triparty collateral arrangements?**

No. OTC triparty collateral arrangements are out of Synapse's scope.

### **C10. Will Synapse support sanction checks?**

No. Sanction checks, compliance and risk monitoring will remain the responsibility of the Synapse Users.

### **C11. How will corporate actions be processed in Synapse?**

Corporate action processing is out of Synapse's scope and the existing processes remain unchanged.

**C12. Is there any plan to extend Synapse to consume orders outside of those from CTM™?**  
Depository Trust & Clearing Corporation (“DTCC”)’s Central Trade Matching CTMTM Platform will be the pilot agent at the initial launch of Synapse. However, we will continue to explore opportunities to partner with other matching platforms in line with the Synapse T&Cs.

**C13. Would HKEX consider to extend the Synapse to stocks under Hong Kong market in a near future?**  
This has not been considered at the moment. However, we are open to reviewing other applications of the Synapse model subject to market feedback after launch.

**C14. What are the BCP procedures in the event Synapse becomes nonoperational?**  
In the event that Synapse becomes nonoperational, HKEX will inform Synapse Users and DSPs of the situation via broadcast function of Synapse and / or any other appropriate methods (e.g. email / phone). In this situation, Synapse Users and DSPs will be required to switch to their original processes to handle settlement instructions without Synapse, i.e. to fallback to use their current processes to generate instructions to counterparties, while those being CCASS Direct Participants (i.e. LCs and CPs) will also fallback to use their current CCASS/3 Terminal (“C3T”) to submit settlement instructions to CCASS and continue Stock Connect operations.

Once Synapse resumes normal, HKEX will notify Synapse Users and DSPs as soon as possible via broadcast function of Synapse and / or any other appropriate methods (e.g. email / phone).

**C15. What will be the severe weather arrangements for Synapse?**  
Please refer to the Synapse User Guide for more details.

## D. Connectivity

### D1. What is the role of DAML Smart Contracts within Synapse?

The core functionality of Synapse is settlement instruction processing creating a Single Combined View (SCV). Synapse creates the SCV through a multi-step process involving receipt of settlement notifications, creation of settlement instructions for transmission to CCASS, and communication to participants of status changes during the settlement process. All these functionality is driven by DAML Smart Contracts.

### D2. What are the connectivity options for Synapse?

Synapse offers 3 different connectivity channels:

- GUI connectivity via Internet, available to all Synapse Users;
- API connectivity via SDNet, available to GCs, LCs, CPs, AOs;
- SWIFT ISO20022 connectivity via SwiftNet, available to GCs, LCs, CPs, AOs (AMs / AMOOs only for optional SPSA End-of-Day statement of holding in ISO20022 format).

### D3. What is the messaging standard for API connectivity?

In general, our API standards follow the ISO 20022 dictionary.

### D4. Describe the different API Endpoints that will be used.

Synapse will deploy both REST Endpoints (pull) and Websockets Endpoints (push). Access to data via the endpoints will be determined by each Synapse User's platform development, but in general, the former may be more suitable for static data (e.g. trading calendar or eligible securities) while the latter may be more suitable for real-time dependent data (e.g. trade approval status).

### D5. For API connectivity, can GC and LC share the same SDNet to access Synapse?

Yes. Different certificates will be issued based on each individual Synapse role, but these roles can share the same SDNet access.

### D6. Will interaction between Synapse and Synapse Users be via private or public network?

Private network for API users and Internet for GUI users.

### D7. How is transaction privacy ensured on Synapse, especially in the context of having multiple Synapse Users on the network who are not parties to the same transaction?

Synapse provides Synapse Users with limited-view contracts called SCV Views, which allow them to view and interact with eligible post-trade data. Participants' actions on their SCV Views are tracked by HKEX, which, in turn, records the changes in the SCV and SCV Views.

### D8. Will Synapse support 15022 or 20022 SWIFT formats?

The ISO connectivity channel available to Synapse Users will exclusively support ISO 20022.

### D9. What is Synapse's Business Identifier Code ("BIC")?

SYNPHKHH.

### D10. How will an AM's backend system interact with Synapse?

The only interaction an AM will have with Synapse is via the online UI, as well as the optional SPSA End-of-Day statement of holding in ISO20022 format (if AM chooses to

subscribe). Other interactions will remain via DTCC Instruction Trade Processing (“ITP”).

## E. Onboarding

### E1. Do we need to open a new SPSA in order to participate in Synapse?

No. You are not required to open a new SPSA in order to participate if you already have an existing SPSA. Upon completion of the fund onboarding process, your existing SPSA will be used for securities settlement.

### E2. Will we be required to sign a new contract?

Yes. In order to participate in Synapse, interested users will be required to sign an additional set of documentation, which will include, but not limited to, Terms and Conditions and selection of preferred connectivity options, via the Synapse User & Designated Service Provider Application / Change of Details Form.

### E3. What are the Synapse onboarding requirements?

Users who are interested to join Synapse are required to refer to the Synapse New Application Guidelines available on Synapse website to provide the required application details.

For users' UI connectivity (applicable to all users), the details of Delegated Administrator ("DA") to maintain Synapse UI User access via [HKEX Access Management Portal](#) must be provided.

For users accessing Synapse via UI, ISO or API connectivity, their BIC must be provided.

Users who will access Synapse via ISO are also required to subscribe the Synapse Live Closed User Group (CUG).

Where a legal entity performs multiple roles in Synapse (e.g. both LC and CP), the user must provide a unique BIC11, in order to allow Synapse to differentiate the roles. If the user does not have a BIC, or does not have multiple BIC11s, they will need to contact HKEX separately.

Interested Users need to prove execution of sufficient testing. For details on testing requirements, please contact Synapse Operations Support via email at [Synapse\\_Support@HKEX.COM.HK](mailto:Synapse_Support@HKEX.COM.HK).

### E4. What information is an AM expected to provide in order to sign up itself and its underlying funds to Synapse?

The AM is required to provide entity-level information (e.g. Name, Address, BIC etc.) for the entity onboarding process, and this will be provided to HKEX via the Synapse User & Designated Service Provider Application / Change of Details Form.

Once an AM has been onboarded, it can then onboard the underlying funds via the Synapse UI. The fund information to be provided, for example, may consist of:

- Basic information of the fund (e.g. fund name, Investor ID, LEI)
- Settlement account information of the fund (e.g. GC being appointed, the fund's account number at GC)
- Default settlement mode of the fund per side (e.g. Real time Delivery versus

payment (“RDP”) / Delivery versus payment (“DVP”))

Based on the Investor ID, Synapse will enrich the onboarding request with the corresponding SPSA number and associated LC. After the AM submits this information on Synapse, the onboarding process moves to the relevant GC who then validates the information and then further inputs the settlement account information of the relevant LC. The LC then validates the entire chain of information as the final step.

**E5. How does Synapse ensure trades are directed to the correct GC/LC accounts?**

Static data about fund accounts (at GC and LC levels) will be captured in Synapse during the fund onboarding process. This will be combined with ALERT SSI data in order to generate the Single Combined View (“SCV”) within Synapse for any given transaction, which will include the relevant account information, ensuring the instruction is directed to the right GC/LC account.

Reference data within Synapse and ALERT must be kept up to date at all times to ensure proper instructions are generated.

**E6. Does Synapse support a fund with multiple Investor IDs/SPSA accounts?**

Synapse operates on an individual fund basis, and thus on a one-fund-to-one-SPSA relationship.

The “Fund’s account at GC” is the unique key that Synapse uses to identify a fund profile when receiving instructions from DTCC. Therefore, the Fund’s account at GC must be unique, and will be validated at fund onboarding.

**E7. Is it mandatory for an AM to select a default settlement mode during a fund set-up?  
Can this be provided on a trade-by-trade basis?**

Yes, at the point of fund onboarding, a default settlement option (RDP or DVP) will need to be selected for each trade type (e.g. one default settlement mode for all buy trades and one default settlement mode for all sell trades).

For details of how the default settlement mode can be overridden on a trade-by-trade basis, please refer to [FAQ Section J](#).

**E8. Will the notifications/status updates be provided to Synapse Users upon successful fund set up?**

Once the fund onboarding process has been completed, and the contents approved by both the GC and LC, all three parties involved (AM, GC, LC) can view the latest status of the fund under the “Funds” tab via UI.

## F. Access Permissions

### F1. What are the access rights for Synapse users connecting via UI?

Accessing Synapse via UI will allow users to conduct fund and account onboarding, inquire about transaction status, view reference and market data, submit approvals/rejections for trades, and generate reports. Please refer to *FAQ Section F2* for Synapse UI User role type.

### F2. How will user roles be defined in Synapse?

The DA can assign the user profiles in accordance with your company's needs (e.g. maker, checker, or read only user, etc.) and access will cover your user's data only. For each Function ID (other than EU\_SYNUser), the DA should only assign the user with either maker or checker role, but not both. For users which require read-only access to Synapse only, the DA should assign them with Function ID EU\_SYNUser with enquiry role only.

Please find a summary of user role types below.

Function ID & Role Type in HKEX Access Management Portal	Description	Corresponding Function Type in Synapse
EU_DataManager (maker role)	<ul style="list-style-type: none"> <li>- Maker</li> <li>- User can input data (e.g. fund/account onboarding)</li> <li>- User cannot authorise data input</li> </ul>	Data Manager Input Only User
EU_DataManager (checker role)	<ul style="list-style-type: none"> <li>- Checker</li> <li>- User can authorise data input by Data Manager Input Only User (Maker)</li> <li>- User can also input data as a Maker.</li> </ul> <p><i>Note: A different Data Manager Input Authorise User (Checker) will have to authorise their input.</i></p>	Data Manager Input Authorise User
EU_Transaction Balances (maker role)	<ul style="list-style-type: none"> <li>- Maker</li> <li>- User can input data (e.g. transaction approval)</li> <li>- User cannot authorise any data input</li> </ul>	Transaction Balance Input Only User
EU_Transaction Balances (checker role)	<ul style="list-style-type: none"> <li>- Checker</li> <li>- User can authorise data input by Transaction Balance Input Only User (Maker)</li> <li>- User can also input data as a Maker.</li> </ul> <p><i>Note: a different Transaction Balance Input Authorise User (Checker) will have to authorise their input.</i></p>	Transaction Balance Input Authorise User
EU_SYNUser (enquiry role)	<ul style="list-style-type: none"> <li>- User can only view / access data and information to which their firm is allowed access</li> <li>- User does not have ability to input or authorise changes</li> </ul>	Read Only User

### F3. How are UI user access rights maintained in Synapse?

Synapse Users will be able to assign different user roles by their appointed DA (please refer to [FAQ Section F2](#)) for its own team with corresponding roles and access rights.

### F4. Can an AM grant 3<sup>rd</sup> party access to their information?

An AM can appoint a AMOO by informing HKEX via the Synapse User & Designated

Service Provider Application / Change of Details Form. The AMOO can then participate in Synapse, and their user roles can be set up to access their AM client's information. Once an AM has assigned an AMOO, an AM's user profiles will be relegated to Read Only Users.

**F5. Can an EP grant 3<sup>rd</sup> party access to their information?**

An EP can appoint an EPOO by informing HKEX via the Synapse User & Designated Service Provider Application / Change of Details Form. The EPOO can then participate in Synapse, and their user roles can be set up to access their EP client's information. Once an EP has assigned an EPOO, an EP's user profiles will be relegated to Read Only Users.

**F.6 Can a CP grant 3<sup>rd</sup> party access to their information?**

A CP can appoint an AO by informing HKEX via the Synapse User & Designated Service Provider Application / Change of Details Form. The AO can then participate in Synapse, and their user roles can be set up to access their CP client's information. Once a CP has assigned an AO, a CP's user profiles will be relegated to Read Only Users.

**F7. For UI access, does Synapse need proxy settings or does it only need to whitelist the URL?**

Synapse UI URL is publicly accessible. For proxy settings, please refer to your in-house IT for specific settings if required.

**F8. How can we access the Synapse Dashboard?**

All Synapse Users can access Synapse Dashboard via UI.

**F9. What level of transparency is provided to Synapse Users on opposite sides of the settlement chain?**

If both sides of the settlement chain are on Synapse, then both sides will have full visibility on the approval status of the instruction, including the reasons why an instruction was rejected. Once the necessary approvals have been received and the instruction are sent into CCASS, the status will also be visible to both sides of the settlement chain.

## G. Operations – Platform Functionality

### **G1. What instructions from CTM™ will be consumed by Synapse?**

DTCC will only send match agreed allocations and match agreed cancellations from CTM™ sent via SIM to Synapse

### **G2. How will the allocation process be affected by Synapse?**

The current allocation process will remain unchanged, as Synapse will not be involved in any allocation activities but only consume match agreed allocations from CTM™.

### **G3. When will Synapse deliver settlement instructions to CCASS?**

For the buy-side chain, an instruction will be sent to CCASS once both the GC and LC have approved the instruction.

For the sell-side chain, an instruction will be sent to CCASS once the CP has approved the instruction.

### **G4. Will there be any changes to the current CCASS matching and settlement process?**

No. There is no change to the following processes:

- Trading flows between EPs and the Stock Exchange of Hong Kong (“SEHK”)
- Matching, clearing and settlement flows within CCASS of Hong Kong Securities Clearing Company Limited (“HKSCC”)

### **G5. When will Synapse provide matching and settlement status updates?**

Synapse will consume the instruction status from CCASS upon completion of matching and settlement runs. This information will be immediately disseminated to Synapse Users via their preferred channels (API / ISO 20022 Message / UI).

### **G6. Is the Settlement Instruction (SI) / Segregated Account Transfer Instruction (STI) status in CCASS provided by Synapse in real time? If not, what is the update frequency?**

Synapse follows the existing CCASS settlement and matching cycle and will reflect the CCASS status immediately after the relevant batch runs.

### **G7. Will Synapse provide any position checking?**

No. The pre-trade checking mechanism will remain unchanged, and Synapse will not perform any position checks. However, Synapse will be able to provide buy-side users SPSA End of Day statement of holdings (“SOH”) in both csv and ISO20022 formats as an additional service. Please note that ISO20022 format is only available to AM, GC and LC who connected to Synapse via ISO channel and prior subscription is needed via GUI in order to get the SOH in ISO20022 format.

### **G8. What is the buy-in arrangement under Synapse?**

There will be no changes to the current buy-in practice in CCASS. Settlement obligation remains unchanged and will continue to be the responsibility of CCASS participants.

### **G9. Can Synapse Users inquire about relationship chains that they are a user of?**

All parties along the buy-side chain (e.g. AM, AMOO GC, LC), will be able to query the fund relationship and all parties along the sell-side chain (e.g. EP, EPOO, CP, AO), will be able to query the account relationship and view the entire chain mapped out as long as they

are a part of that chain. Restrictions may apply to specific fields.

**G10. Will Synapse have its own unique trade status codes or use the same CCASS codes?**

Synapse will reflect largely the same status codes as those from CCASS, but Synapse will be able to provide more details than CCASS. CCASS status codes will be translated into appropriate codes under ISO20022 for API and ISO messaging. Please refer to technical specification documentation for details.

**G11. How will Synapse determine if CNY or CNH will be used for any given trade?**

Synapse will consume the ISO currency code (i.e. CNY) and settlement amount on the match agreed allocation from CTM™, and generate SIs using the same settlement details. In terms of ISO currency code, Synapse will only carry forward the ISO currency code provided by CTM™. When instructing Free of Payment (FoP) instructions via Synapse, users must ensure to instruct with currency code CNY.

## H. Operations – Instruction Processing

**H1. As an AM, do I need to send my instruction to my GC if my settlement chain participates in Synapse?**

No. Synapse will deliver the instruction received from DTCC to GC in accordance to the pre-set static collected during the fund onboarding process.

**H2. As a GC, do I need to send my instruction to my LC if my settlement chain participates in Synapse?**

No. Synapse will deliver the instruction received from DTCC to LC in accordance to the pre-set static collected during the fund onboarding process.

**H3. As an LC, do I need to send my instruction to CCASS if my settlement chain participates in Synapse?**

No. Synapse will deliver the instruction that has been approved by the GC and LC to CCASS.

**H4. As an EP, do I need to send my instruction to my CP if my settlement chain participates in Synapse?**

No. Synapse will deliver the instruction received from DTCC to CP in accordance to the pre-set static collected during the sell-side account onboarding process.

**H5. As a CP, do I need to send my instruction to CCASS if my settlement chain participates in Synapse?**

No. Synapse will deliver the instruction that has been approved by the CP to CCASS.

**H6. If my role is an LC and a CP/GCP, do I need to send the instruction to CCASS?**

No. Synapse will deliver the instruction that has been approved by the GC, LC, and CP to CCASS. This instruction will be an SI if the receiving party and the delivering party are different CCASS participants, and it will be a Stock Segregated Account Transfer Instruction (“STI”) if the receiving party and the delivery party are the same CCASS participant.

**H7. Suppose a Synapse-enabled AM has placed a block order with allocations to multiple GC and one of the GCs has not joined Synapse, what happens to the entire order?**

Synapse is an optional service, so an AM has the flexibility to onboard some funds to Synapse, but not others. However, for a fund that is onboarded in both DTCC ALERT and Synapse, all Stock Connect settlement instructions of that fund will be processed through Synapse.

In Synapse, one fund is tied to one account at GC which is linked to one account at LC. For example, one order may have 2 allocations that belong to 2 different funds and their respective GCs. Fund A is on Synapse, while Fund B is not. As long as Fund A has been properly set up for Synapse and ALERT SSI, all of its trades will flow automatically to Synapse. Since Fund B is not on Synapse, then nothing changes and the message does not get sent to Synapse.

**H8. As a GC, how will we manage FX standing instructions with Synapse?**

Synapse will deliver the instruction (including FX information that has been setup and enriched by ALERT) received from DTCC to the GC in accordance to the pre-set static collected during the fund onboarding process. From there, the users' FX process can be initiated as with today.

**H9. For GCs that do not have Asia time zone coverage, does this mean they cannot participate in Synapse?**

For trades to be processed in Synapse, the GC, LC and CP users will need to provide their approvals before the instruction is sent to CCASS. Note that an AM approval is not required.

Synapse can receive CTM™ match agreed instructions outside of standard Asia operating hours as long as both CTM™ and Synapse are operational. As such, a GC's participation during or outside the Asia time zone coverage will depend on their own operational model. Please refer to the Synapse User Guide for more details.

**H10. Who generates the Unique Transaction Identifier ("UTI") and in what numerical format is it generated?**

The 52-character UTI will be generated by CTM™ and passed onto Synapse via SIM. The UTI has three components as below:

DTCC Institutional Trade Processing ("ITP") LEI (20 characters) + Buy-side CTM™ Trade Detail ID (16 characters) + Sell-side CTM™ Trade Detail ID (16 characters)

For UTI details, please contact your DTCC representative.

**H11. If an AM executes a buy trade for 1000 shares and after allocation, splits it into 2 settlements (400 and 600 shares). Synapse will generate 2 SCV views for settlement of 400 shares and 600 shares, but will there be 2 separate UTIs?**

Yes. There will be two unique UTIs for each individual allocation.

Taking the above example, the 1000 share is the block trade and there will a UTI assigned by CTM™. Upon splitting the initial trade into two allocation trades, CTM™ generates a unique UTI for the 400 allocation trade, and another UTI for the 600 allocation trade. Once the messages are sent into Synapse, each allocation will therefore have its own unique UTI.

**H12. Will a GC or LC be able to suppress its instruction approval so that the SI can be released to CCASS on T+1 instead of T+0?**

Synapse will only deliver instructions that have been approved by GC and LC to CCASS. As such, it would be possible for an AM to communicate (outside of Synapse) to its GC/LC to withhold their approval in order to suppress the delivery of the settlement instructions into CCASS.

**H13. Can Synapse provide exceptional reporting directly to the AM for those that do not subscribe to the SSM module?**

No. Based on the current model, subscription to SSM by AM/EP is a prerequisite for Synapse. If Synapse rejects a matched allocation sent from CTM™ (e.g. instruction quoted

a Hong Kong stock instead of a Stock Connect stock), this information will be made available on SSM for the AM to investigate.

**H14. How will we be able to distinguish trades settled via Synapse and those settled outside of Synapse?**

CCASS reports will distinguish between Synapse trades and non-Synapse trades by displaying a truncated version of the UTI with a prefix of SYN in specific fields depending on whether the instruction is an SI or STI/SSTI originating from Synapse.

**For an SI**

To be displayed in the **Processing Reference** field as: SYN + Buy-side CTM™ Trade Detail ID (16 characters) + Sell-side CTM™ Trade Detail ID (16 characters).

This will appear in the CCASS reports including Intra-Day ISI/SI Full list (“CSESI02”), Unmatched SI Report (“CCLUS01”), and SI Activity Report (“CCLSI02”).

**For an STI/SSTI**

To be displayed in the **Remarks** field as: SYN + Buy-side CTM™ Trade Detail ID (16 characters) + Sell-side CTM™ Trade Detail ID (16 characters).

This will appear in the CCASS report STI Activity Report (“CSEAT02”).

**H15. If an instruction in Synapse is approved by all parties and the SI is delivered to CCASS, can the instruction still be amended prior to settlement?**

Yes. Amending the settlement instruction by LC or CP directly in C3T is an option. However, please note that amending certain fields in C3T may lead to a "No Further Processing (NOFP) status" in Synapse (e.g. ISIN, quantity, settlement currency, instruction type, processing reference, counterparty, client account number or payment mode) i.e. Synapse will not update the manual amendment of particular field to the SCV. The NOFP status will exist unless the change in C3T is reverted back to the original state.

To avoid such scenarios, we strongly encourage all parties to keep ALERT SSI details and other reference data updated and also properly reflected in Synapse.

**H16. Is it possible for a GC to query a missing transaction from AM in Synapse?**

Synapse will consume only match agreed instructions from DTCC.

If there is no transaction information in Synapse, the transaction cannot be queried in Synapse. For example, where an instruction has been rejected by Synapse because the fund does not exist in Synapse, Synapse will inform DTCC of the rejection reason, which will then be reflected in SSM, DTCC’s exception reporting platform accessible to AMs and EPs.

**H17. Does Synapse track the instruction references provided by LC/GC/CP when they submit their approval/rejection instructions?**

Yes. Synapse will support each user’s own internal reference, and the reference will continue to be tracked in the SCV of the trade. These internal references will be captured by Synapse when the users submit their approvals / rejections to individual trades via API & ISO (not available via UI).

**H18. For a particular trade, if the contractual amount is \$100, but the matched amount in CCASS is \$105, what is the amount that will be displayed in the settlement confirmation?**

When a trade is matched within the CCASS tolerance, prior to settlement, the contractual amount will be displayed (i.e. \$100), but upon settlement the actual settlement amount will be displayed (i.e. \$105) in the settlement confirmation.

**H19. How will an LC manage a tolerance amount instructed by its client that is larger than the CCASS tolerance?**

Synapse does not manage tolerance amounts. Synapse will simply deliver instructions based on the amount provided from CTM™. Changes to settlement amount (e.g. via tolerance) will need to be managed in C3T. The final settlement amount in Synapse will reflect the settled amount from CCASS.

**H20. What happens if an AM sends an instruction to the GC directly, while also using Synapse to send an instruction to the GC?**

Synapse will deliver all matched agreed instructions received from CTM™ to the GCs accordance to the pre-set static collected during the fund onboarding process, so AM users need to ensure not to send duplicated instructions to their GCs.

**H21. What happens if the GC/LC relationship component of a fund profile is not updated in Synapse, and Synapse sends an instruction to the incorrect LC?**

As long as either the GC or the LC does not submit its approval, Synapse will not deliver an SI into CCASS. Therefore, in this instance, the GC should either withhold its approval, or ask the LC to withhold its approval as well.

The rectification actions would be:

- a) AM to cancel the original trade in CTM™
- b) GC to update the fund profile in Synapse with the correct LC
- c) LC to approve the fund profile
- d) AM to reinstruct the trade in CTM™
- e) GC and (updated) LC can now approve the trade in Synapse

It is important for all parties to ensure ALERT SSI and Synapse have the most updated information.

**H22. If an LC has rejected a Synapse instruction (e.g. client has insufficient securities), how can it subsequently approve the trade again (e.g. after client provides sufficient securities)?**

If a GC/LC/CP initially submits a rejection for a Synapse instruction, they can subsequently send an approval which will automatically override the initial rejection. The instruction will then continue to be processed in Synapse. However, note that once an instruction has been approved in Synapse, it cannot be subsequently rejected. The same logic is applicable to all channels (i.e. API/ISO 20022/UI).

**H23. What is the difference between "rejecting a trade" and "not sending approval until cutoff"?**

Irrespective of whether a GC, LC or CP rejects a trade or withholds its approval, the same result will occur. Synapse will not deliver the instruction to CCASS for that particular

buy/sell-side chain. However, the key difference is the transparency. If a rejection is submitted, other parties on the chain will know that user has performed its validation on the settlement instruction (resulting in a rejection). If an approval is simply withheld and no action is taken, other parties on the chain will not know if the user is withholding its approval on purpose, or if it was an unintended omission.

**H24. For an instruction settling on T+0, what is the impact if a GC or LC's approval is withheld until T+1?**

Synapse will only deliver instruction that have been approved by GC and LC to CCASS.

If Synapse does not receive the required approvals on T+0, the instruction will not be delivered to CCASS. If the approvals are subsequently received on T+1, Synapse will deliver the instruction to CCASS on T+1, and the instruction can only be matched and settled on T+1.

**H25. Is it possible to approve a settlement instruction with a prior or future settlement date?**

It is possible to approve a settlement instruction with a prior or future settlement date in Synapse for further processing in CCASS, as Synapse will consume settlement instructions from the matching platform with settlement date fall between "current business date – 10 calendar days" and "current business date + 10 calendar days" (both days inclusive).

**H26. Is there any function in Synapse to locate the possible errors of the settlement instruction?**

For dual-side settlement instructions processed in Synapse, there is a SI Health Check function to alert Synapse Users for possible errors of the instructions on the ISIN or counterparty ID fields so that the AM / EP can perform cancellation and re-book of trades in the matching platform timely to rectify the possible errors. Please refer to Synapse User Guide for details of the Health Check function.

## I. Operations – Instruction Amendment / Cancellation

### I1. Can instructions be amended in Synapse?

All instructions cannot be amended via Synapse. Amendments will need to be sent via cancellation and replacement in CTM™, or alternatively amended in C3T directly, assuming the trade has not been settled.

Please note that amending certain fields in C3T may lead to a "No Further Processing (NOFP) status" in Synapse (e.g. ISIN, quantity, settlement currency, instruction type, processing reference, counterparty, client account number or payment mode) i.e. Synapse will not update the manual amendment of particular field to the SCV. The NOFP status will exist unless the change in C3T is reverted back to the original state.

### I2. How can instructions be cancelled in Synapse?

Synapse will receive a "match agreed cancellation" from CTM™ and begin the cancellation process. Synapse will first identify the latest status of the instruction before performing any cancellations. If the instruction has already been "Settled", the cancellation will fail and the status will display "Settled". If the status is not "Settled" (e.g. Matched or Unmatched), Synapse will take the required action to revoke or to delete the instruction in CCASS.

### I3. How are cancellations handled where the LC and CP are the same party?

For instruction where the LC and CP are the same entity, Synapse will deliver an STI to CCASS (as opposed to an SI). Matched agreed cancellations received from DTCC will be treated in the same way irrespective of STI or SI. For details of cancellation flow, please refer to [FAQ Section I2](#).

### I4. Will a "Failed Cancellation" status be sent to AM, GC & LC?

No. There won't be a "Failed Cancellation" status. Synapse will query from CCASS the latest status of the trade. If the cancellation is successful, a "Cancelled" status will be displayed. If the trade has already settled in CCASS, Synapse will directly display a "Settled" status.

### I5. Will a new instruction be linked to a previously cancelled instruction in Synapse?

Each trade will have a unique UTI reference linked to an SCV. For "Matched cancellation", Synapse will look for the original instruction and deliver the cancellation request to all parties (GC/LC/CP).

A trade's UTI will be carried in the instructions of a trade for its entire lifecycle, including all amendments and cancellations. However, if a trade is fully cancelled and a new trade is independently received, that new trade will be assigned with a new UTI.

## J. Operations – Settlement Modes

**J1. What CCASS settlement modes do you support?**

Synapse supports DVP, RDP and FOP.

**J2. Can the default settlement mode of the fund profile be updated by the AM?**

After a fund has been set up in Synapse, the AM can initiate changes to the fund profile to amend default settlement mode.

On an instruction by instruction basis, an AM can rely on the RTGS indicator (YRTG/NRTG) to override the default settlement mode. This RTGS indicator is one of the pieces of information on the settlement instruction that DTCC sends to Synapse.

**J3. How to change the settlement mode of an instruction after it has reached Synapse?**

Change of settlement mode will need to be sent via cancellation and replacement in CTM™ by the AM / EP, or alternatively amended in C3T by the LC / CP directly, assuming the trade has not been settled. Please note that the amendment of settlement mode in C3T will lead to a NOFP status in Synapse.

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