GSD Liquidity Need Calculation & CCLF Impact of Done-Away Client Activity

This document is for informational purposes only. Capitalized terms used herein and not otherwise defined have the meaning assigned to them in the GSD Rules. Reference should be made to the GSD Rules for a complete statement of the rules and procedures, rights, obligations, and other requirements applicable to the use of the services offered by GSD. In the case of any discrepancy between this document and the GSD Rules, the GSD Rules shall govern. The GSD Rules are available at https://www.dtcc.com/legal/rules-and-procedures.

DATE: May 2024

DEPARTMENT: Fixed Income Clearing Corporation (FICC)

Introduction to GSD Liquidity Risk Management

▸ In compliance with Rule 17Ad-22(e)(7) of the Covered Clearing Agency Standards, each Clearing Agency is required to effectively measure, monitor, and manage the liquidity risk that arises in or is borne by such Clearing Agency, including measuring, monitoring, and managing its settlement and funding flows on an ongoing and timely basis, and its use of intraday liquidity.

▸ FICC's liquidity risk management is designed to address foreseeable liquidity shortfalls.

▸ Hold qualifying liquid resources ("QLR") sufficient to fund settlement for the Cover 1 Netting Member (and affiliate Netting Members) with the largest liquidity obligation, or need, on each day under extreme but plausible market stress conditions.

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GSD Capped Contingent Liquidity Facility ("CCLF")

▸ The largest proportion of GSD's QLR is made up of Netting Member's commitments to the Capped Contingent Liquidity Facility ("CCLF"), a repo financing facility that, if invoked, could be collateralized by securities delivered to the defaulted Netting Member and financed by the surviving Members, up to the individual cap for each.

▸ The total CCLF facility size is driven by the maximum observed settlement obligation, or liquidity need, for a Netting Member and its affiliate Netting Members ("GSD family") over a lookback period, plus a buffer.

▸ The proportion of the CCLF allocated at a Netting Member's account level is, in large part, based on the maximum settlement obligations of the account, and the frequency at which the account has settlement obligations over $15BN during the lookback period.

  ▸ There are netting efficiencies allowed for done-with Sponsoring DVP and ACM activity when calculating the account level settlement obligations.

▸ Every Member that has settlement activity on any date in the lookback period will have a CCLF obligation.

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Family Level Liquidity Needs Used to Determine Total CCLF Size:

- The Cover 1 liquidity need at GSD is made up of cleared treasury, MBS pool, and agency cash and repo activity for the GSD Netting Member (and its affiliate GSD Netting Members) with the single largest settlement obligation on each day.
- To calculate the daily liquidity need for each hypothetical Date of Insolvency ("DOI"), GSD considers only settlement activity settling on DOI+1:
    - Cash trades
    - Forward starting repo start leg settlement
    - Repo end leg settlement
- Netting conventions:
    - DVP activity settling on DOI+1 is netted to the CUSIP level *across* all accounts of an affiliated family, and the liquidity contribution of DVP is the sum of the net long CUSIP level settlement obligations.
    - GCF activity is netted *across* CUSIPs in an account, and the liquidity contribution of GCF activity is the sum of net long account level settlement obligations within an affiliated family.
    - Sponsored GC activity does not carry a liquidity need as all trades are necessarily done-with.

Account Level Liquidity Needs Used to Determine Netting Member CCLF Cap:

- Sponsored DVP and ACM done-with activity does not carry a liquidity need, allowing for no impact to CCLF
- Sponsored GC activity does not carry a liquidity need (all done-with).
- DVP netting is allowed at the CUSIP level within an account for trades settling on DOI+1, and the liquidity contribution is the sum of the net long CUSIP level settlement obligations.
- GCF netting is allowed across all GCF CUSIPs within an account settling on DOI+1, and there is a liquidity contribution only if the settlement obligation sums to a net long.
- NOTE: done-away activity and/or onward lending from the principal account can generate a liquidity need.

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Introduction to FICC's Netting Capabilities

- ▶ FICC's multilateral netting capabilities offer settlement efficiency benefits to Netting Members.

- ▶ These netting benefits are extended to Netting Members that submit transactions to FICC on behalf of their clients in their capacity as Sponsoring Members and Agent Clearing Members.

- ▶ FICC makes available this material to provide clarity regarding its multilateral netting capabilities and where settlement efficiencies can be maximized for client activity, depending on the manner in which trade activity is executed by clients and submitted to FICC by Sponsoring Members and Agent Clearing Members.

- ▶ Optimizing settlement efficiency for done-away activity may reduce the CCLF impact for Sponsoring Members and Agent Clearing Members.
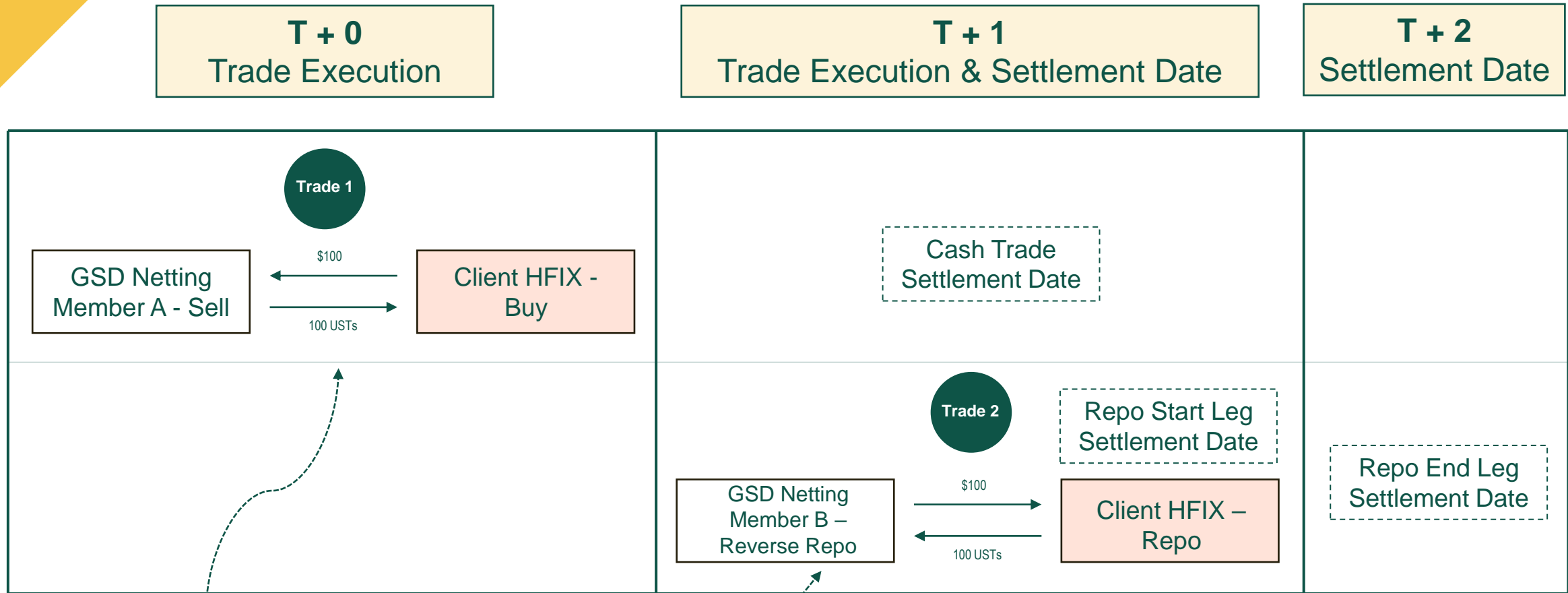
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Agenda

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Scenario 1: Basis Trade – CCLF Impact

Settlement of a "Done-Away" Client
Cash Transaction & SDS Repo

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Scenario 1 (CCLF Impact): "Done-Away" Client Cash & Same Day Start Repo Trade Execution

T + 0
Trade Execution

T + 1
Trade Execution & Settlement Date

T + 2
Settlement Date

Trade 1

GSD Netting Member A - Sell ← $100 / 100 USTs → Client HFIX - Buy

Cash Trade Settlement Date

Trade 2

GSD Netting Member B – Reverse Repo ← $100 / 100 USTs → Client HFIX – Repo

Repo Start Leg Settlement Date

Repo End Leg Settlement Date

Trade 1: Client HFIX executes a cash trade purchasing securities from GSD Netting Member A.

Trade 2: Client HFIX executes a same day start repo trade with GSD Netting Member B to finance the purchased position.

The two trades are submitted for clearing by the client's Sponsoring / Agent Clearing Member. This scenario **will impact the CCLF allocation for the direct member**, as it is calculated using settlement obligations settling each business day at the close of business SD-1. As repo is booked on an SDS basis the cash trade and the SDS repo create separate CCLF obligations.

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Scenario 1 (CCLF Impact): Cash Trade & Repo Start Leg Settlement with FICC

▸ At end of day on T+0, FICC's netting process will include all trade activity with a settlement date of T+1 to establish net settlement positions for all of the counterparties versus FICC on T+1. The cash trade only will be included in FICC's net.

GSD Netting Member A

Sponsoring / Agent Clearing Member Customer Account (HFIX)

GSD Netting Member B

Trade 1 - Sell

Deliver 100 USTs to FICC

Trade 1 – Buy

Trade 2 – Rev Repo — Receive 100 USTs from FICC

As client HFIX executed an SDS repo on T+1, FICC will generate a separate trade-for-trade settlement obligation for the Sponsoring / ACM customer account to settle the start leg of the repo on T+1.

Receive 100 USTs from FICC

Trade 2 – Repo

Deliver 100 USTs to FICC

Results in two settlement obligations.

▸ On settlement date T+1, GSD Netting Member A will deliver 100 USTs to FICC and FICC will re-deliver 100 USTs to the Sponsoring / Agent Clearing Member. The Sponsoring / Agent Clearing Member will then deliver 100 USTs back to FICC, and FICC will re-deliver the securities to GSD Netting Member B.

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Scenario 2: Basis Trade – No CCLF Impact

Settlement of a "Done-Away" Client
Cash Transaction & Forward Start Repo

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Scenario 2 (No CCLF Impact): "Done-Away" Client Cash & Fwd Start Repo Trade Execution

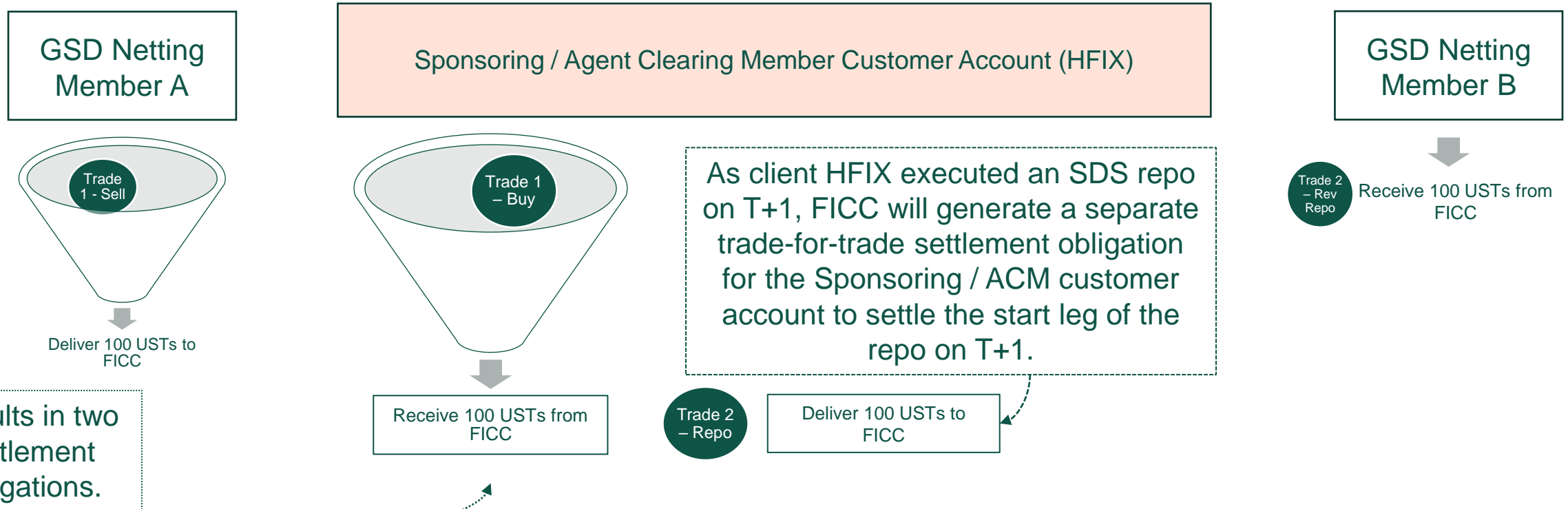| T + 0 Trade Execution	T + 1 Settlement Date	T + 2 Settlement Date

Trade 1: Client HFIX executes a cash trade purchasing securities from GSD Netting Member A.

Trade 2: Client HFIX executes a forward start repo trade with GSD Netting Member B to finance the purchased position.

Trade 1

GSD Netting Member A - Sell ←— $100 / 100 USTs —→ Client HFIX - Buy

Cash Trade Settlement Date

Trade 2

GSD Netting Member B – Reverse Repo —→ $100 / ←— 100 USTs Client HFIX – Repo

Repo Start Leg Settlement Date

Repo End Leg Settlement Date

The two trades are submitted for clearing by the client's Sponsoring / Agent Clearing Member. This scenario creates **no impact to the CCLF allocation** for the direct member, as it is calculated using settlement obligations settling each business day. As forward start repo is booked on the same day as the cash trade, the two trades will be netted for settlement on T+1.

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▸ At end of day on T+0, FICC's netting process will include all trade activity with a settlement date of T+1 to establish net settlement positions for all of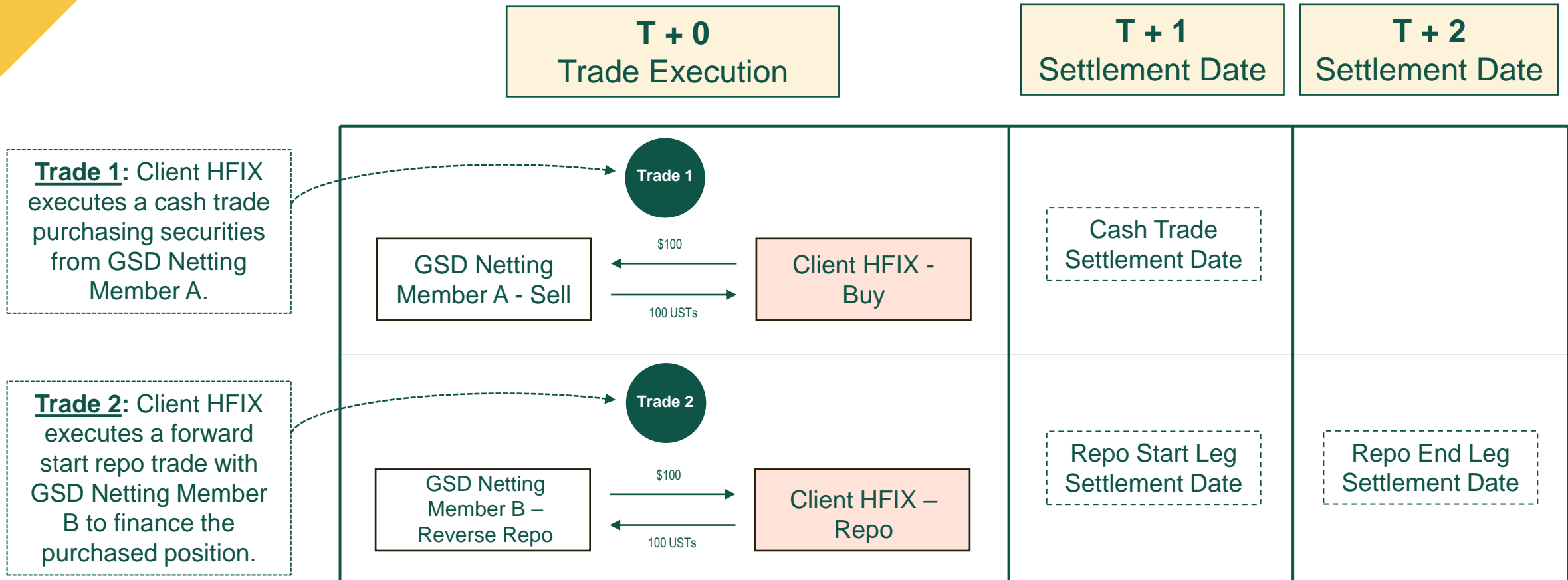 the counterparties versus FICC on T+1. The cash trade and the start leg of the repo transaction will be included in FICC's net.

GSD Netting Member A

Sponsoring / Agent Clearing Member Customer Account (HFIX)

GSD Netting Member B

Trade 1 - Sell

Trade 1 – Buy

Trade 2 - Repo

Trade 2 – Reverse Repo

Results in no settlement obligation.

Deliver 100 USTs to FICC

Nets out of settlement

Receive 100 USTs from FICC
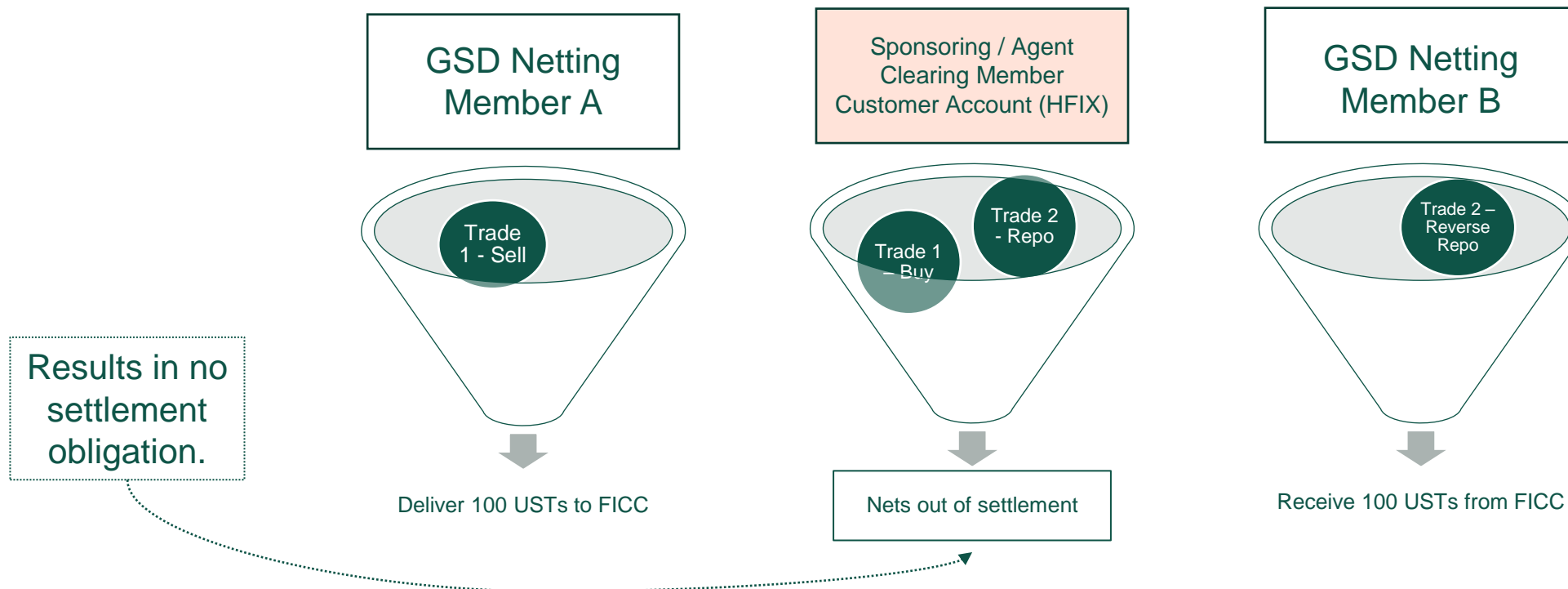
▸ On settlement date T+1, Netting Member A will deliver 100 USTs to FICC and FICC will re-deliver 100 USTs to GSD Netting Member B. The Sponsoring / Agent Clearing Member customer account has netted out of any settlement obligations with FICC.

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Scenario 3: Relative Value Trade – CCLF Impact

Settlement of "Done-Away" Client
Cash Transactions & SDS Repos

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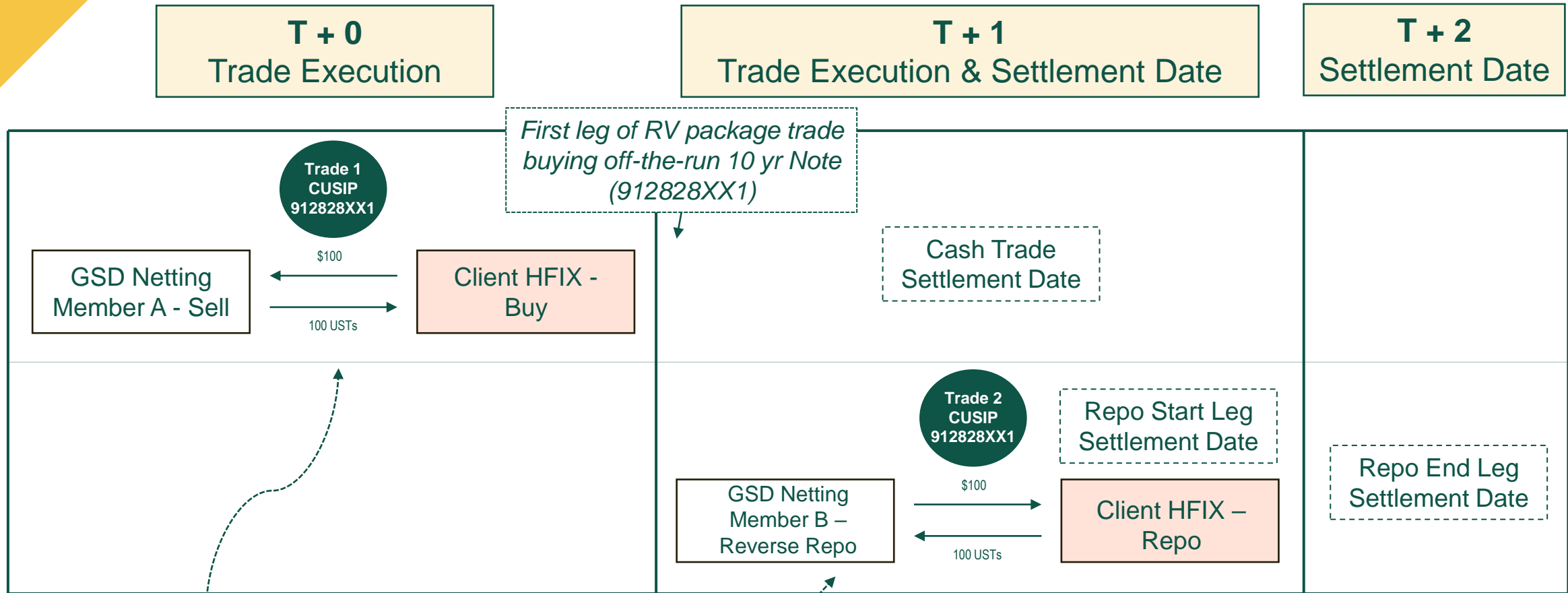# Scenario 3 (CCLF Impact): "Done-Away" Client Cash & Same Day Start Repo Trade Execution

T + 0
Trade Execution

T + 1
Trade Execution & Settlement Date

T + 2
Settlement Date

First leg of RV package trade buying off-the-run 10 yr Note (912828XX1)

Trade 1 CUSIP 912828XX1

$100

GSD Netting Member A - Sell

100 USTs

Client HFIX - Buy

Cash Trade Settlement Date

Trade 2 CUSIP 912828XX1

$100

GSD Netting Member B – Reverse Repo

100 USTs

Client HFIX – Repo

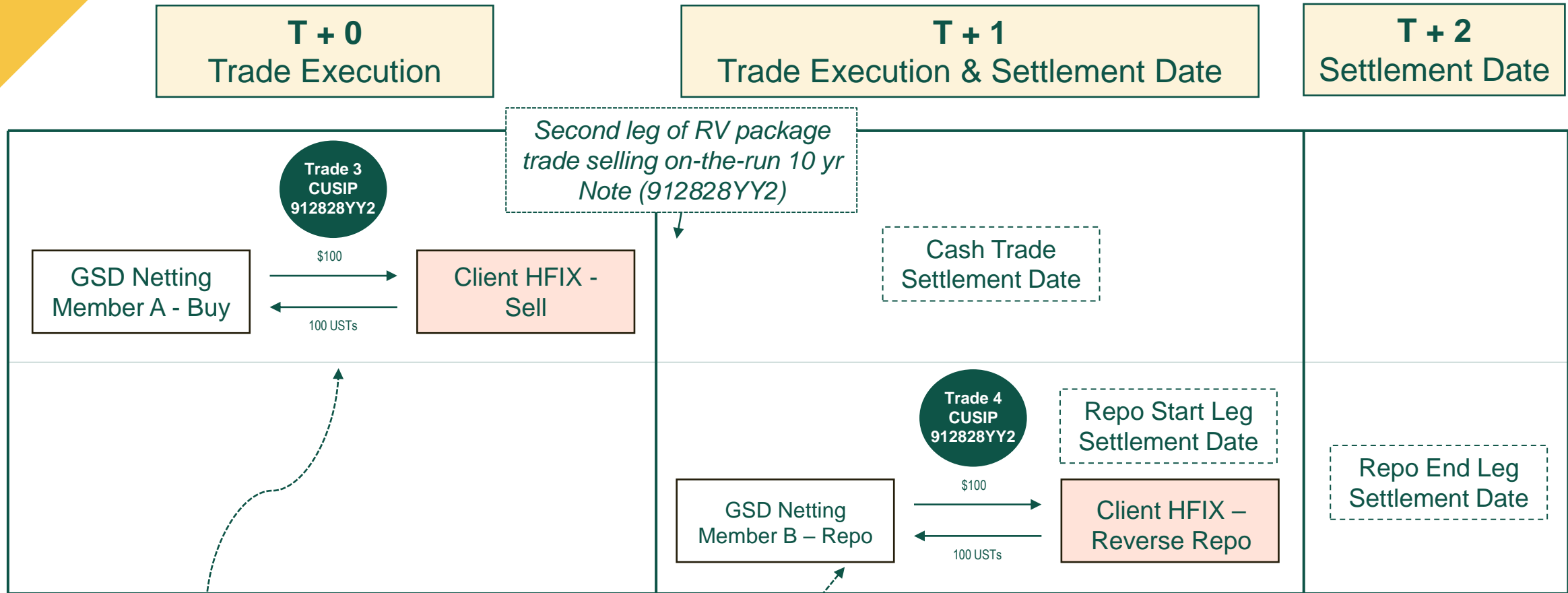Repo Start Leg Settlement Date

Repo End Leg Settlement Date

Trade 1: Client HFIX executes a cash trade purchasing **off-the-run 10 yr Note** from GSD Netting Member A.

Trade 2: Client HFIX executes a same day start repo trade with GSD Netting Member B to finance the purchased position.

The two trades are submitted for clearing by the client's Sponsoring / Agent Clearing Member. This scenario **will impact the CCLF allocation for the direct member**, as it is calculated using settlement obligations settling each business day at the close of business SD-1. As repo is booked on an SDS basis the cash trade and the SDS repo create separate CCLF obligations.

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Scenario 3 (CCLF Impact): "Done-Away" Client Cash & Same Day Start Repo Trade Execution

T + 0
Trade Execution

T + 1
Trade Execution & Settlement Date

T + 2
Settlement Date

Second leg of RV package trade selling on-the-run 10 yr Note (912828YY2)

Trade 3 CUSIP 912828YY2

GSD Netting Member A - Buy

$100

100 USTs

Client HFIX - Sell

Cash Trade Settlement Date

Trade 4 CUSIP 912828YY2

GSD Netting Member B – Repo

$100

100 USTs

Client HFIX – Reverse Repo

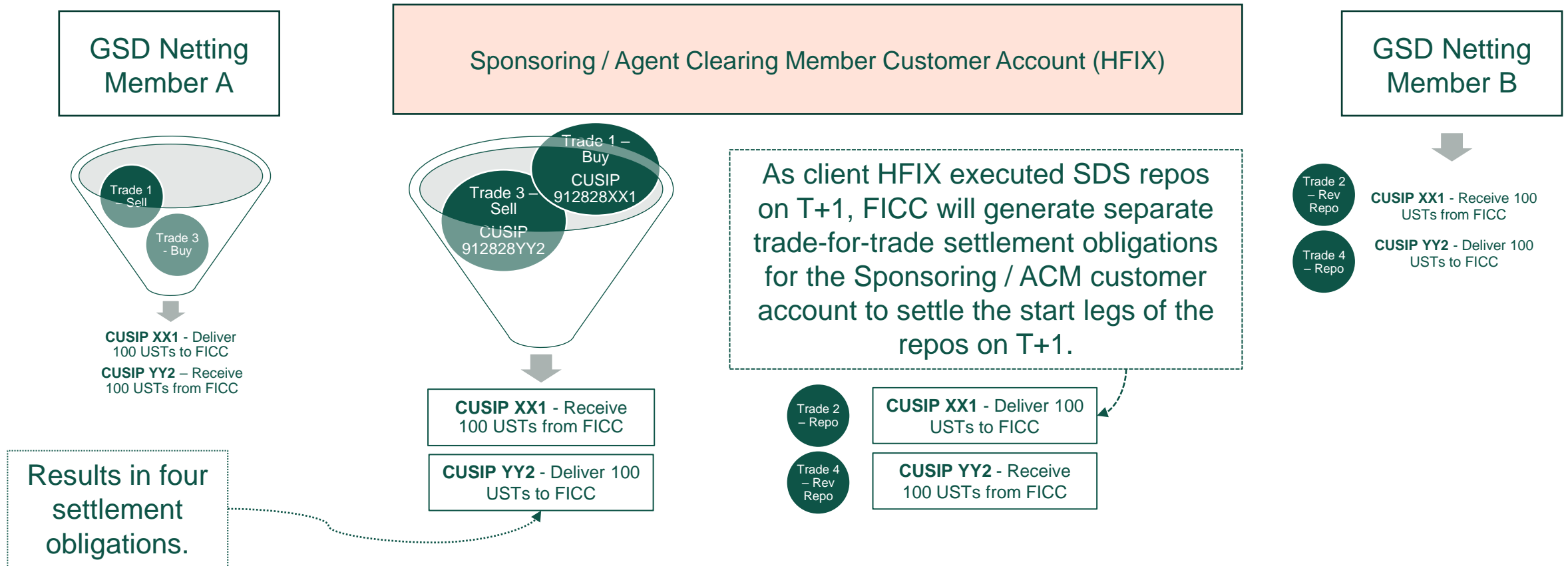Repo Start Leg Settlement Date

Repo End Leg Settlement Date

Trade 3: Client HFIX executes a cash trade selling the **on-the-run 10 yr Note** to GSD Netting Member A.

Trade 4: Client HFIX executes a same day start reverse repo trade with GSD Netting Member B to borrow the securities for the sold position.

The two trades are submitted for clearing by the client's Sponsoring / Agent Clearing Member. This scenario **will impact the CCLF allocation for the direct member**, as it is calculated using settlement obligations settling each business day at the close of business SD-1. As repo is booked on an SDS basis the cash trade and the SDS repo create separate CCLF obligations.

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Scenario 3 (CCLF Impact): Cash Trade & Repo Start Leg Settlement with FICC

▸ At end of day on T+0, FICC's netting process will include all trade activity with a settlement date of T+1 to establish net settlement positions for all of the counterparties versus FICC on T+1. The cash trades <u>only</u> will be included in FICC's net.

GSD Netting Member A

Sponsoring / Agent Clearing Member Customer Account (HFIX)

GSD Netting Member B

Trade 1 – Sell

Trade 3 - Buy

Trade 1 – Buy
CUSIP 912828XX1

Trade 3 – Sell
CUSIP 912828YY2

As client HFIX executed SDS repos on T+1, FICC will generate separate trade-for-trade settlement obligations for the Sponsoring / ACM customer account to settle the start legs of the repos on T+1.

Trade 2 – Rev Repo

Trade 4 – Repo

CUSIP XX1 - Deliver 100 USTs to FICC

CUSIP YY2 – Receive 100 USTs from FICC

CUSIP XX1 - Receive 100 USTs from FICC

CUSIP YY2 - Deliver 100 USTs to FICC

CUSIP XX1 - Receive 100 USTs from FICC

CUSIP YY2 - Deliver 100 USTs to FICC

Trade 2 – Repo

Trade 4 – Rev Repo

CUSIP XX1 - Deliver 100 USTs to FICC

CUSIP YY2 - Receive 100 USTs from FICC

Results in four settlement obligations.

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Scenario 4: Relative Value Trade – No CCLF Impact

Settlement of a "Done-Away" Client Cash Transaction & Forward Start Repo

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Scenario 4 (No CCLF Impact): "Done-Away" Client Cash & Fwd Start Repo Trade Execution

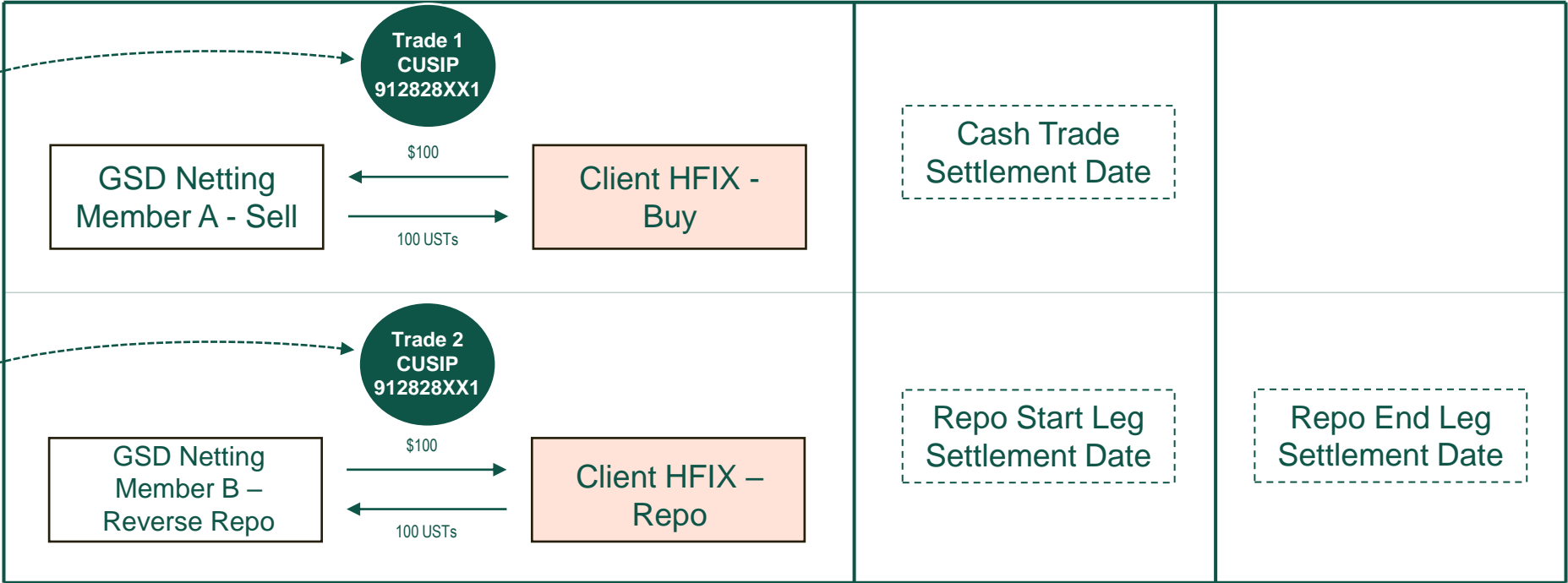*First leg of RV package trade buying off-the-run 10 yr Note (912828XX1)*

T + 0 Trade Execution	**T + 1** Settlement Date	**T + 2** Settlement Date

Trade 1: Client HFIX executes a cash trade purchasing **off-the-run 10 yr Note** from GSD Netting Member A.

Trade 1 CUSIP 912828XX1

GSD Netting Member A - Sell ← $100 / 100 USTs → Client HFIX - Buy

Cash Trade Settlement Date

Trade 2: Client HFIX executes a forward start repo trade with GSD Netting Member B to finance the purchased position.

Trade 2 CUSIP 912828XX1

GSD Netting Member B – Reverse Repo → $100 / 100 USTs ← Client HFIX – Repo

Repo Start Leg Settlement Date

Repo End Leg Settlement Date

The two trades are submitted for clearing by the client's Sponsoring / Agent Clearing Member. This scenario creates **no impact to the CCLF allocation** for the direct member, as it is calculated using settlement obligations settling each business day. As forward start repo is booked on the same day as the cash trade, the two trades will be netted for settlement on T+1.

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Scenario 4 (No CCLF Impact): "Done-Away" Client Cash & Fwd Start Repo Trade Execution

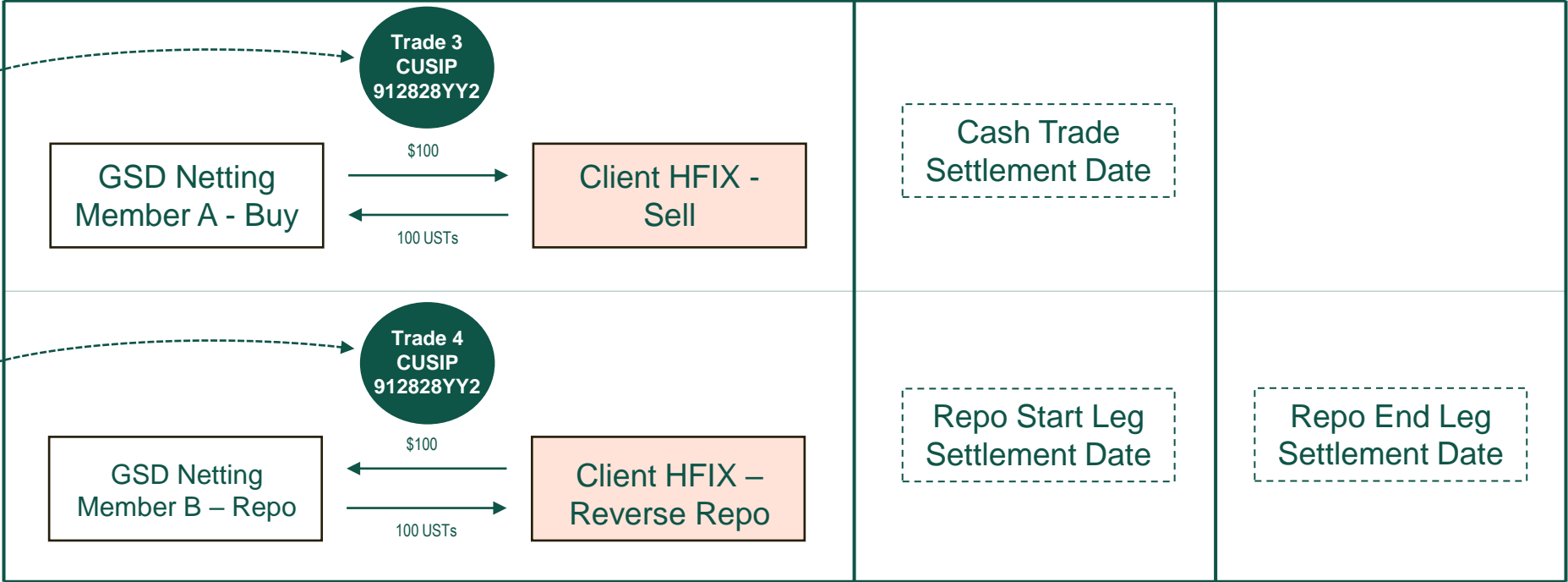*Second leg of RV package trade selling on-the-run 10 yr Note (912828YY2)*

T + 0
Trade Execution

T + 1
Settlement Date

T + 2
Settlement Date

Trade 3: Client HFIX executes a cash trade selling **on-the-run 10 yr Note** to GSD Netting Member A.

Trade 3
CUSIP
912828YY2

GSD Netting Member A - Buy

$100 →
← 100 USTs

Client HFIX - Sell

Cash Trade Settlement Date

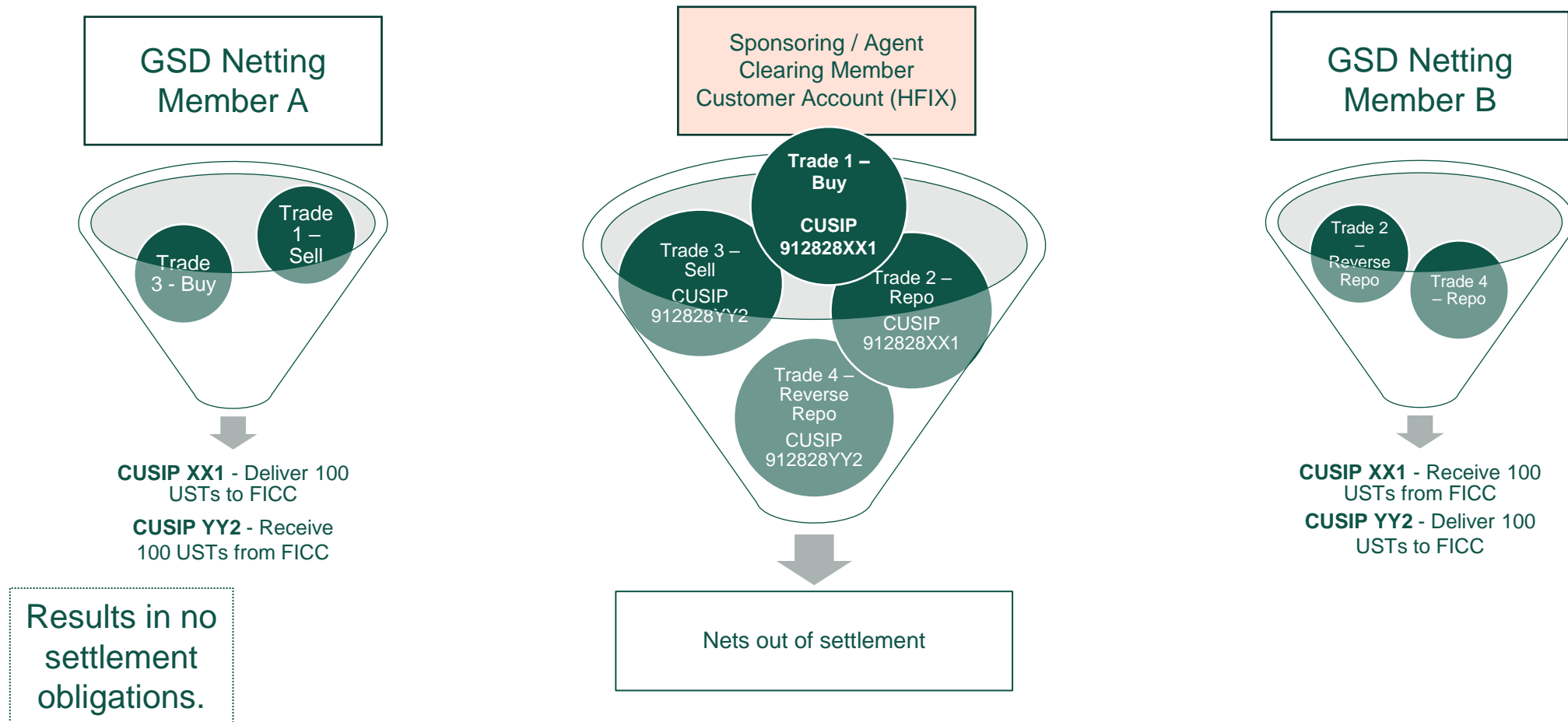**Trade 4:** Client HFIX executes a forward start repo trade with GSD Netting Member B to borrow the securities for the sold position.

Trade 4
CUSIP
912828YY2

GSD Netting Member B – Repo

← $100
100 USTs →

Client HFIX – Reverse Repo

Repo Start Leg Settlement Date

Repo End Leg Settlement Date

The two trades are submitted for clearing by the client's Sponsoring / Agent Clearing Member. This scenario creates **no impact to the CCLF allocation** for the direct member, as it is calculated using settlement obligations settling each business day. As forward start repo is booked on the same day as the cash trade, the two trades will be netted for settlement on T+1.

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Scenario 4 (No CCLF Impact): Cash Trade & Repo Start Leg Settlement with FICC

▸ At end of day on T+0, FICC's netting process will include all trade activity with a settlement date of T+1 to establish net settlement positions for all of the counterparties versus FICC on T+1. The cash trades and the start leg of the repo transactions will be included in FICC's net.

GSD Netting Member A

Trade 1 – Sell

Trade 3 - Buy

CUSIP XX1 - Deliver 100 USTs to FICC

CUSIP YY2 - Receive 100 USTs from FICC

Results in no settlement obligations.

Sponsoring / Agent Clearing Member Customer Account (HFIX)

Trade 1 – Buy

CUSIP 912828XX1

Trade 3 – Sell CUSIP 912828YY2

Trade 2 – Repo CUSIP 912828XX1

Trade 4 – Reverse Repo CUSIP 912828YY2

Nets out of settlement

GSD Netting Member B

Trade 2 – Reverse Repo

Trade 4 – Repo

CUSIP XX1 - Receive 100 USTs from FICC

CUSIP YY2 - Deliver 100 USTs to FICC

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