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Liquidity Management: Sweeps

iGTB™ THE WORLD'S FIRST COMPLETE GLOBAL TRANSACTION BANKING PLATFORM

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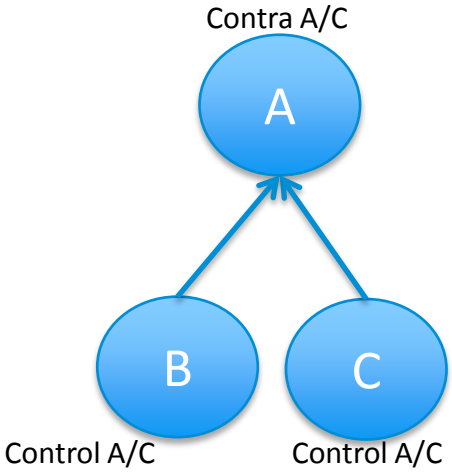
Sweep - Concepts

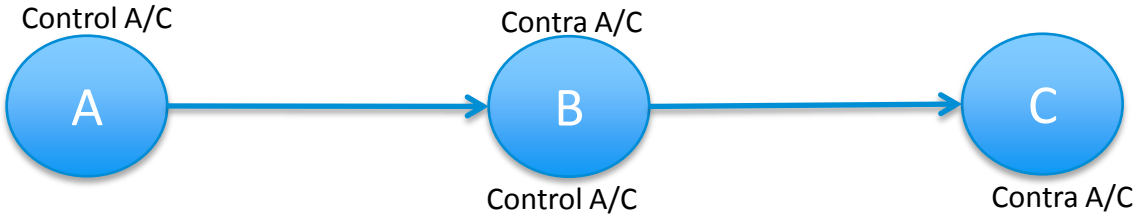
- The two accounts involved in a Sweep are called
  - Control Account: The account on which the sweep rule will be executed
  - Contra Account: The account which has the other leg of the transaction

- The actual flow of funds could be in either direction

- The same account can be Control or Contra account in any number of instructions



Funds are transferred from B & C to A
B & C are Control A/Cs and A is the Contra A/C



Funds are transferred from A to B, and then from B to C.
Here A is a Control A/c, C is a Contra A/C and B is both a Control A/c & a Contra A/c

Sweep Instructions

- Lowest level element in the overall sweep set up.

- Identifies all the attributes of the sweep required to execute the sweep in the system e.g.
  - Accounts involved
  - The formula (rules) to calculate the sweep amount
  - The date and time of the sweep execution
  - The frequency of the sweep execution etc.

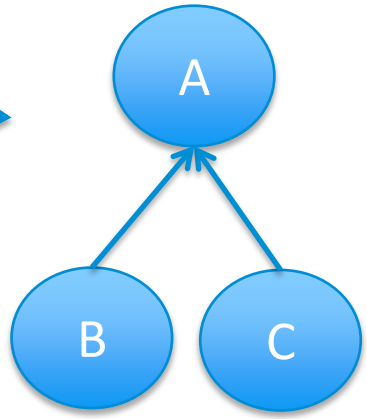
- In an instruction, the Control & Contra Accounts will always be different

Sweep Structure

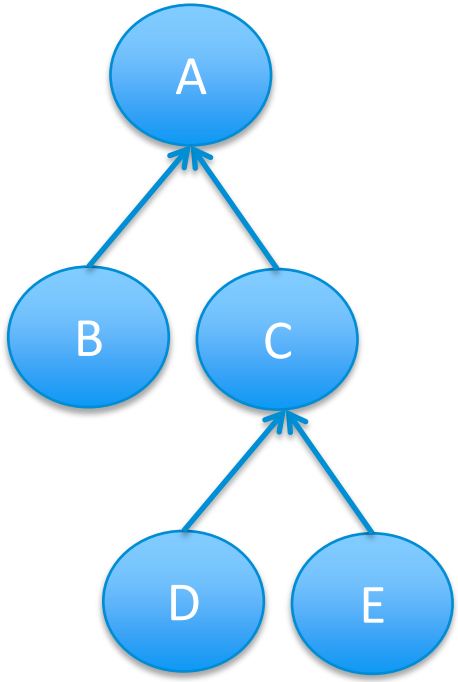
- A set of instructions collectively form a “Structure”
- Typically all instructions belonging to a single customer may be grouped under a structure
- Sweep Structure helps to define inter-relationships between different instructions and create a logical flow in which the sweeps can be executed
- There are three different types of structures:
  - Single Tier
  - Hierarchy
  - Mesh

Structure Types

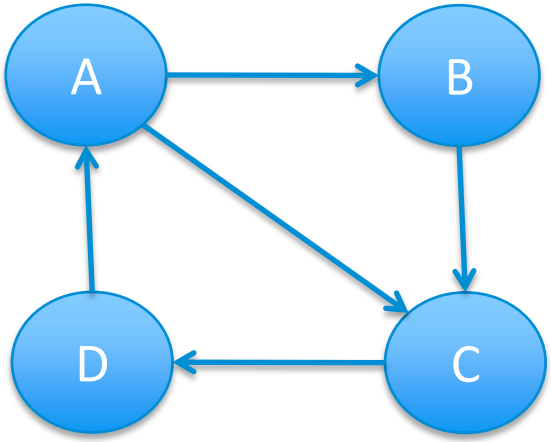
- Single Tier
  - Has a single Tier and a single Node
  - Multiple Control A/Cs to One Contra A/C



- Hierarchy
  - Can have multiple tiers
  - The topmost account is a Contra Account which is not a Control A/c in any instruction

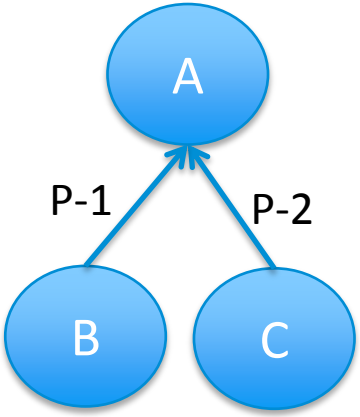


- Mesh
  - Provides maximum flexibility
  - Can have any number of instructions, tiers or inter-relationships between the instructions



Instruction Priority

- Every instruction within a structure is assigned a priority
- Priority determines the sequence in which the instructions are run within the structure
- When a new instruction is added to a structure, system assigns it a priority (which can be changed by the user)
- Instruction with the higher priority is run first before one with a lower priority



Priority Types

- User can decide how the priorities should be assigned, which can be
  - Top Consolidation (Single Tier & Hierarchy Structures)
  - User Defined (Single Tier, Hierarchy, Mesh)

- Top Consolidation
  - Instructions in the bottom most tier are executed first
  - User can change the priorities within the same tier but not across tiers
  - Priorities get reset when a new instruction is added to the structure

- User Defined
  - User assigns the priorities when the instructions are added

Structure Group & Structure Priority

- Same account may be part of more than one Structure. In such cases, system groups the structures together & creates a ‘Structure Group’

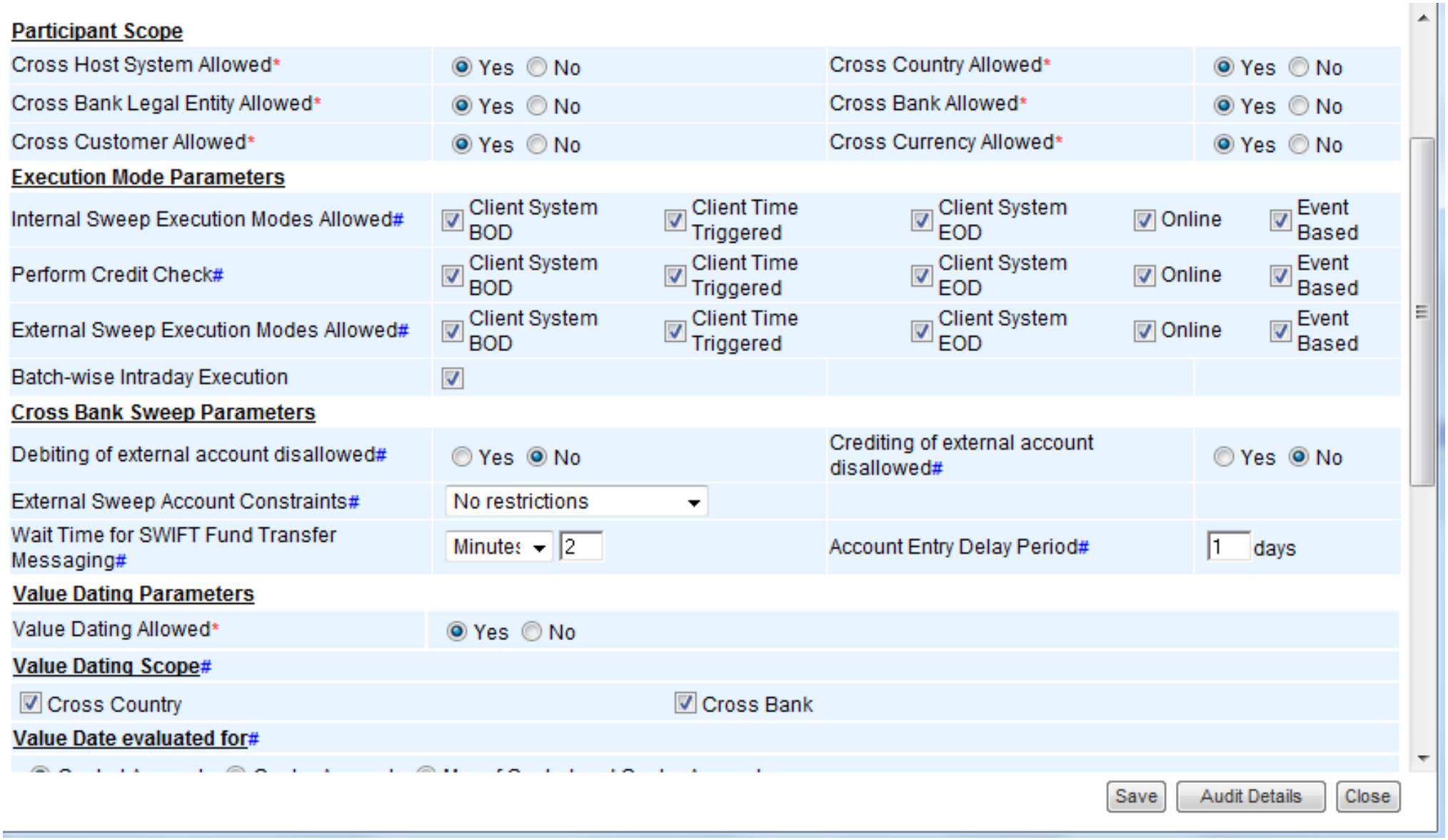
- When a structure is created, system assigns the structure a “Structure Id” & a “Structure Group Id”

- Structure Group & Priority helps to determine the order in which the structures should be executed if the instructions are picked up for execution at the same time

Sweep Parameters

- Also called the System Parameters
- This is the highest level of parameterization which defines the overall scope of the LMS implementation
- Bank can only set up sweeps which are permitted at the system parameter level
- Attributes can be changed from “No” to “Yes” or “Yes” to “No” (if there is no clash with downstream parameters)
- Some examples:
  - Cross Customer Allowed
  - Cross Currency Allowed
  - Allowed Execution Modes (EOD / BOD etc.)

Sweep Parameters



Sweep Sub-product

- Sub-products are templates that allow the bank to create differentiated offerings to meet varying customer requirements
- Sub-products operate within the overall boundaries set up by the Sweep System Parameters selected earlier
- Sub-product attributes can be changed from “No” to “Yes” or “Yes” to “No” (if there is no clash with existing structures or instructions)
- Some examples:
  - Parameters available at system parameter level
  - Structure Type
  - Allowed Sweep Types
  - Execution Frequency

Execution Modes

- Determines when an instruction should be executed
- Following are the different execution modes available to the user:
  - EOD
  - BOD
  - Time Triggered
    - Periodic – User can define the start & end time and the periodicity e.g. every 2 hours
    - Non-periodic – User can specify exact times at which the instructions will be run
  - Online
  - Event Based
- Execution Modes are selected at the system parameter level & percolate to the sub-product & structure / instruction level

Execution Mode Parameters

Internal Sweep Execution Modes Allowed#	☑ Client System BOD	☑ Client Time Triggered	☑ Client System EOD	☑ Online	☑ Event Based
Perform Credit Check#	☑ Client System BOD	☑ Client Time Triggered	☑ Client System EOD	☑ Online	☑ Event Based
External Sweep Execution Modes Allowed#	☑ Client System BOD	☑ Client Time Triggered	☑ Client System EOD	☑ Online	☑ Event Based

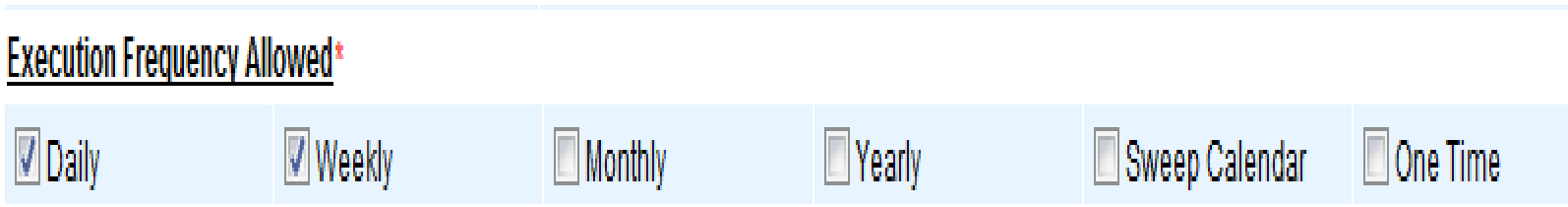
Execution Frequency

- It determines the frequency of execution of the instruction i.e. next execution date after the execution

- Non-working Days of Host, Branch, Country and Currency of both Control & Contra Accounts will be excluded from calculation of the next execution date

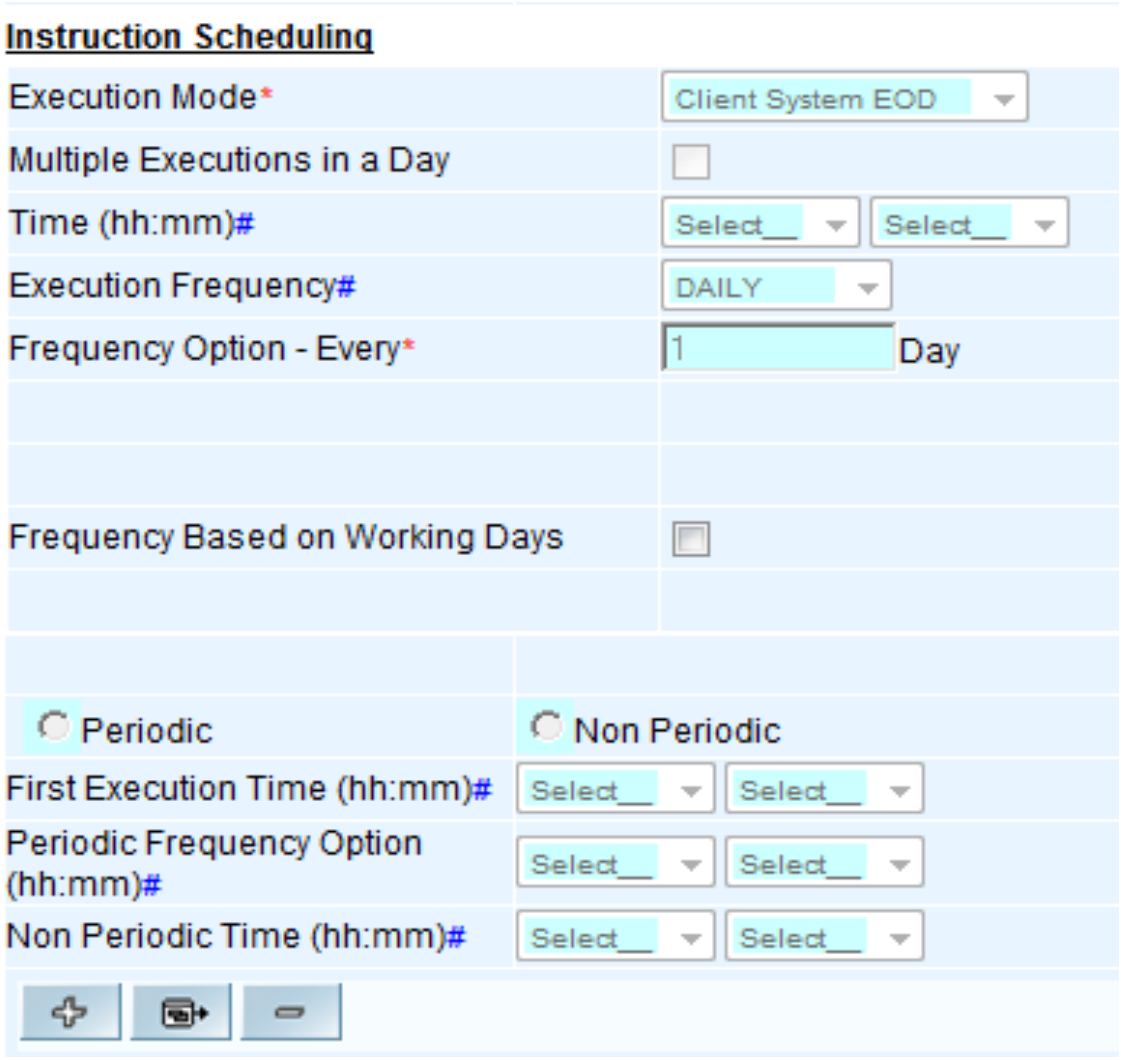
- In case of One time, user can maintain a separate Sweep Calendar of when the instruction should be run

- Frequencies are defined at the instruction level based on what is allowed at the Sub-product level



Instruction Scheduling

- Execution Mode & Frequency together with some other fields determine when an instruction will be executed



Sweep Types

- Sweep Type determines the account to be debited / credited and the amount of sweep

- Sweep types are of two types
  - Unidirectional : The account to be debited & credited is already identified
  - Bi-directional : Any of the account i.e. Control A/c or the Contra A/c can be debited or credited

Unidirectional	Bi-directional
Credit Trigger	Zero Balancing
Debit Trigger	Target Balancing
Sweep Transfer	Range Balancing
Percentage Credit	Range based Target
Percentage Debit	

Unidirectional Sweeps

Sweep Type	Action
Credit Trigger	If Control A/c balance is less than a specified amount, transfer shortfall from Contra A/c
Debit Trigger	If Control A/c balance more than a specified amount, transfer surplus to Contra A/c
Sweep Transfer	Transfer a specified fixed amount from Control A/c to Contra A/c
Percentage Credit	If Control A/c balance is less than a specified amount, transfer a specified % of shortfall from Contra A/c
Percentage Debit	If Control A/c balance is more than a specified amount, transfer a specified % of surplus to Contra A/c

Bi-directional Sweeps

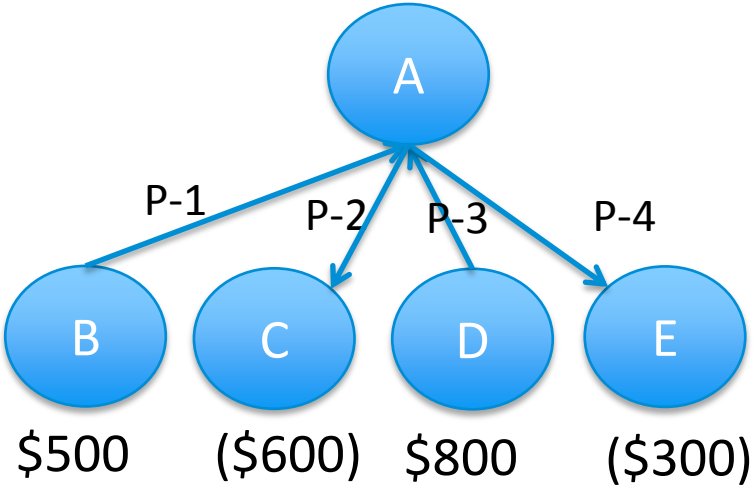
Sweep Type	Action
Zero Balancing	Make the Control A/c Balance = zero by transferring surplus / deficit to / from Contra A/c
Target Balancing	Make the Control A/c Balance = a target amount by transferring surplus / deficit to / from Contra A/c
Range Balancing	Bring the Control A/c Balance within a given Min / Max range by transferring deficit / surplus from / to Contra A/c
Range based Target	Bring the Control A/c Balance to a target amount if the balance is outside a given Min / Max range by transferring deficit / surplus from / to Contra A/c

Group Sweep Rule

- It is a “grouping of instructions” which is executed together
- Instructions having a common Control or Contra Account can be grouped together
- Instruction priorities are ignored when a group sweep rule is executed
- There are four types of Group Sweep Rule:
  - Credit First
  - Percentage Sweep
  - Weighted Average
  - Tax Efficient Sweeps (used in ICL)
    - Centralized
    - Decentralized

Group Sweep Rule – Credit First

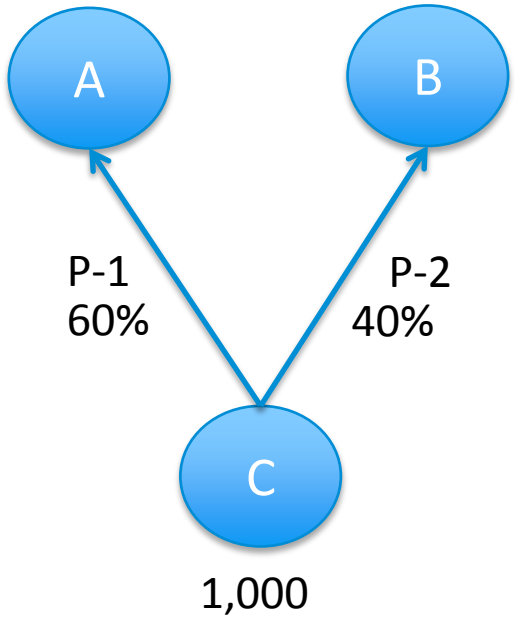
- Can be applied where there is single Contra Account and multiple Control Accounts
- All sweeps resulting in the debit of Control A/c will be executed first
- Sweeps from Contra Account to Control Account will happen based on the instruction priority
- Can be applied to all Sweep Types and Structure Types



P-1 and P-3 will be executed first
Then P-4, then P-2

Group Sweep Rule – Percentage Sweep

- Applied when there is a single Control A/c and multiple Contra Accounts
- Applicable only for Mesh Structures
- Applicable only for sweep type Debit percentage and Credit Percentage

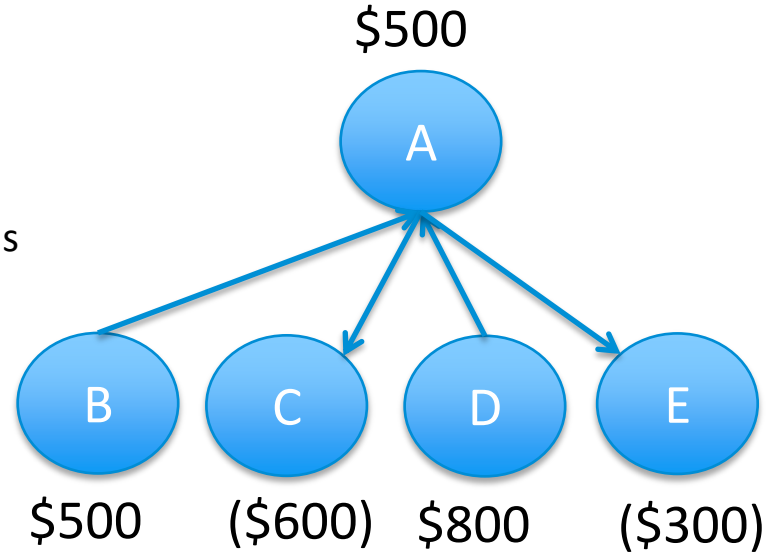


With Group Sweep Rule:
Amount Transferred –
A = 600, B = 400

Without Group Sweep Rule:
Amount Transferred –
B = 400, A = 60% of 600 i.e. 360

Group Sweep Rule – Weighted Average

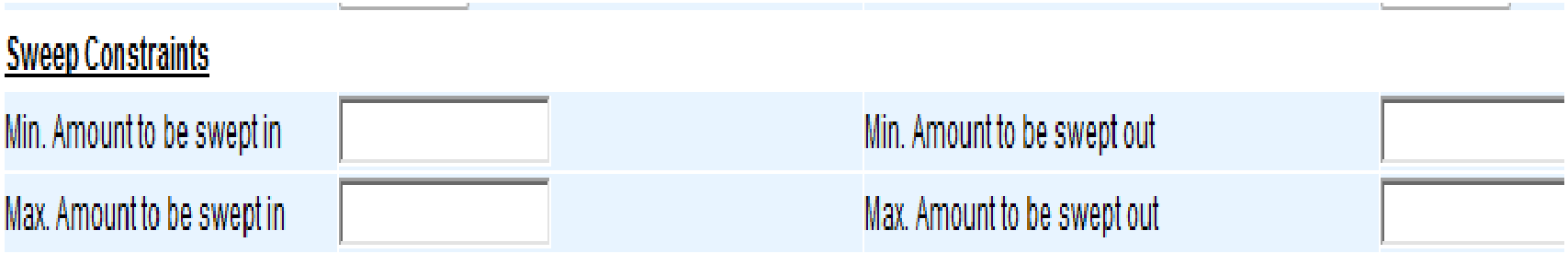
- This rule is used to cover accounts having deficit funds with accounts having surplus funds
- Applicable when there is a single Contra Account and multiple Control Accounts
- There are two variants of Weighted Average, based on the extent of Contra Account participation:
  - Absolute:
    - Full Contra Account balance is utilized first
    - Remaining funds are taken from Control Accounts with a surplus
  - Fair Share
    - Contra Account and the Control Accounts with a surplus contribute on a proportionate basis



Sweep Constraints

- These are maximum / minimum thresholds which can be defined for the sweep amount in an instruction
  - Minimum Amount to be Swept In
  - Minimum Amount to be Swept Out
  - Maximum Amount to be Swept In
  - Maximum Amount to be Swept Out

  (amounts from Control Account perspective)



Fund Sufficiency Check

- User can calibrate what system should do if the account which is getting debited does not have the requisite balance

- Fund Sufficiency Checks happen at three different levels
  1. Perform Credit Check:
     - This field is available at the System Parameter level
     - It mandates the system to check the balance of the account which is debited before executing every sweep

  2. Force Debit:
     - This field is available at the Instruction level
     - This can be set as Yes / No / Partial
     - If Perform Credit Check is Yes and account balance is not sufficient, system looks at this field to determine the next course of action

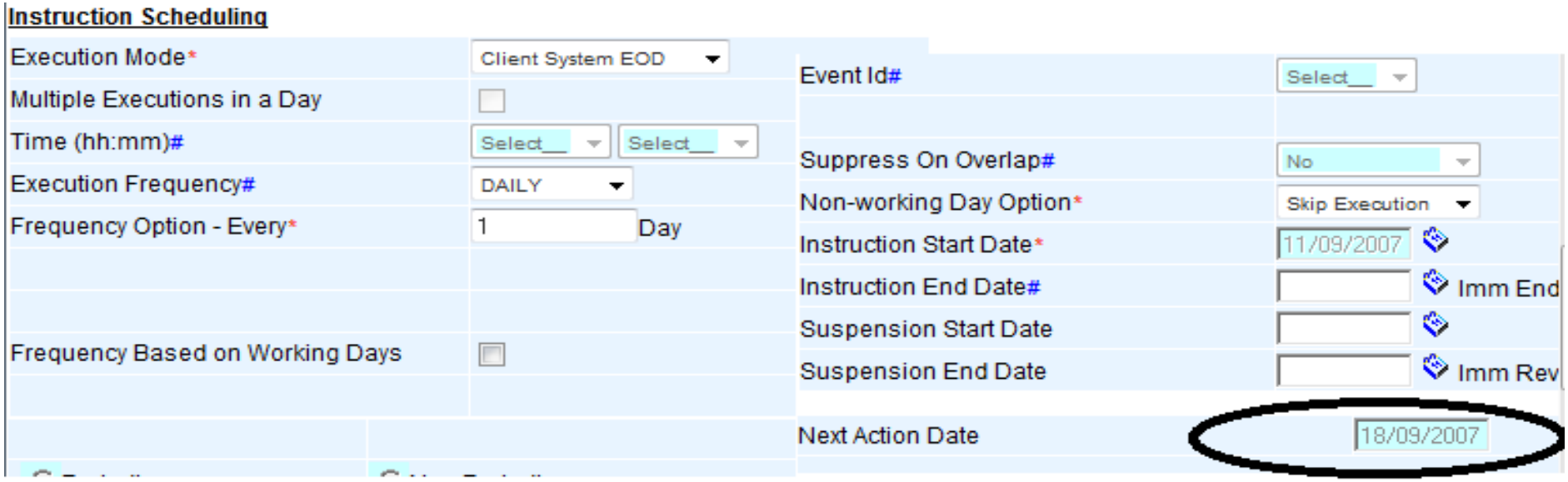
  3. OD Limit:
     - This field is available at the Instruction level and is used if force Debit is No or Partial
     - Based on this field, the account being debited will include or exclude OD limit while calculating the balance

Next Action Date

- Instructions are picked up for processing based on the Next Action Date
- When a Sweep is executed, the Next Action Date is re-calculated and stamped on the instruction
- For a sweep to be executed, both Control & Contra Accounts should be Working Days
- Holidays can be marked at the multiple levels – Host / Branch / Currency / Country
- If the calculated Next Action Date for a sweep happens to be a holiday, the available options are: Next / Previous / Skip Execution / Ultimo

Next Action Date

- The Next Action Date for an instruction is calculated on the following occasions:
  - When an instruction is authorized
  - When an instruction is executed
  - In the batch, when instructions which were scheduled for execution on a day but not executed due to reasons such as suspension, failure etc.
  - When an instruction is modified
  - When a new holiday is declared

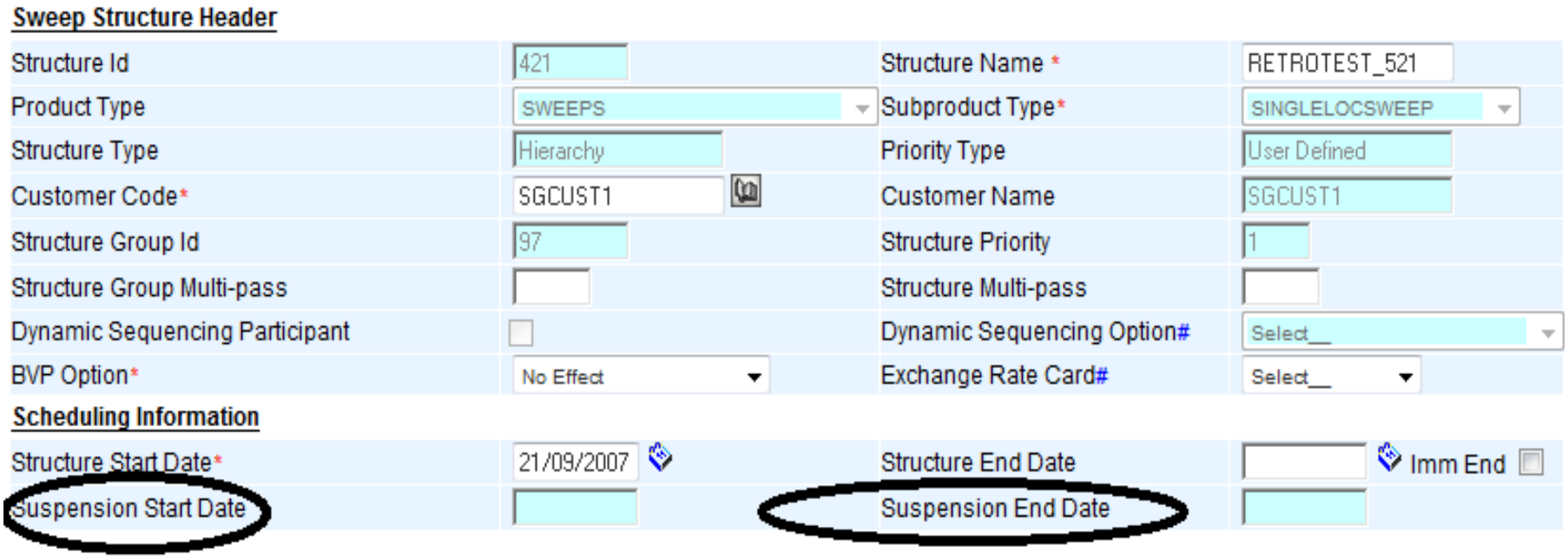


Sweep Suspension

- Suspension functionality allows the sweep to be temporarily suspended for a defined period of time by capturing the Suspension Start Date & End Date (optional)

- Suspension can be done for an individual instruction or an entire Sweep Structure

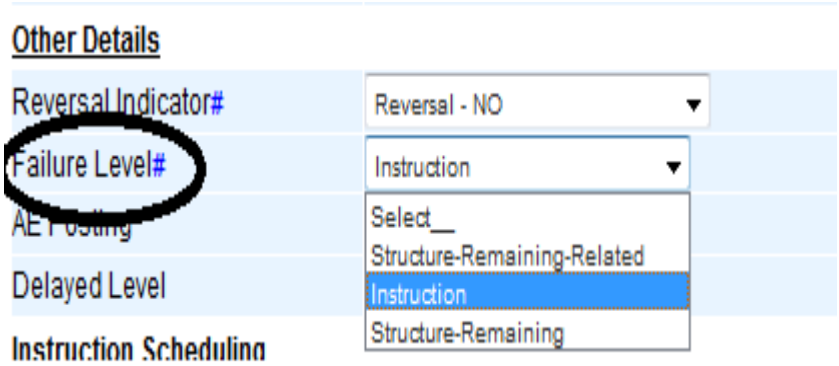
- Suspension can be revoked manually or gets revokes automatically after the End Date is over



Failure Levels

- Failure refers to inability of the system to calculate the sweep amount due to technical reasons

- Failure Level parameter determines the behavior of the system in event of failure of an instruction. The following options are available:
  - Instruction
  - Structure Remaining
  - Structure Remaining Related



- Failed instructions can be manually triggered by the user later

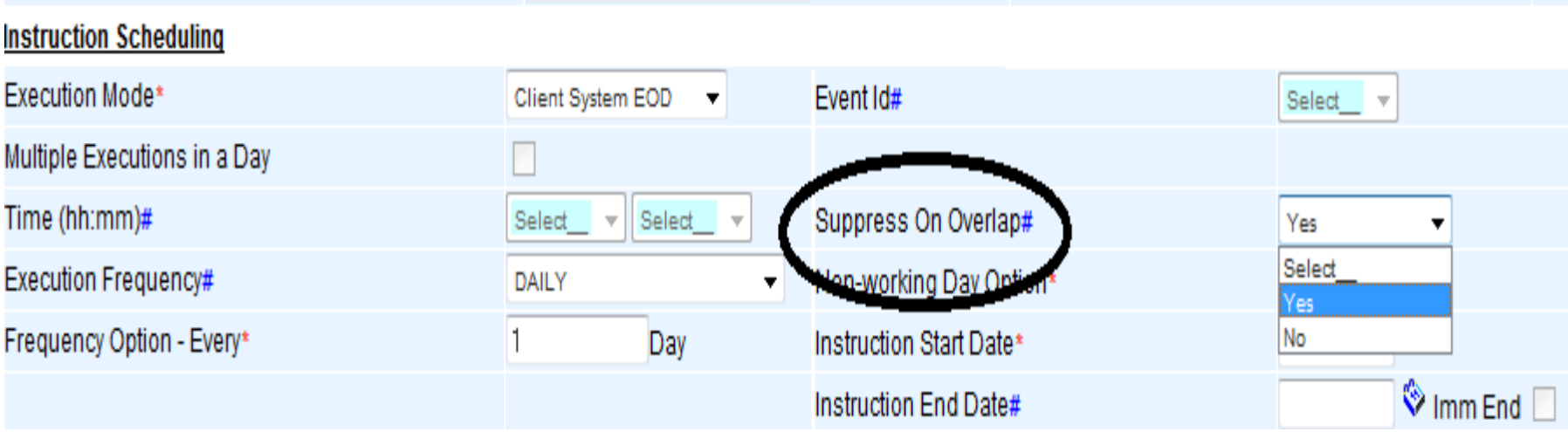
- In case of non-receipt of account balance, there is an option to temporarily mark the instruction as ‘Delayed’

Suppress on Overlap

- Multiple instructions with the same Control / Contra combination and same execution time may exist in a structure

- Instruction marked with Suppress on Overlap will be marked as Suppressed and not be executed

- Applicable for Mesh Structures only

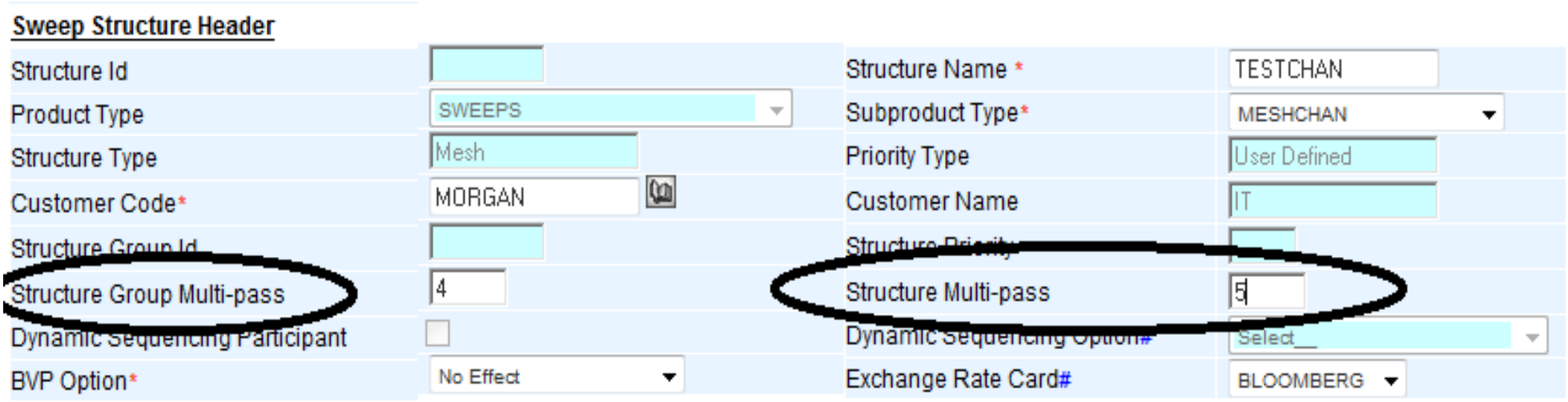


Multi-pass

- Instructions marked as “No Transfer” can be executed repetitively a number of times

- User can define the number of times system should re-execute such instructions

- Number of re-tries are hierarchical, in the order of
  1. Instruction level
  2. Structure level
  3. Structure Group level



Value Dating

- Value Dating refers to the process of assigning the right value date to a sweep transaction

- Value Dating can performed for cross-country or cross-bank sweeps depending on the parameter selection at sweep parameter & sub-product level

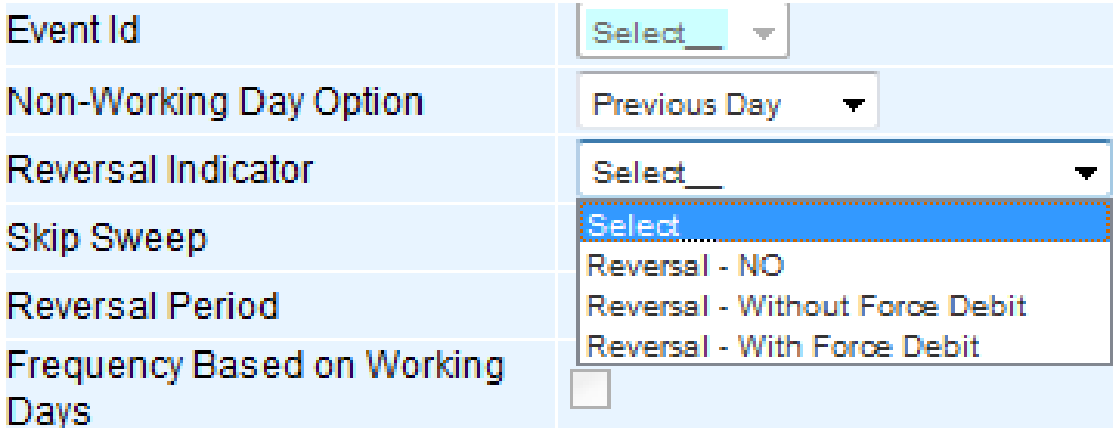
- Value Dating takes into account Country & Currency Cut-off times and Settlement Days to arrive at the value date of the transaction
  - Value Date = Current Business Date + Currency Settlement Days
  - If the transaction is after the currency cut off, add 1 to the above
  - The determined value date should be a working day for all of the below:
    - Both the accounts
    - Country
    - Currency
    - Branch

    In case of a Holiday in any of the above, add 1.

- Value Dating is not performed for BVTs or FVTs

Reversal

- Reversal feature reverses a successful sweep execution on the next working day
- Reversal will be performed if the next working day of the Control Account, Contra Account and the Currency is the same
- “Skip Sweep” option determines the system response if reversal cannot be performed next day due to a holiday
- Reversal should be allowed at the sweep parameter & sub-product level



Restriction List

- Restrictions are business constraints that are added to disallow certain features from executing

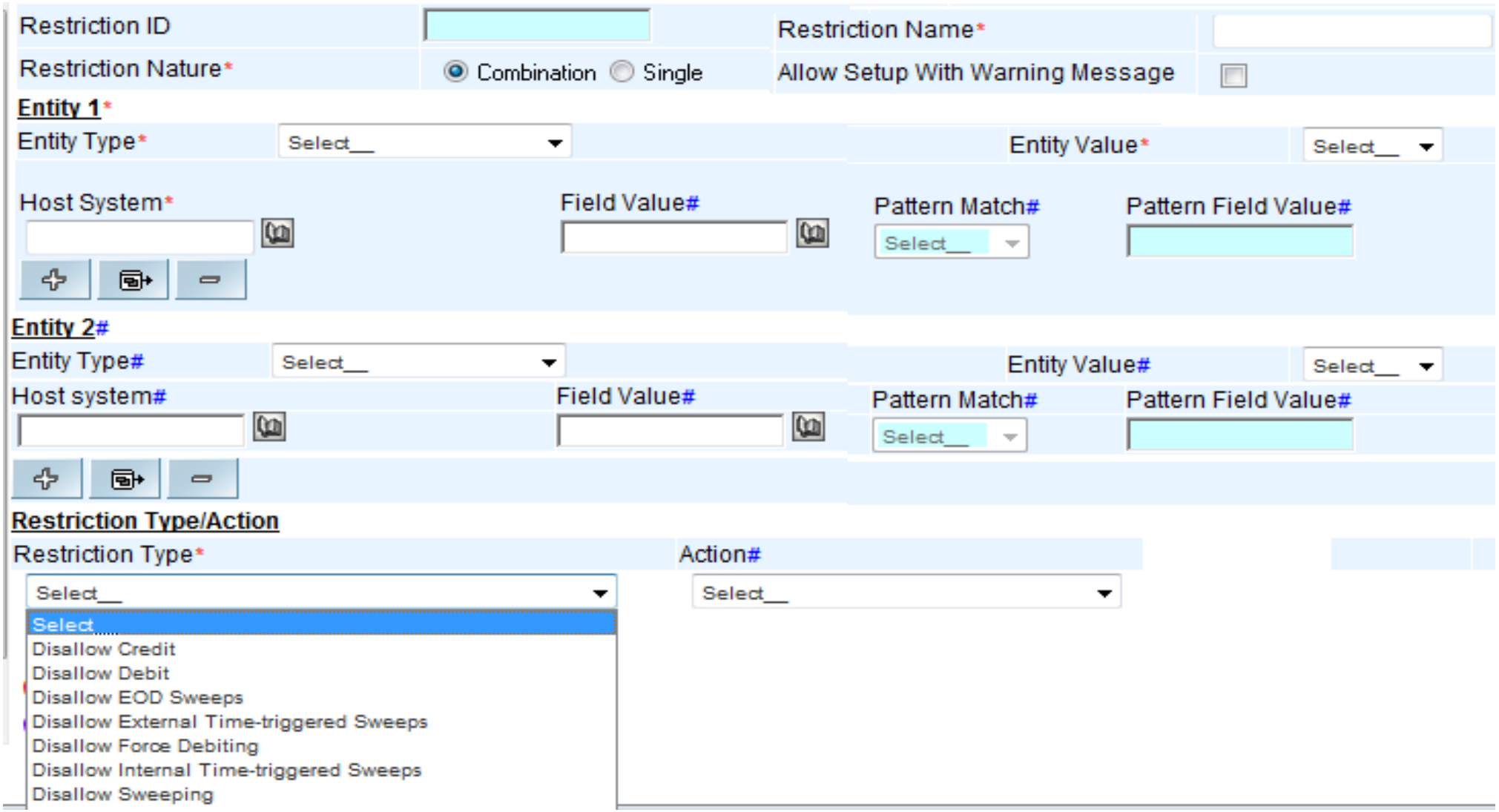
- Restrictions are set up using
  - A set of entities (e.g. customer, account, currency etc.)
  - Restriction Type (e.g. disallow debit / credit / force debit etc.)
  - Action
    - Set up Type (e.g. suspend all instructions)
    - Execution Type (e.g. mark sweep execution as 'Failed')

- Restrictions with Set up Type actions will be acted upon when the restriction is set

- Restrictions with Execution Type actions will be acted when sweeps are executed

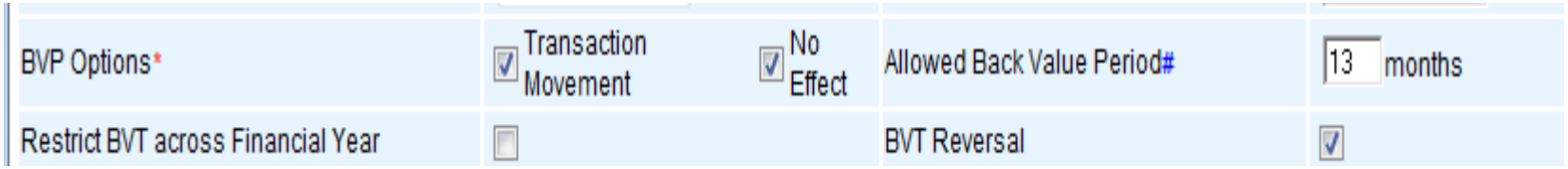
- Creating a maintenance which violates a Set up Type restrictions will be disallowed by the system

Restriction List



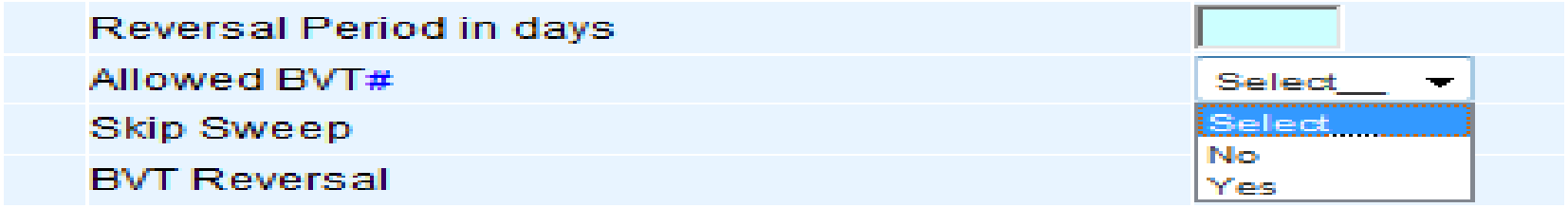
Back Value Transaction Movement

- Options available for BVP processing are defined at the Sweep Parameter level



- Based on this, options will be available at the Structure level

- If Transaction movement is selected at Structure level, user can select BVT Allowed as Yes / No for each instruction



- Back Value transactions can be manually input in the system or received through a feed

- System can process the BVT right upto the last possible Contra Account

Drain Pool

- A Drain Pool is a Notional Pool which can be added to a sweep instruction
- Drain Pool can be a Control A/c or a Contra Account or both
- The actual account which should be debited / credited will depend on the method of draining
- Methods of Draining
  - Nominated Account
  - Even Distribution
  - Fair Share Distribution
    - If the pool balance is credit, only the accounts with credit balance participate
    - If the pool balance is debit, only the accounts with debit balance participate
  - Reverse Fair Share
    - If the pool balance is credit, only the accounts with debit balance participate
    - If the pool balance is debit, only the accounts with credit balance participate
  - Maximum Balance First Out

Drain Pool – Nominated Account

- Every drain pool must have a mandatory Nominated Account

- Nominated Account performs several functions such as:
  - Used when method of draining is Nominated Account
  - Currency of the Nominated Account is the currency of the Drain Pool.
  - Calculation of pool balance & calculation of sweep amount will happen in Nominated A/c currency
  - ICLs are created on Nominated Account on behalf of Drain Pools
  - Investment Sweeps: Investments and repayments happen through Nominated Account

- Nominated A/c may or may not be a participant in the Drain Pool

- Same account can be a Nominated A/c for more than one Drain Pools

- All drain pool participants and the nominated account have to belong to the same host

Drain Account Group

- Drain Account Group works on the similar principles as a Drain Pool, except that the group of accounts do not constitute a Notional Pool

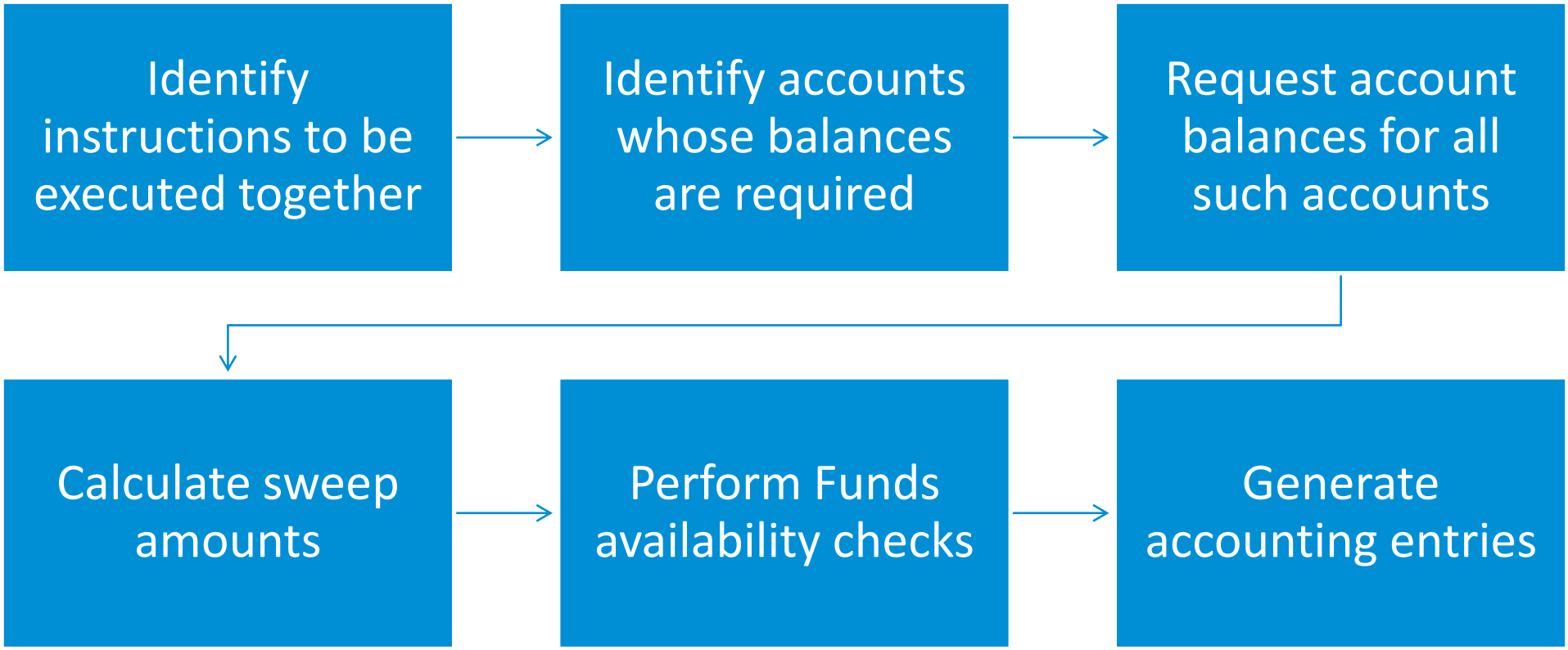
- Drain Account Group can be a Control A/c or a Contra A/c or both

- Drain Account Group is linked to a customer and a BLE

- The methods of draining are the same as Drain Pools:
  - Nominated Account
  - Even Distribution
  - Fair Share
  - Reverse Fair Share
  - Maximum Balance First Out

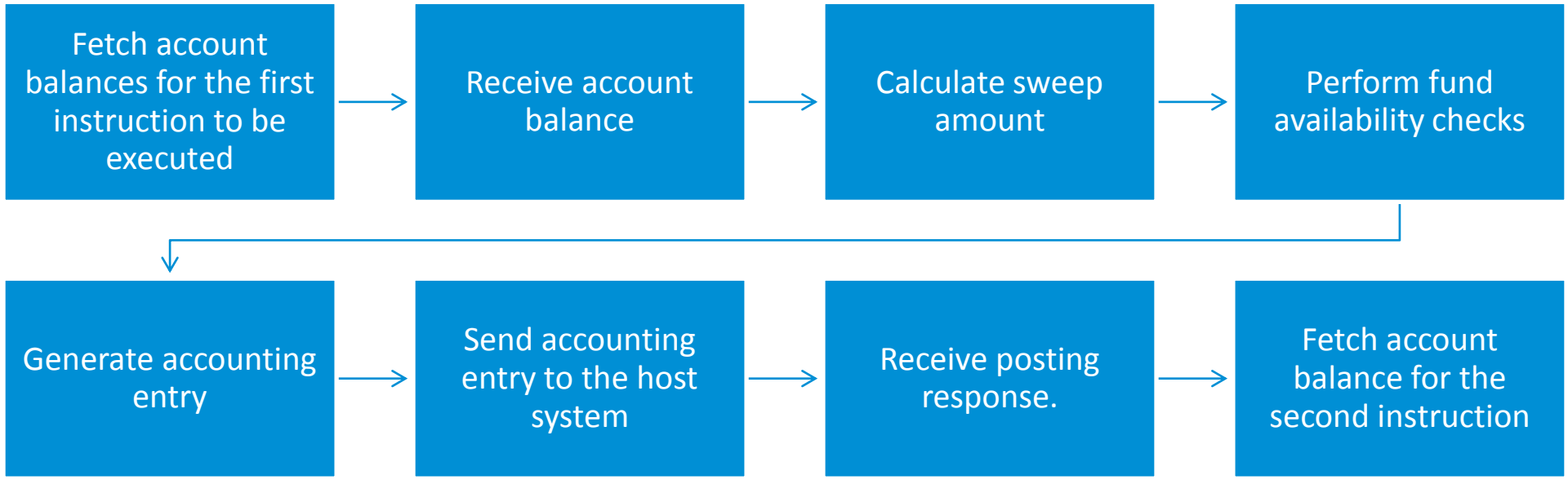
- Both Internal and External Accounts can be added to a Drain Account Group

Sweep Batch – process flow



Sweep Processing - Individual

- Individual processing happens in case of Online, Time Triggered or Event based instructions



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