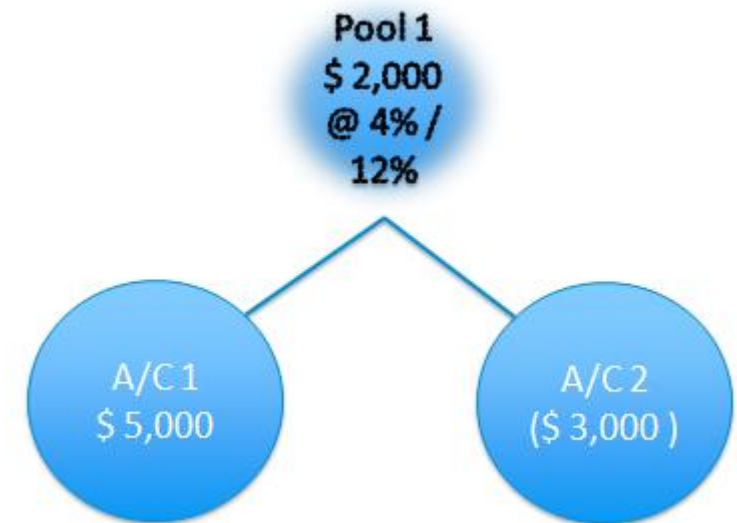


Notional Pooling

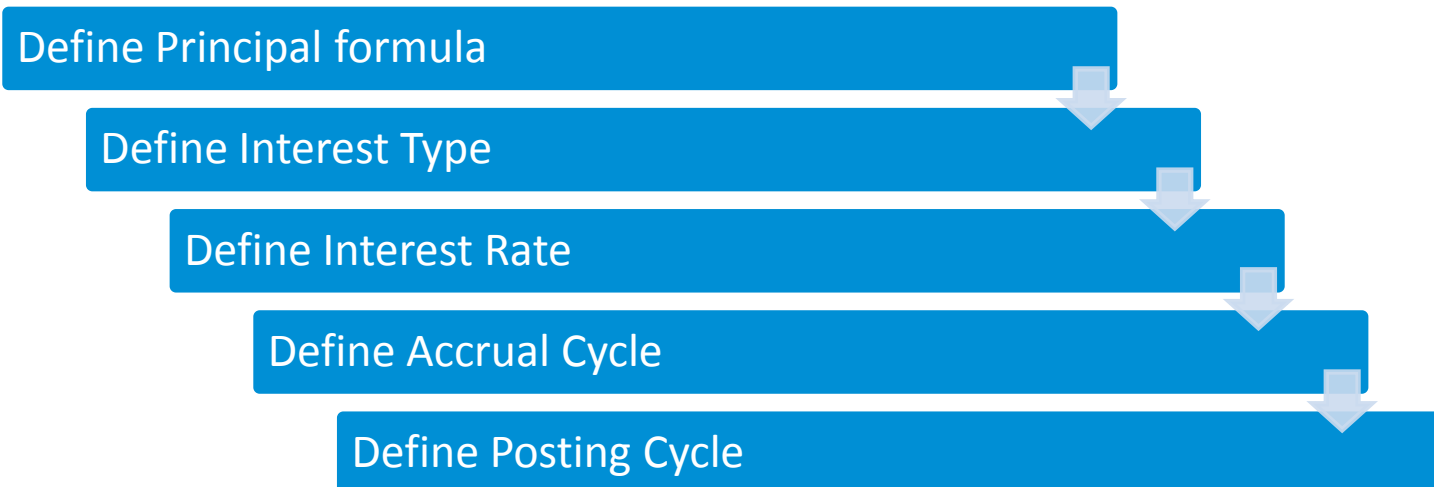
Notional Pooling

- Notional Pooling involves notional off-set of debit and credit balances
- The main benefit of pooling is savings in interest costs without actual movement of funds
- Notional pooling module essentially does the following:
 - Setting up of Pool structures
 - Calculation of interest benefits
 - Distribution of benefit among various claimants
- Two types of Notional Pools can be set-up:
 - Simple Pools
 - Aggregate Pools
- System supports several useful features such as
 - Creating Memo Pools
 - Withholding Tax



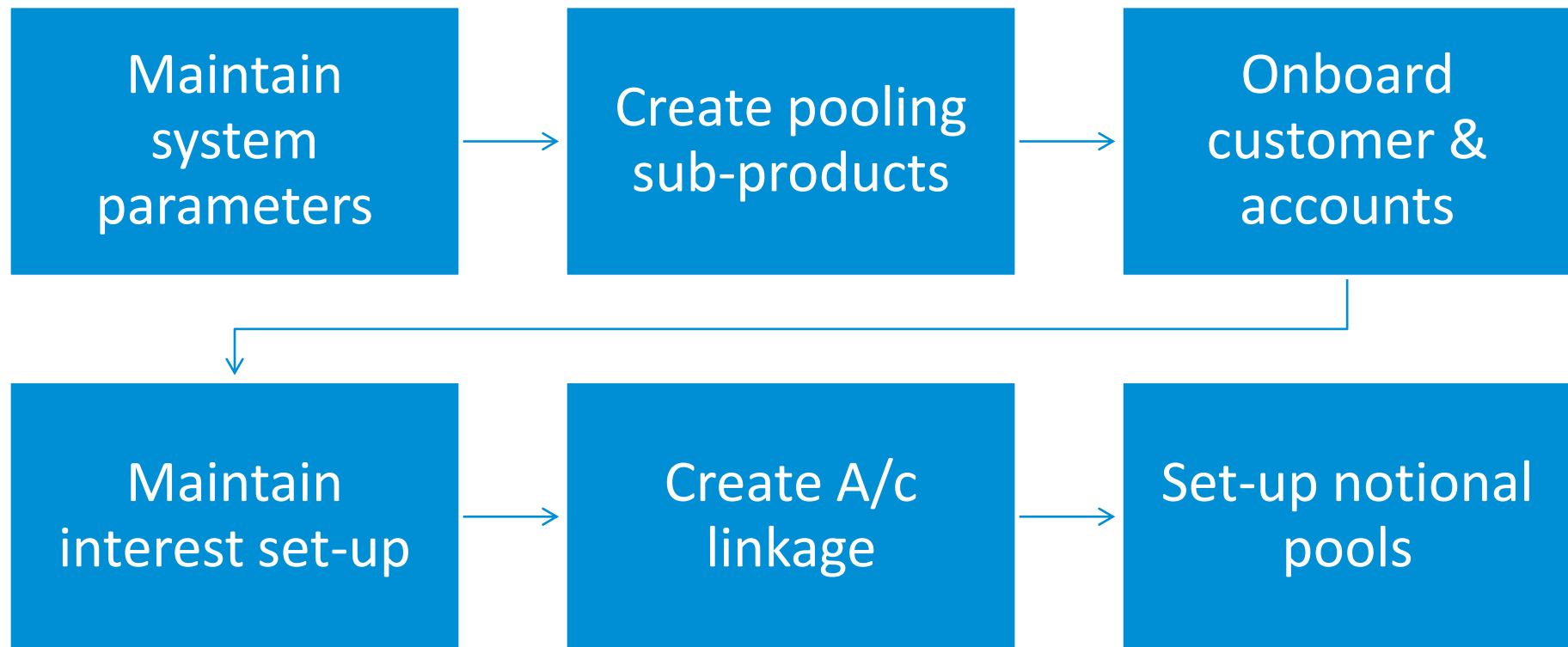
Notional Pooling

- Bank can also process Standalone Interest for its accounts
- A standard set of Principal and Interest types are factory shipped along with the LMS product
- Bank can set up its own new formulas for interest processing if required
- The basic steps required for creating an interest rate set up are as follows:



Pool creation / set-up flow

- The basic process for setting up Notional Pools in the system is as follows:

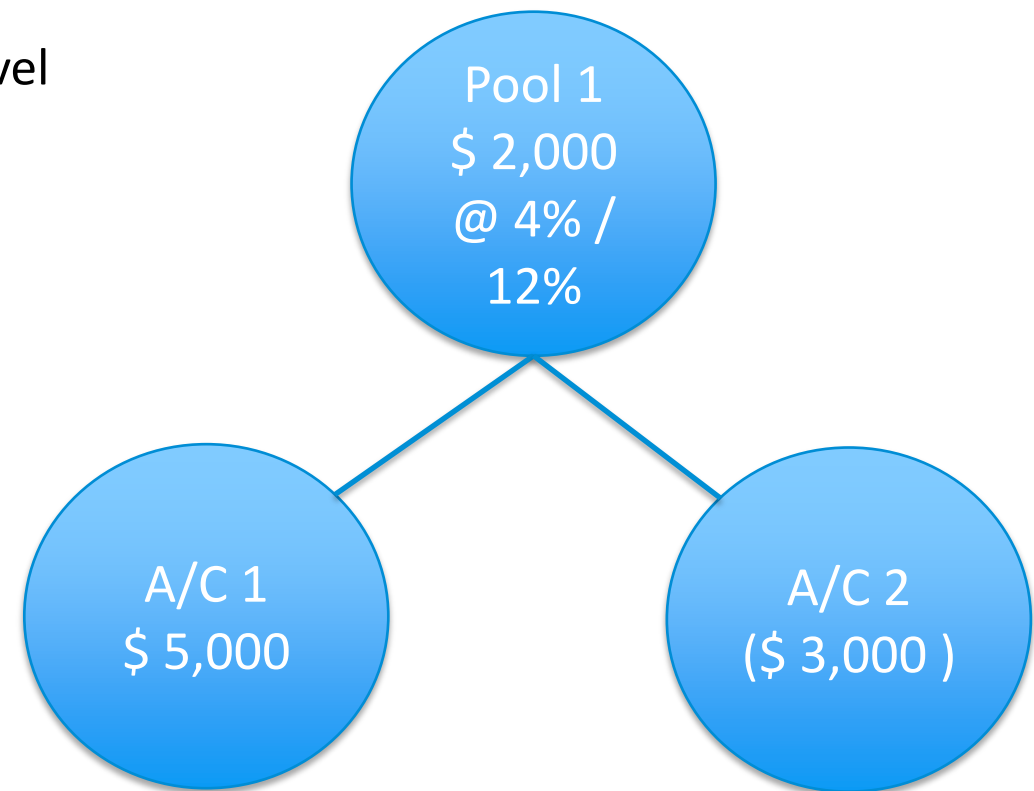


Allocation Types

- Allocation Types are methods through which benefits of creating pools can be orchestrated. They determine the basic behavior of the Pool
- Some of the important Allocation Types are as follows:
 - Interest
 - In this model, interest is calculated only at the pool level and allocated to participants
 - Advantage
 - In this model, interest is calculated at both account and pool level
 - An 'advantage' is calculated between the account level and pool level interest
 - The advantage is distributed between designated accounts
 - Optimized Rate
 - There are two methods under this allocation type i.e. IOF (Interest Optimized Facility) & IEF (Interest Enhancement Facility)
 - The two methods essentially aim at giving an differential interest to the accounts over based on the account and / or pool balances

Allocation Type - Interest

- Interest is calculated only at the Pool level
- Interest is not calculated at the account level
- Interest = \$ 2,000 X 4% = \$ 80



Allocation Type - Advantage

- Interest is calculated at both Pool & Participant level

- Then Advantage is calculated

- Pool interest = \$ 2,000 X 4% = \$ 80

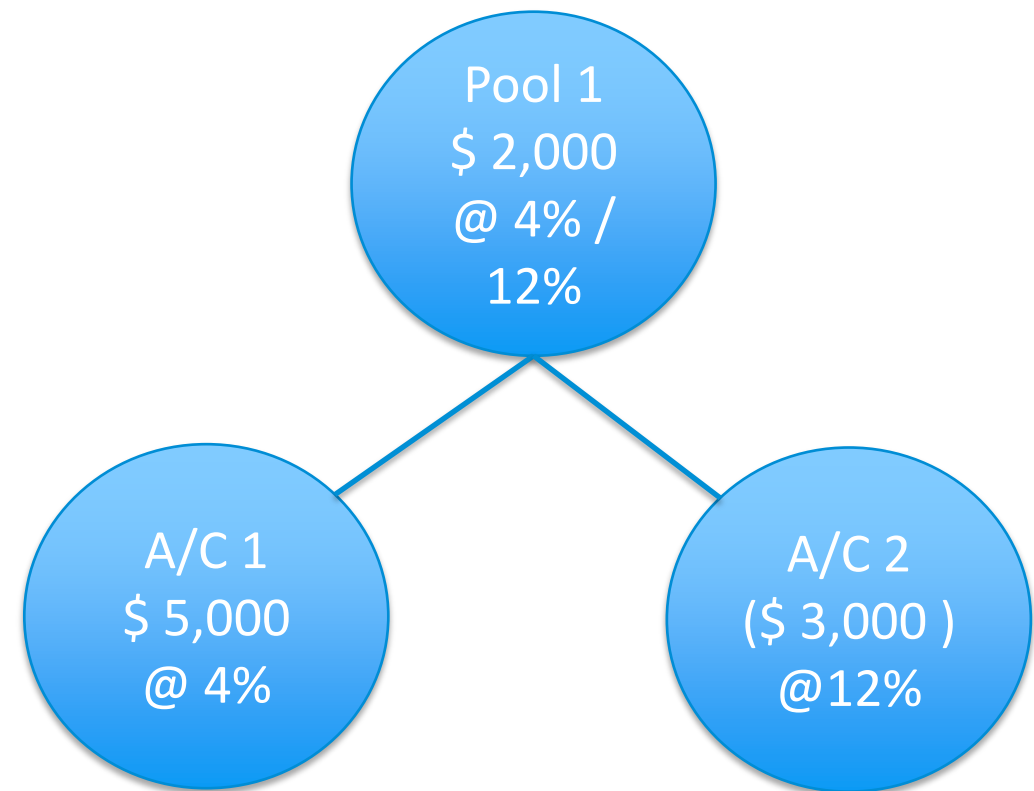
- Account level interest

- A1 = \$ 5,000 X 4% = \$200

- A2 = (\$ 3,000) X 12% = (\$ 360)

- Total interest = (\$ 160)

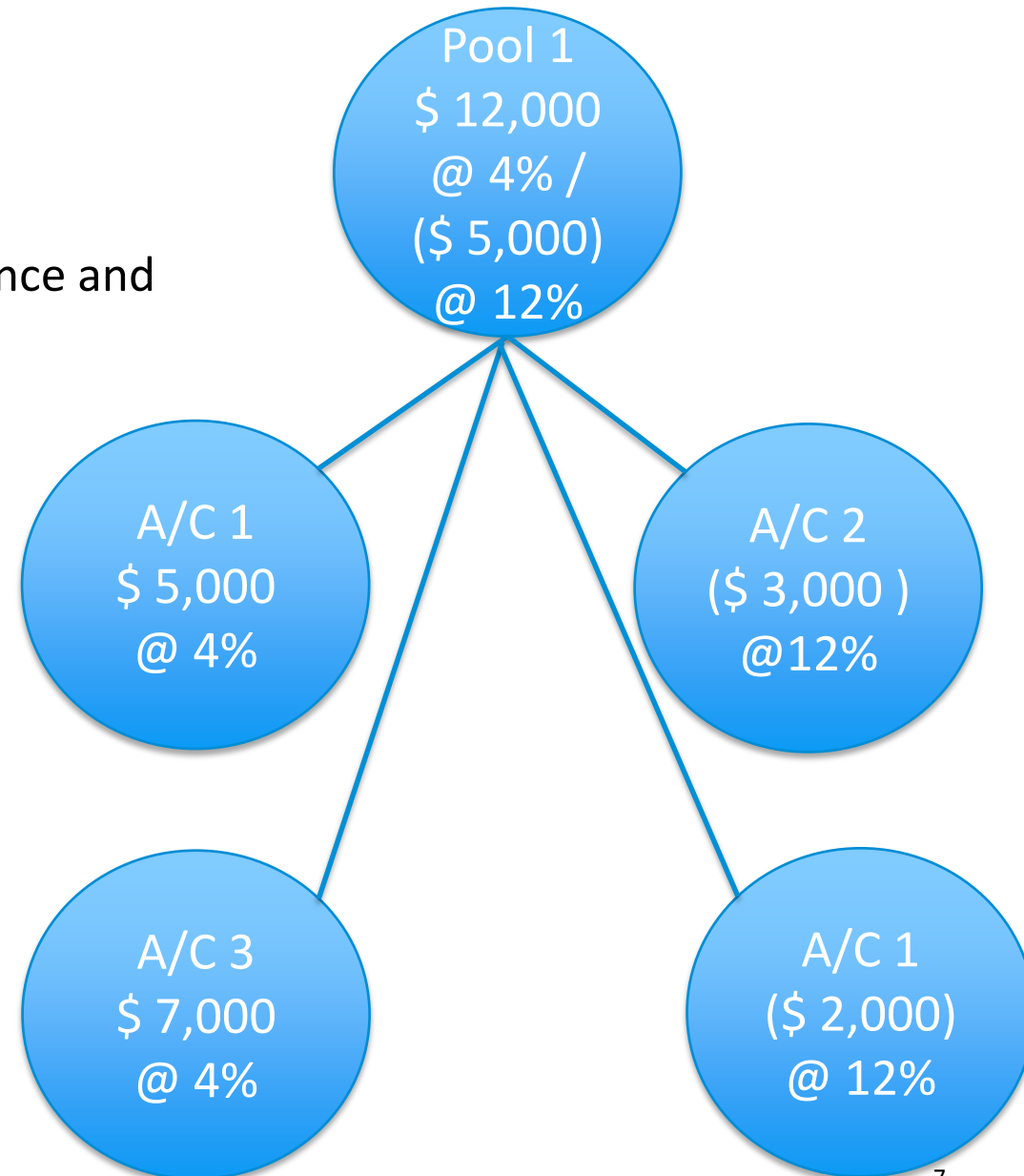
- Advantage = \$ 80 – (- 160) = \$240



(Note: Net effect of both the methods is the same)

Allocation Type – Gross Interest

- Interest is calculated at both Pool level only
- Interest is calculated for pool total credit balance and pool total debit balance separately
- Pool credit interest = \$ 12,000 X 4% = \$ 480
- Pool debit interest = \$ 5,000 X 12% = \$ 600
- Credit and debit interest are separately allocated to participants on Fair Share Basis



Allocation Type – Optimized Rate

- The Allocation Type has two different variants
 - Interest Optimized Facility (IOF)
 - Interest Enhancement Facility (IEF)
- In IOF, credit balances of one participant cover the debit balances of other participants
- IEF has two further variants
 - Enhancement Margin: Interest enhancement is given to pool participants depending on the pool balances
 - Premium Margin: Interest enhancement is given to pool participant depending on the pool & participant level balances
 - There are different methods of calculating pool position such as
 - Net Aggregate
 - Only Credit
 - Absolute

Interest Optimized Facility

- In the example 1, balances are as follows:

A/C 1 = 100

A/C 2 = (60)

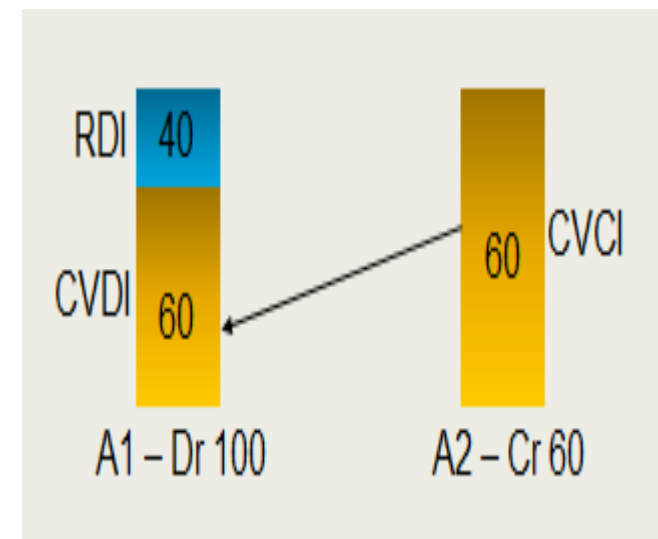
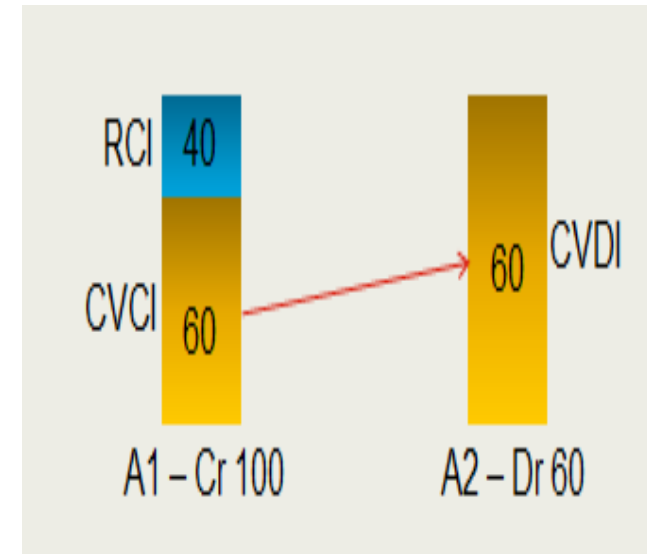
- Hence 60 of A/C 1 “covers” 60 of A/C 2
- For A/C 1, bank pays interest at one rate for 60 & different rate for remaining 40

- In example 2, balances are

A/C 1 = (100)

A/C 2 = 60

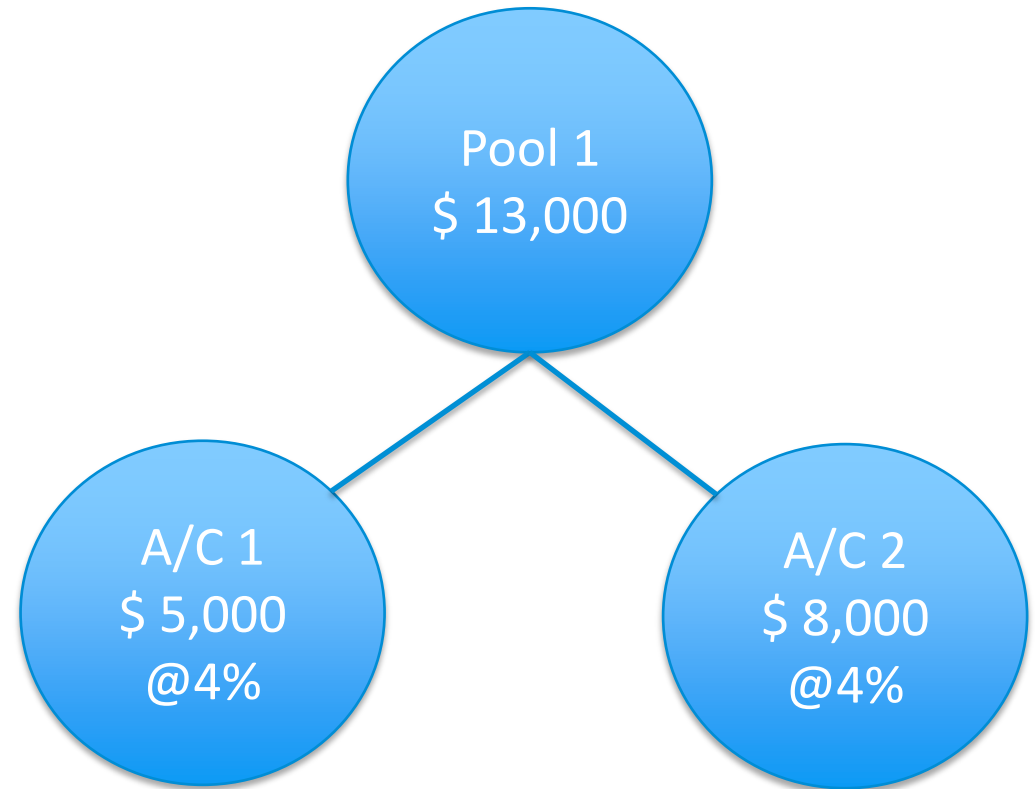
- Hence 60 of A/C 2 “covers” 60 of A/C 1
- For A/C 1, bank charges interest at one rate for 60 & different rate for remaining 40



IEF – Enhancement Margin

- Interest is not calculated at Pool level
- Only balance is calculated at Pool level
- An interest “enhancement” is given to pool participants based on pool balances

Pool Position	EM
0-5,000	0.25%
5,001-10,000	0.30%
10,001-25,000	0.35%
>25001	0.50%



Interest paid to A/C 1 & A/C 2 = 4% + 0.35% = 4.35%

IEF – Premium Margin

- Premium Margin is in addition to Enhancement Margin
- PM is paid on pool participant position

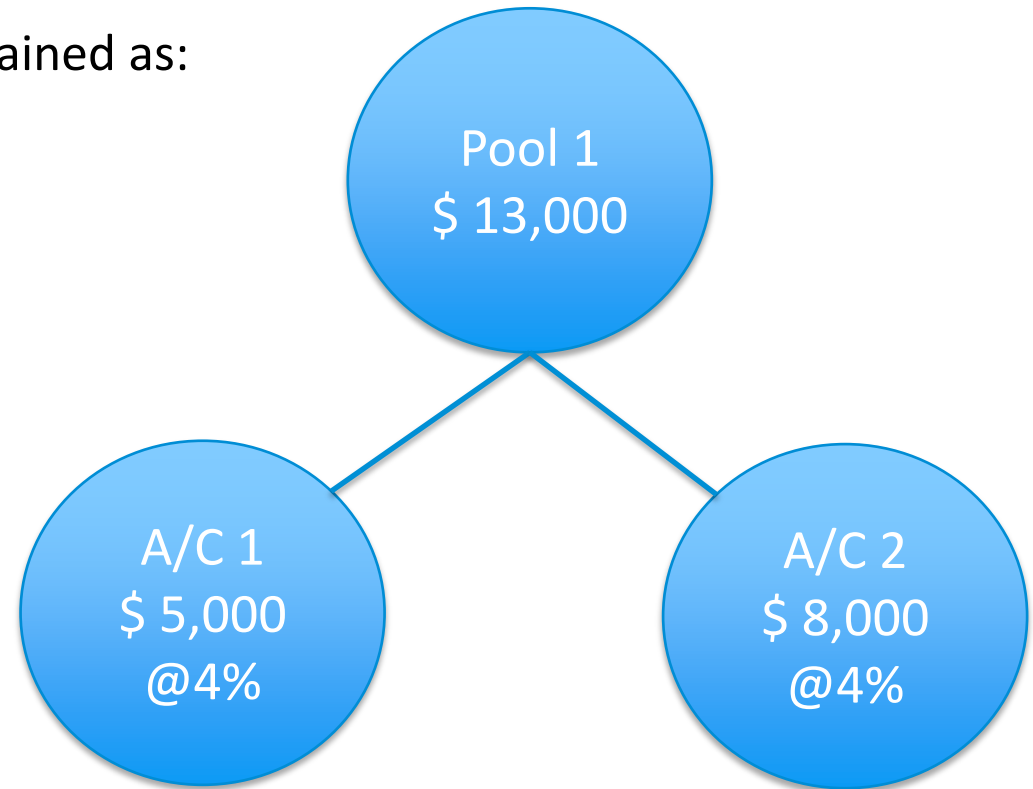
Continuing the previous example, PM is maintained as:

Participant Position	PM
0-3,000	0.10%
3,001-6,000	0.15%
> 6,001	0.20%

- Interest Paid to:

A/C 1 = 4.35% + 0.15% = 4.50%

A/C 2 = 4.35% + 0.20% = 4.55%



Specialized Methods

- Margin or Spread compensation based methods are used when regulatory restrictions prevent pooling of balances
- When customers set off debit balances in one currency with credit balances in another currency, an implied cross currency swap takes place
- These methods account for the changes in levels of interest rates in the two currencies
- Some of the methods used in such scenarios are
 - Margin Compensation
 - Spread Compensation
 - Advantage (Cost of Funds)

Allocation model

- Allocation model refers to the method in which the pool benefit (i.e. interest / advantage) is appropriated between the pool participants (or to any other account)
- Following are the Allocation models supported in the system

Centralized distribution

- All benefit is allocated to a central A/C

Even distribution

- Benefit is passed on to all A/Cs equally

Fair share

- Credit benefit is passed on to all A/Cs with credit balance in proportion to their balance. Debit benefit to all A/Cs with debit balance

Reverse fair share

- Credit benefit is passed on to all A/Cs with debit balance in proportion to their balance. Debit benefit to all A/Cs with credit balance

Percentage distribution

- Benefit is passed on to all A/C s in a pre-defined percentage

Absolute pro-rata

- Benefit is divided on a pro-rata basis of absolute balances

Re-allocation models

- If Allocation model is Centralized, benefit (i.e. interest / advantage) can be re-allocated to participating accounts in any of the other methods

Even distribution

- Benefit is passed on to all A/Cs equally

Fair share

- Credit benefit is passed on to all A/Cs with credit balance in proportion. Debit benefit to all A/Cs with debit balance

Reverse fair share

- Credit benefit is passed on to all A/Cs with debit balance in proportion. Debit benefit to all A/Cs with credit balance

Percentage distribution

- Benefit is passed on to all A/C s in a pre-defined percentage

Absolute pro-rata

- Benefit is divided on a pro-rata basis of absolute balances

Pooling 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 pools 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)
- Since Pooling requires a right of set off, cross bank & cross customer pooling cannot be undertaken

Cross Border Allowed*	<input checked="" type="radio"/> Yes <input type="radio"/> No
Cross Currency Allowed*	<input checked="" type="radio"/> Yes <input type="radio"/> No
Cross Host System Allowed*	<input checked="" type="radio"/> Yes <input type="radio"/> No
Cross Bank Legal Entity Allowed*	<input checked="" type="radio"/> Yes <input type="radio"/> No
Back Value Compounding Allowed*	<input checked="" type="radio"/> Yes <input type="radio"/> No
BVI Compounding Allowed*	<input type="radio"/> Yes <input checked="" type="radio"/> No
Back Value Knock-on Allowed*	<input checked="" type="radio"/> Yes <input type="radio"/> No
Restrict BVT across Financial Year	<input type="checkbox"/>
Allowed Back Value Period*	18 months

Pooling Sub-product

- Sub-products allow the bank to create differentiated offerings to meet varying customer requirements
- Sub-products operate within the overall boundaries set up by the Pooling 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
 - Allocation Type
 - Allocation Model
 - Allowed Interest Types etc.

Pooling Structure

- To set up a pool, user captures the following type of information
 - Pool attributes such as the pool name, currency, customer, sub-product etc.
 - Interest information such as the type of balance, overdraft limit, interest package etc.
 - Participant information such as the account number, start and end dates, % allocation etc.

Pool ID*	5	Pool Name*	DRAINPOOL
Sub Product*	DRAINPOOL		
Pool Base Currency*	TWD	Customer Code*	TCS
Pool Start Date*	10/09/2007	Pool End Date	Imm End <input type="checkbox"/>
Structure Type*	<input checked="" type="radio"/> Real <input type="radio"/> Information		Minimum pool balance for advantage
Consolidation Criteria	Select__	Exchange Rate Card#	REUTERS
Exclude Participants with Negative Interest Rate	<input type="checkbox"/>	Rate Type	<input type="radio"/> Product Rate <input type="radio"/> Base Rate
Settlement Information			
Bank Legal Entity*	TWNBLE	Domicile Host*	TWN

Bank / Treasury Sharing

- In return for providing pooling arrangement, bank may like to retain a part of the interest / advantage generated. This will not be distributed to the customer
- The customer's Treasury may also like to claim a part of the interest / advantage generated as their profit share. This can be retained in a separate account and not allocated to participating accounts

Settlement Information			
Bank Legal Entity*	TWNBLE	Domestic Host*	TWN
Bank's Share of Advantage	<input type="text"/> %	Customer Treasury Share	<input type="text"/> %
Interest Accrual Cycle Code*	DAILY	Interest Posting Cycle Code*	DAILY
Previous Posting Date	25/08/2007	Next Posting Date*	25/09/2007 Check Date
Host System - Sort Code - Customer Treasury Debit Account #		<input type="text"/> - <input type="text"/> - <input type="text"/>	
Host System - Sort Code - Customer Treasury Credit Account #		<input type="text"/> - <input type="text"/> - <input type="text"/>	
Host System - Sort Code - Debit Settlement Account #		TWN - TWN - 886001	
Host System - Sort Code - Credit Settlement Account #		TWN - TWN - 886001	

Interest Information

- Information required for interest calculation such as balance types & interest rates are captured
- An existing interest package can also be linked directly to the structure here

Balance Type for Interest calculation*	Available / Cleared Balance	Balance Type for Tier Selection*	Available / Cleared Balance
Load from template	<input type="text"/>		
Group Amount Limit	<input type="text"/>	Posting Cycle(Y/N)	<input type="checkbox"/>

Pool Limit Details

Limit Type	Limit Amount#	Threshold Limit(in %)	Start Date#	End Date	Auto Extension#	Extension period#
Select__	<input type="text"/>	<input type="text"/>	25/09/2007	<input type="text"/>	Select__	Select__

+ -

Standard Credit Interest (SCI)

Offset Value/Percent	Value	Rate Application	Tiered Incremental	Day Basis	actual/360	Benchmark Interest Type#	Yes <input type="radio"/> No <input type="radio"/>
Amount From	Amount To	Reference Rate	Offset	Min Interest(%)	Max Interest(%)		
1000000000000.0	<input type="text"/>	Select__	<input type="text"/> %	<input type="text"/>	<input type="text"/>		

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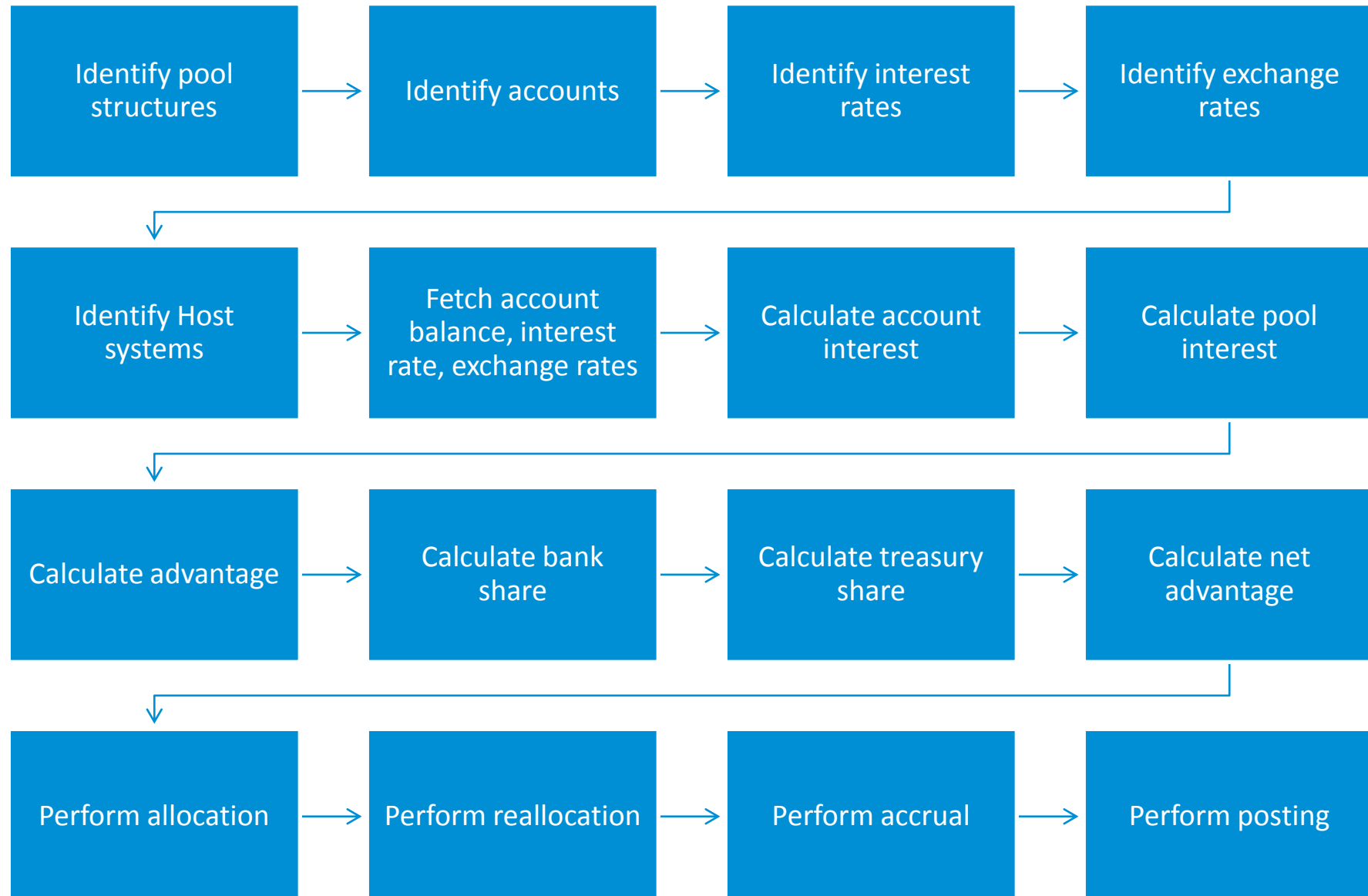
Amount From	Amount To	Reference Rate	Offset	Min Interest(%)	Max Interest(%)
0.000	999,999,999,999.999	TWNREF	2.000	1	10

Participant Information

- Participant information is added to define the pool
- Pools can be of two types i.e. Simple and Aggregate
 - Simple Pools are pools which have individual accounts as pool participants
 - Aggregate pools are pools which can have pools as pool participants

Participant Type	Host System - Sort Code - Participant ID	Participant Currency	Is Beneficiary	Start Date	End Date
<div> <div>Select_</div> <div> <div>Select</div> <div>Pool</div> <div>Account</div> </div> </div>	<div> <div></div> <div>-</div> <div></div> <div>-</div> <div></div> <div></div> </div>	<div></div>	<div> <input checked="" type="radio"/> Yes <input type="radio"/> No </div>	<div>25/09/2007</div>	<div></div> <div>Imm End</div>

Steps in Pool Execution Flow



Back Value Operations

- The period upto which back valuation will be allowed is set at the Host level
- Back valuation may be required in situations such as :
 - Back valued base rate modification
 - Back valued product rate modification
 - Account balance modification
 - Removal of a pool participant
- If the back valuation spans across two settlement periods, system can add the interest differential of the previous period to the closing balance thus giving the compounding effect across interest periods (this is guided by a system parameter level flag)
- Back Value Transaction can be of two types:
 - Absolute (Gives the new closing balance as of the value date)
 - Transaction (Gives a back dated transaction). This updates all the closing balances from value date to the current date



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