

Neoiz Ltd.

Introduction of OFSA Booster





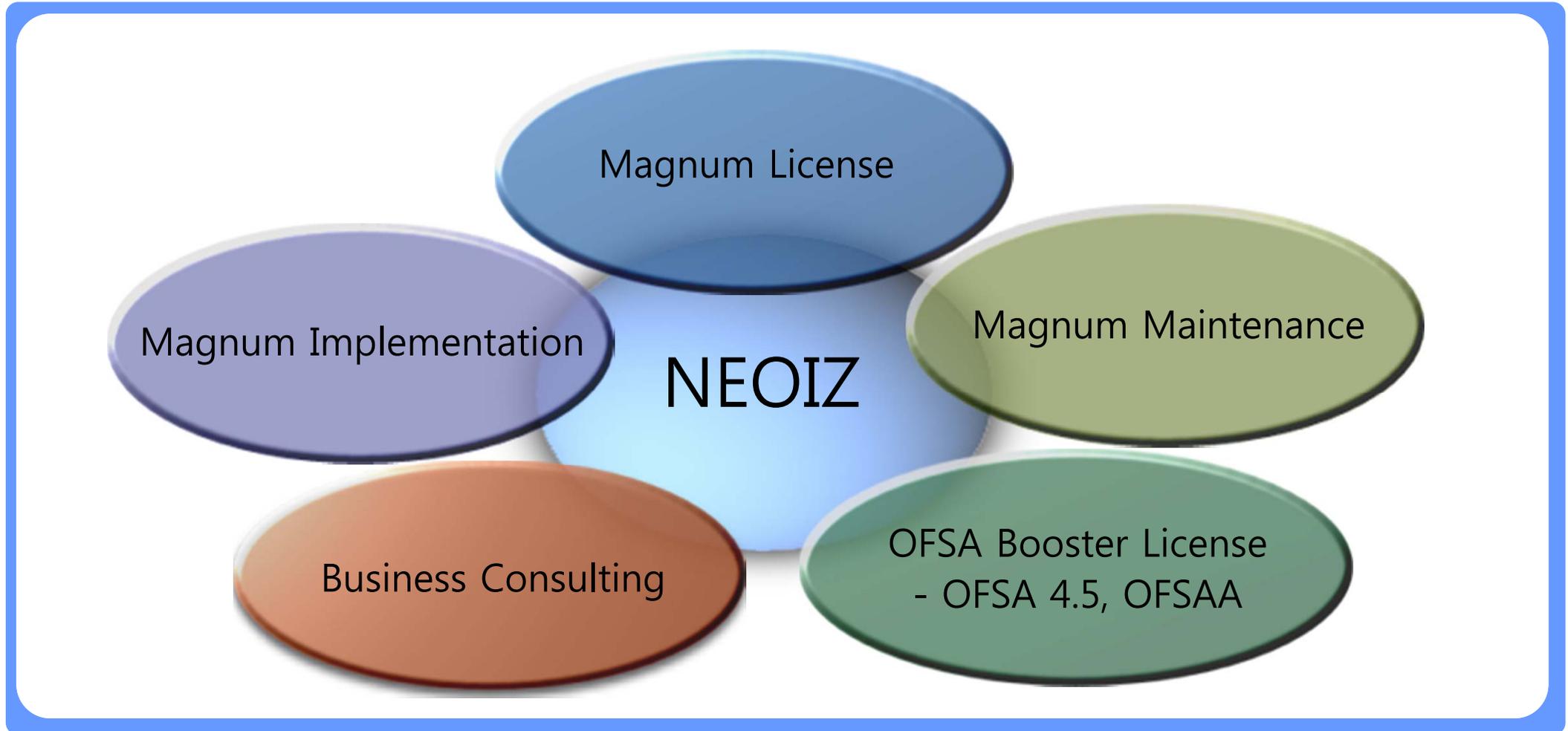
Agenda

I. OFSA Booster

1. Introduction
2. OFSA OFDM Booster
3. OFSA RM Booster
4. OFSA TP Booster
5. OFSA PA Booster
6. OFSA Job Booster
7. OFSA Booster Admin

NEOIZ – Business Area

- ❑ NEOIZ is a company focused on Financial industry with business areas of IAS39, FTP, Cost, Job and ALM as follows. (ALM on Static Analysis for now.)



Reference – OFSA Booster in Korea

- ❑ NEOIZ has 6 references for OFSA Booster in Korea.

Customer	OFSA Booster	Job Booster	Time
Industrial Bank of Korea	RM Booster / OFDM Booster		2007/07
Korea Exim Bank	RM Booster / OFDM Booster	Job Booster	2007/12
Hanjin Shipping	PA Booster / OFDM Booster	Job Booster	2009/02
Hyundai Card	PA Booster / TP Booster / OFDM Booster	Job Booster	2009/04
Hyundai Capital	PA Booster / TP Booster / OFDM Booster	Job Booster	2009/04
Korea Security finance	RM Booster / OFDM Booster		2009/04

Reference – Projects in Korea

- ❑ NEOIZ has more than 10 References for OFSA Implementation in Korea.

Customer	Category	Module	Role
Korea Development Bank	Bank	OFSA TP/PA/RM	PM, Implementation
Shinhan Bnak	Bank	OFSA RM/PA	Design and Implementation
Nonghyup Bank	Bank	OFSA TP/PA	Design and Implementation
Daegu Bank	Bank	OFSA PA	OFSA System Design
Industrial Bank of Korea	Bank	OFSA RM/TP/PA	OFSA System Design

Reference - Projects in South Asia

- ❑ NEOIZ has several References for OFSA Implementation in South Asia.

Customer	Country	Module	Role
United Overseas Bank	Singapore	OFSA TP/PA	Design and Implementation
Overseas Union Bank	Singapore	OFSA TP/PA	Design and Implementation
Kasikorn Bank - 1st	Thailand	OFSA RM/TP	Design and Implementation
Kasikorn Bank - 2nd	Thailand	OFSA RM/TP	Design and Implementation
Thanachart Bank	Thailand	OFSA TP	Business Consulting

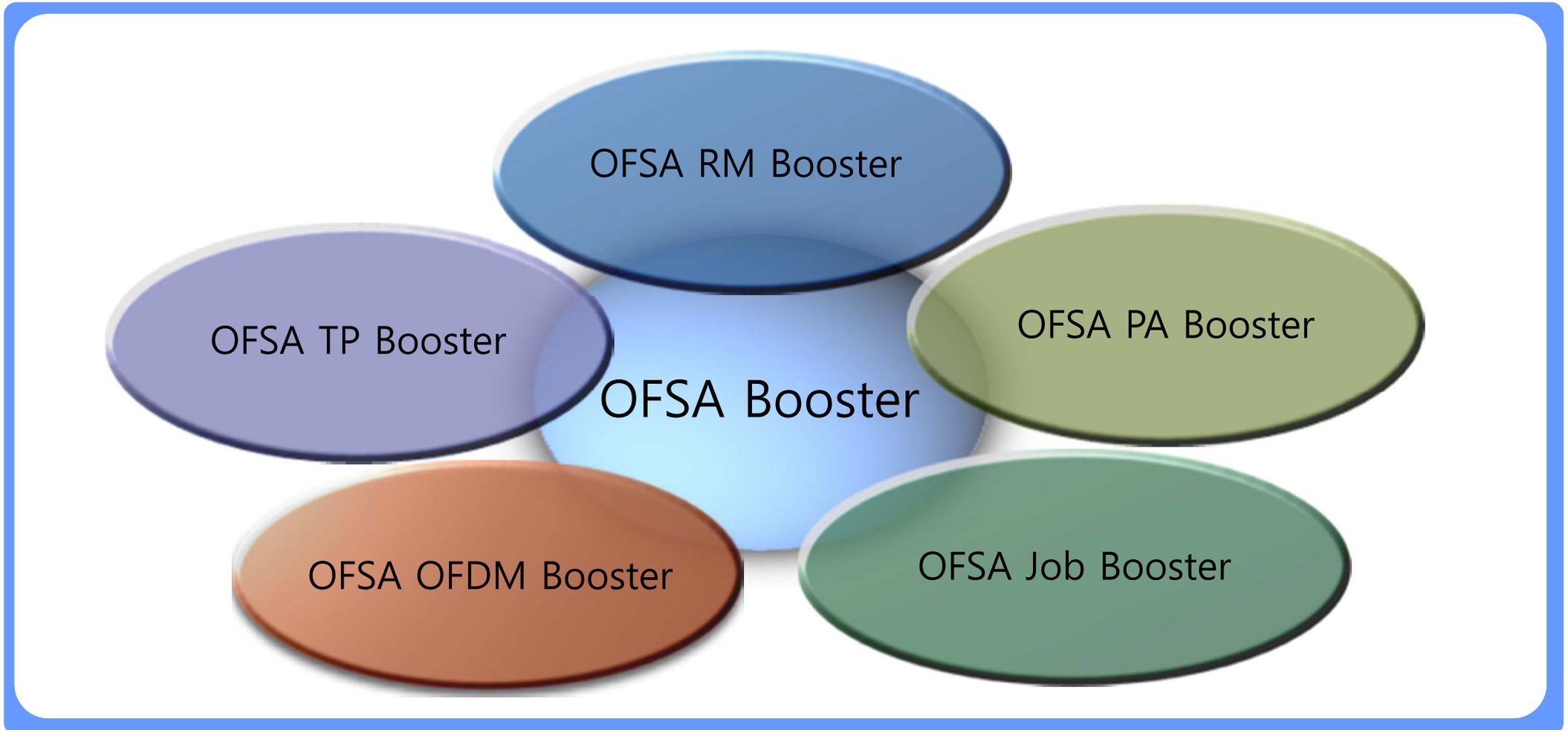
Reference – OFSA Maintenance in Korea

- ❑ NEOIZ has several References for OFSA Maintenance in Korea.

Customer	Category	Module	Annual Service
Korea Development Bank	Bank	OFSA TP/PA/RM	Part time
Korea Post Banking	Bank & Insurance	OFSA RM	Part time
Korea Exim Bank	Bank	OFSA RM	Part time
Seoul Guarantee Insurance	Insurance	OFSA TP/PA	Part time
Hanjin Shipping	Transportation	OFSA PA	Part time

OFSA Booster – Components

- ❑ OFSA Booster is composed of 5 components which are OFSA RM Booster, TP Booster, PA Booster, OFDM Booster and Job Booster to provide 'One-Stop Service' to implement & maintain OFSA system

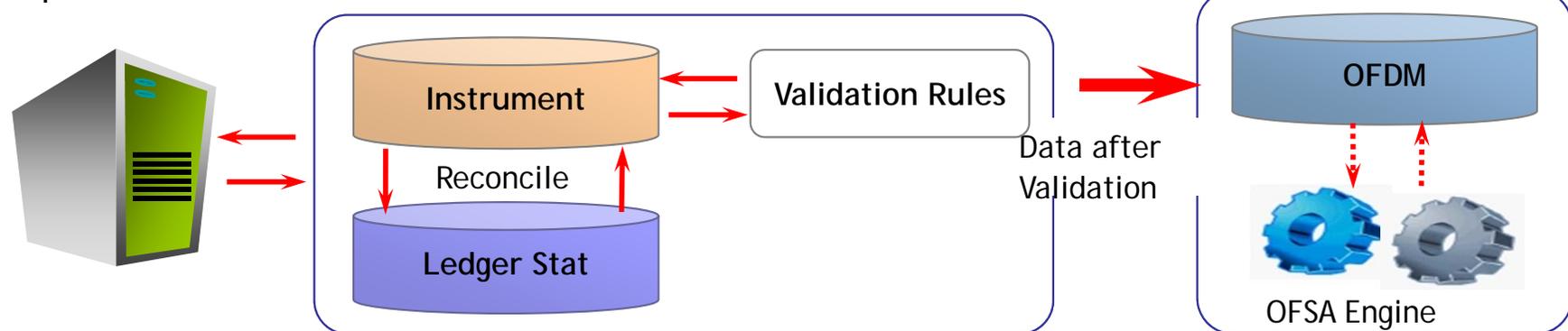


Reconciliation Reconcile between General Ledger Data and Instrument Data. If there are differences, these will be shown in the embedded report and can be handled according to the client's requirement.

Validation of Instrument Data validate Instrument data against OFSA embedded Rules defined in Balance & Control. Any new User-Defined rules can be added easily into the OFSA Booster. The error report has been integrated for user's convenience.

New Leaf(Code) Value Management Search for New Leaf values and help register them at OFSA system before OFSA processing. Target instrument tables and Leaf types to be searched for can be selected by users .

Input Validation Flow

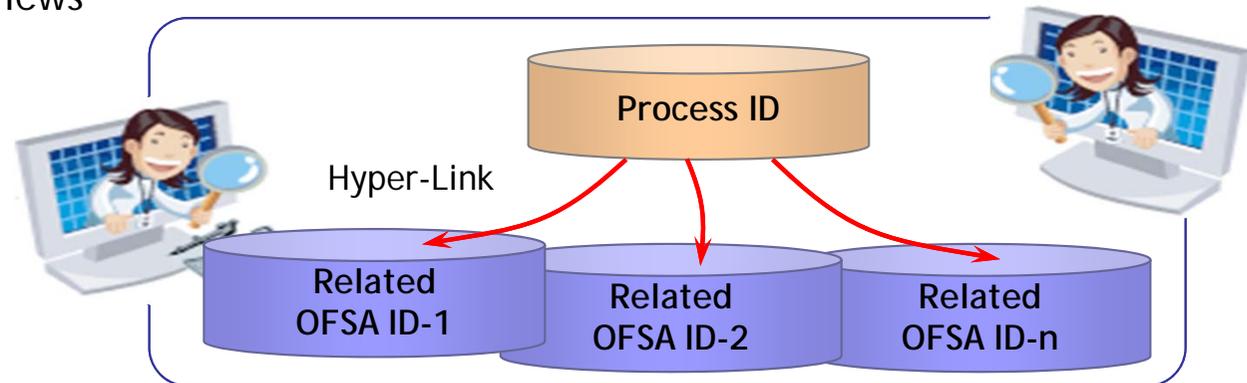


Intuitive User Interface Provide intuitive and outstanding User Interface for user friendly operation of OFSA system.

OFSA Setup Verification Provide well-arranged OFSA Setup screens in user's point of view and allow to modify the setup information from the same screen.

Hyper-Link between OFSA IDs Provide convenient Navigation based on Hyper-Link between related OFSA IDs. That means any OFSA IDs can be reached by jumping down from OFSA Process IDs.

Verify in various point of views

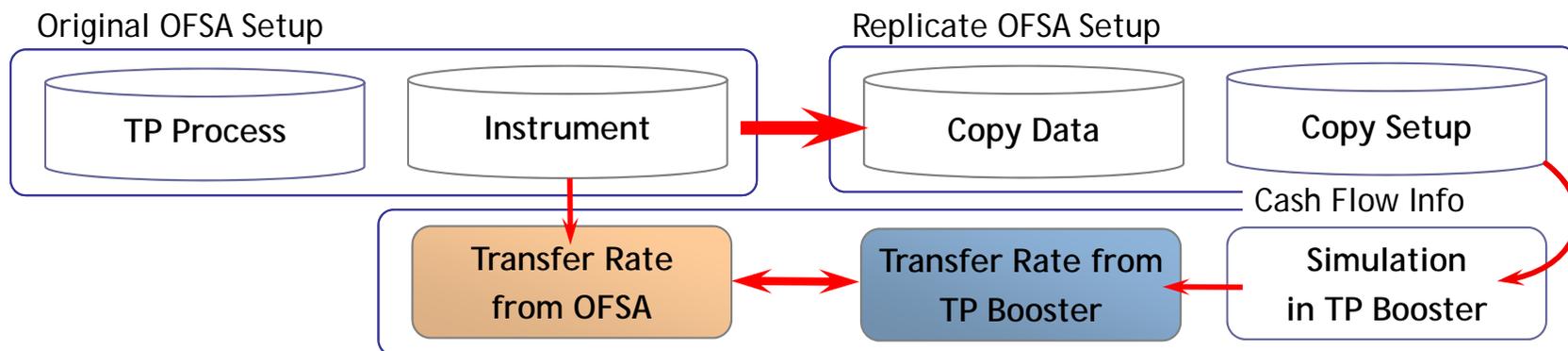


Transfer Rate Validation Provide simulation function for Transfer Rate calculation. Based on Cashflows and Historical Rate derived from TP Setup information and Instrument Data, TP Booster calculates Transfer Rate and shows the results from TP engine and TP Booster for your comparison and validation.

Allocation Result Validation Provide a function to generate SQL statement for every Allocation in OFSA PA for your validation of Allocation result.

RM Result Arrangement Provide several screens to check on RM results in convenience. For example, one screen shows all the related RM Result tables when a Process ID is chosen for validation.

Transfer Rate Validation Flow



Synchronize Documents Help to synchronize the Setup documents with OFSA system whenever OFSA IDs are added or modified.

Well-Formatted Documents Provide Well-Formatted Documents based on expertise and consulting experiences.

Accurate Setup Documents Provide Accurate Setup Documents by directly accessing to OFSA system and converting data into pre-defined document format.

Reduce Manual Job Contribute to saving Users from a heavy manual job for documentation.

OFSA Setup Documentation Flow



Term Structure Parameter Calculate Term Structure Parameter based on the Logic recommended in the OFSA manual and preview the future interest rate by triggering OFSA RM process.

Rate Correlation Analysis Analyze historical rates to find rate correlation between valuation curve and the others. This information is used to setup Rate Index ID for stochastic process.

New Business Assumptions Help to prepare New business Assumptions such as Forecast Rate ID, Maturity Strategy ID, Pricing Margin ID.

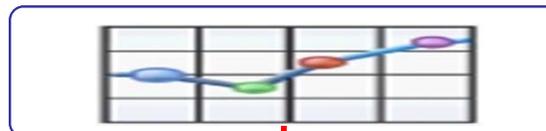
Statistical Analysis Flow

Term Structure Parameter



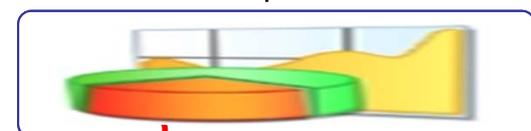
Feed OFSA system directly

Rate Correlation



OFSA Setup

New Biz Assumption



Multi Processing Setup By providing special Menu for Multi Processing Setup, Users can check and get better performance.

Multi Processing Option is quite useful function to make the most of Server resources such as CPU by dividing the single process according to distinct sets of rows called "*Units of work*".

SQL Statement of OFSA Processing By generating SQL statements expected to be run in the OFSA Processing, Users can find required Index list more easily.

Assist Data Aggregation By aggregating Instrument data through OFSA Cashflow engine, Summary data can be used with accuracy for OFSA RM Processing.

Performance Tuning

Multi Processing Setup



SQL Statement



Data Aggregation



Execute all kinds of Processes Execute all kinds of Processes for OFSA system such as PL-SQL, Shell, C, OFSA Process....

Easy Register of OFSA Processes OFSA Processes can be registered easily into JOB Booster by linking to Batch ID in OFSA system.

Monitor Process Status Monitor the status of every Process on the running.

Error Reports & Guide When encountered with errors, it will provide detailed Error Report with Log information in the OFSA Server and help you to look up related Tip through the Help menu.

Job Operation Flow

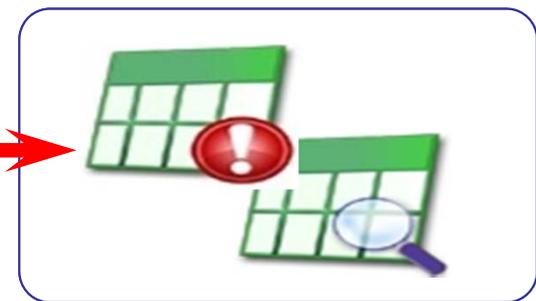
Register Job



Execute Job



Monitor Job Status



Efficient Maintenance

One Stop Service : Put together all Functions for maintenance

Save User Time : **Focus on Analysis** rather than maintenance

Inspect OFSA Setup : **Detect OFSA Setup in mistake** quickly

Get Reliable Results

Input data : Check and Validate Input Data

OFSA Setup : **Verify OFSA Setup** against User requirements

OFSA Result : **Validate OFSA Results by simulation**

Get Results on Time

Performance Tuning : Support to get better performance

Setup Document : Provide function for Setup Document

Result Validation : **Automate Validation Process** of OFSA Results

Parameter Generation : Parameters required by Risk manager



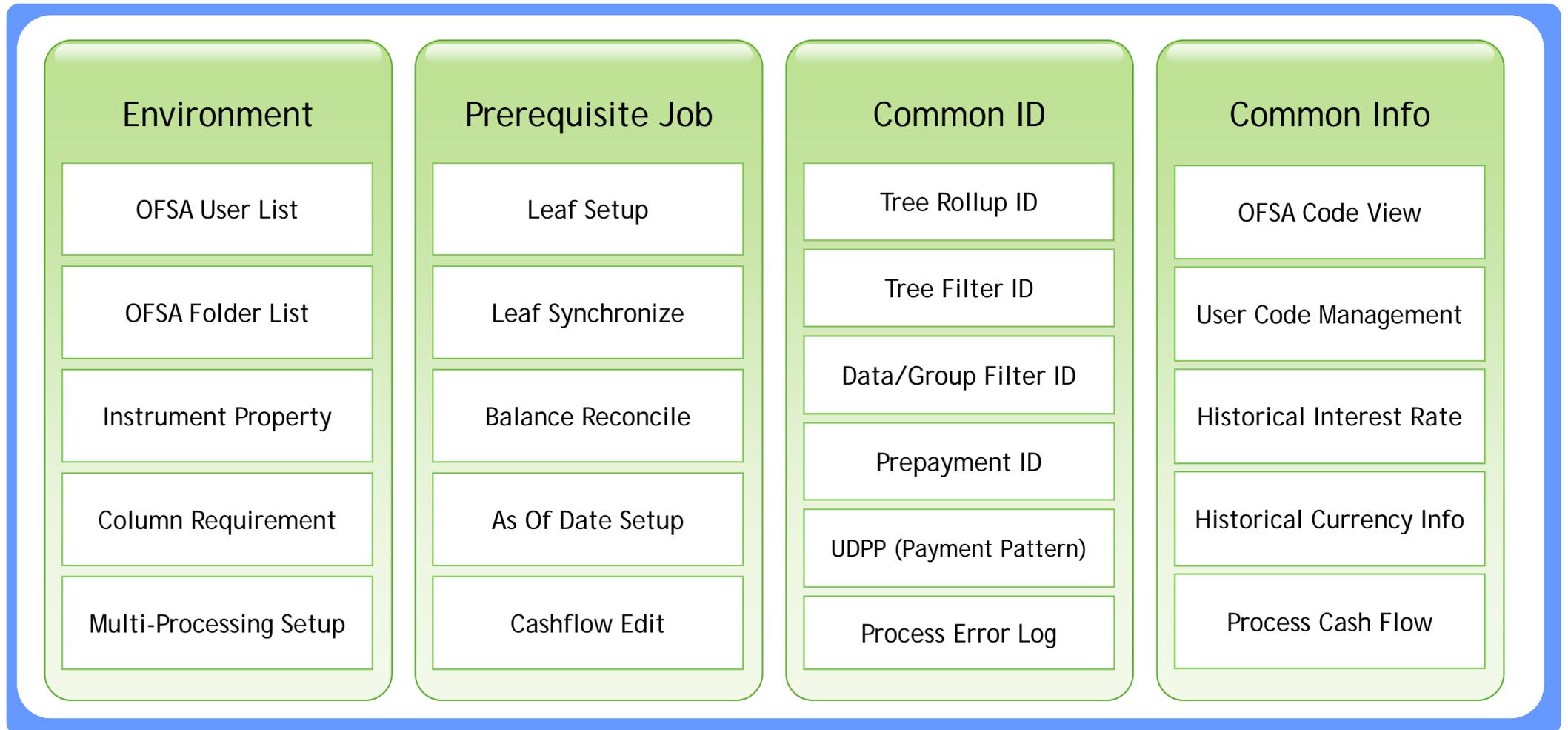
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OFDM Booster – Menu Summary

□ There are 22 menus in OFSA OFDM Booster as follows.



OFDM Booster - Function Summary

- ❑ OFSA OFDM Booster helps you to Operate OFSA System by providing functions for OFSA setup verification, Multi Processing Setup and Uploading required information.

- Multi Processing Setup
- Input Data Validation
- Uploading Rate Information
- Leaf Synchronization
- Uploading Tree Rollup
- OFSA Code Dictionary

OFSA Process Flow

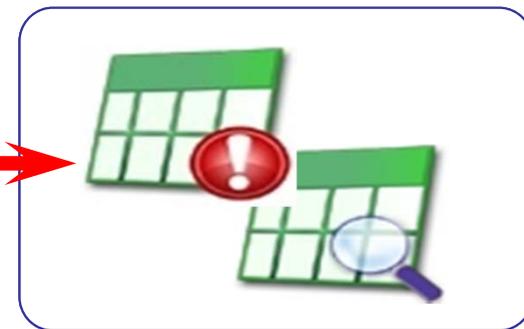
Input Data Validation



OFSA Setup Verification



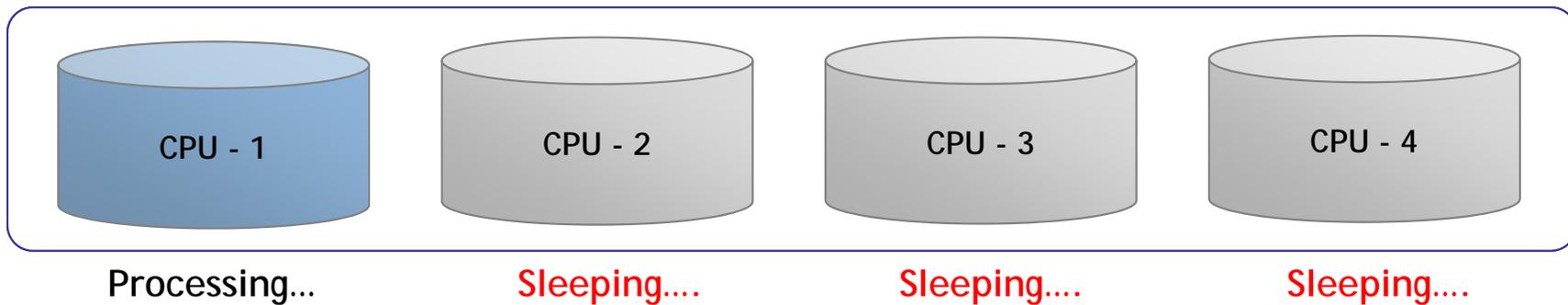
Upload required information



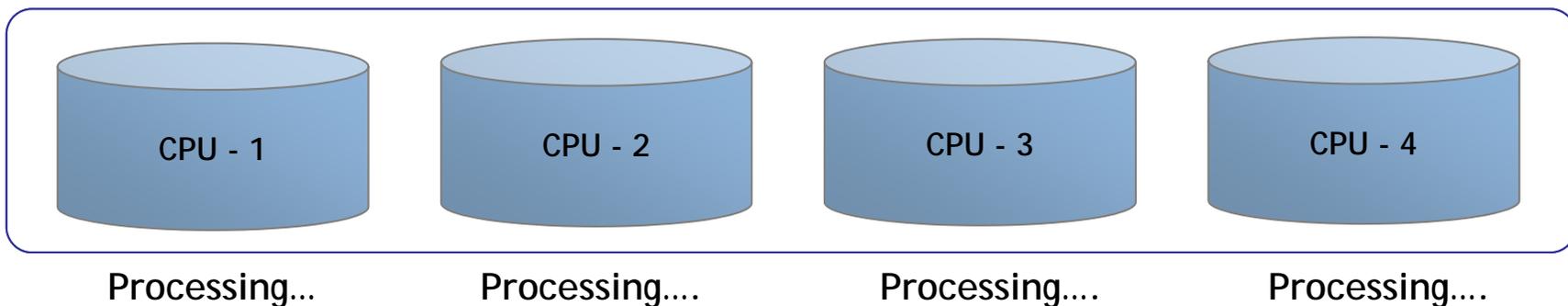
OFDM Booster - Multi Processing Setup

- ❑ If you have not setup Multi-Process option, it means you may not use the hardware resource efficiently. (Most CPUs are doing nothing.)

Before Multi Process Setup



After Multi Process Setup



OFDM Booster – Leaf Synchronization

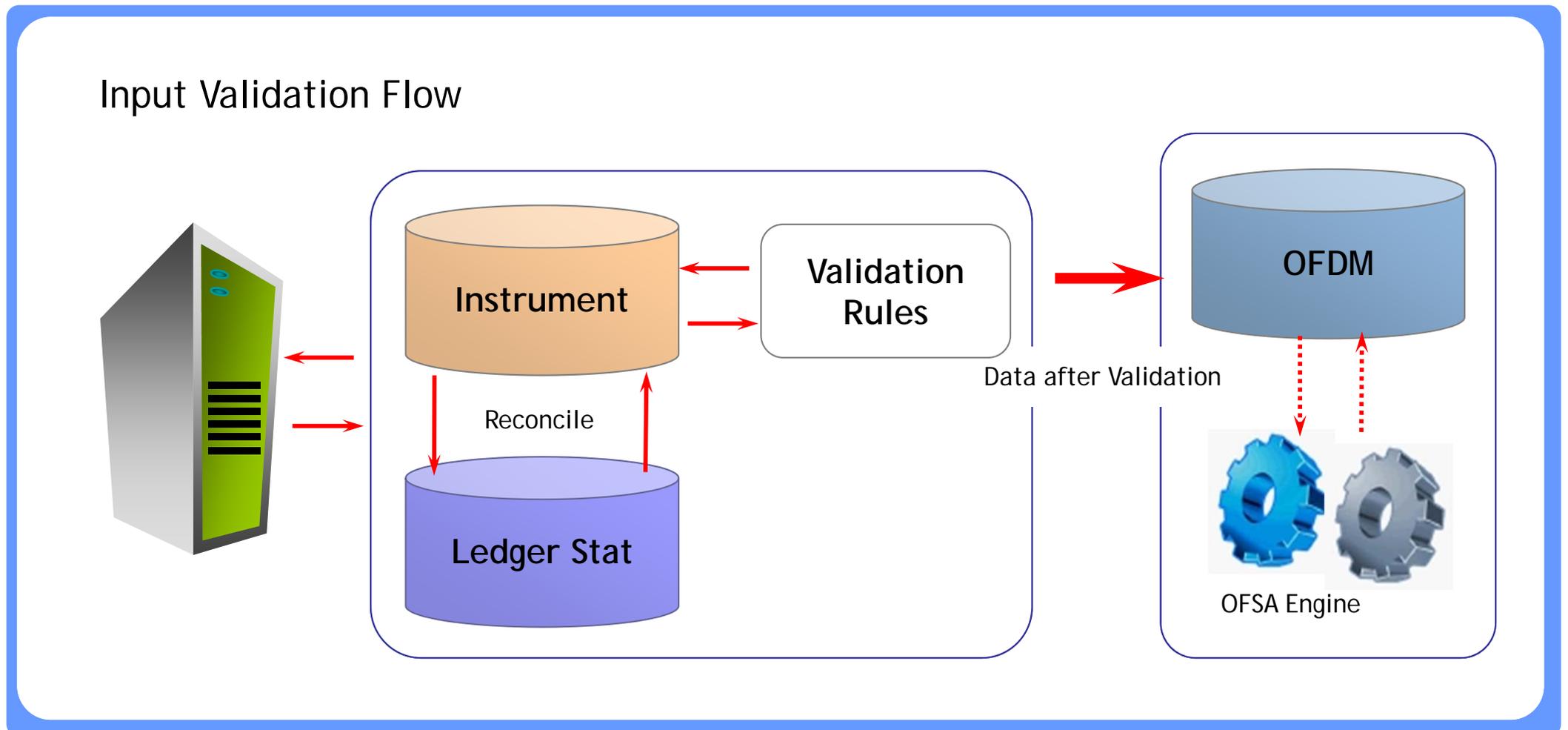
- ❑ OFDM Booster provides a menu to automatically show missing leaf values for any Leaf columns in the Instrument and Ledger Stat tables. If registration is required, Leaf setup menu can be opened just by double-click.

Leaf Values in OFSA Leaf	Leaf Values in Instrument
Leaf Value - 10001	Leaf Value - 10001
Leaf Value - 10002	Leaf Value - 10002
Leaf Value - 10003	Leaf Value - 10003
Leaf Value - 10004	Leaf Value - 10004
Leaf Value - 10005	Leaf Value - 10005
	Leaf Value - 10006
	Leaf Value - 10007

Missing Leaf

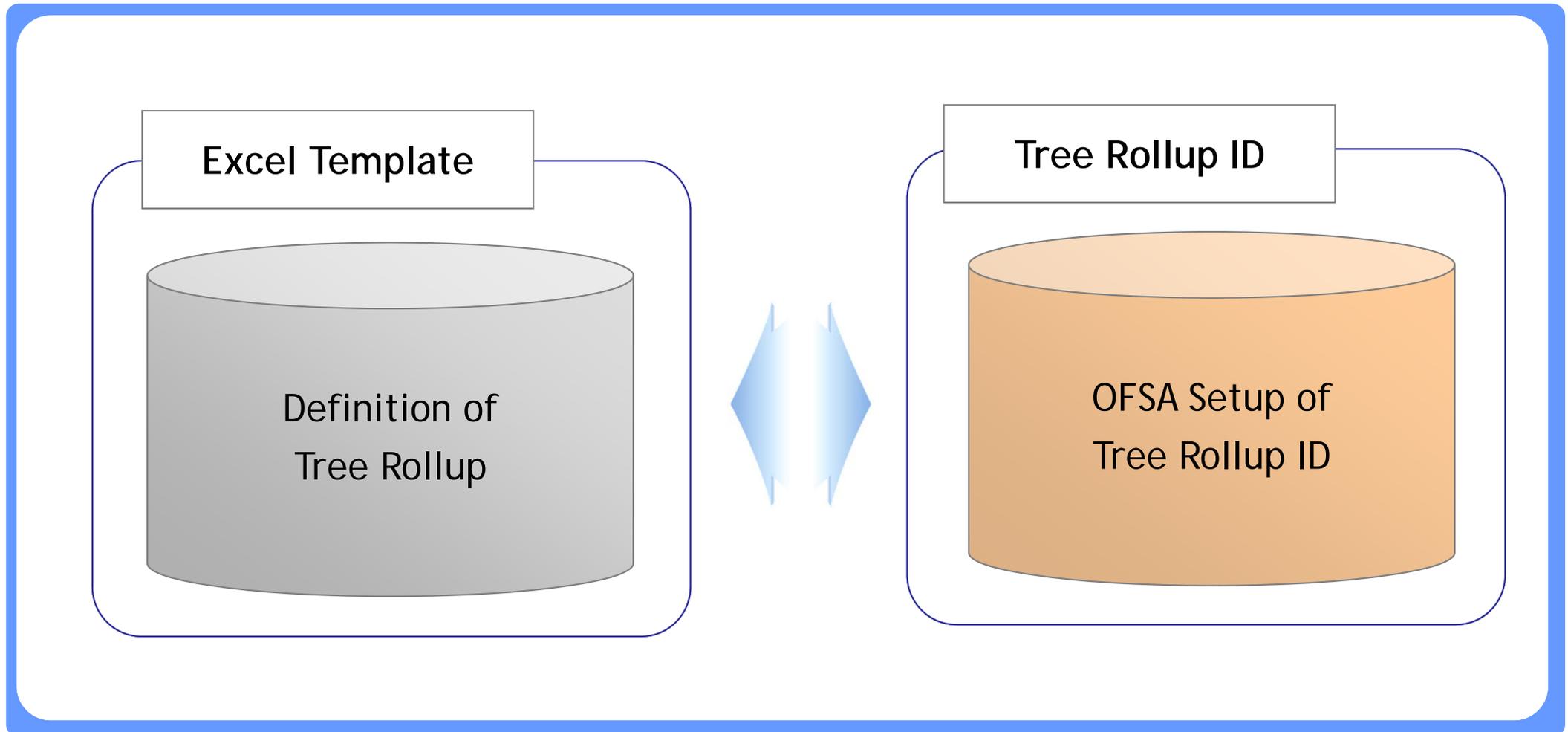
OFDM Booster – Input Data Validation

- ❑ This function is provided to prevent inconsistent and/or incomplete data from interrupting processing of cash flows in any OFSA module. The check rules are composed of Standard rules and User-Defined Rules, and User-Defined Rules can be added easily.



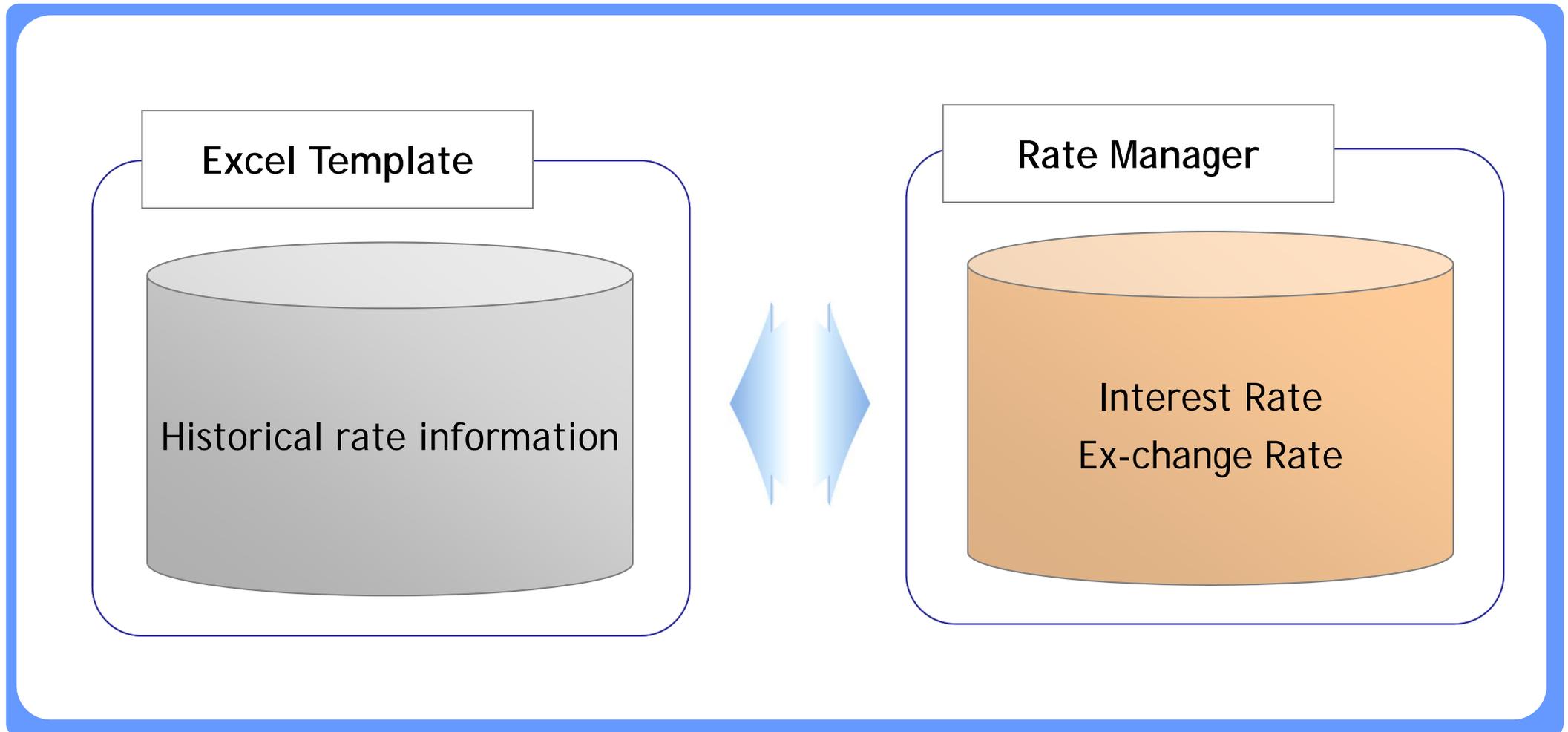
OFDM Booster - Uploading Tree Rollup ID

- ❑ One of the painful job in OFSA Setup is managing Tree Rollup IDs. Because it's usual to setup a few hundreds of Leaf Values for each Tree Rollup ID, it takes long time and tends to make mistakes. But you should use this function with great care.



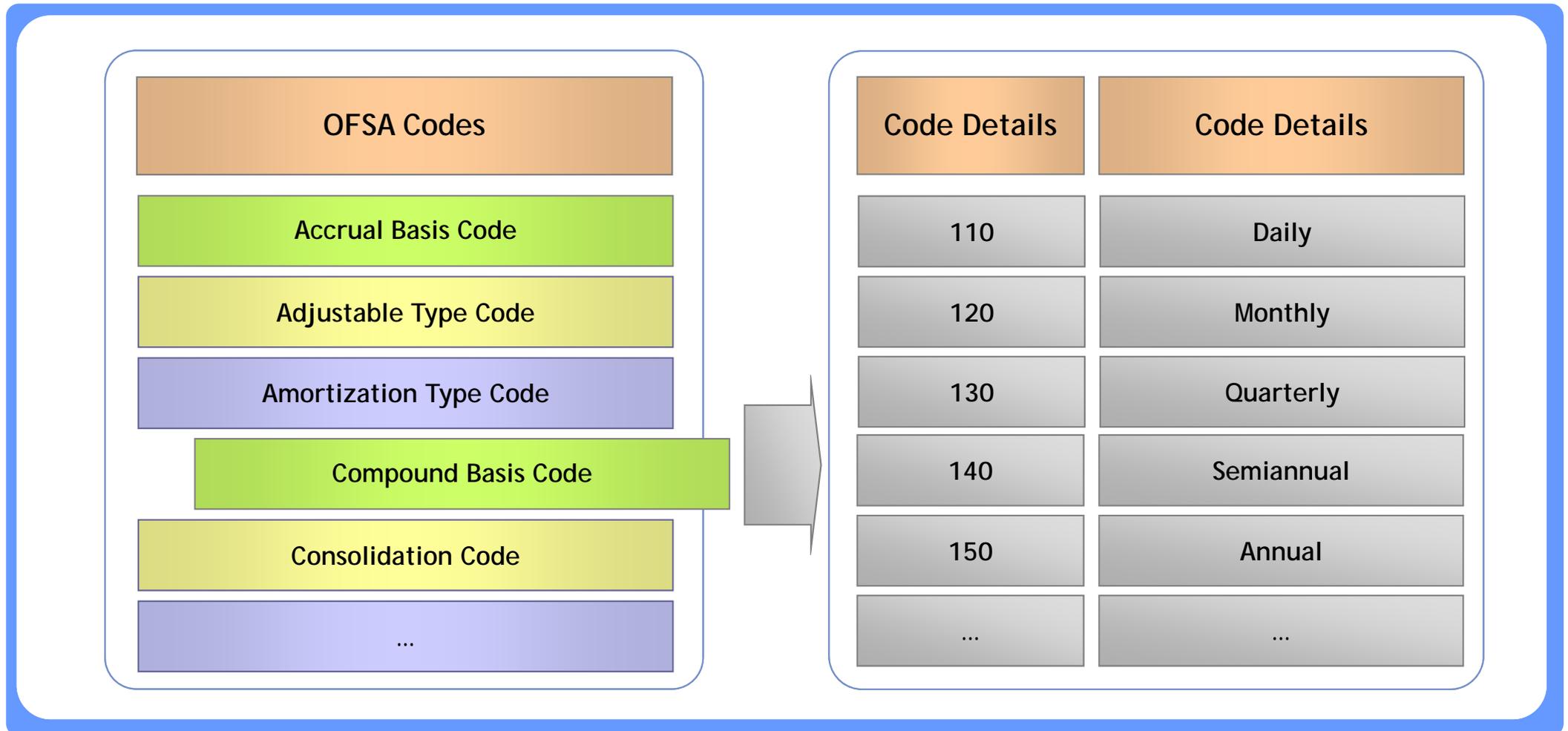
OFDM Booster - Uploading Rate Information

- ❑ Historical Interest rates and Ex-change rates need to be loaded into related tables before OFSA processing. OFDM Booster allows users to upload/download these information through Excel files.



OFDM Booster – OFSA Code Dictionary

- ❑ Most OFSA Codes are collected and saved in this menu for user's convenience. User can search and look up the detail information easily about more than 60 OFSA codes in a single screen.



OFDM Booster – Main Benefits

- ❑ OFSA OFDM Booster is useful to maintain OFSA system with below benefits.

Correct OFSA Setup

Verify OFSA Setup against User requirements

Multi Processing Setup

Setup Multi Processing for better performance

Leaf Synchronization

Detect and register missing leaf value before OFSA Processing

Input Data Validation

Prevent inconsistent and/or incomplete data from OFSA Processing

Uploading Tree Rollup

Save user's manual job for managing Tree Rollup

Uploading Rate Information

Provide convenient way to import Rate information

OFSA Code Dictionary

Provide OFSA Code dictionary for user's convenience



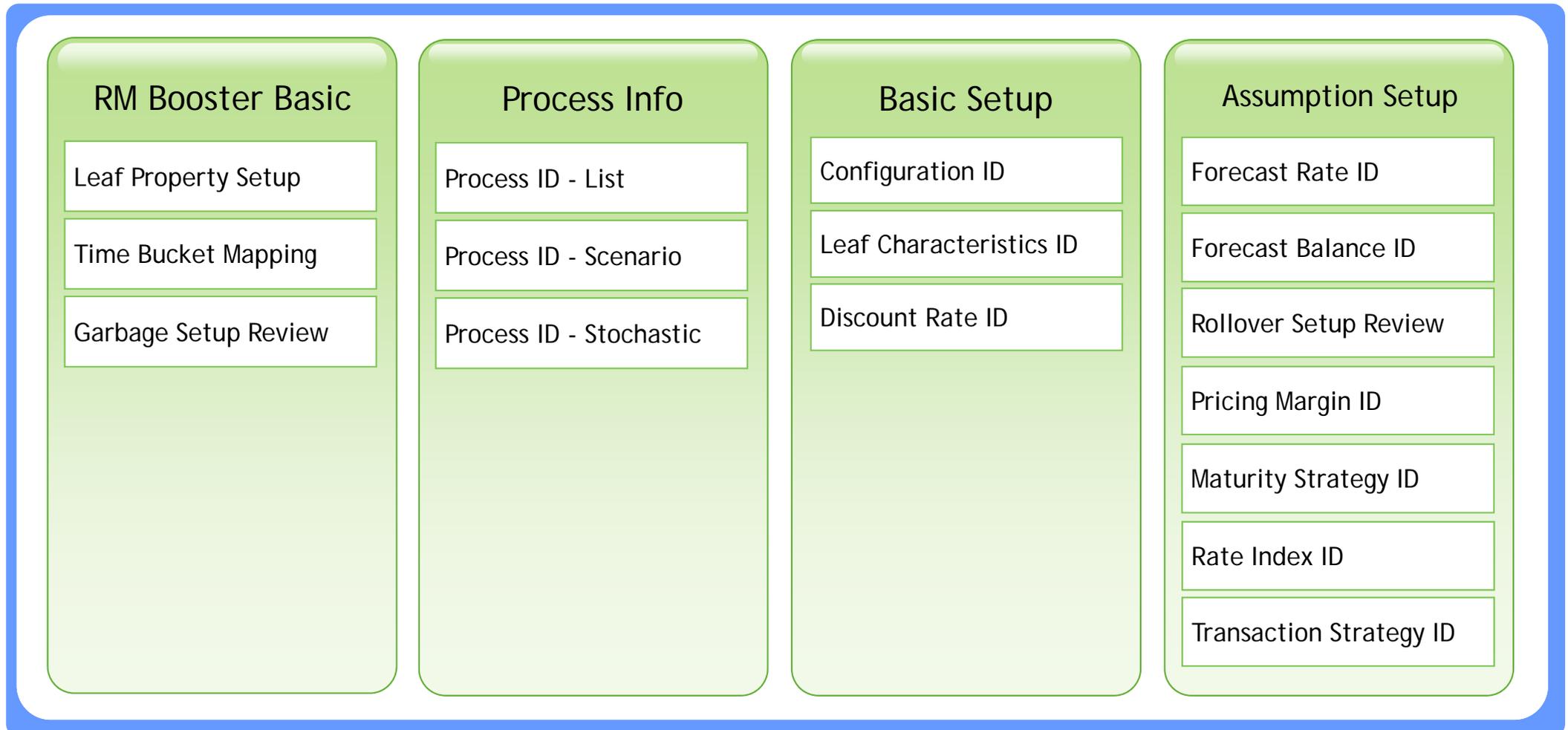
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RM Booster – Menu Summary (1)

❑ There are 29 menus in OFSA RM Booster as follows.



RM Booster – Menu Summary (2)

❑ There are 29 menus in OFSA RM Booster as follows.

Rate Statistics

Term Structure Estimator

Term Structure Simulator

Rate Correlation Estimator

Statistical Forecast Rate

Process Result Verify

Result by Node Level-Scenario

Result by Product-Scenario

Result by Table-Scenario

Result by Table-Stochastic

Product Rank-Stochastic

New Volume Activity

Stat Instrument Setup

New Volume Activity
-Node Level

Statistical Maturity Strategy ID

Statistical Pricing Margin ID

RM Booster - Function Summary

- ❑ OFSA RM Booster helps you to Operate OFSA System by providing functions for OFSA setup verification, Scenario generation and OFSA result verification.

- Term Structure Parameter Simulator
- Generating Margin/Maturity Scenario
- Rate Scenario based on correlation
- Garbage Setup Review
- Managing Time Bucket
- Feeding Balance Scenario
- RM result validation
- Uploading Tree Rollup ID

RM Simulation Flow

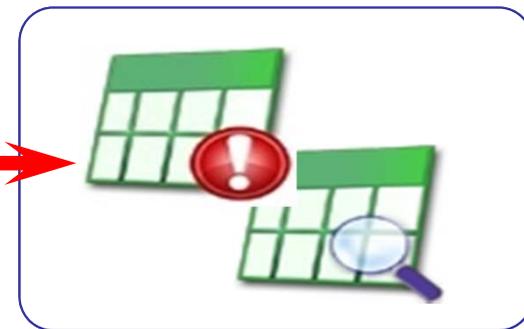
Generate Scenarios



Processes with Scenario



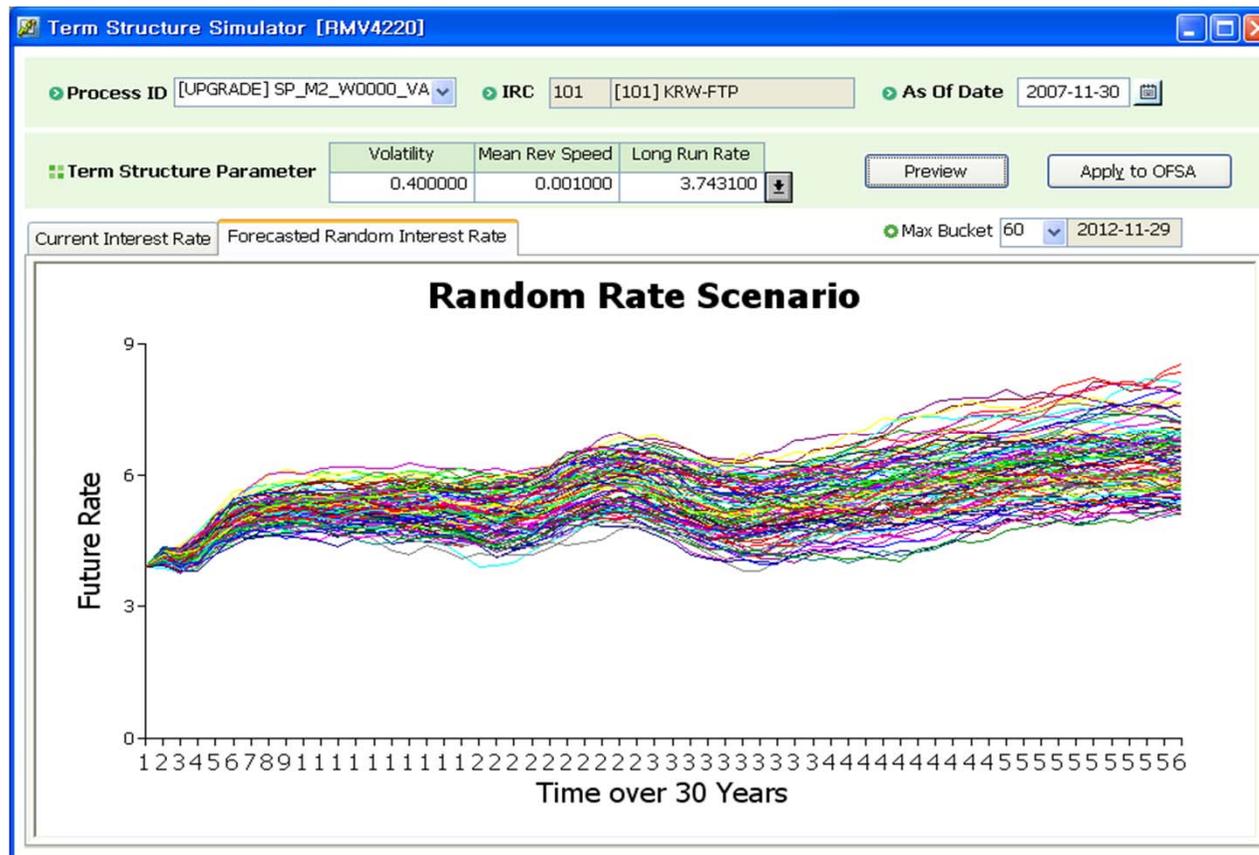
Verify Result



RM Booster – Term Structure Parameter Simulator

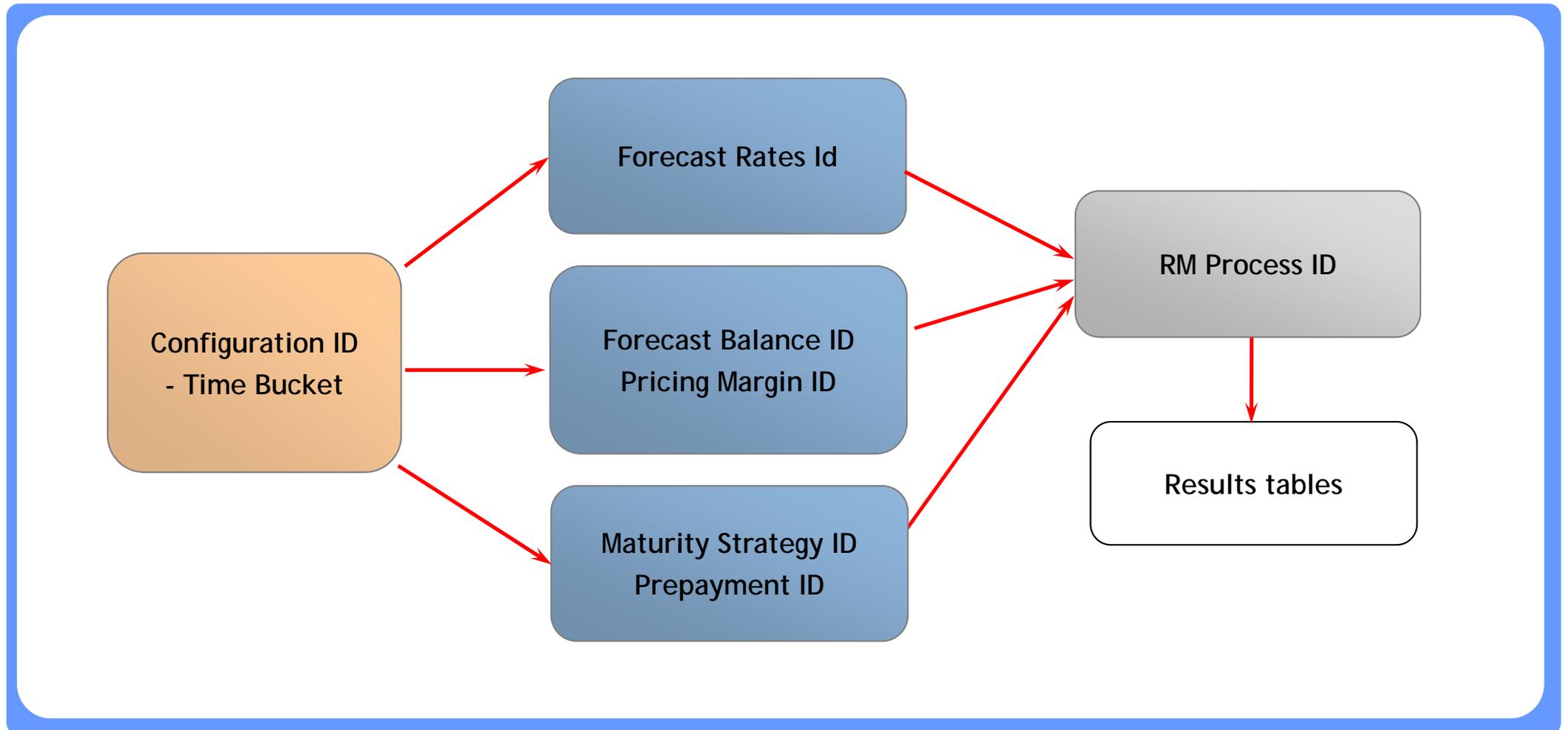
- ❑ OFSA RM Booster calculates Term Structure Parameter and allow user to preview the random rates by triggering OFSA RM process. After viewing and comparing the random rates from possible parameters, user can apply the most-likely parameter to OFSA system.

Example



RM Booster - Managing Time Bucket Dependency

- ❑ OFSA IDs related to assumptions are defined in conjunction with specific time bucket. Therefore these dependencies on time bucket should be kept to make sure OFSA IDs are maintained correctly. Otherwise OFSA process come out with unexpected results.



RM Booster - Managing Time Bucket Dependency

- ❑ We can open any OFSA ID on a specific configuration ID which is activated. That means Bucket mismatch is likely to happen regardless of intention.

Bucket **Match** between OFSA ID and Configuration ID

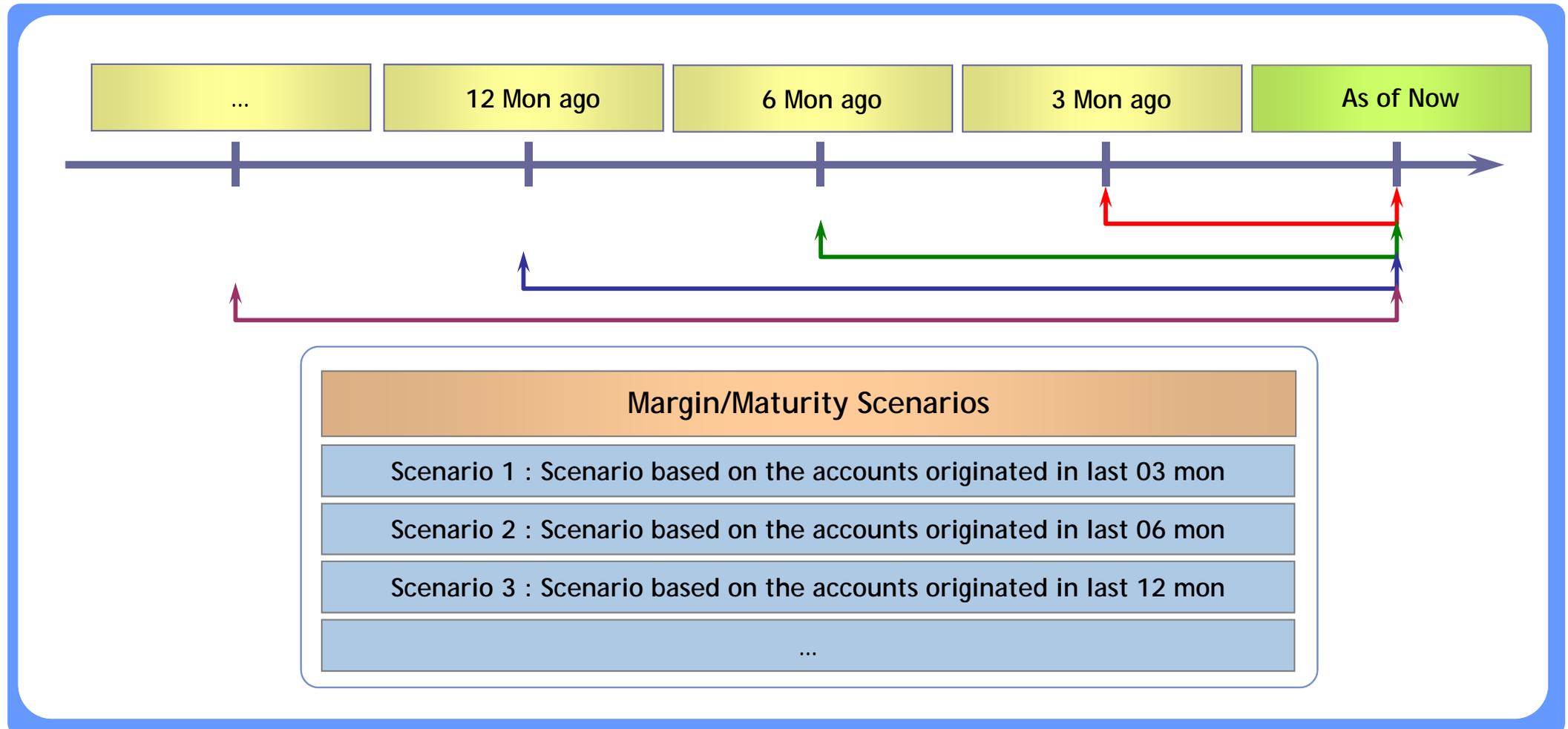
Assumption IDs - 1	Bucket 001	Bucket 002	Bucket 003	Bucket 004	Bucket 005	Bucket 006
Configuration ID - 1	Bucket001	Bucket002	Bucket003	Bucket004	Bucket005	Bucket006

Bucket **Mismatch** between OFSA ID and Configuration ID

Assumption IDs - 1	Bucket 001	Bucket 002	Bucket 003	Bucket 004	Bucket 005	Bucket 006
Configuration ID - 2	Bucket001	Bucket002	Bucket003	Bucket004		

RM Booster - Generating Margin/Maturity Scenario

- ❑ OFSA Booster can generate Margin/Maturity Scenario and apply to OFSA Setup automatically. These scenarios are generated based on instrument data as of now.



RM Booster - Feeding Balance Scenario at Node Level

- ❑ By feeding balance Scenarios by higher level than RM COA, User can enter various Scenarios for their simulation in efficiency and accuracy.

Step 1 : Tree Rollup ID for Balance Scenario

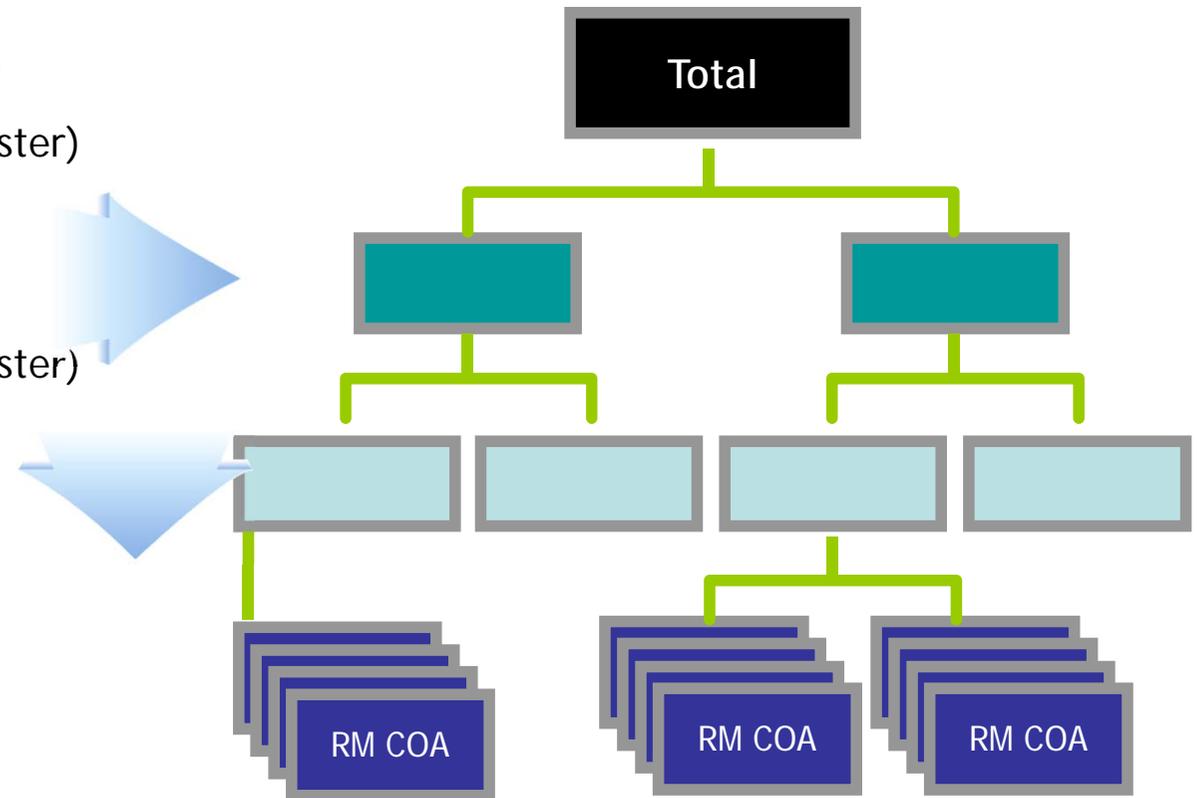
(Define in excel and upload using OFSA Booster)

Step 2 : Balance Scenario at Node Level

(Define in excel and upload using OFSA Booster)

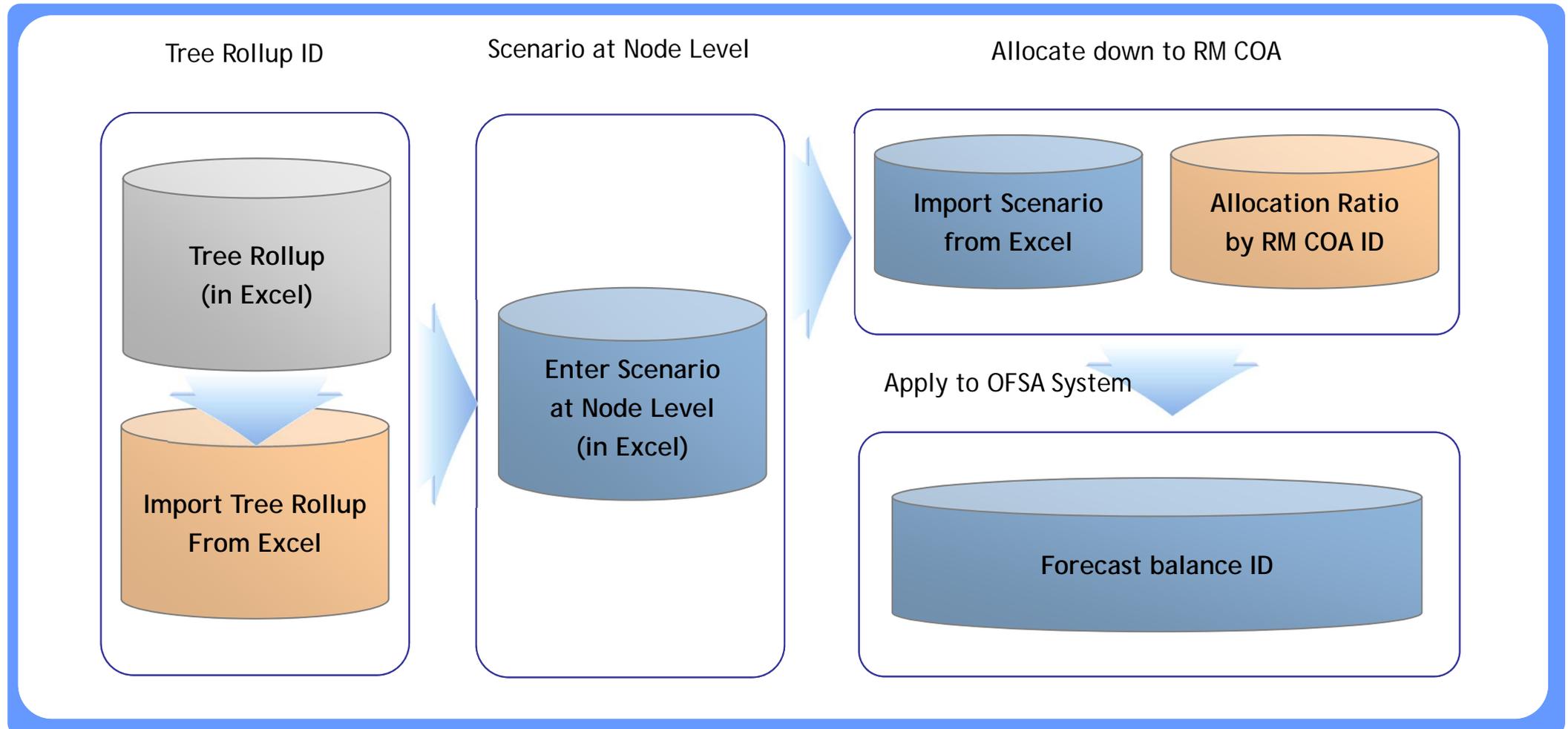
Step 3 : Allocate Balance down to RM COA

(Allocation ratio generated by OFSA Booster)



RM Booster - Feeding Balance Scenario at Node Level

- ❑ The procedure of entering Scenario for Forecast Balance ID by node level is as follows.

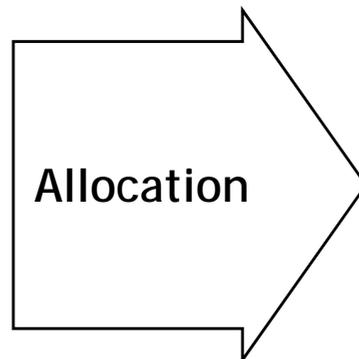


RM Booster - Feeding Balance Scenario at Node Level

- ❑ If rollover with new add method is used, all the RM COAs under Liquid Asset will be set to roll over and the new add amounts are allocated down to RM COAs under Liquid Asset based on the allocation ratio.

Balance Scenario from **User**

	Date	2007-01-31	2007-02-28
Node	Book Balance	BUCKET_01	BUCKET_02
Liquid Asset	1,596	6.65	6.65

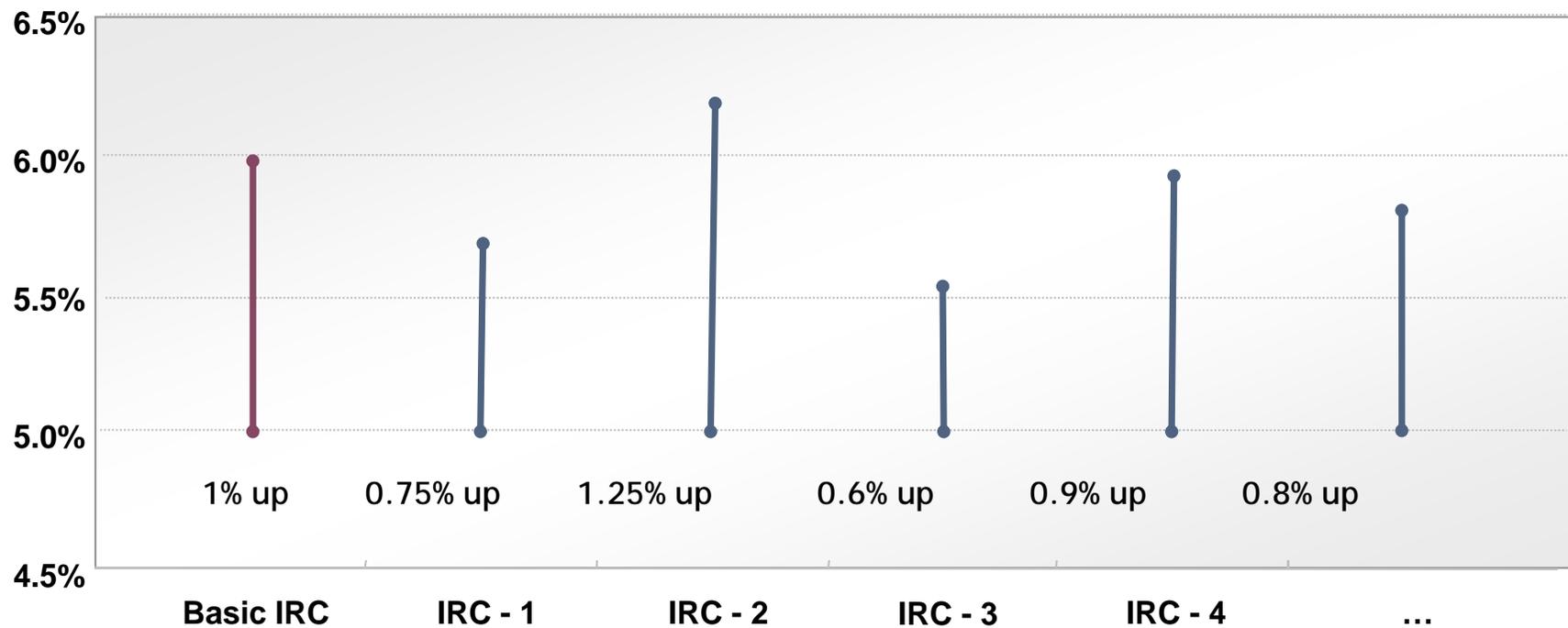


Balance Scenario **after allocation by OFSA Booster**

		Date	2007-01-31	2007-02-28
Node	RM COA	Book Balance	BUCKET_01	BUCKET_02
Liquid Asset	Cash	160	0.31	0.31
	Cash in Hand	798	2.15	2.15
	Due from Exim Bank	319	1.24	1.24
	Due from Bank of Korea	479	1.72	1.72
	Due from Government Savings Bank	399	1.36	1.36

RM Booster - Rate Scenario based on Correlation

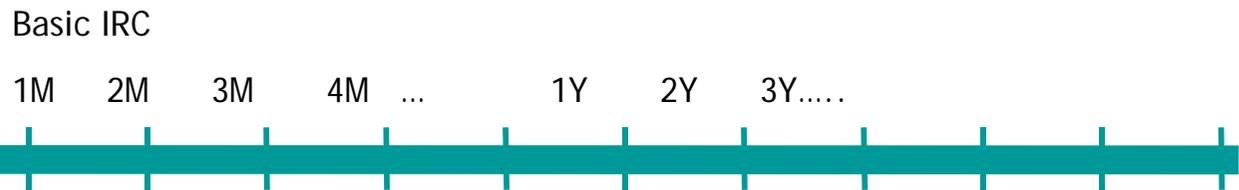
- When a specific IRC has moved 1%, another IRC would move different % according to the rate correlation (sensitivity). Therefore more realistic rate scenario can be generated if rate correlation can be applied between basic IRC and the other IRCs.



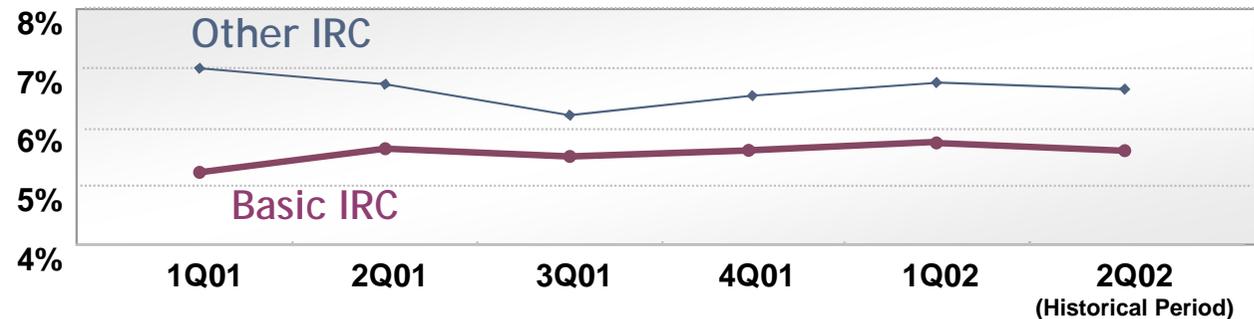
RM Booster - Rate Scenario based on Correlation

- By applying Rate correlations to any rate scenario for the future, User can do simulation with more practical rate scenarios.

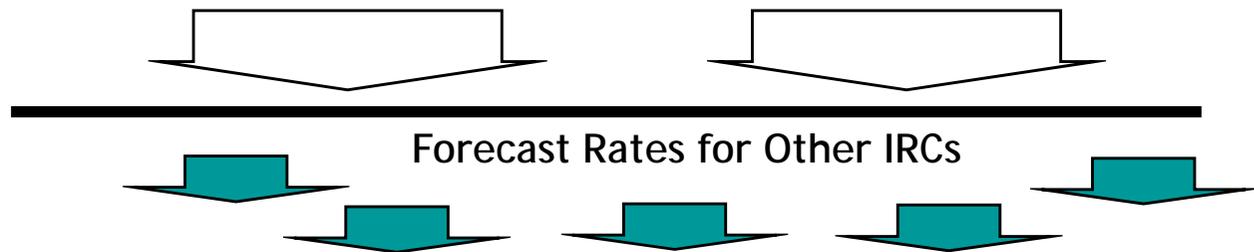
Step 1 : Enter Forecast Rate for Basic IRC



Step 2 : Select Rate Correlation between Basic IRC & Other IRCs (Select related Rate Index ID)

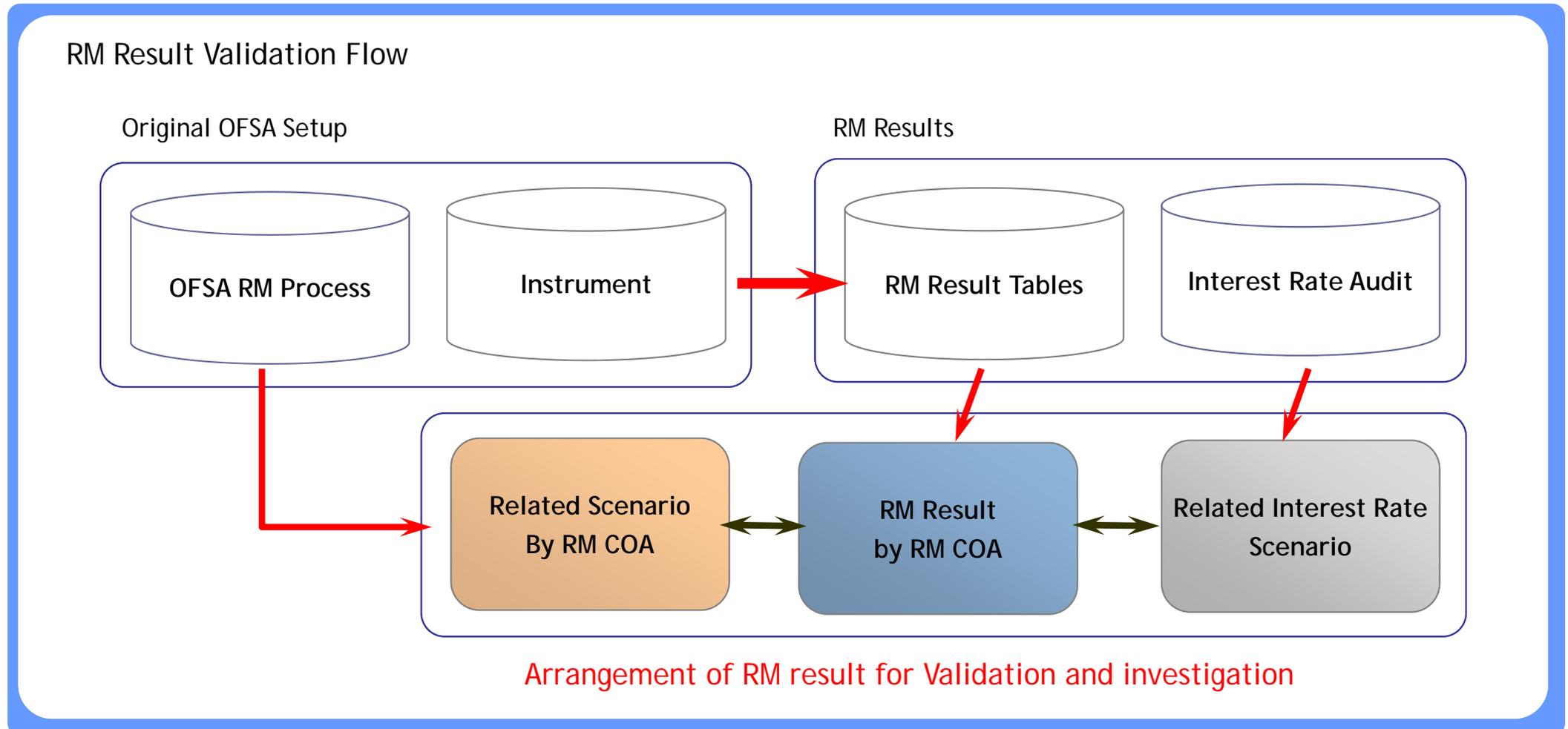


Step 3 : Apply Rate Correlation to other IRCs for Rate Scenario



RM Booster - RM Result Validation

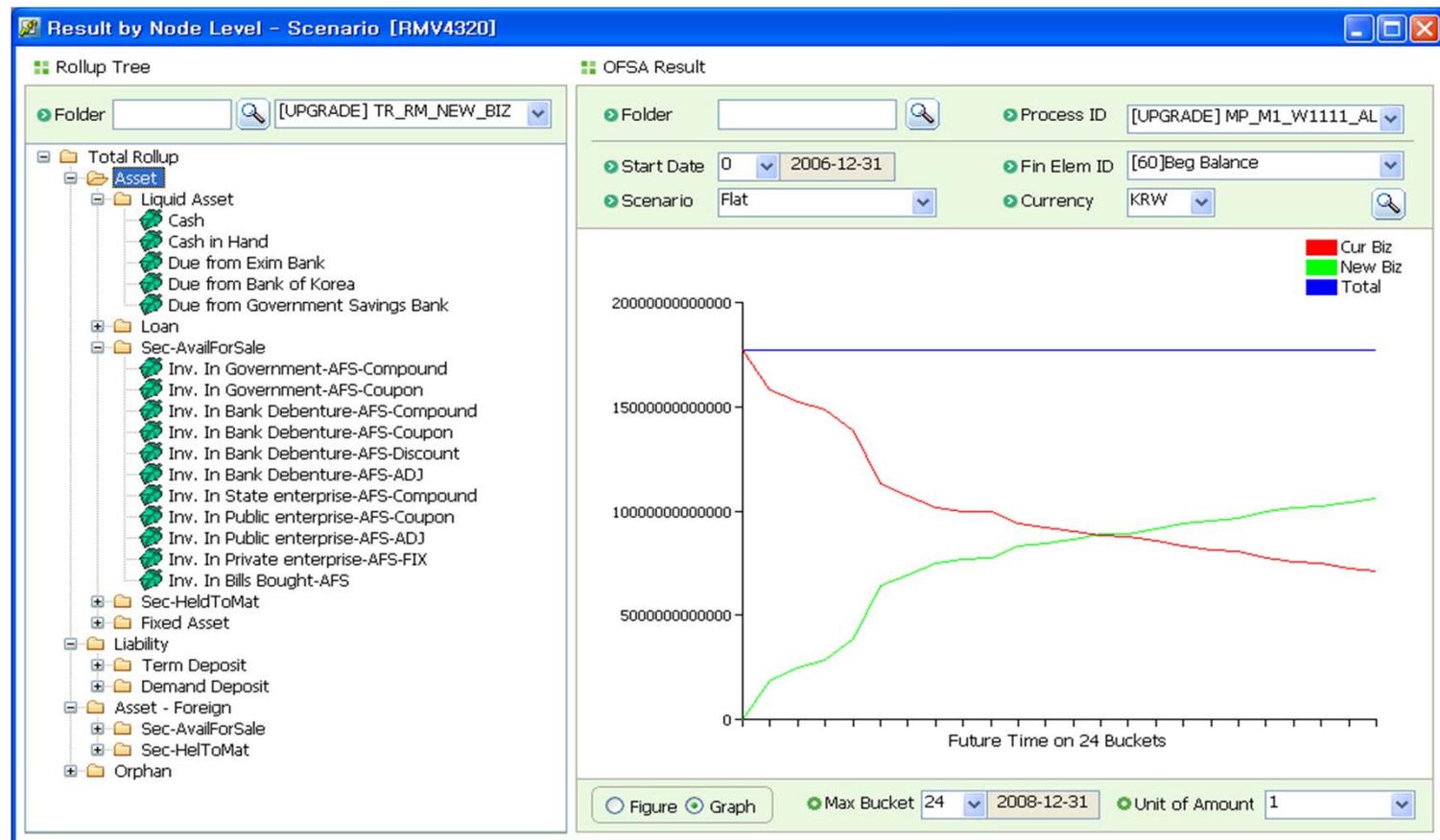
- By providing several screens to check on RM results by Result Table or RM COA for a specific RM Process with related Scenario, Users can validate RM result in many views.



RM Booster - RM Result Validation at Node Level – [Ex 1]

- ❑ Checking result at Node Level in conjunction with related Tree Rollup is quite useful for Validation. For example, if we have same ending balance at Asset Node for the future buckets, we can say Rollover setup for every RM COAs under this Node is OK.

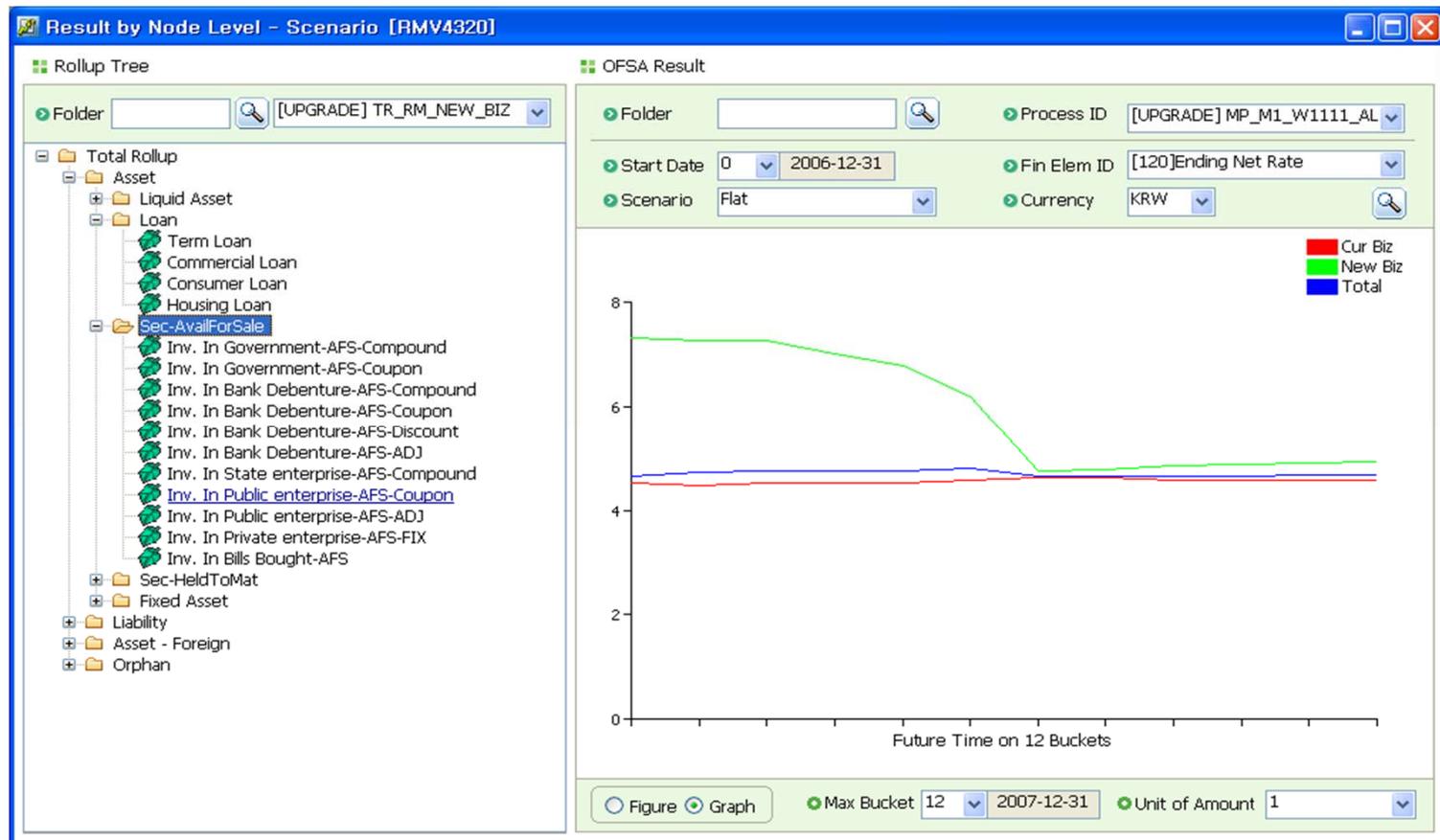
Example



RM Booster - RM Result Validation at Node Level – [Ex 2]

- ❑ For example, if we have big difference of net rate between Current Biz and New Biz for the future buckets, we can suspect Pricing Margin ID has been generated based on incorrect margin information from instrument data.

Example



RM Booster - RM Result Validation at Node Level – [Ex 3]

- ❑ When you encounter erroneous result, User can inspect the result using Top-Down approach. Moreover if you are at RM COA level you can jump to result by product menu for more information by each RM COA.

The screenshot displays the RM Booster interface. On the left, a 'Rollup Tree' shows a hierarchy of assets, with 'Inv. In Bank Debenture-AFS-Compound' selected. A red box highlights this node, and a red arrow points to the 'Result by Product-Scenario' window. A text overlay 'Jump by double click' is positioned over the tree. The 'OFSA Result' window shows a line graph with a red line and a blue line. The 'Result by Product-Scenario' window is open, showing details for 'Inv. In Bank Debenture-AFS-Compound' with various financial parameters.

Leaf Characteristics ID		KRW
Account Type	[100] Earning Asset	
Model with Gross Rate	N	
Interest Credited	N	
Currency Gain/Loss Basis	Current Rate	
Interest Rate Code	101 [101] KRW-FTP	
TP Interest Rate Code	101 [101] KRW-FTP	
Amortization Type	700 Non-Amortizing	
Accrual Basis	6 Actual/365	
Adjustable Type	0 Fixed Rate	
Compounding Basis	160 Simple	
Payment Freq	0	
Repricing Freq	0	
Tease Period Freq	0	

Forecast Balance ID		KRW	Detail (FB)
New Biz Type	8	Roll Over with New Add	
New Biz Timing	2	Smooth during Bucket	

Pricing Margin ID		KRW	Detail (Margin)
Margin(Net Rate)		2.4388	
Margin(Transfer Rate)		0	
Margin(Gross Rate)		0	

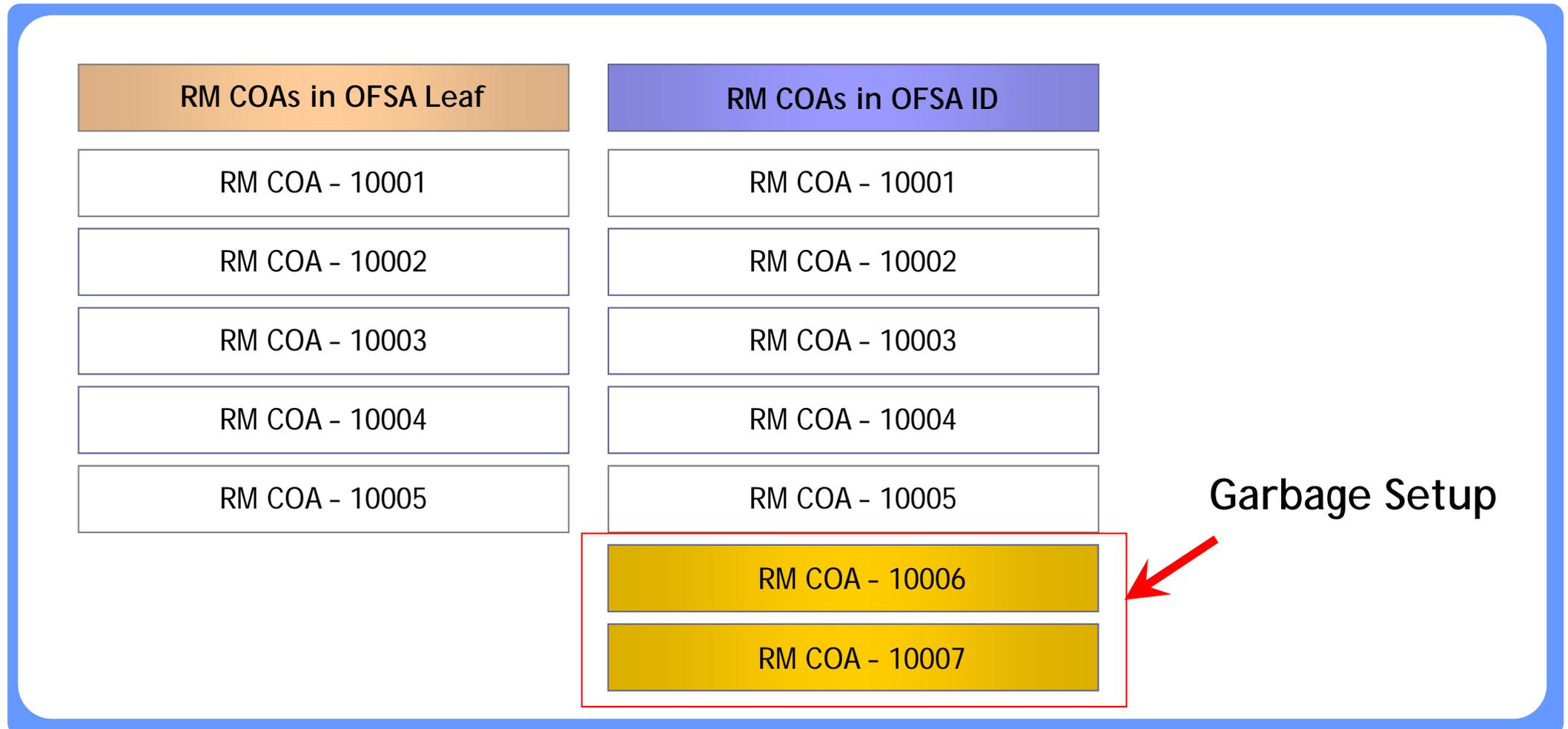
Maturity Strategy ID		KRW	Detail (Maturity)
Maturity Strategy		36M	

Prepayment ID			Detail (PP)
Calculation Method			
CF Treatment			
Prepayment Ratio(P.A.)			

Discount Rate ID		KRW
Discount Method	4	Forecast Remaining Term
Discount Rate Code	101	[101] KRW-FTP
Input Rate		
Spread Rate		0
Interest Only	<input type="radio"/> Y <input checked="" type="radio"/> N	
Mature at Reprice	<input checked="" type="radio"/> Y <input type="radio"/> N	
Interest Component	1	Net Rate

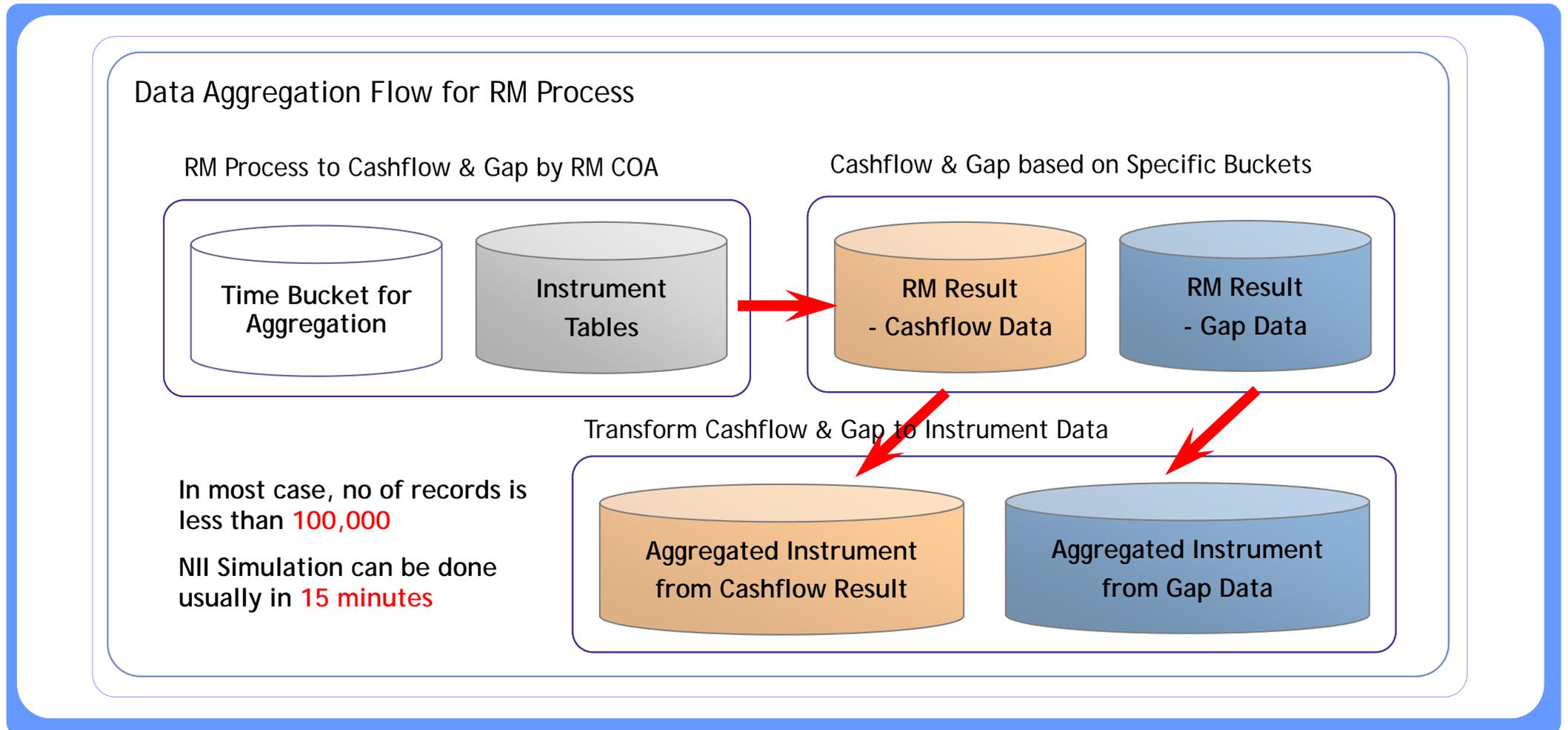
RM Booster - Garbage Setup Review

- ❑ As list of RM COAs has changed, consistency between OFSA Leaf and OFSA Setup can be broken. That means that there may be some RM COAs in OFSA ID which is not registered in OFSA Leaf.



RM Booster - Instrument Data Aggregation

- By generating aggregated Instrument data through OFSA Cashflow engine, Performance improvement can be achieved dramatically for OFSA RM Processing.



Summary - Benefits from RM Booster

- ❑ OFSA RM Booster is useful to maintain RM system with below benefits.

Term Structure Parameter

Calculate Term structure parameter and Preview Random rates

Manage Time Bucket

Keep dependency between OFSA IDs and Time Bucket

Generate Margin Scenario

Generate margin scenario based on instrument as of now

Generate Maturity Scenario

Generate margin scenario based on instrument as of now

Easy input of Balance Scenario

Input balance at Node Level and allocate down to RM COAs

Realistic Rate Scenario

Apply rate correlation to generate realistic rate scenario

Efficient Result Validation

Validate RM results through Top-Down approach (Node->RM COA)



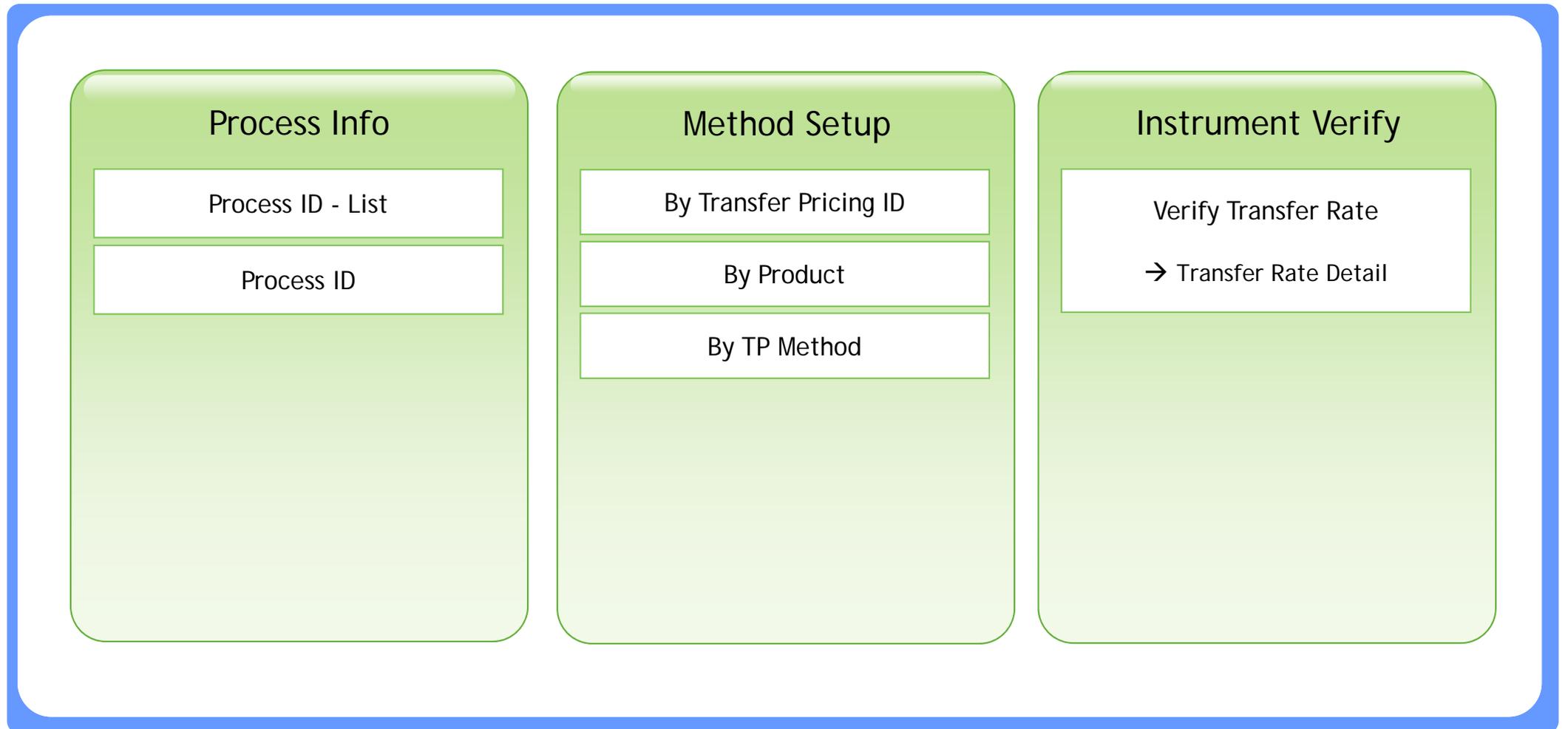
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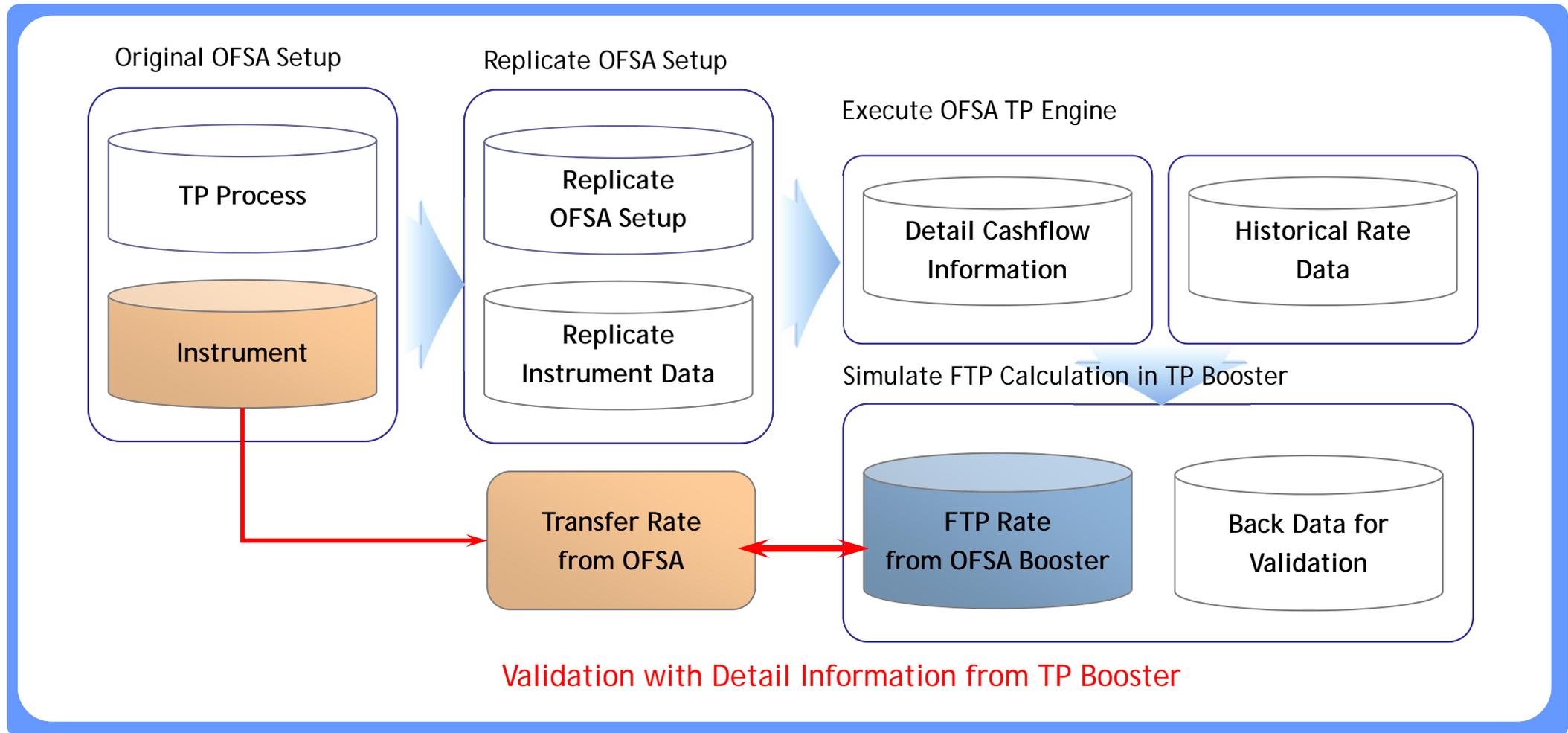
TP Booster – Menu Summary

❑ There are 6 menus in OFSA TP Booster as follows.



TP Booster – Transfer Rate Validation

- By providing a function to simulate TP calculation logic in conjunction with Cashflow from TP engine, User can compare the results from TP engine and TP Booster to validate the TP Result.



TP Booster – Transfer Rate Validation – [Ex 1]

- ❑ OFSA TP Booster shows all the information related to the target account such as main instrument columns and related TP method. From this screen User can generate detail cash flows for Transfer Rate validation.

Example

The screenshot displays the 'Verify Transfer Rate [W_TPV4010]' window. At the top, there are search and filter fields for Instrument (CON), CONSUMER_LOAN, As Of Date (2006-12-31), and ID Number (10001). The main area is divided into several sections:

- Product Info:** Leaf (11016000001000), Asset - Mortgage, Interest Rate Code (101), Amrt Type Code (820).
- Rate Info:** Transfer Rate (4.979974), Tran Rate Rem Term (0), Cur Net Rate (6), Margin.
- Code Info:** Adj Type (0 Fixed Rate), Accrual Basis Code (0 <None>), Comp Basis Code (0 <None>), Instrument Type (0).
- Amount & Rate:** Org Par Bal (1,200,000.00), Org Book Bal (0.00), Org Defer Bal (0.00), Org Payment (100,000.00), Cur Par Bal (1,200,000.00), Cur Book Bal (1,200,000.00), Cur Defer Bal (0.00), Cur Payment (100,000.00), LRD Bal (1,200,000.00).
- Amrt Info:** ISO Currency (KRW), Interest Type Code (0 <None>).
- Date Info:** Org Date (2006-12-20), Mat Date (2009-06-20), PMT Freq (3), PMT Freq Mult (M), PMT Date (Last) (2006-12-20), PMT Date (Next) (2007-03-20), Repr Freq (0), Repr Freq Mult (M), Repr Date (Last) (2006-12-20), Repr Date (Next) (2009-06-20), Issue Date (2006-12-20), Teaser End Date (1900-01-01), Org Term (3), Org Term Mult (Y), Amrt Term (3), Amrt Term Mult (Y), Rem No of PMT C (12).
- Process Replicate Info:** Transfer Pricing ID ([100008] TM_001_KRW_A), Calc Method Desc (Cash Flow Weighted Term), Prepayment ID (<None>), Calculation Mode (Standard), IRC Name ([101] KRW-FTP).
- Cashflow Info Table:**

Financial Element ID	Date	Amount	CF Code
210	2007-03-20	100,000	2
210	2007-06-20	100,000	2
210	2007-09-20	100,000	2
210	2007-12-20	100,000	2
210	2008-03-20	100,000	2
210	2008-06-20	100,000	2
210	2008-09-20	100,000	2
210	2008-12-20	100,000	2
210	2009-03-20	100,000	2
210	2009-06-20	300,000	2
430	2007-03-20	17,753	2
430	2007-06-20	16,636	2
430	2007-09-20	15,123	2

On the right side, there are controls for Folder Proc ID, Process List, Process Replicate, and FTP Verify buttons.

TP Booster – Transfer Rate Validation – [Ex 2]

- ❑ OFSA TP Booster simulates the OFSA logic to calculate expected Transfer Rate based on the detail cash flow generated in the prior step. After that User can compare the OFSA Result and expected Result for validation.

Example

Verify Transfer Rate Detail [W_TP4010_P2]

Rate Information

TP Rate Code: [101] KRW-FTP

Effective Date: 2006-12-20

Term	Term(Day)	Interest Rate
1D	1	3.7500
1M	30	3.8500
2M	61	3.9600
3M	91	4.0700
6M	183	4.3200
9M	274	4.6000
12M	365	4.7800
18M	548	4.9400
24M	730	5.0100
30M	913	5.1500
36M	1095	5.1800
60M	1825	5.4800
120M	3650	2.9200

Cash Flow Information

OFSA Result

Transfer Rate: 4.979974

Validation Result

Duration: 4.936055

Weighted Average Cash Flow: 4.979963

Straight Term: 5.150082

CF Date	Fin Elem ID	Description	Cash Flow	Day Count	FTP Rate	PV	PV * Day
2007-03-20	210	Total Runoff - Positive	100,000	90	4.065479	98,574	8,871.61
2007-03-20	430	Interest Cash Flow	17,753	90	4.065479	17,500	1,575.01
2007-06-20	210	Total Runoff - Positive	100,000	182	4.318630	97,136	17,678.81
2007-06-20	430	Interest Cash Flow	16,636	182	4.318630	16,159	2,940.98
2007-09-20	210	Total Runoff - Positive	100,000	274	4.600493	95,720	26,227.31
2007-09-20	430	Interest Cash Flow	15,123	274	4.600493	14,476	3,966.43
2007-12-20	210	Total Runoff - Positive	100,000	365	4.780000	94,340	34,433.96
2007-12-20	430	Interest Cash Flow	13,463	365	4.780000	12,701	4,635.84
2008-03-20	210	Total Runoff - Positive	100,000	456	4.859781	92,979	42,398.43
2008-03-20	430	Interest Cash Flow	11,934	456	4.859781	11,097	5,060.01
2008-06-20	210	Total Runoff - Positive	100,000	548	4.940192	91,623	50,209.63
2008-06-20	430	Interest Cash Flow	10,557	548	4.940192	9,673	5,300.82
2008-09-20	210	Total Runoff - Positive	100,000	640	4.975479	90,288	57,784.05
2008-09-20	430	Interest Cash Flow	9,049	640	4.975479	8,170	5,228.98
2008-12-20	210	Total Runoff - Positive	100,000	731	5.010767	88,985	65,048.35



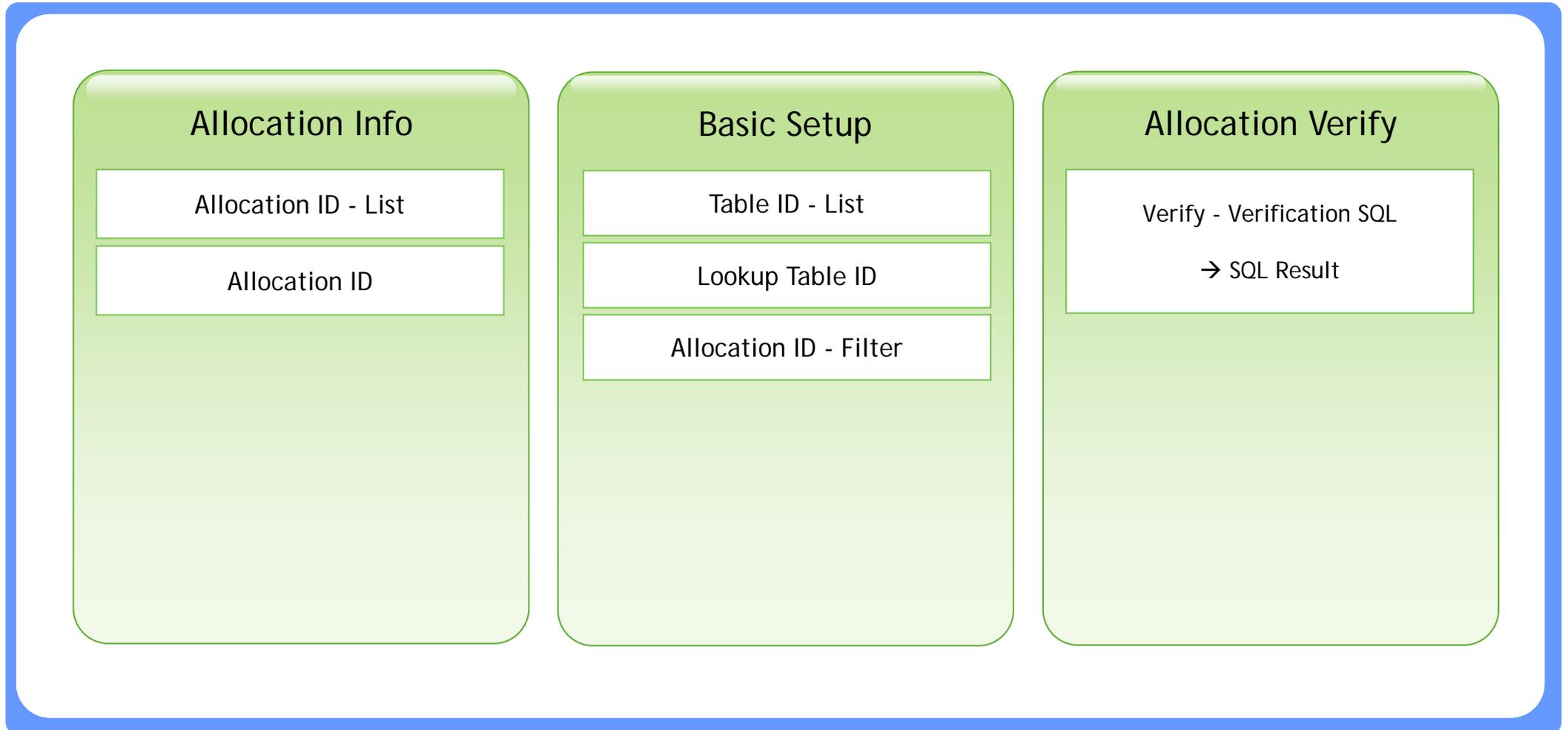
Agenda

I. OFSA Booster

1. Introduction
2. OFSA OFDM Booster
3. OFSA RM Booster
4. OFSA TP Booster
5. OFSA PA Booster
6. OFSA Job Booster
7. OFSA Booster Admin

PA Booster – Menu Summary

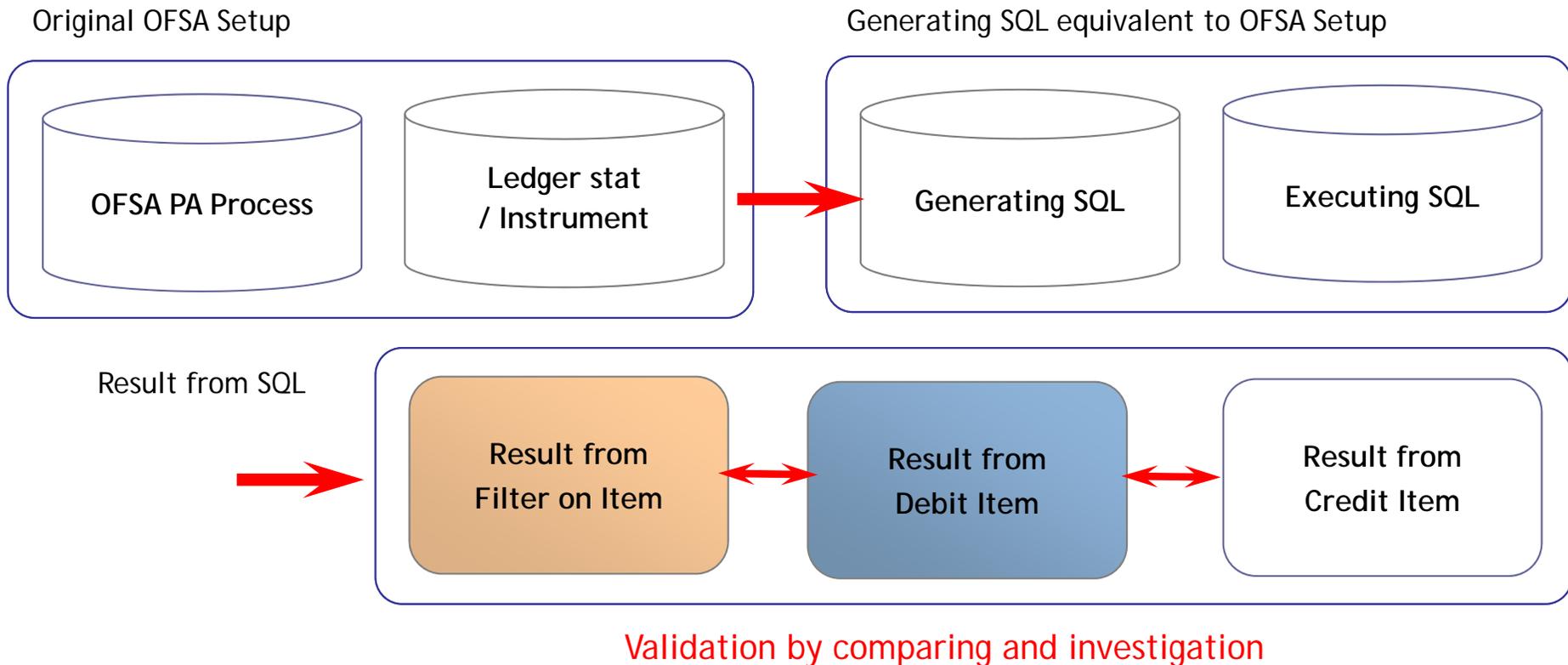
- ❑ There are 6 menus in OFSA PA Booster as follows.



PA Booster - PA Allocation Result Validation

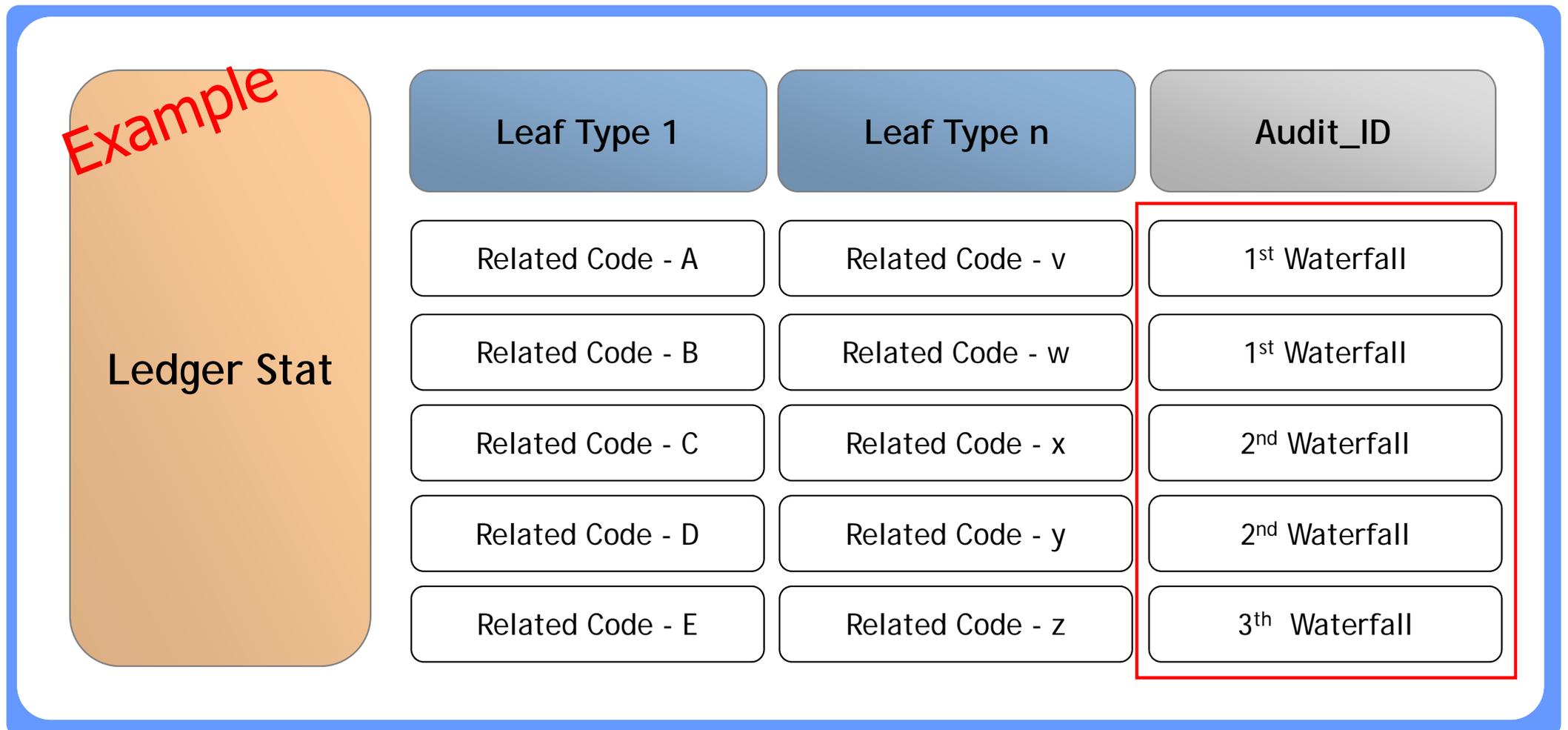
- By providing a function to generate SQL statement expected to be run in every Allocation in OFSA PA, Users can check the result more easily.

Allocation Result Validation Flow



PA Booster - PA Allocation Result Validation

- ❑ By adding a new Leaf type for PA result validation (ex: AUDIT_ID), User can validate PA results in Ledger Stat Table more systematically.
- ❑ (maximum number of leaf type is 11.)



PA Booster - PA Allocation Result Validation – [Ex 1]

- ❑ OFSA PA Booster shows all the setup information on the target allocation in a single screen including allocation rule, Filter on Item, Pct Of Item, Debit Item and Credit Item.
- ❑ The View SQL button can be used to generate SQL statement for result validation.

Example

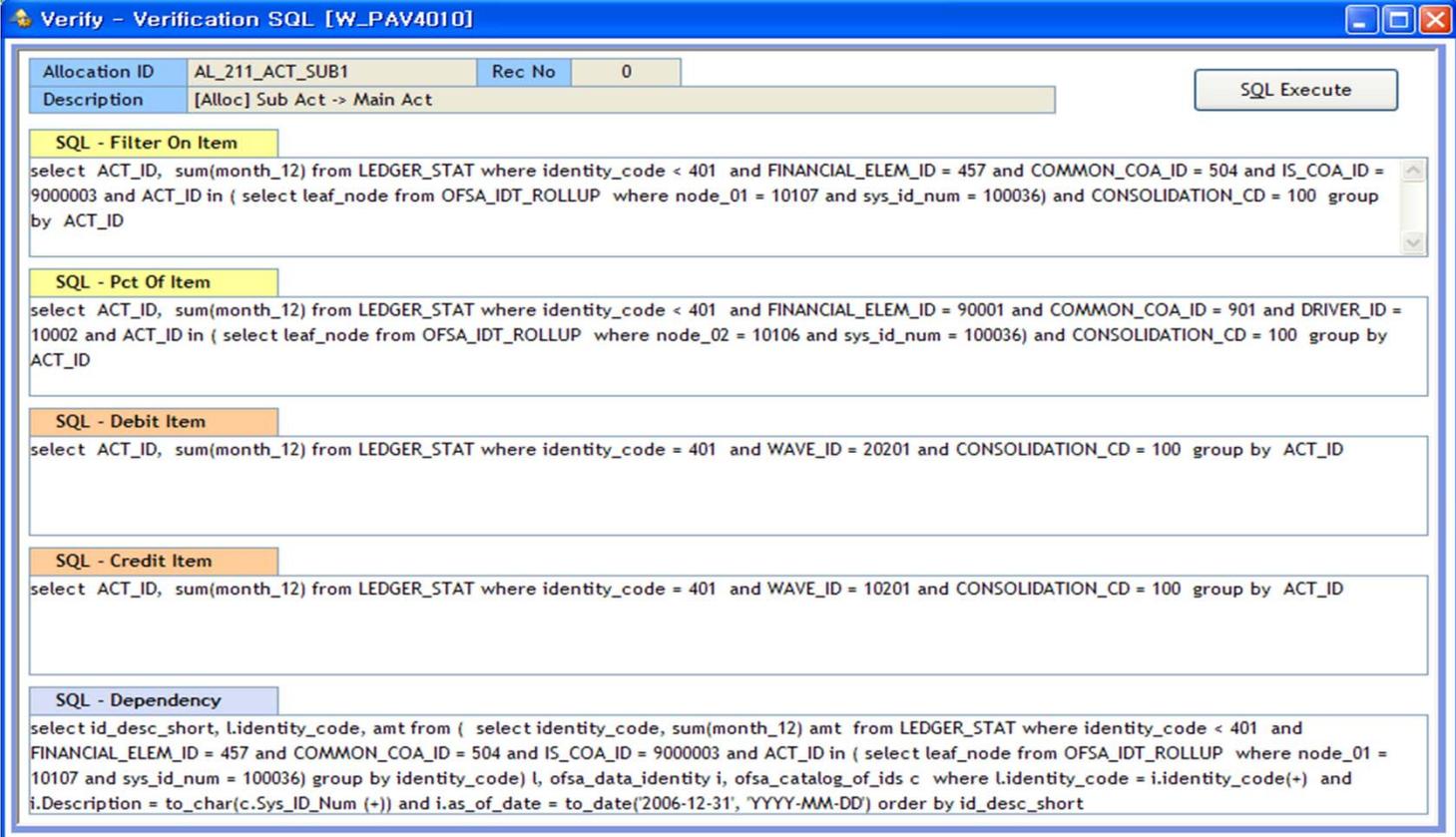
The screenshot shows a window titled "Allocation ID Detail Information... [W_PAA1110.P]". It contains the following information:

Allocation ID	AL_211_ACT_SUB1	Rec No	0	Identity Code	401	View SQL
Description	[Alloc] Sub Act -> Main Act					
Allocation Rule	Filter On Item : LEDGER_STAT [Current_Amount] * Pct Of Item : LEDGER_STAT [Current_Amount]					
	Filter On Item	LEDGER_STAT / [Current_Amount]	Pct Of Item	LEDGER_STAT / [Current_Amount]		
Leaf Type	Leaf Number	Description	Leaf Number	Description		
FINANCIAL_ELEM_ID	457	Non Interest Expense	90001	Allocation Driver		
ORG_UNIT_ID	-99200	<All>	-99200	<All>		
GL_ACCOUNT_ID	-99200	<All>	-99200	<All>		
COMMON_COA_ID	504	Non Int Exp	901	Statistical Value		
IS_COA_ID	9000003	Exp Labor	-99200	<All>		
ACT_ID	10107	NODE:Act Mgmt (Total)	10106	NODE:Act Main		
DEALER_ID	-99200	<All>	-99200	<All>		
DRIVER_ID	-99200	<All>	10002	[Act] Salary		
TP_COA_ID	-99200	<All>	-99200	<All>		
WAVE_ID	-99200	<All>	-99200	<All>		
RM_COA_ID	-99200	<All>	-99200	<All>		
Data Filter	No		Data Filter	No		
			Force to 100%	Yes		
	Debit Item	LEDGER_STAT / [Current_Amount]	Credit Item	LEDGER_STAT / [Current_Amount]		
Leaf Type	Leaf Number	Description	Leaf Number	Description		
FINANCIAL_ELEM_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
ORG_UNIT_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
GL_ACCOUNT_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
COMMON_COA_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
IS_COA_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
ACT_ID	-99400	<Same As %Distr>	-99300	<Same As Filter>		
DEALER_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
DRIVER_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
TP_COA_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
WAVE_ID	20201	Basic Act From Sub Act(Labor)	10201	Out of Mgmt Act(Labor)		
RM_COA_ID	-99300	<Same As Filter>	-99300	<Same As Filter>		
Plug With Zeros	No		Plug With Zeros	No		

PA Booster - PA Allocation Result Validation – [Ex 2]

- ❑ OFSA PA Booster generates and shows the SQL statement to validate the results for each allocations. The SQL statements are comprised of 5 SQLs including Dependency checking. These SQLs can be executed by clicking SQL Execute button.

Example



The screenshot shows a window titled "Verify - Verification SQL [W_PAV4010]". It contains a table with the following data:

Allocation ID	AL_211_ACT_SUB1	Rec No	0
Description	[Alloc] Sub Act -> Main Act		

Below the table is a "SQL Execute" button. The window displays five SQL queries, each with a header:

- SQL - Filter On Item**
`select ACT_ID, sum(month_12) from LEDGER_STAT where identity_code < 401 and FINANCIAL_ELEM_ID = 457 and COMMON_COA_ID = 504 and IS_COA_ID = 9000003 and ACT_ID in (select leaf_node from OFSA_IDT_ROLLUP where node_01 = 10107 and sys_id_num = 100036) and CONSOLIDATION_CD = 100 group by ACT_ID`
- SQL - Pct Of Item**
`select ACT_ID, sum(month_12) from LEDGER_STAT where identity_code < 401 and FINANCIAL_ELEM_ID = 90001 and COMMON_COA_ID = 901 and DRIVER_ID = 10002 and ACT_ID in (select leaf_node from OFSA_IDT_ROLLUP where node_02 = 10106 and sys_id_num = 100036) and CONSOLIDATION_CD = 100 group by ACT_ID`
- SQL - Debit Item**
`select ACT_ID, sum(month_12) from LEDGER_STAT where identity_code = 401 and WAVE_ID = 20201 and CONSOLIDATION_CD = 100 group by ACT_ID`
- SQL - Credit Item**
`select ACT_ID, sum(month_12) from LEDGER_STAT where identity_code = 401 and WAVE_ID = 10201 and CONSOLIDATION_CD = 100 group by ACT_ID`
- SQL - Dependency**
`select id_desc_short, l.identity_code, amt from (select identity_code, sum(month_12) amt from LEDGER_STAT where identity_code < 401 and FINANCIAL_ELEM_ID = 457 and COMMON_COA_ID = 504 and IS_COA_ID = 9000003 and ACT_ID in (select leaf_node from OFSA_IDT_ROLLUP where node_01 = 10107 and sys_id_num = 100036) group by identity_code) l, ofsa_data_identity i, ofsa_catalog_of_ids c where l.identity_code = i.identity_code(+) and i.Description = to_char(c.Sys_ID_Num (+)) and i.as_of_date = to_date('2006-12-31', 'YYYY-MM-DD') order by id_desc_short`



Agenda

I. OFSA Booster

1. Introduction
2. OFSA OFDM Booster
3. OFSA RM Booster
4. OFSA TP Booster
5. OFSA PA Booster
6. OFSA Job Booster
7. OFSA Booster Admin

Magnum for Job - Function Summary

- ❑ Magnum for Job helps you to Operate Magnum System with all kinds of Processes by providing required functions such registration, execution, monitoring and scheduling.

- Execute all kinds of Job
- Control Sequence (Error/Skip)
- Access Log Information
- Easy Register of Magnum Process
- Manage Job Dependency
- Monitor Process Status
- Manage Parameters
- Integrate Multiple Servers

Job Operation Flow

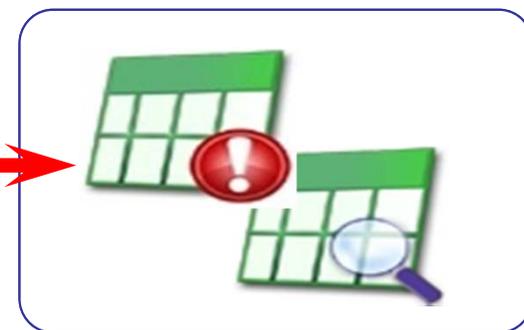
Register Job



Execute Job

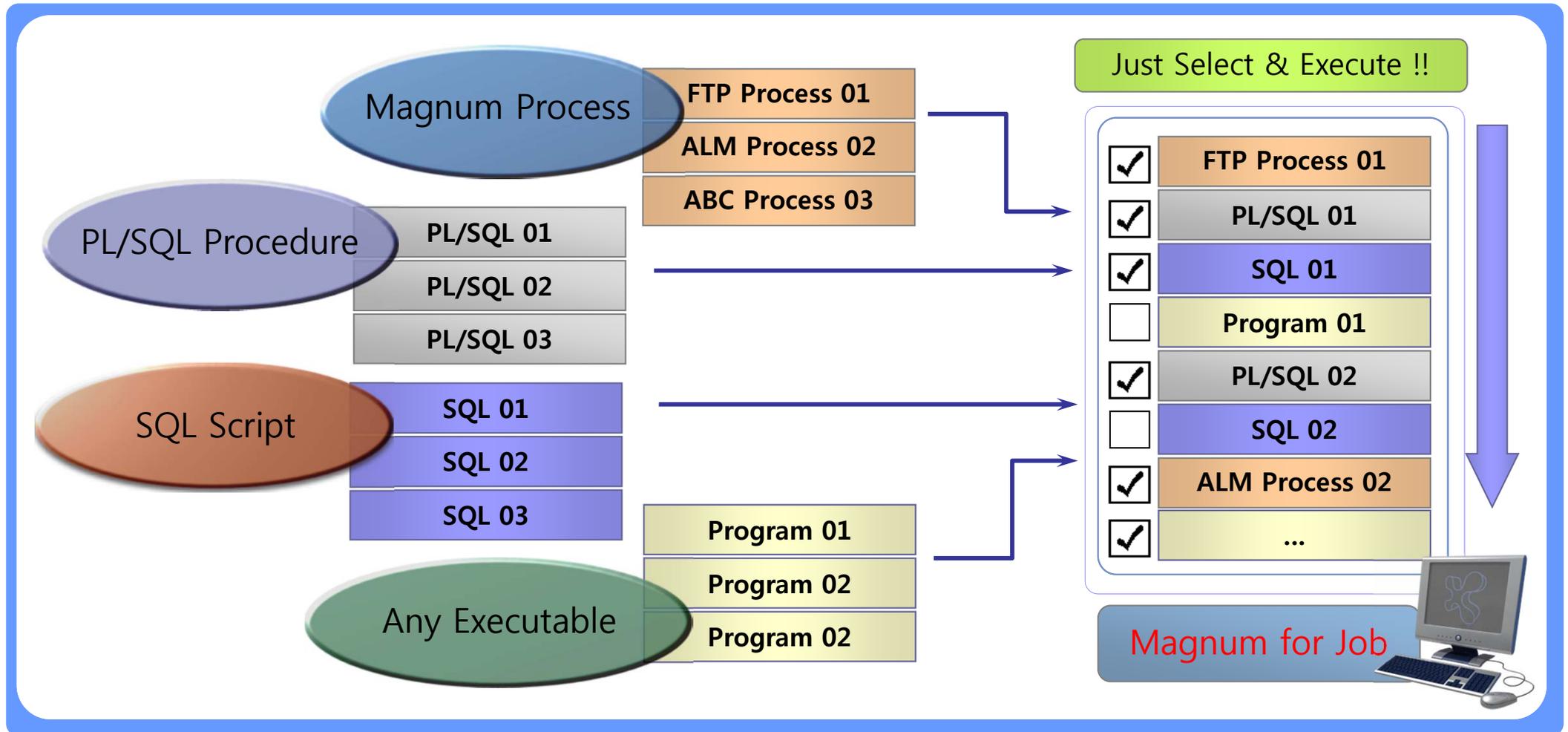


Monitor Job Status



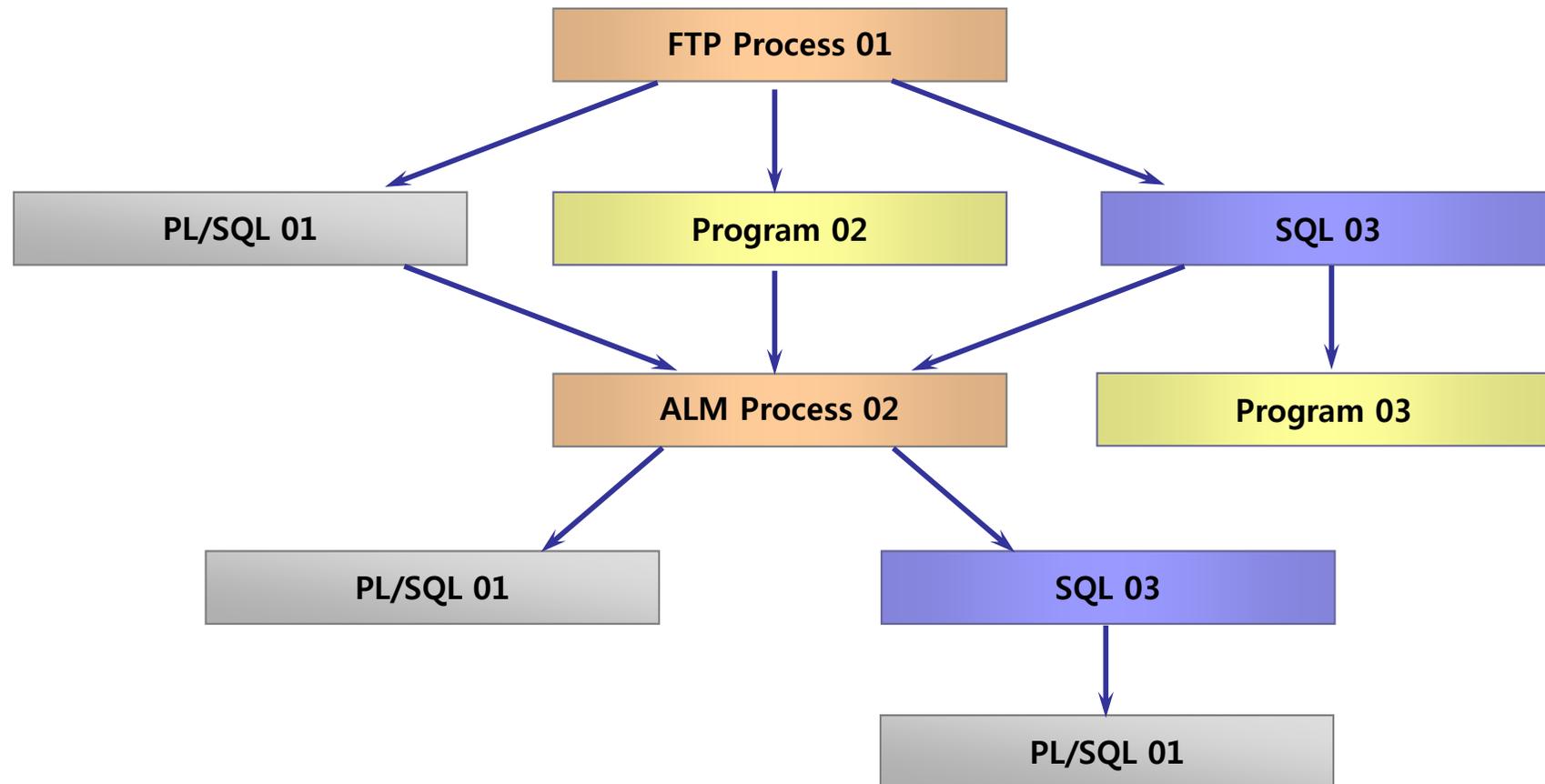
Magnum for Job - Execute All kinds of Job

- ❑ Magnum for Job provides 'Single Screen' to register and execute all kinds of processes in Magnum system. No need to log into many places such as Magnum, Unix Server and Database.



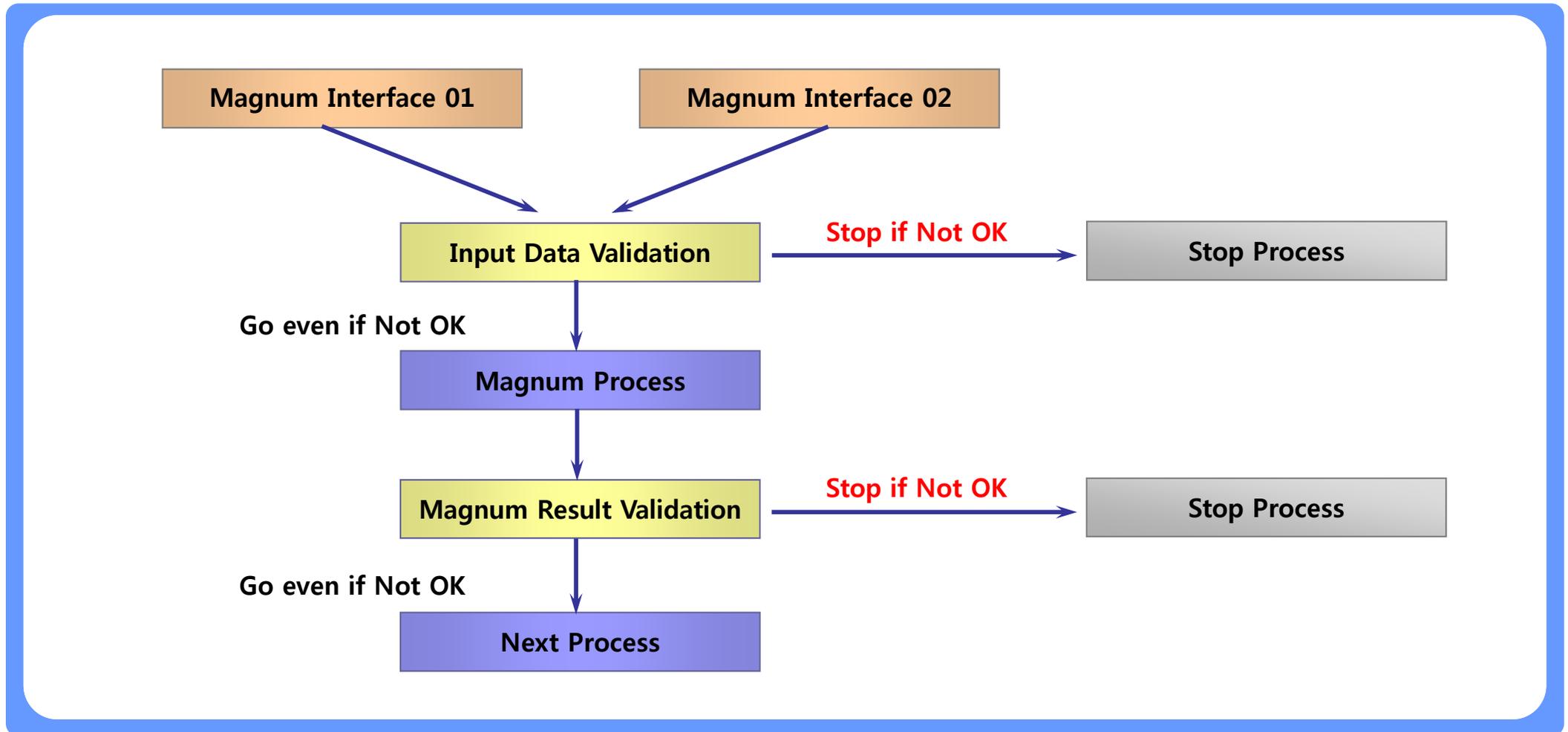
Magnum for Job – Manage Job Dependency

- ❑ Magnum for Job can control Dependencies between processes in your sequence. Based on this function, the Processes can be executed in the correct order that you expect.



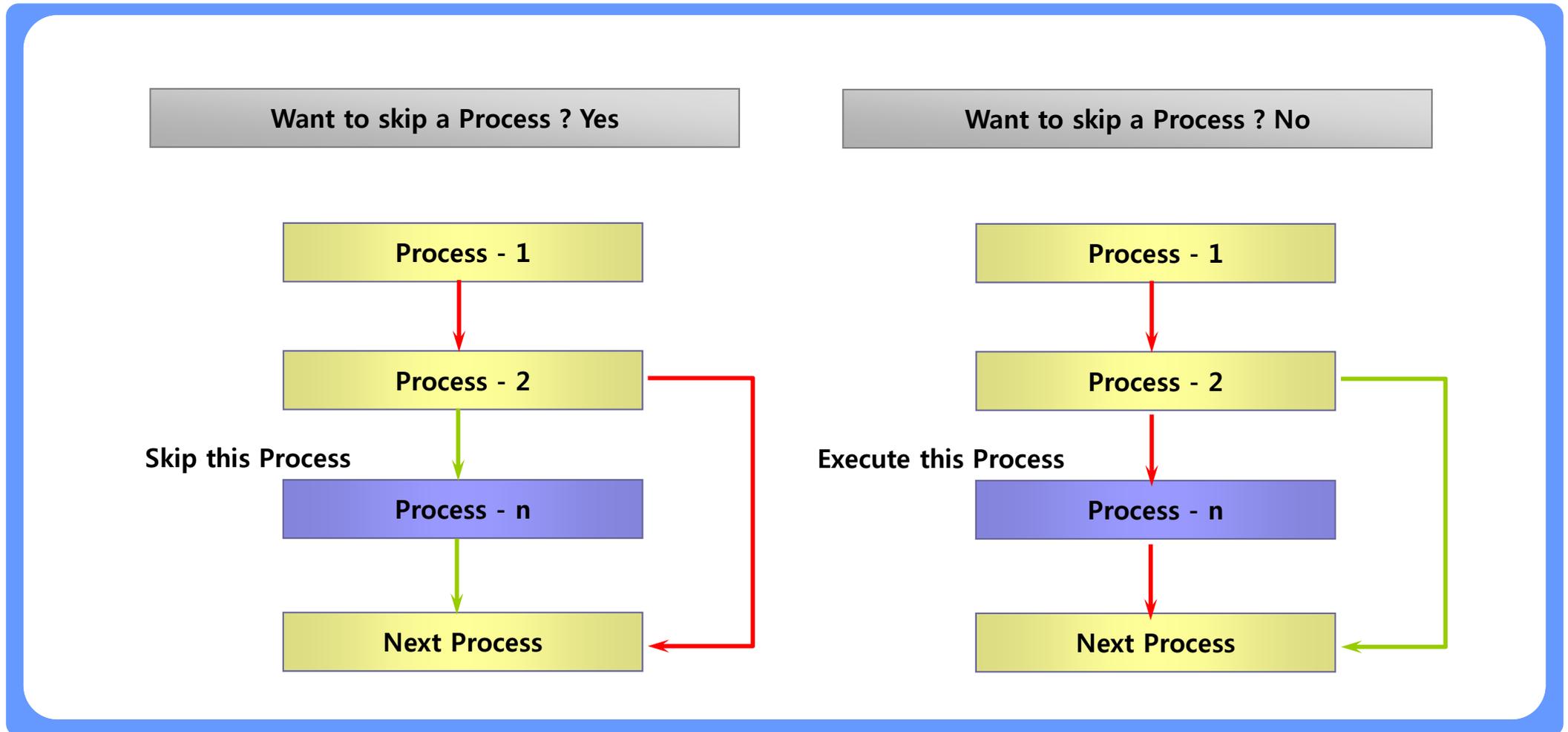
Magnum for Job – Control Sequence on Errors (Go/Stop ?)

- ❑ Magnum for Job can control the Errors while you run the Sequence. Against Errors or certain conditions, you can Stop or Continue the Sequence according to your intention.



Magnum for Job – Control Sequence by Skip (Skip or Not ?)

- ❑ Magnum for Job can control the Sequence by setting the option of Skip or not. You can Skip or Execute any process depending on your intention.



Magnum for Job – Monitor Process Status

- ❑ Magnum for Job is monitoring the Status of each process running on your system and provide several convenient options such as suspend, resume, kill job and auto refresh.

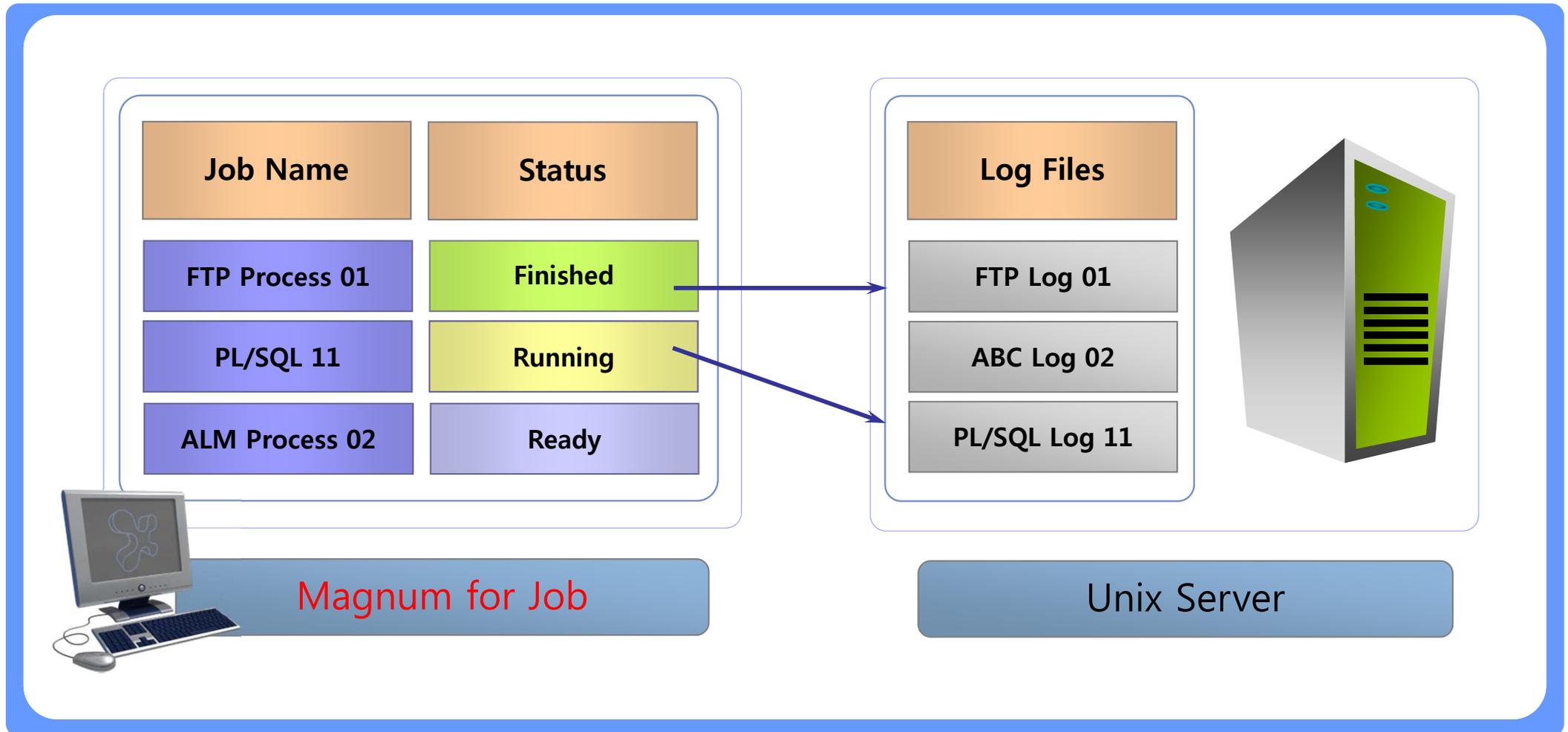
Suspend Job Resume Job Kill Job

Job Name	Start Time	End Time	Elapsed Time	Status
FTP Process 01	2007-09-12 10:12:04	2007-09-12 10:27:09	00:15:05	Finished
PL/SQL 01	2007-09-12 10:12:04	2007-09-12 10:27:09	00:15:05	Error
ALM Process 02	2007-09-12 10:27:10			Running
PL/SQL 03				Ready

Auto Refresh Interval (Sec) : 5

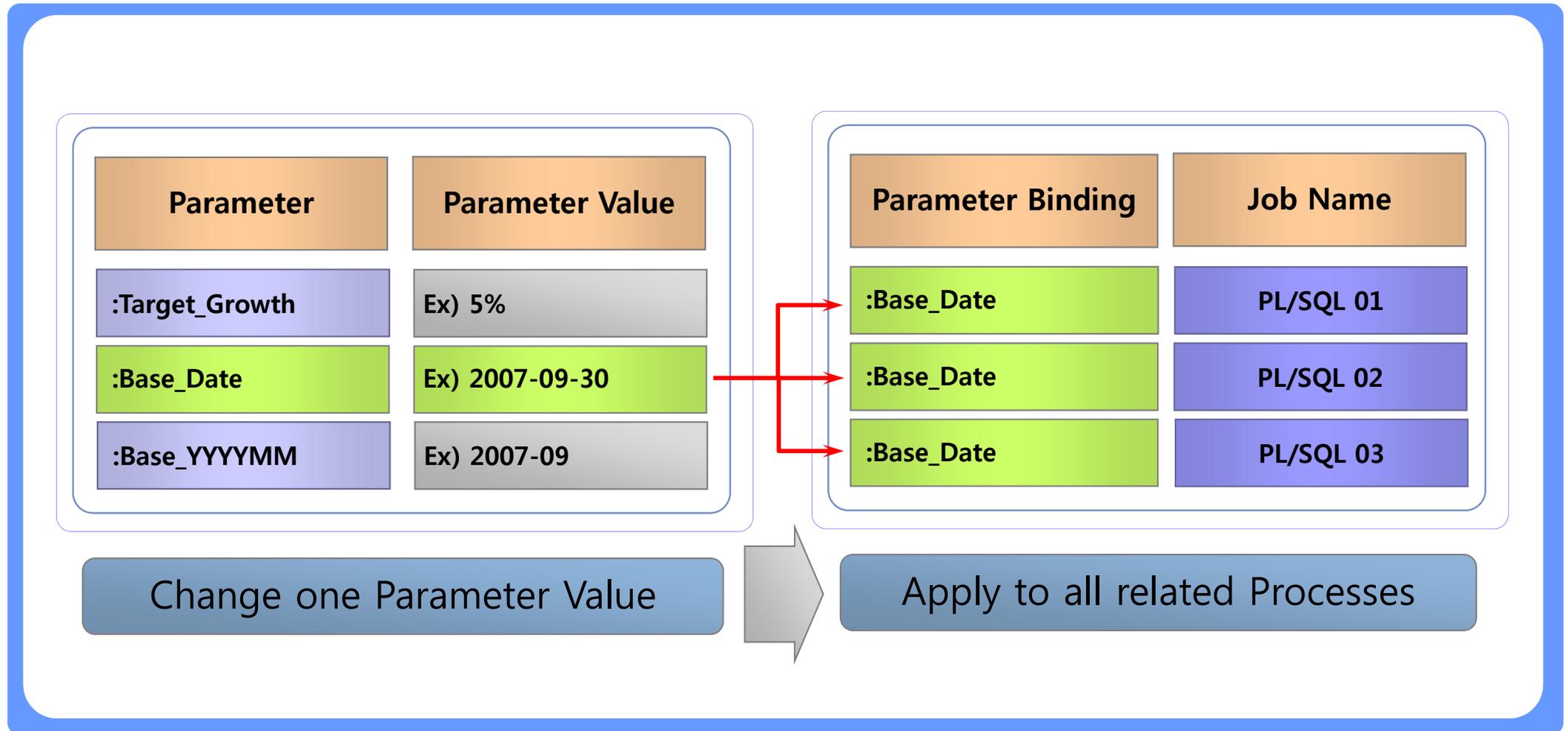
Magnum for Job – Access Log Information

- ❑ Detail Log Information can be accessed just by Clicking a Process you want to check. When you encounter error, this function will help you to find the reason for that.



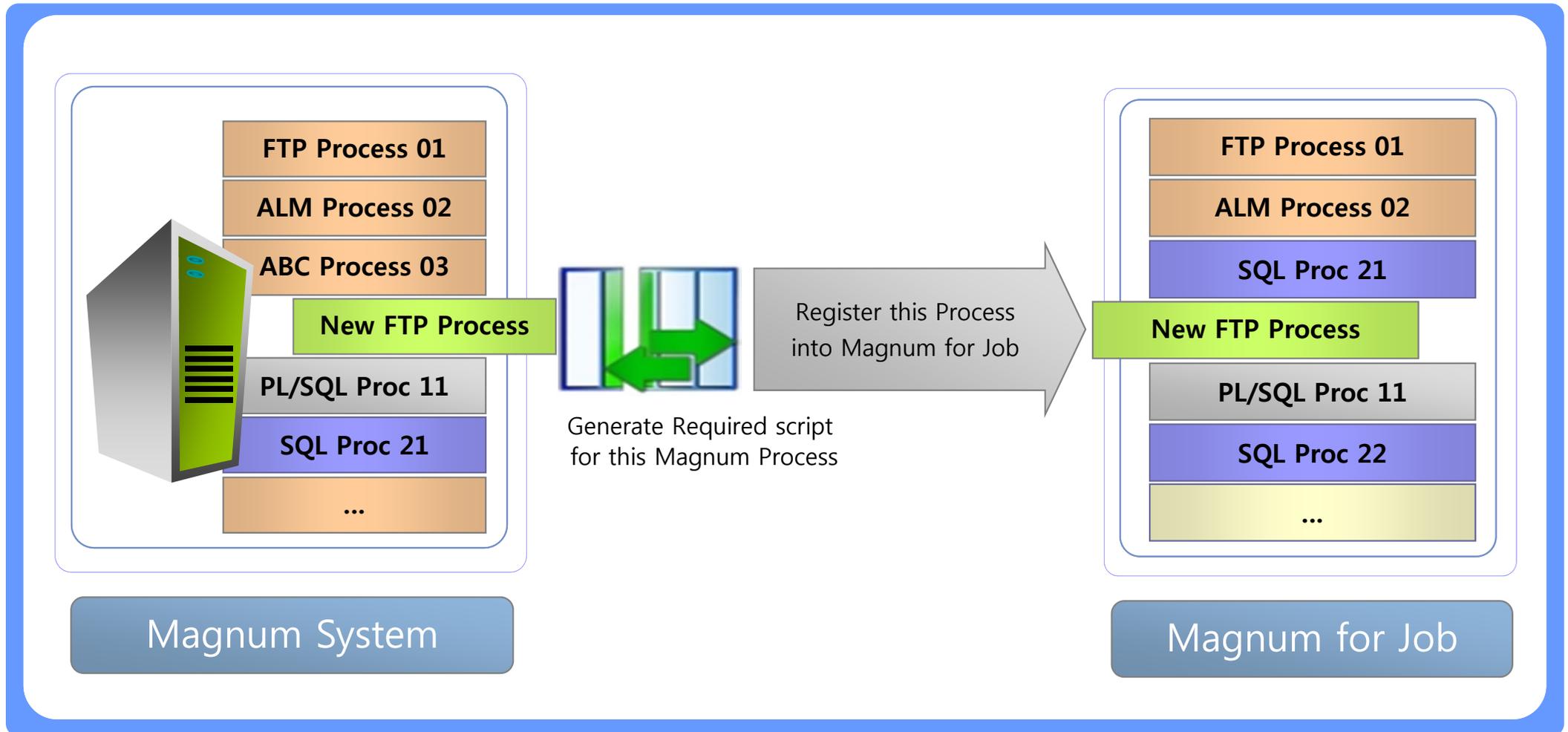
Magnum for Job – Manage Parameters

- ❑ Parameter for Processes can be managed and changed systematically. Magnum for Job can apply a specific parameter to all related processes by updating only one time.



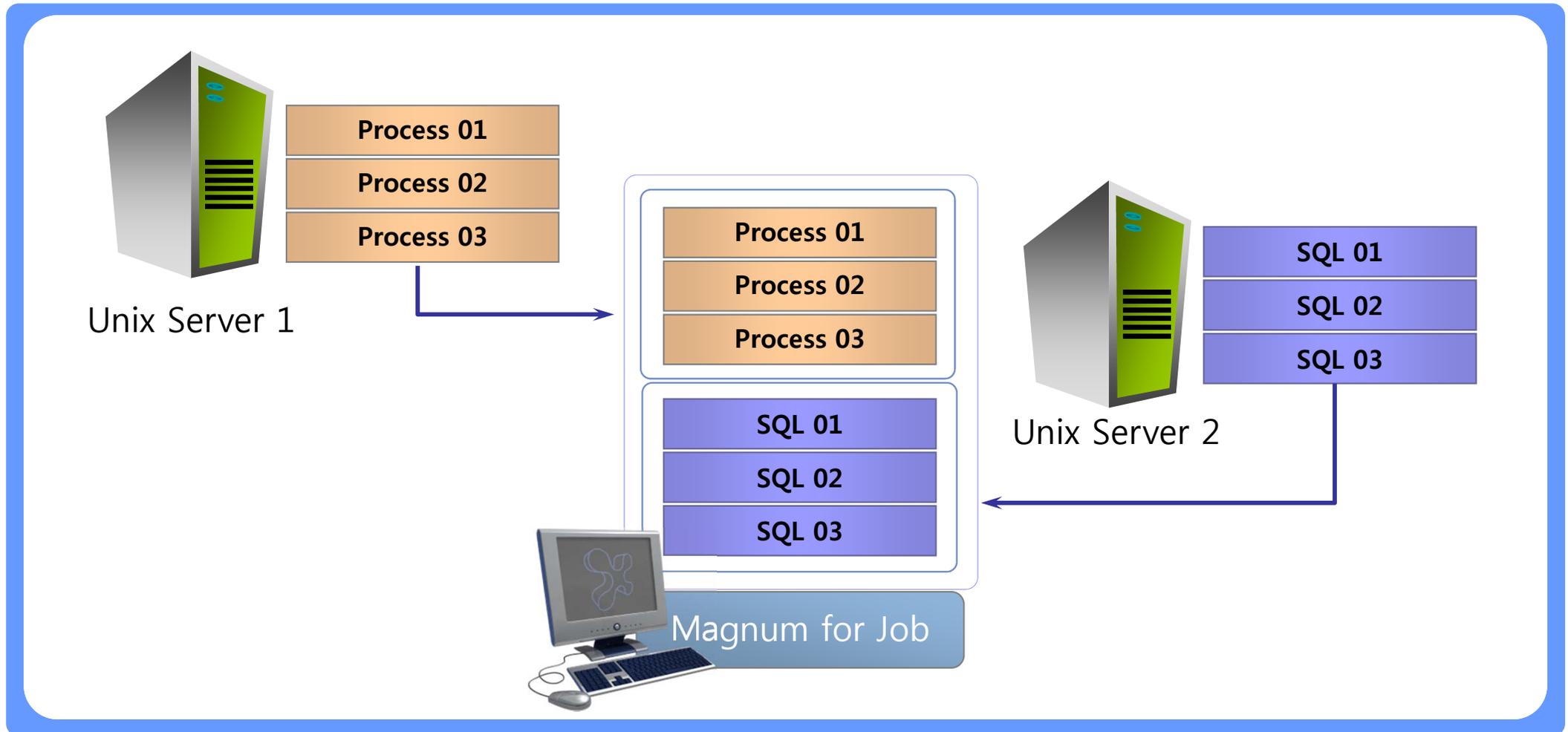
Magnum for Job – Easy Register of Magnum Process

- ❑ Magnum Processes can be registered easily into Magnum for Job because Magnum for Job is connected with Magnum system and able to use Magnum Setup information directly when it is needed.



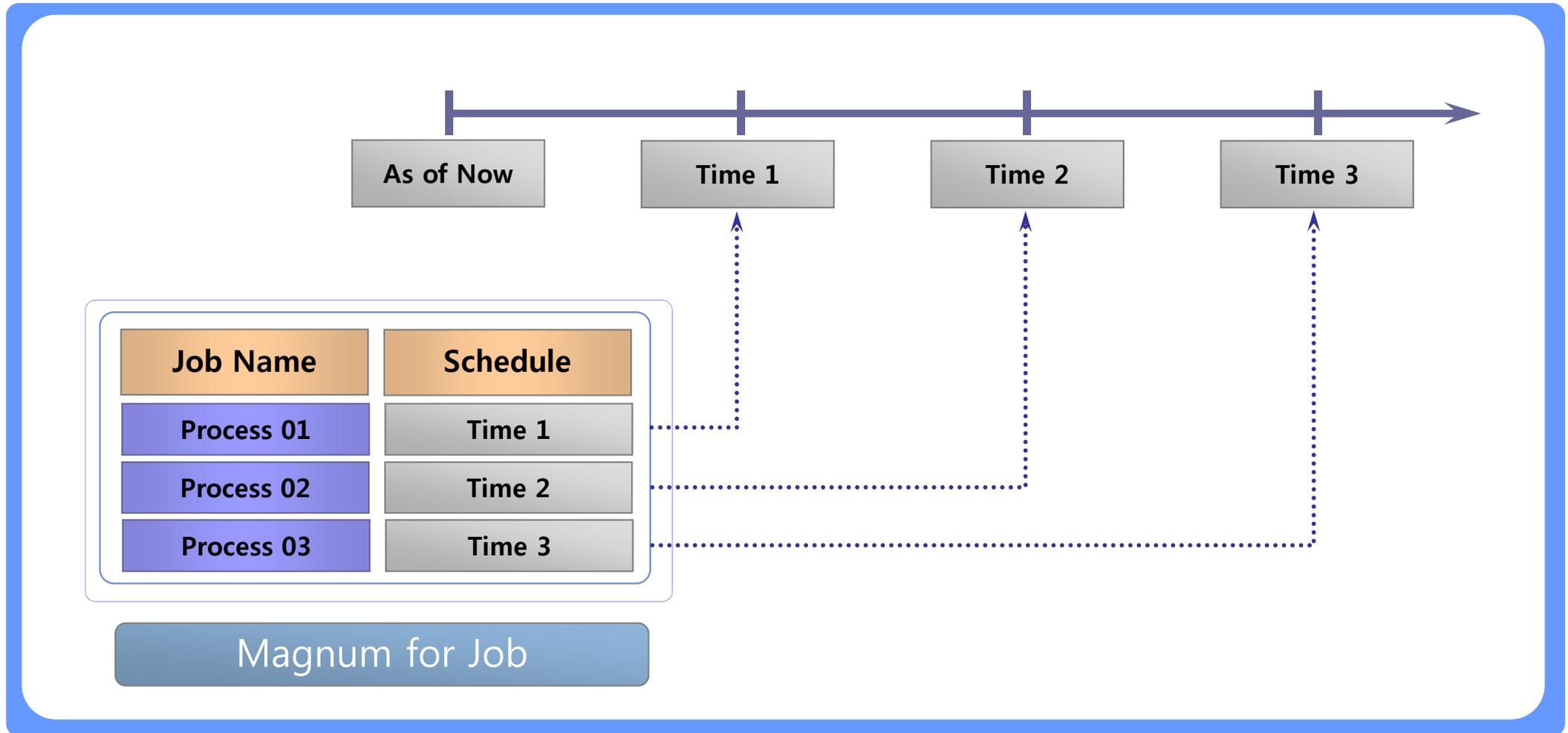
Magnum for Job – Integrate Multiple Servers

- Processes in multiple servers can be integrated into Magnum for Job. With this function User can execute and control multiple servers in the same screen.



Magnum for Job – Schedule Process in advance

- ❑ Process can be scheduled to execute on a specific data and time. No need to wait for long time to execute a certain process. (under development)



Magnum for Job – Main Benefits

- ❑ Magnum for Job is useful Tools for operation of Any system(+Magnum) with below benefits.

Efficient Operation

Minimize **manual job** and **mis-operation** through the whole sequence

All Kinds of Job

Execute all kinds of Jobs(Magnum, PL/SQL, SQL ..) in a Single Screen

User Defined Condition

Define any condition and related action against Input Data or Result

Sequence Control on Error

Decide to go or stop the sequence against Errors or conditions

Dependency Management

Control Job Sequence using Dependency setup and Enable(Skip) option

Easy Job Monitoring

Can Monitor the status of Each Jobs by each execution

Help Troubleshooting

Provide easy access to Log and Job status information in Unix Server



Agenda

I. OFSA Booster

1. Introduction
2. OFSA OFDM Booster
3. OFSA RM Booster
4. OFSA TP Booster
5. OFSA PA Booster
6. OFSA Job Booster
7. OFSA Booster Admin

Admin - Function Summary

- ❑ Admin moduel helps you to Control Securities on Application, User, Menu and Keep records of Log information.

Assign Security

Privilege by Application

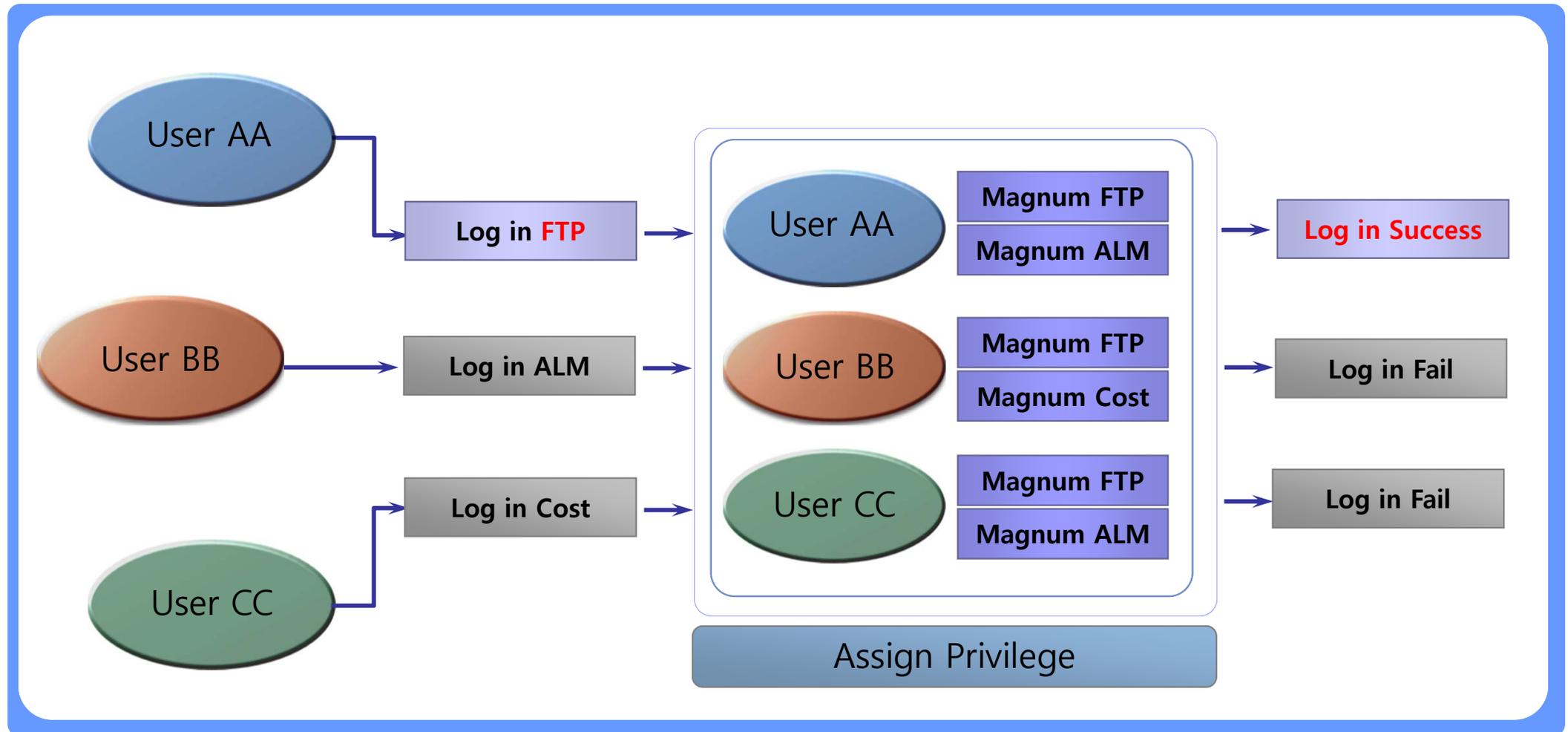
Privilege by Menu

Keep records of Log Data

Log for Magnum for MIS

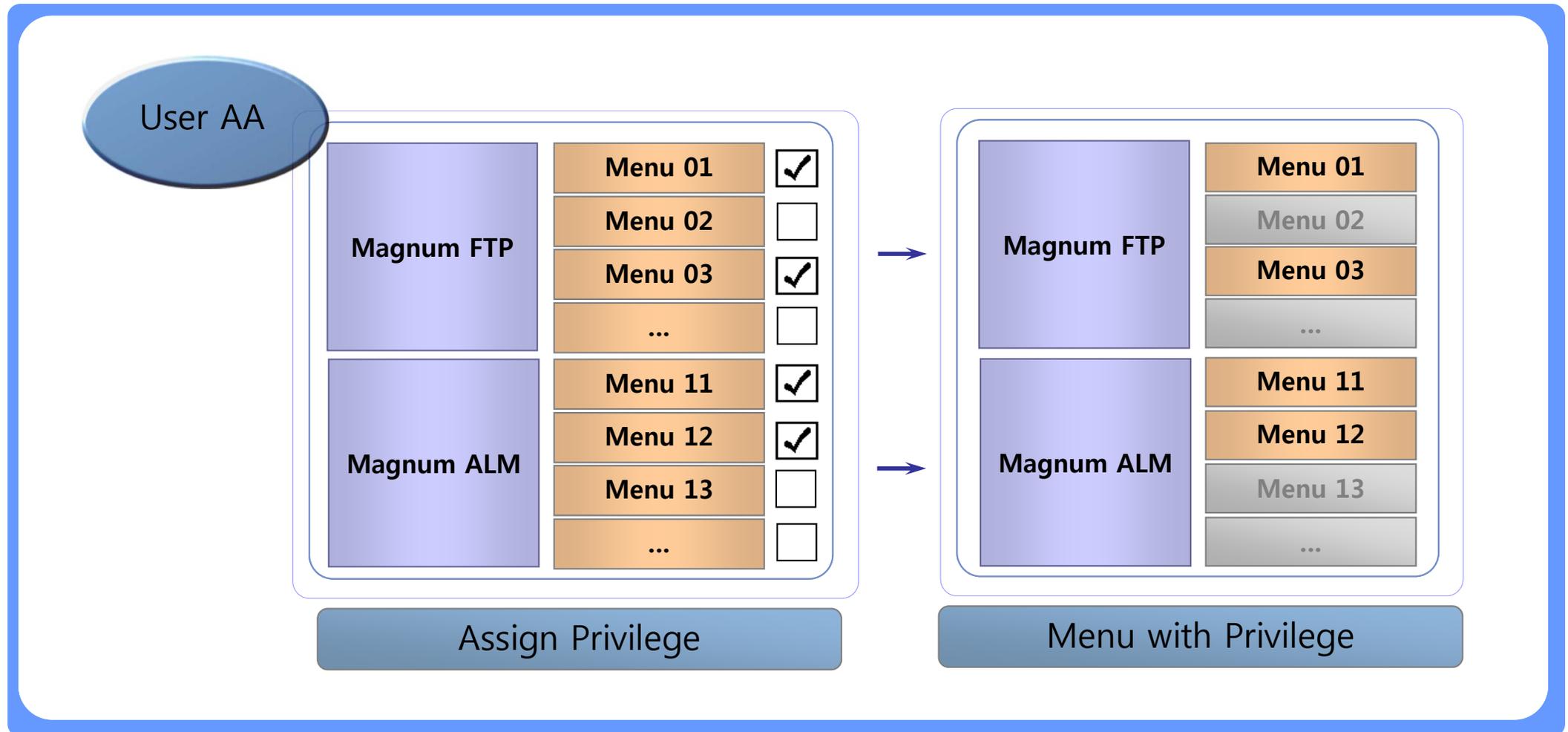
Admin – Privilege by User

- ❑ Privilege of accessing applications can be assigned for each user.
- ❑ Only the user having privilege can login and use the functions in Magnum for MIS.



Admin – Privilege by Menu

- ❑ Privilege of using menus in each applications can be assigned for each user.
- ❑ Only the user having privilege can perform specific operations within each application.



Admin – Keep Record of Log Data

- ❑ Log Data will be generated in Magnum for MIS for your audit or review later. In case that you want to know who did specific operation for the last time, you can check this log data.

Retrieval Condition	Target User	Target Period	...	
User	Menu	Start Time	End Time	Button
User AA	Menu 01	2007-09-12 10:12:04	2007-09-12 10:27:09	Button 01
	Menu 03	2007-09-12 10:12:04	2007-09-12 10:27:09	Button 21
	Menu 21	2007-09-12 10:27:10	2007-09-12 10:27:09	No Button
	Menu 02	2007-09-12 10:27:10	2007-09-12 10:27:09	Button 11



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