SAFR on Spark Demo Definition

	Universal Journal / Bus. Event	Balance Structure	Static Data/Attributes	Other Structures (Outputs)
Parition Name	A - Transaction History	B - Balance History	C - Attribute History	
Time Frame	History	Yesterday	Yesterday	
Row Types	$ Transaction (optional). Could be used to prove aggergated balances in next column	$ Aggregated Costs $ Customer Level Rev/Costs Σ Activity 1 Σ Activity 2	Department/Vendors Customer/Contract (anything here?) (anything here?)	
Parition Name	Optional Transaction		Optional Attributes	
Time Frame	Today		Today	
Row Types	Alt Structure Transactions		Alt Structure Attributes	

Optional SAFR Transform Process — Optional Piping of Transactions through Transform Process to CKB Process

Input		Input		
Optional Transaction		Optional Attributes		Optional Xfrm Report
Output		Output		*Counts of records, etc.*
D - Simple Journals & Txns	O	F - Attribute Updates	O	

Parition Name	D - Simple Journals & Txns	E - Recon Balances	F - Attribute Updates	**Process Steps--Optional**
Time Frame	Today	Today	Today	O Transform transactions to standard
Row Types	$ Aggregated Costs $ Customer Level Rev/Costs Σ Activity 1 Σ Activity 2	$ Recon Balances for customer level balances above	Attribute Changes	

Exec. 1 Part 1 — CKB Contents — Post Update Transactions and Reconcile

CKB Sections	Inputs		Outputs		
Date Effective Join	C - Attribute History	1	G - Updated Attributes	**Process Steps**	
	F - Attribute Updates			1	Apply inbound updates
Balance section	B - Balance History	1	H - Updated Balances	2	Reconcile to external balances
	E - Recon Balances	2	I - Recon Report		
Transaction Section	D - Simple Journals & Txns				
	A - Transaction History (opt)				

Parition Name	H - Updated Balances	G - Updated Attributes	I - Recon Report
Time Frame	Today	Today	Today
Row Types	*$ Aggregated Costs* *$ Customer Level Rev/Costs* *Σ Activity 1* *Σ Activity 2*	*Department/Vendors* *Customer/Contract* (anything here?) (anything here?)	*Recon totals and any recon bal. exceptions from comparing Updated Balances to Recon Bal.*

Exec 1 Part 2 — CKB Contents — Generate Business Events and Post Those (Additive to the Entities listed above)

CKB Sections	Inputs	Outputs		
Date Effective Join	G - Updated Attributes	?	3	Generate New Business Events
Balance section	H - Updated Balances	4 K - Updated Int/MC Bal	4	Apply Events
Transaction Section		3, 6 J - Gen. Int/MC Trxns	5	Initial Pivot to Analytical Outputs
		5 L - Int/MC Report	6	Write Audit Trail Files

J - Gen. Int/MC Trans	K - Updated Int/MC Bal		L - Int/MC Report
Today	Today		Today
$ Interest Transactions *$ Multi-currency Reval Txns* Σ Generated Activity ? Σ Generated Activity ?	*$ Aggregated Costs* *$ Customer Level Rev/Costs* Σ Generated Activity ? Σ Generated Activity ?	Anything here? Generated Statistical descriptors?	*Various aggregation of interest and currency results, plus prior inputs as wel*

Exec 1 Part 3 — CKB Contents — Generate Divsor for Allocation Processes

CKB Sections	Inputs	Outputs		
Date Effective Join	G - Updated Attributes			
Balance section	H - Updated Balances		6	Write Audit Trail Files
Transaction Section	D - Simple Journals & Txns	7, 6 M - Gen. Alloc. Divisor	7	Create Allocation Divsor

M - Gen. Alloc. Divsior
Today
$ Allocated Costs to Cust.

Exec 1 Part 4* — CKB Contents — Apply Divisor to Generate Allocation Transactions to Analytical Outputs

CKB Sections	Inputs	Outputs		
Date Effective Join	G - Updated Attributes		6	Write Audit Trail Files
Balance section	H - Updated Balances		8	Allocate using generated Divisor
Transaction Section	M - Gen. Alloc. Divisor	6, 8 N- Allocated Txns	9	Combine Allocation with Rev
	D - Simple Journals & Txns	9, 10 O - Pivot to Analyitcal	10	Pivot to Allocation Analytical Outputs
		9, 11 P - Gen. Analytical IL	11	Create Analytical Insturment Ledger

N - Allocated Txns
Today
$ Allocated Costs to Cust.

* If divisor transaction volumes are too high to fit in CKB in order to generated an accumulated divsor, a second pass may be needed

O - Pivot to Analyitcal
Today
Denormalized data

P - Gen. Analytical IL
Today
Denormalized data

Require three basic input LRs, represented by the columns of Universal Journal (effectively SJEs), Balances, (JSF), and Attributes, (SALs). It would then have the following major phases (possibly all done within a single SAFR piping and CKB process)

(Optional) An optional ARE like process to convert formats of SJEs and SALs into standard format, piped into the CKB process
Part 1 Updating balances with transactions, and SALs with net change records in SAL records
Part 2 Generate and apply new transactions off of updated balances (example would calc Interest and Multi Currency Reval transactions)
Part 3 Create a divisor for an allocation process from detailed transactions, creating a allocation trigger record with the value to be used in the allocation step
Part 4 Apply divisor to transactions for allocation, and generate multiple outputs from all the preceding data in the CKB

This chart outlines a proposed sample processing model for a combined

(a) transaction posting to Instument Ledger process. Transactions need not simply be accounting transactions, but can be customer, risk, MIS or statistical transactions, plus

(b) required financial processes such as consolidations/eliminations, currency revaluation, etc. (these processes could include non-accounting processes for risk such as loan loss reserve calculations, or MIS such as funds transfer pricing)

(c) calculation of allocation basis from any statistics, etc

(d) application of basis against allocation targets

(e) Reporting file output

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