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Oracle Financial Services Cash Flow Engine

Data Sheet

Oracle Financial Services Cash Flow Engine

Cash flow calculation is an integral part of finance and risk solutions. Oracle Financial Services Cash Flow Engine (OFSCFE) is designed to help institutions to take a fresh and granular look at their cash inflows and outflows. It allows you to calculate cash flows of their Assets, Liabilities, and Off-Balance Sheet products at instrument level. The application measures and models every loan, deposit, and off-balance sheet instrument individually, using deterministic methods. This helps gain a better insight into the granularity of cash inflows and outflows to be utilized for multiple non-regulatory and regulatory purposes. Due to its generic nature OFSCFE is suitable for both financial and non-financial institutions with exposure to financial securities/instruments.

Go Granular

CFE calculates cash flows at the most granular level of account/instrument and sometimes at sub-account level if tiered-balance interest rate is used or multiple repayment types are used for same account. Since no aggregation is performed, it allows you to do micro-analysis of each payment. You can choose to generate cash flows using pure contractual terms agreed with customer or incorporate certain customer behaviours like prepayment, redemptions, non-maturity profiles, and so on.

Add value to in-house models / analytics

Since cash flows are at an instrument level, you can perform unlimited dimensional analysis for an advanced insight. Few ways in which you can benefit from this are:

- Improve insight into branch liquidity and cash-in-hand
- Optimize payables and receivables by focusing on customers with large exposure
- Cash management
- Create analytics-driven efficient collections strategy, chase late payers promptly and regularly

Wealth of output

In addition to cash flows such as principal, interest, prepayment, maturity, etc, the CFE calculates and stores a variety of financial measures for greater insight and auditability:

- Accrual period, Rate set date
- Accrual adjusted and Compounded interest rate used for calculations
- Repricing balance, Before and after repricing interest rates
- Accrued interest
- Accumulated interest amount, Interest credited
- Core, Volatile runoff for non-maturing deposits
- Devolvement and recovery runoff for products like bank guarantee
- Non-performing runoff
- Periodic & Life cap effect rate and amount
- Tease effect rate and amount
- Negative amortization balance
- Prepayment rate and runoff
- Mortgage offset account expected balance and runoff

Rigorous Calculations

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CFE is designed to operate on instrument-level data, using Oracle's highly accessible and flexible financial data model. Each account is modelled independently on a daily cash flow basis using daily forecasted interest rates, where applicable.

A wide range of products are supported for both on-balance sheet and off-balance sheet, with a variety of amortization and repricing methods, including:

- Revolving loans, Mortgages, Consumer loans, Leases
- Negative amortization mortgages
- Mortgage offset accounts
- Irregular payment and repricing schedules on, for example, agricultural or construction loans
- Step-up and step-down loans
- Balloon and Bullet instruments
- Instruments with different interest and principal frequency and dates
- Bonds and money market instruments
- Open and fixed maturity deposits
- Tiered rate loans and deposits
- Annuities
- Swaps, Caps, Floors, FRAs, Forwards and FX Derivatives
- Inflation indexed instruments

Unique payment, interest rate and holiday characteristics are directly used to accurately model cash flows for multiple time horizons:

- Conventional, simple Interest and Level Principal for regular payments
- Principal only
- Interest only
- Schedule and Patterns for irregular payments
- Fixed, floating, adjustable rates and pattern (for irregular repricing)
- Interest payments in advance and arrears
- Multiple day count conventions
- Caps and floors, both absolute and incremental
- Gross and Net Rates
- Margin, Spread
- Rate cap & floor - Life
- Rate increase & decrease limit – periodic
- First reset cap/floor (tease)
- Lag, rounding
- Compounding and interest credited
- Holiday adjustments

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Cash Flow Process

Process Details ✓	Source Data ✓ — Calculation Elements ⓘ — Output Preferences ✓ — Freeze Process ✓

Calculation Date Range	As of Date to Maturity Date ▼
Prepayment Rule	None ▼
Forecast Rate Scenario	None ▼
Enable Holiday Calendar	Yes ▼
Amortization of Premiums and Discounts	Amortize on Payment Dates ▼	Selected Dates ⊕
Product Hierarchy Folder	CFESEG ▼	Product Hierarchy: CFE Hierarchy ▼ ⊕

Add   Delete

Product ⇅	Currency ⇅	Include Accrued Interest? ⇅	Interest Credited ⇅	Model With Gross Rates ⇅	Holiday Calculation Option ⇅	Holiday Calendar ⇅	Holiday Rolling Convention ⇅
Deposit Accounts	US Dollar	No	No	No			

Key Features

- Generate account level cash flows using unique payment and repricing characteristics
- Daily rate forecasting - unique rate for a given day on repricing
- Fully auditable cashflow output, no black box here
- Calculate cash flows for multiple time horizons
- Multiple accrual basis and compounding methods
- Inbuilt data validation rules
- Revamped Cash Flow Edits to perform comprehensive quality check on input data
- Model specific characteristics using patterns and schedule
- Amortize one account using multiple methods
- Use Prepayment and Early Redemption assumptions
- Amortize premiums and discounts using straight line method
- Apply business calendar

Cash Flow Edits

Process Details ✓	Cash Flow Edit Rules ⓘ — Source Data ✓ — Freeze Process ✓

Group	Cash Flow ✕
Sub Group	Others ✕ Negative Amortization ✕ Teaser ✕ Rule of 78s ✕ Interest Timing ✕ Behaviour Pattern ✕ Lease ✕ Annuity ✕ Mortgage Offset ✕

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Rule Id ⇅	Rule Name ⇅	Condition Columns ⇅	Error Level ⇅	Description ⇅	Assignment ⇅
1	Original Term > Amortization Term	AMRT_TYPE_CD#AMRT_TERM#AMRT_TERM_MULT#ORG_TERM#ORG_TERM_MULT	Warning	Amortization term can only be equal to zero on Non-Amortizing instruments	ORG_TERM#ORG_TERM_MULT
2	Current Par Balance = Original Par Balance	ORIGINATION_DATE#AS_OF_DATE#CUR_PAR_BAL#ORG_PAR_BAL	Warning	Instrument has originated in past but Current Par Balance and Original Par Balance are equal	NA
3	Deferred Current Balance = Deferred Original Balance	ORIGINATION_DATE#AS_OF_DATE#DEFERRED_CUR_BAL#DEFERRED_ORG_BAL	Warning	Instrument has originated in past but Deferred Current Balance and Deferred Original Balance are equal	NA
4	Current Gross Rate < 0	CUR_GROSS_RATE	Info	Current gross rate is negative	NA
5	Current Net Rate < 0	CUR_NET_RATE	Info	Current net rate is negative	NA
6	Invalid Accrual Basis	ACCRUAL_BASIS_CD	Warning	Accrual basis code must be between 1 and 7 inclusively	3

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About Oracle Financial Services Analytical Applications

Oracle Financial Services Analytical Applications bring financial institutions best-of breed capabilities to proactively manage Financial Crime, Compliance, Risk, Treasury, Finance and the Front Office. The applications are built upon a commonly available analytical infrastructure consisting of a unified financial services data model, analytical computations, a Metadata driven "R" modeling platform, and the industry-leading Oracle Business Intelligence platform.

A single, unified data model and infrastructure provides one version of the analytical "truth" to business users throughout the entire enterprise. This enables financial services institutions to confidently manage performance, governance, risk and compliance. Shared data, metadata, computations and business rules enable institutions to meet emerging business and regulatory requirements with reduced expenses and the unified platform helps financial institutions to leverage existing investments.

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