

## Wallstreet Suite

Comprehensive reserve, debt, cash and asset management solution for central banks and government agencies

[www.wallstreetsystems.com](http://www.wallstreetsystems.com)



# FACT SHEET: Wallstreet Suite STRUCTURED PRODUCTS



Wallstreet Suite enables the complete life cycle of a structured product to be handled in a single database. Thanks to the flexible instrument configuration, new financial products can be assembled by arranging their fundamental elements in a way that eliminates the need for code changes.

## BUSINESS CHALLENGES

Structured products are innovative financial instruments that consist of a combination of nested, sometimes interdependent, products, payoffs or features. They are attractive as they provide the flexibility to tailor an investment or borrowing structure to meet specific requirements such as a particular risk profile, payment structure, or up-front costs, but by their nature, they are difficult to value and process.

Pressures come from regulatory bodies and internal auditors, who demand control over how these financial vehicles are priced, collateralized and processed. Indeed, structured products are complex to process, and due to a lack of suitable automation, many organizations are faced with the choice of putting trades into spreadsheets, or simply not handling structured trades at all. The use of spreadsheets to process structured products implies increased operational risk.

Without the right support, the lead time to bring a structured product to market can be several months, and this delay results in organizations losing their first-mover advantage.

# KEY FEATURES



## UNIQUE STRUCTURING CAPABILITY

Wallstreet Suite's Instrument Editor is a unique offering that allows you to create an infinite number of new instruments, either as structured securities or as hedging swaps. Every financial product can be broken down to different components such as legs, schedules, cash flows, events and payoff expressions or fees. Triggers and payoff expressions are defined with powerful Excel-like formulae. You can then take these components and combine them differently to create a new instrument. For example, you can create a reverse floater starting with several years paying a fixed rate or a capped FRN or a multi-callable bond as well as their corresponding hedging swaps.

The instruments can then be arranged into user-defined groups together with the more vanilla instruments, for example, bonds and the corresponding hedging swaps could be organized as:

- Vanilla Bonds
- ABS
- Structured Bonds
  - Callable bonds
  - Sticky coupons structures

Wallstreet Suite supports very complex interest rate, equity, and foreign exchange linked structures including:

- Structures split per time periods: E.g. first years fixed, then floating
- Compounding
  - reset at  $\text{reference\_rate}_1 + \text{spread}_1$ , compounding at  $\text{reference\_rate}_2 + \text{spread}_2$
- Generic capped/floored (reverse) floater
- Sticky (coupon rate  $i$  constrained to  $i-1$  by  $\text{maxup}_i, \text{maxdown}_i$ )
  - $\max(\text{floor}_i, \min[\text{cap}_i, \alpha_i + \beta_i * \text{reference\_rate}])$
- Quanto (applied to a notional in a different currency)
- Digital
  - if  $\text{reference\_rate} > \text{boundary}_i$  then  $\text{coupon\_rate} = x_i \%$  else  $\text{coupon\_rate} = y_i \%$
- Dual currency
- Range accrual
- Rainbow: option to choose coupon currency
- Power Reverse Dual Currency and FX-linked coupons
  - $\alpha_i * \text{fx\_rate} / \text{fx\_rate}_i - \beta_i$
- Multi-callable structures
- Multi-triggered structures
- Conversion option from one structure to another
- From fixed to floating, from zero-coupon to fixed, etc.
- Index-linked: Inflation, FX and EQ basket performance



## VALUATION

Wallstreet Suite enables you to benefit from the NumeriX interest rate valuation library, where you can get advanced and accurate valuations of your positions in structured products. Using the NumeriX library you get a flexible choice of models such as Hull & White, Black & Karasinski, BGM modelling combined with Tree, PDE, and Monte Carlo valuation method, as well as valuation tools previously only available in the proprietary systems developed by investment banks.

Treasury Monitor, Wallstreet Suite's unique real-time monitoring tool, lets you analyze the position and risk of your structured product portfolio. The key figures are updated in real-time as the underlying market data changes or as new trades are made.

## PROCESSING

For front-to-back processing, structured products benefit from Wallstreet Suite's customizable workflow control providing full support for the segregation of duties through rule-based authorizations. Changes can be logged and tracked in audit reports enabling you to always know what's happening. It uses a single database which eliminates interfaces between functions.

The processing of events (e.g. trigger, fixing etc.) are automated wherever possible to remove routine tasks. Any operations that require manual intervention, such as exercising calls or options, can be processed online.

Wallstreet Suite also includes an advanced accounting sub-ledger which performs the structured products accounting in accordance with central banks standards as well as international standards such as IFRS and FAS.

Wallstreet Suite comes with the added advantage that it is a complete integrated system that supports not only your structured products but also the more vanilla products for investments, debt, FX and credit derivative instruments. It gives you a complete picture of your position in terms of risk and valuation with more than 300 key figures available in real-time. It processes your accounting results and liquidity forecasts in one system and lets you process and settle all your financial instruments on one platform with the same tools in one integrated system.



## BUSINESS CHALLENGE

## WALLSTREET SUITE SOLUTION

### SUPPORT

▶▶ Using Wallstreet Suite's flexible Instrument Editor, you construct new instruments as and when new products are developed. This makes it possible for you to react quickly to innovation in the financial market.

### VALUATION

▶▶ Wallstreet Suite's Treasury Monitor gives you real-time valuations of your structured product's portfolio using NumeriX valuation library so you will always know what the position is worth.

### OPERATIONAL RISK

▶▶ The complete life cycle of a structured product is supported in a single database with segregation of duties and auditability making any compliance requirements easy to fulfil.

Transaction Admin - Layout: SWAP-STRUCTURED, Query: not-set - TRM74 nightly (av DB)

Transaction	Opening Date	Instrument	Transaction Sign	Currency	Currency 2nd	Nominal Amount	Value Date	Maturity Code	Maturity Date	Portfolio	Counterparty
1	25/03/2011	SWAP-STRUCTURED	Receive 1st Leg	EUR	EUR	10,000,000.00	29/03/2011	SY	29/03/2016	TRADING-1	DEUT FF

  

Leg Group	Description	Start Date	End Date	Method	Frequency	Rate	Spread	Cap/Up	Factor	Fixing Rate	Fixing Period	Fixing Offset (Business Days)	Expression
1	Fixed Coupon	29/03/2011	29/03/2016	Times/Year	1	3.50						0	
2	Optional Call/Put	29/03/2011	29/03/2016	Times/Year	1	100.00						5	
3	Redemption	29/03/2011	29/03/2016	Bullet	1	100.00						0	
4	Fixed Interest	29/03/2011	29/03/2013	Times/Year	1	3.00						0	
5	Floating Interest	29/03/2013	29/03/2016	Times/Year	2		5.00	0.00	2.00	EUR-EURIBOR	6M	2	max(floor(%s, spread%-factor*sr))
6	Redemption	29/03/2011	29/03/2016	Bullet	1	100.00						0	

  

Leg Group	Value Date	Currency	Amount	Nominal Rate	Type	Fixing To
1	29/03/2011	EUR	-10,000,000.00	100.00	Principal	
2	29/03/2011	EUR	10,000,000.00	100.00	Principal	
3	29/03/2012	EUR	355,833.33	3.50	Interest	
4	29/03/2012	EUR	-305,000.00	3.00	Interest	
5	28/03/2013	EUR	363,888.89	3.50	Interest	
6	28/03/2013	EUR	-303,333.33	3.00	Interest	
7	30/09/2013	EUR	0.00		Interest	29/03/2013
8	31/03/2014	EUR	357,777.78	3.50	Interest	
9	29/09/2014	EUR	0.00		Interest	26/09/2013
10	29/09/2014	EUR	0.00		Interest	27/03/2014
11	30/03/2015	EUR	353,888.89	3.50	Interest	
12	30/03/2015	EUR	0.00		Interest	25/09/2014
13	29/09/2015	EUR	0.00		Interest	26/03/2015
14	29/03/2016	EUR	10,000,000.00	100.00	Redemption	

  

Event To	Kind	Type	Sign	Notification/ Fixing From	Notification/ Fixing To
1	Optional	Call/Put	Liability	01/03/2012	22/03/2012
2	Optional	Call/Put	Liability	29/02/2013	21/03/2013
3	Optional	Call/Put	Liability	03/03/2014	24/03/2014
4	Optional	Call/Put	Liability	02/03/2015	23/03/2015

Unique structuring capability

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