

# MoCA

Valuation out of the box



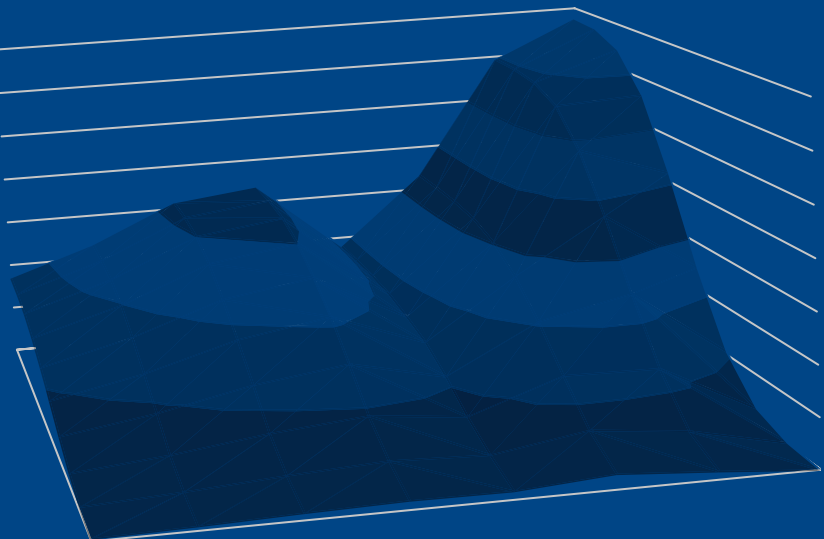
# Easy and flexible to use

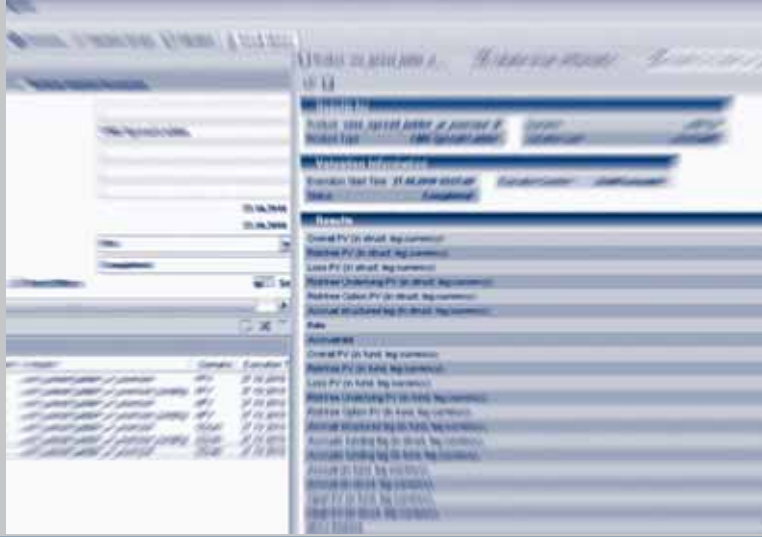
## Compact valuation of structured financial derivatives

Structured financial derivatives are important tools when applying modern hedging and investment strategies.

Integrating accurate valuation methods into existing systems for trading, treasury, or risk controlling is highly expensive and time consuming. At the same time, the regulatory requirements for an adequate valuation of structured derivatives are continuously increasing. In addition, valuation of financial derivatives becomes more and more demanding, since taking basis spread risks, credit and debt value adjustments (*CVA and DVA*), and financing costs into account is becoming standard practice.

MoCA is the time saving and cost efficient solution to this challenge. MoCA is a complete out-of-the-box pricing system for fair value and scenario calculations of structured derivatives for P&L calculation and accounting purposes. d-fine's many years of experience in the conception and implementation of valuation environments for structured financial derivatives have been integrated in this tool.





## Easy and flexible to use

- User friendly graphical interface
- (*Backward*) valuation at arbitrary dates
- Easy export and import of market and product data as well as pricing results
- Simple integration into existing IT-infrastructure
- Global or product specific fixing of reference prices and indices
- Optional roll out of cash flow data
- Product data including detailed cash flow information, including automatic optional roll out of cash flow data
- Extensive documentation of methods and products
- Valuation reports customised for the special needs of clients, including various pricing figures as well as used market and model parameters

## State-of-the-art methods

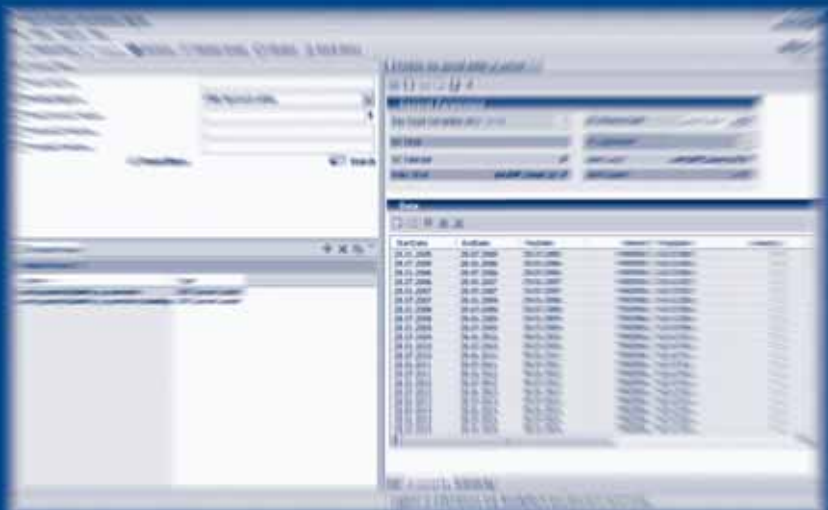
- Pricing kernel based on d-fine's reference pricing library MoCo
- Full coverage of best practice models: short rate models and LIBOR market models, local and stochastic volatility models, jump processes, hazard rate models, full range of commodity models, seasonality effects, semi-analytical models, and many more. For a full list, please contact us.
- Generic numerical methods (*analytic approximations, finite differences, Monte Carlo, FFT*)
- Flexible setup of market data scenarios and trade groups

# State-of-the-art methods

## Huge and extendable range of instruments

- All important asset classes: interest rate, equity, fx, credit, inflation, commodities, and many combinations or hybrids
- Full support of the post-financial crisis interest rate curve universe
- Volatility surfaces/cubes for all asset classes
- Continuously increasing range of supported products based on the above asset classes, including the most exotic interest rate, equity, FX, or commodity products

If you miss a special product, send us the term sheet and ask for an on-demand development proposal.





## Current pool of products support by the pricing kernel (extract, easily extendable)

### Commodities

American Option  
Calendar Option  
Commodity Swap  
European Option  
Futures  
Asian Option  
Cross Commodity Spread Option  
Barrier Option on Commodity Baskets  
Swing Option  
Real Option (Power Generation Assets)  
Digital Option  
Quanto Option

### Credit

ABS  
Callable Floater  
CDO  
CDS  
CLN  
CMBS  
First-to-Default Swap  
MBS  
nth-to-Default Swap  
Single Tranche CDO

### Equity/FX

Accreting Equity Performance (w funding)  
Accreting Equity Performance  
American Option  
Asian Equity Performance (w funding)  
Asian Quanto  
Barrier  
Basket Digital  
Basket Option  
Best Of Basket  
Callable Barrier Basket Option  
Catch Option  
Digital  
Equity Forward

European Option  
Fixed FX Rate Equity Option  
Foreign Equity Option  
Forward Start Asian Quanto  
Multi Period Basket Option  
Product Option  
Quanto Option  
Reverse Repo  
Run Time Option  
Spread Option  
Surf Option  
Time Window Asian  
Time Window Asian Future Option  
Time Window Barrier  
Trigger Basket Option  
Trigger Option  
Worst of Basket

### FX

FX Swap

### Hybrid

Callable FX Floater  
Equity Linked Note  
FX Target

### Inflation

Inflation Swap  
Year-On-Year-Inflation Swap

### Interest Rate

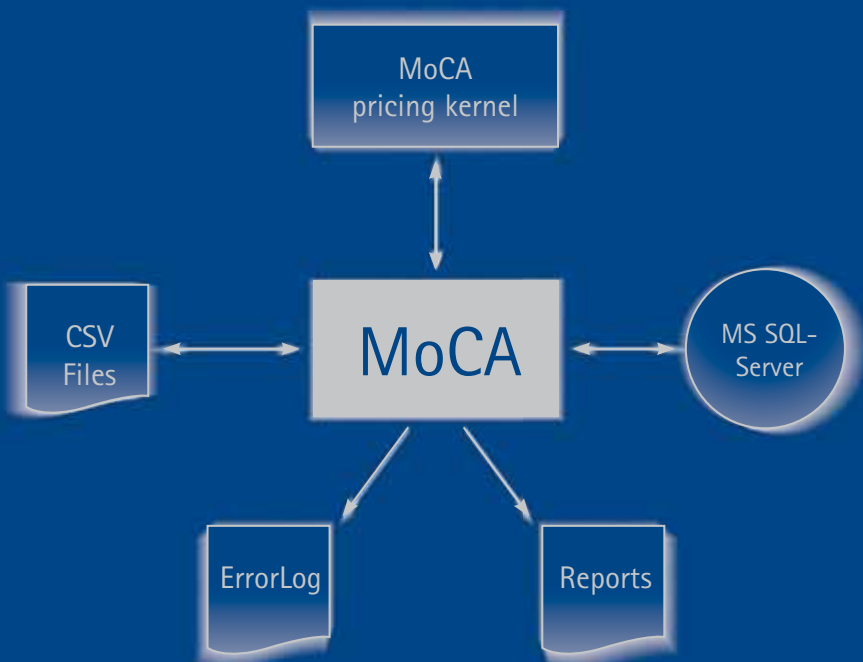
Basis Swap  
Bermudan Swaption  
Bermudan Zero Swaption  
Bond Future  
Bond Option  
Callable Ladder Cap  
Callable Range Multi-Index  
Callable Accreting Swap  
Callable CMS Spread  
Callable CMS Spread Capped/Floored  
Callable CMS Spread Digital

Callable CMS Spread Ladder  
Callable Defaultable Bond  
Callable Digital  
Callable Ladder  
Callable Range  
Callable Reverse Accreting Swap  
Callable Reverse Floater  
Callable Zero Bond/Swap  
Callable Zero Digital  
Cap/Floor  
CC Basis Swap  
CMS Bond/Swap  
CMS Cap  
CMS Floater  
CMS Forward Vola  
CMS Spread Digital  
CMS Spread Option  
CMS Spread Range  
CMS Spread Target  
CMS Spread Wedding Cake  
CMS Swaption  
CMS Vola  
Deposit  
Digital CMS Spread Ladder  
Fixed Rate Swap/Bond Floater  
FRA  
FRB EUR First  
Irregular European Swaption  
Ladder Target  
Lift Swap  
Quanto CMS  
Quanto CMS Spread  
Quanto CMS Spread Digital Target  
Reverse Repo  
Step Up Swap Swap  
Swaption  
Zero Bond/Swap  
Zero Swaption

# Modern IT infrastructure

## Modern IT infrastructure

- Integrated data base (*embedded or external*) for market and instrument data
- Password secured access and audit trail
- Efficient use of multi-core processors yield high performance
- History of market data and pricing results
- Simple upload of all market data for a specific valuation date
- Automatic generation of error logs
- Multi-user support





## Contact

Your portfolio contains some highly customized structured products which are not likely to be supported by any of the standard systems? Thanks to MoCA's flexible data model, our consultants and financial experts will be able to customize MoCA on your demand to meet your specific needs. Thus, we can insure that your MoCA fits perfectly to your whole portfolio of derivatives with valuation methods as accurate as you require.

For further information on MoCA give us a call +49-69-90737-0, keyword »MoCA« or send an e-mail to [MoCA@d-fine.de](mailto:MoCA@d-fine.de).

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