FRTB CAPSTONE COURSE 2019

Lecture 2

Fusion Capital Summit Overview

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ADMIN

- IP Addresses. Can you connect?
  - Public vs private (192 is possible private)
  - VPN – does everybody have VPN connection into Fordham?
- Most communication with Team leads
- Friday assignments
- Next Tuesday no class. Communicate via Slack

Source	Description
222.127.126.226/32	Vince Finastra IP
10.216.97.144/32	F2 - Jiayue (Wendy...
100.33.127.208/32	F2 - Hanyun Zhang
150.108.242.146/32	F2 - Xiaoxiang Sha...
151.49.49.192/32	Randolph IT
172.254.27.94/32	TG office
192.168.0.10/32	F2 - Wenhao Zhao
192.168.0.25/32	F2 - Yu Lin
192.168.1.125/32	F2 - Tian Yang
192.168.1.150/32	F2 - Yu Dai
74.64.233.127/32	F2 - Kai Lyu
89.238.230.226/32	Randolph and Ionut...
89.93.236.157/32	Randolph - FR

AGENDA

High-Level Introduction to the Following Topics:

What is Summit:
- Range of products
- Evolution
- Clients

Summit FT: The User Experience
- FT desktop
- Navigation

Static data overview

Market data overview

Trading

Trade types
- Swap trading (as the OTC example)
- Bond trading (as the fixed income example)

Trading Board

Filters

Reporting in Summit

Risk Management
- Market Risk
  - Hedging on Trades
  - Hedging on Portfolios
  - Sensitivity analysis

WHAT IS SUMMIT?

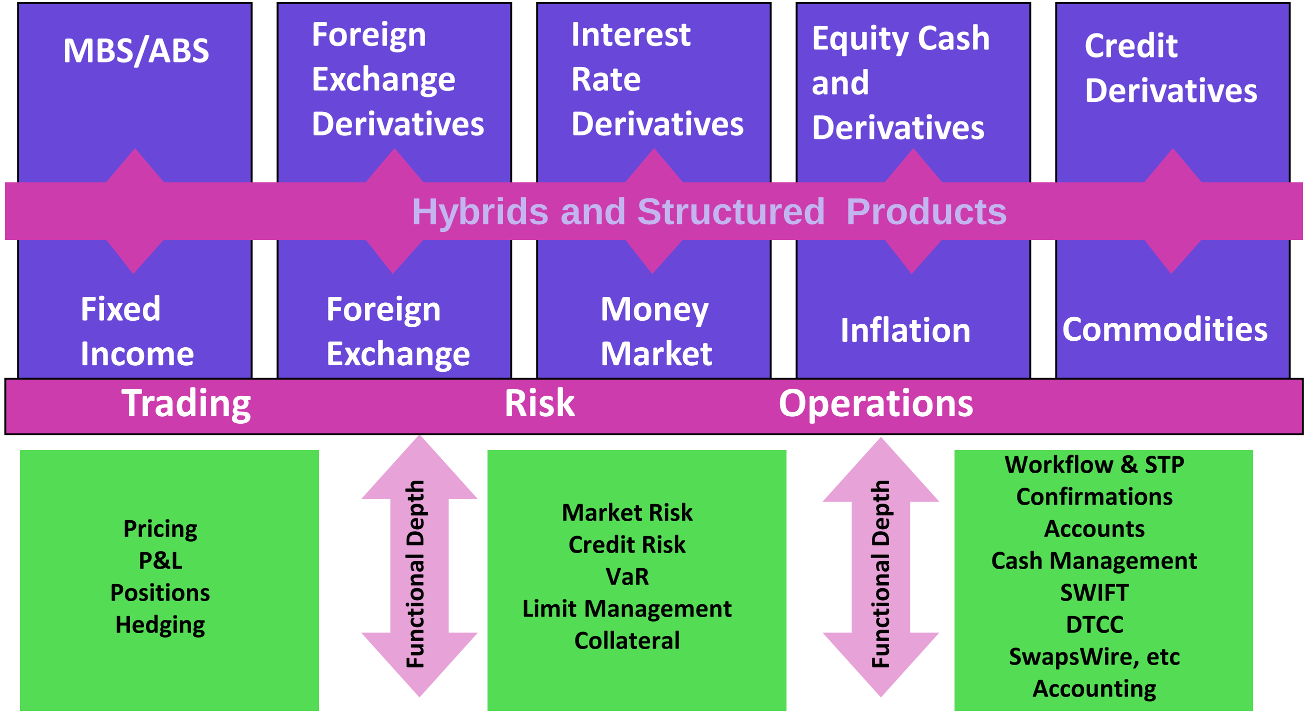
An **award winning, cross-asset, front to back solution for financial instruments** that enables financial institutions to:

- Innovate
- Rationalize systems
- Monitor and manage risk
- Streamline operations

Proven over 20 years in the derivatives market

- **Broad cross-asset coverage** enables system rationalization across many instrument types
- **In-built risk** procedures for valuing, managing, controlling and regulatory reporting on large volumes and complex positions
- Ability to capture, create and control **complex instruments**, enabling innovation combined with risk management required in today's market
- **Improve efficiency and lower costs** with full straight-through-processing (STP) and accounting

MISYS SUMMIT FT IS AN AWARD WINNING CROSS ASSET FRONT TO BACK SOLUTION



SUMMIT IS A MARKET LEADER

- **20 years of experience** in partnership with the leading investment banks and financial institutions worldwide
- **Strong diverse global client base of 147** - Tier 1-3, innovative regional players and buyside
- **33 successful go-live projects in last 12 months**
- **Strong industry partnerships** – IBM, Sun, Sybase, Microsoft, Datasynapse, Numerix…

experience, solutions, results

5

SUMMIT FT: THE END USER EXPERIENCE

MS XP Look and Feel

- Toolbars and Icons
- Hot-Keys
- Drag and Drop

Create your own desktops

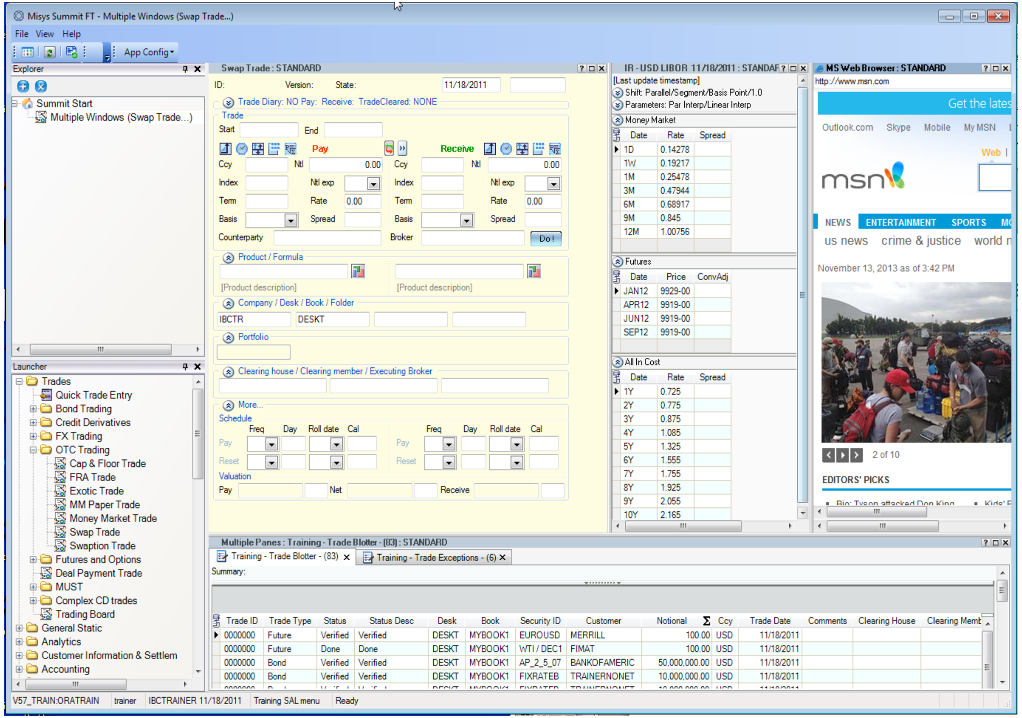
- Private and shared desktops

Powerful spreadsheets

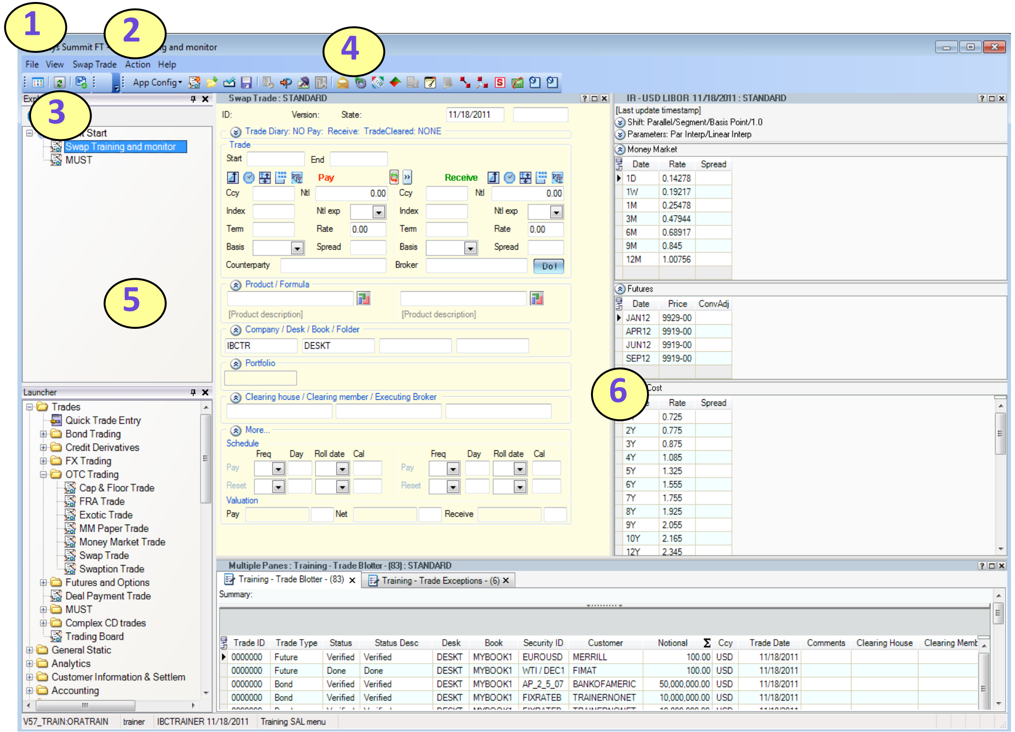
Fully configurable

- Colors and Icons
- Spreadsheet columns and grouping
- Trade Templates

MS Office Integration



SUMMIT FT: FT DESKTOP EXAMPLE



1. General menus - always available

2. Application-specific menus - connected to the current application being used

3. General Icons - always available

4. Application-specific icons - connected to the current application being used

5. Explorer - used to navigate between pages which contain currently running applications

6. Page - work space for applications and sub-pages, allows for private vs. shared

SUMMIT FT: FT DESKTOP EXAMPLE (CONT'D)

7. Launcher - used to organize and launch applications you want to use regularly

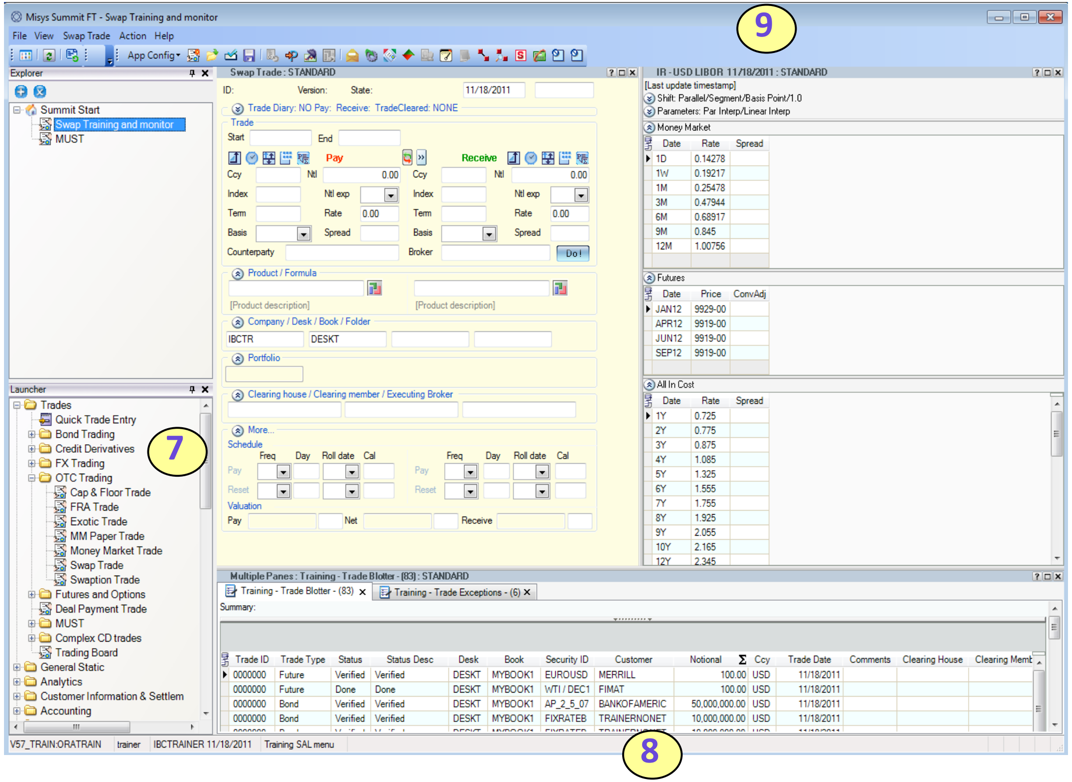
8. Status Bar – shows Database/Server, User, Location, Date and Desktop Configuration

9. Desktop: - Allows for private vs. shared configuration

- Summit and third party applications can share this space

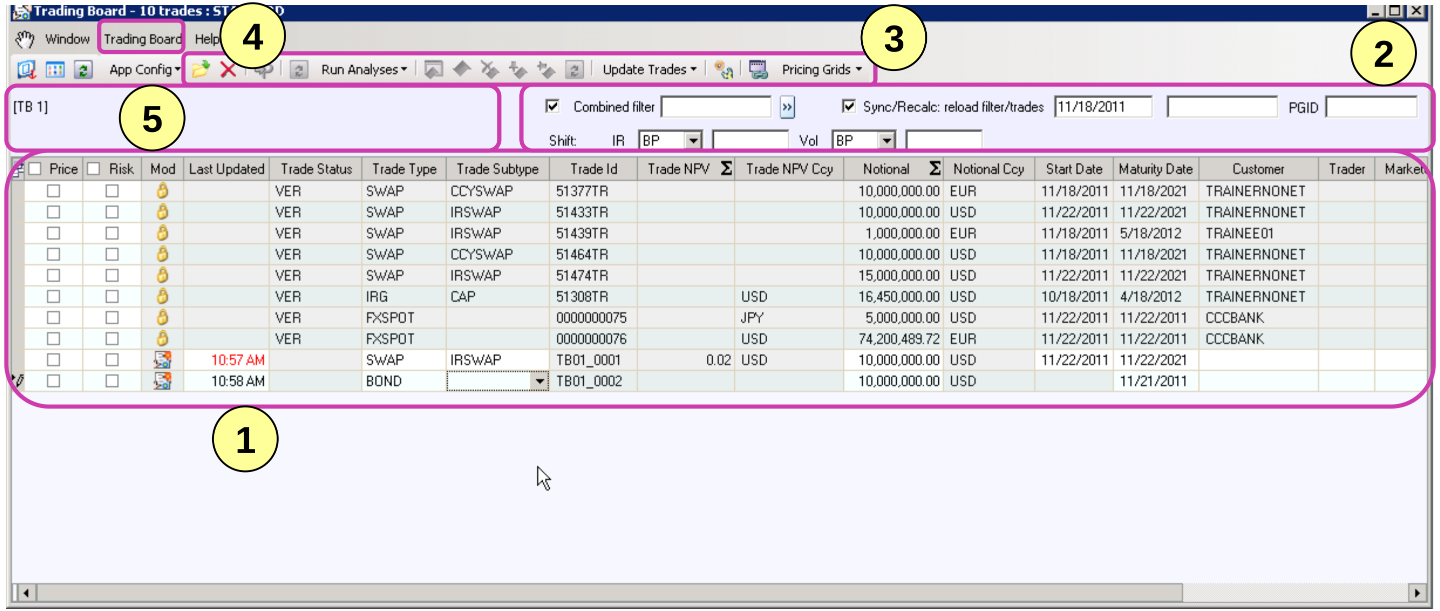
- Multiple applications can be running on the desktop

- Users can have access to more than one desktop



TRADING BOARD - LAYOUT

1. Trade Display
2. Pricing Controls
3. Toolbar
4. Menu items
5. Common application features



SUMMIT FT: DESKTOP NAVIGATION

Search for underlying data in table driven fields using **Ctrl+F** to open the **Lookup View**

Create personal lists of data for quick access, use **Ctrl+G** to invoke the personal or full list, and the **Personal List Editor** to create a personal list

View underlying static data by using **Ctrl+I in** table-driven fields

You can do common functions using shortcut keys, as an alternative to clicking on an icon or selecting from a menu, for example:

- **Ctrl+O** is **Open**
- **Ctrl+S** is **Save**
- Etc.

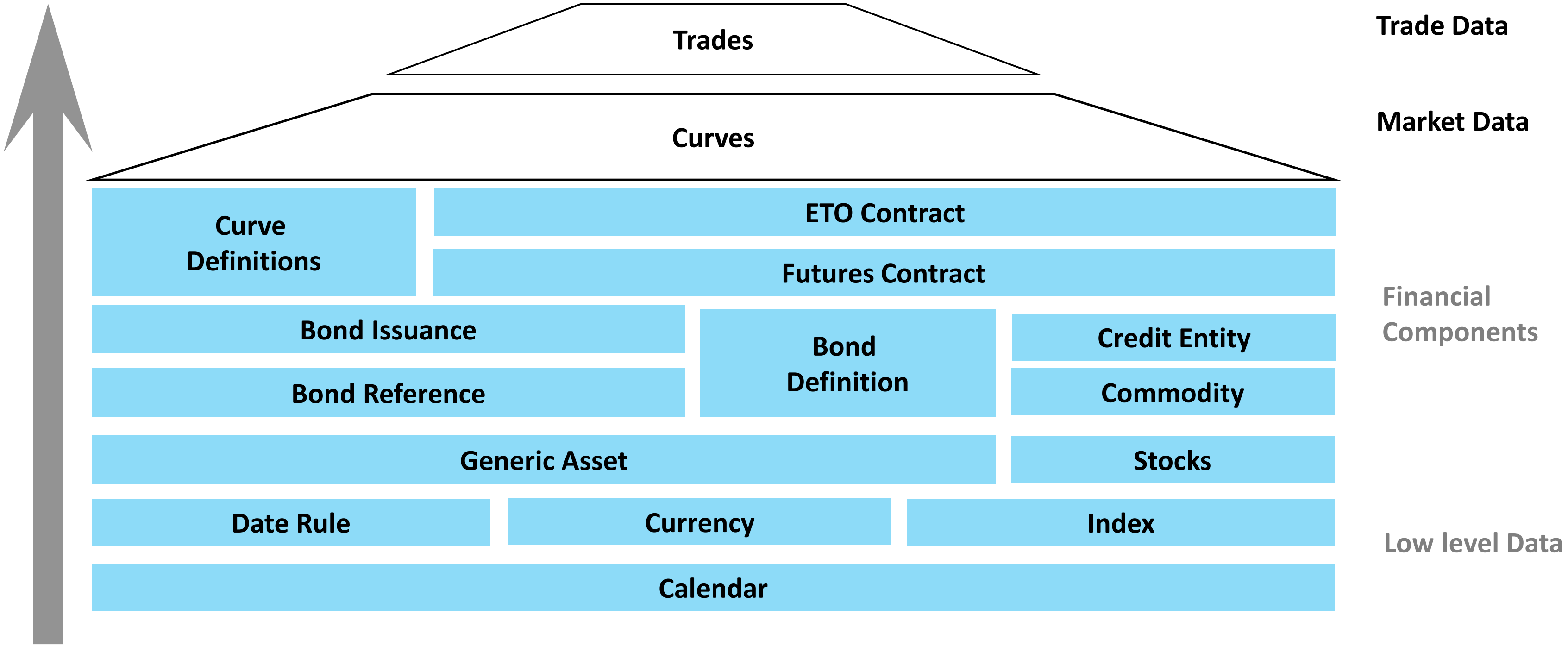
You can assign your own shortcuts to applications in the **Explorer** using the **Assign Shortcut** menu – this enables you to navigate to a page using the shortcut

SUMMIT FT APPLICATION CATEGORIES

Summit applications fall in the following major classes:

- **Market Data**: configures and defines market data and holds data points for various curves and prices
- **Trading**: entry and maintenance of all trades
- **Monitors/Blotters/Viewers**:
  - For real-time monitoring of positions (FX, Bond, Collateral, etc.)
  - Monitor and perform the work flows for trade, cash flow and document processing
- **Risk Analysis**: allows for real-time, ad hoc and formalized analysis of credit and market risk
- **Reporting**: on P&L, accounting, cash flows, upcoming payments and rate resets, etc.
- **Static Data**: Configuration, input and maintenance of underlying static data used for supporting trade entry and after-trade processing, such as accounting and document processing
- **System Administration**: applications used to set up user roles, users and to configure and customize the system

STATIC DATA: BUILDING BLOCK APPROACH



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Close-up look at Critical Static Data for Trades

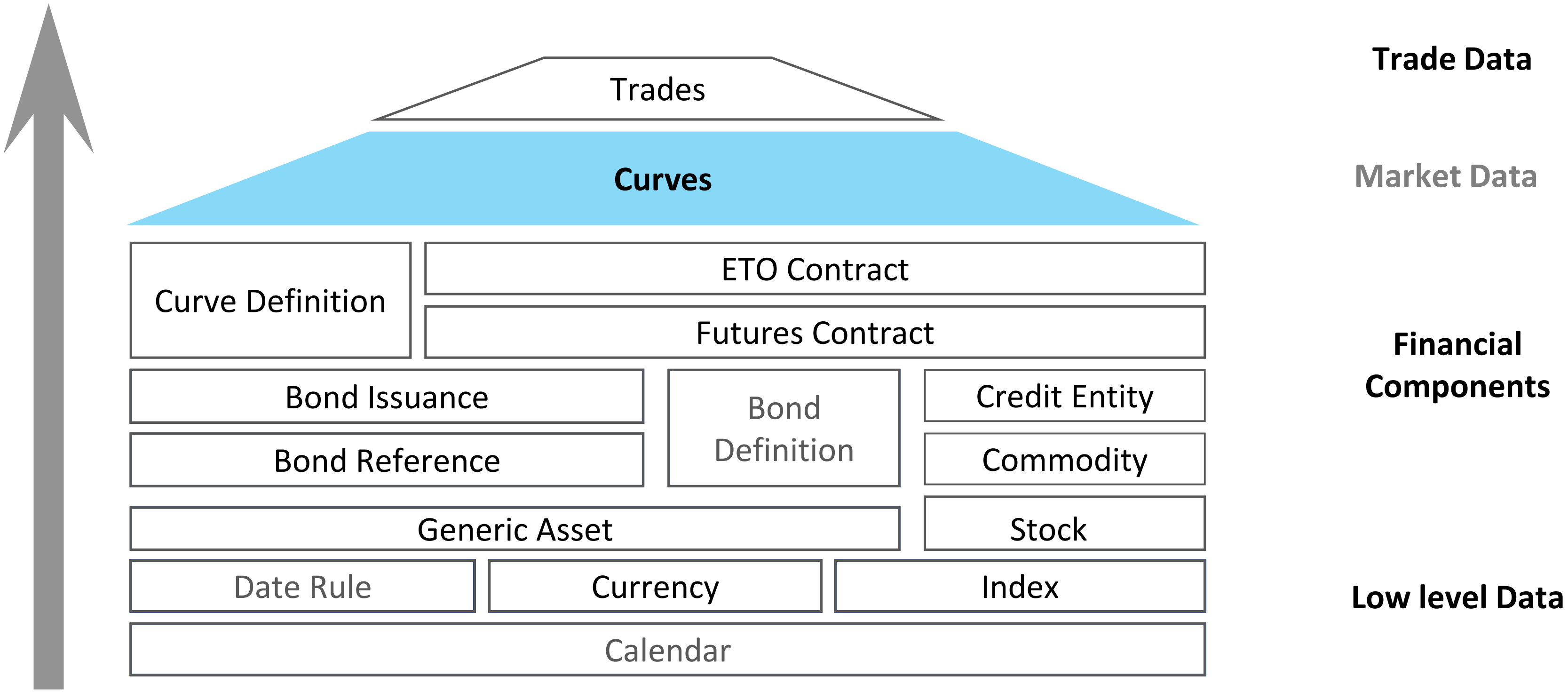
- What you will see:
  - Swap
  - Calendar and Date Rules
  - Legal Entity/Location
    - Company
    - Desk
  - Currency, Index, Reference Source, Generic Asset

FUNCTIONAL STATIC DATA

Financial instruments

- Futures and listed option contracts
  - Interest rate, bond, commodity, stock, FX
  - Brokers and broker commissions
- Securities information
  - Bond reference template
  - Bond Definitions

MARKET DATA



Trades
Curves
Curve Definition
ETO Contract
Futures Contract
Bond Issuance
Bond Definition
Credit Entity
Bond Reference
Commodity
Generic Asset
Stock
Date Rule
Currency
Index
Calendar
Trade Data
Market Data
Financial Components
Low level Data

MARKET DATA CAPTURE

Market data types

- Yield Curve Points
- Closing Prices (Bond, Future, Equity)
- Rates
- Volatilities
- Correlations
- Recovery Rates
- Default Probabilities
- etc….

✓Historical rates

✓Personal vs. Official rates

✓Onscreen or batch import function

✓Real-time support of market data feeds

✓Curve setup is configurable

✓CVID Fallback

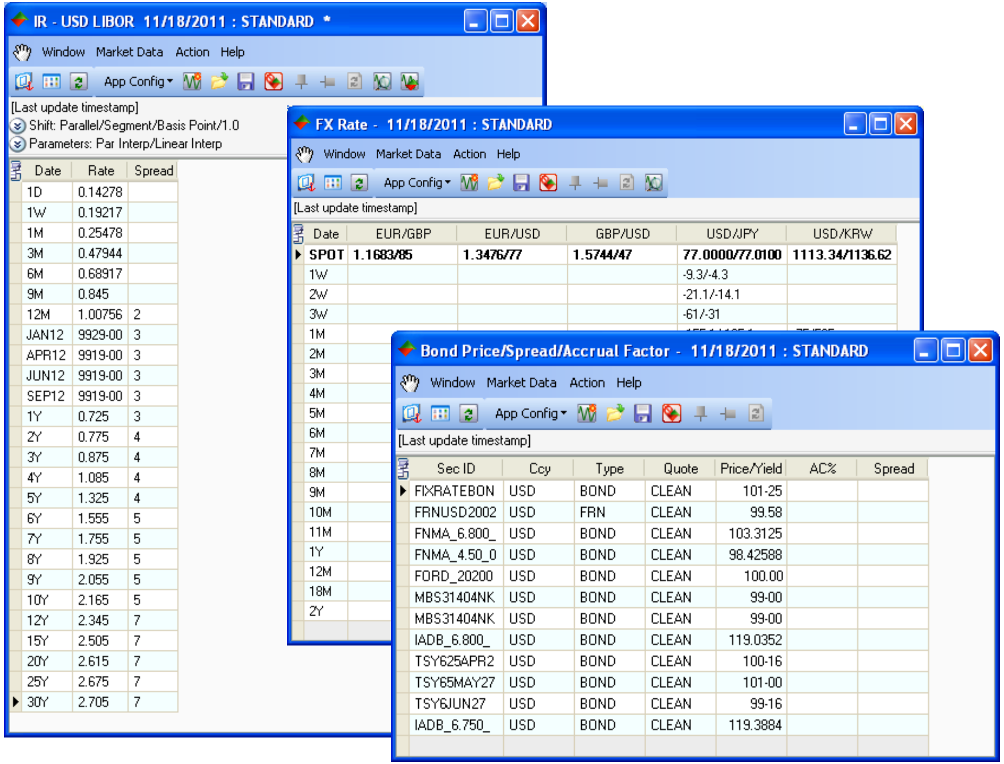
✓Yield curves can be graphed and viewed

MARKET DATA EXAMPLES

Interest Rate Market Data (yield curves)

FX Rates

Bond Price / Spread / Accrual Factor

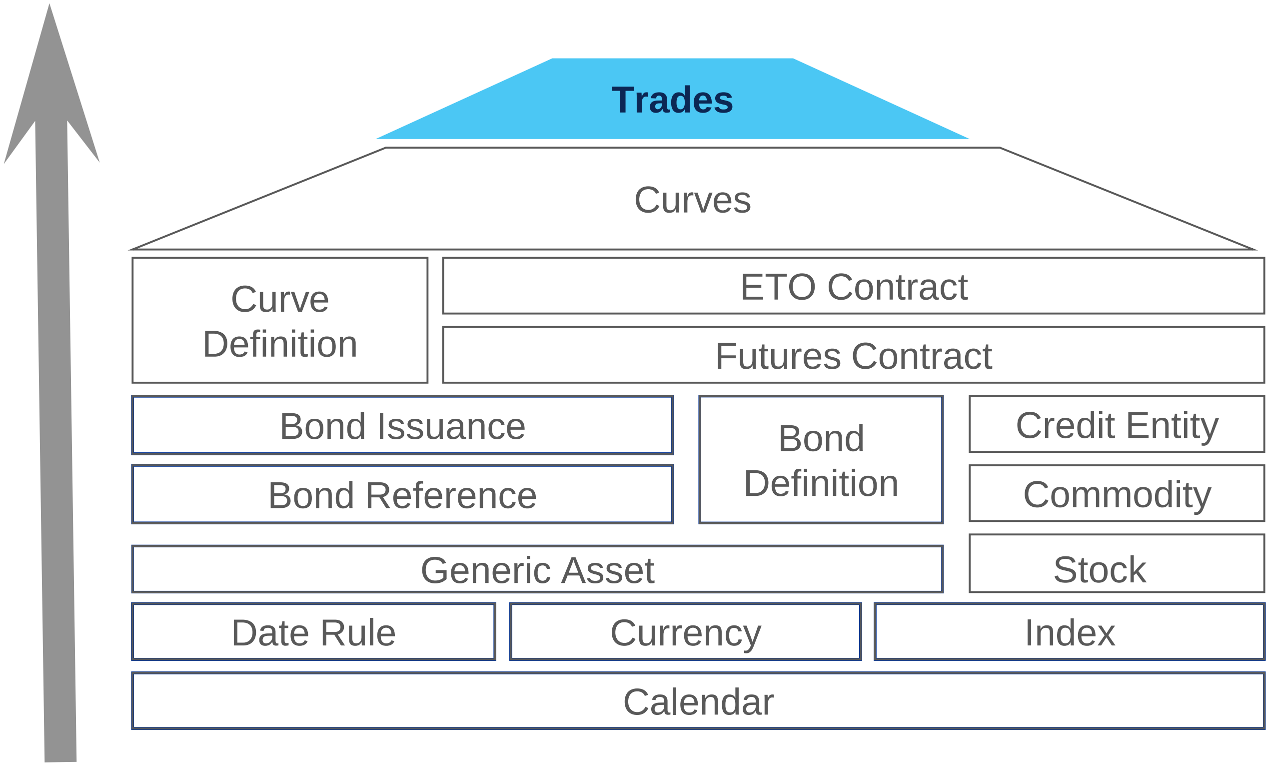


DEMO

Close-up Look at Market Data

- What you will see:
  - Yield curve definitions and data
  - Bond and FX prices
  - Volatility Data

TRADE CAPTURE



Trade Data

Market Data

Financial Components

Low level Data

TRADING

Customizable trading applications and easy to use trading tools

Pre-trade decision making delivers the price, margin and market data before the trade is done

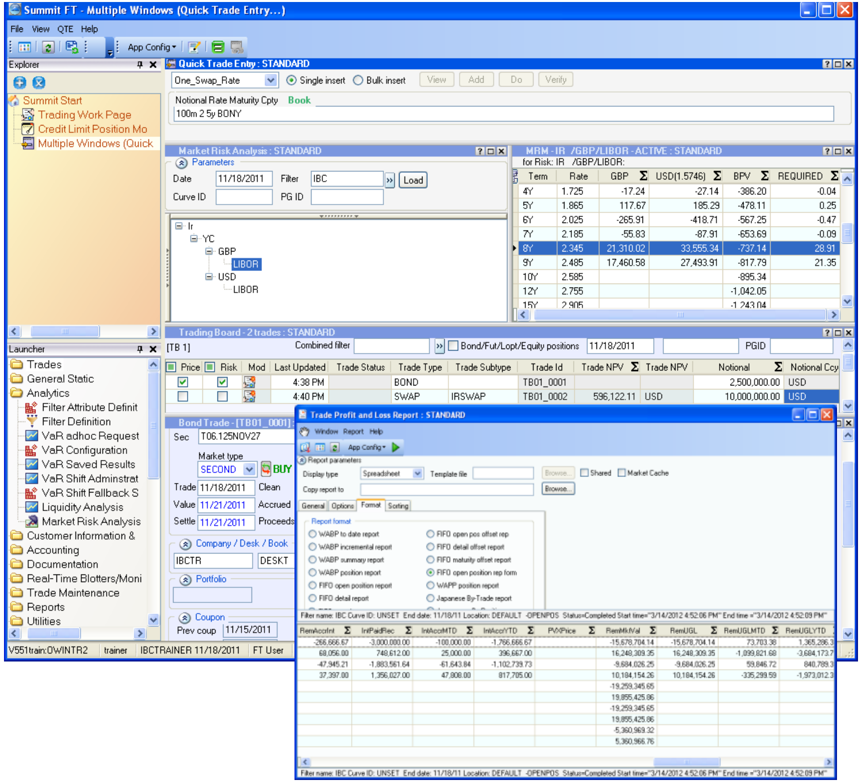
One-click access to **hedging and cross-asset analytics**

Market leading **pricing model integration**

Real-time position keeping for fast decisions

Helps to minimize risk of trading exotics and structured trades

Real-time credit limit checking



TRADING: TRADE TYPES

IRD OTC Trades
- Swap
- Swaption
- Cap/Floor
- Exotic - multi-legged trades
- Forward Rate Agreements
- Money Markets

Fixed Income
- Bond Trade
- Bond Option
- Bond Issuance
- Repurchase Agreements

Foreign Exchange
- FX Spot
- FX Swap
- FX Forward
- FX Option

Options
- Futures
- Listed

Credit Derivatives
- Single Name CDS
- Single Name ABS
- Single Name Swaption
- Single Name CLN
- Bespoke NTD CDS
- Bespoke Tranche CDS
- Index ABS
- Index CD Swaption
- Index CDS
- Index NTD CDS
- Index Tranche
- Total Return Swaps

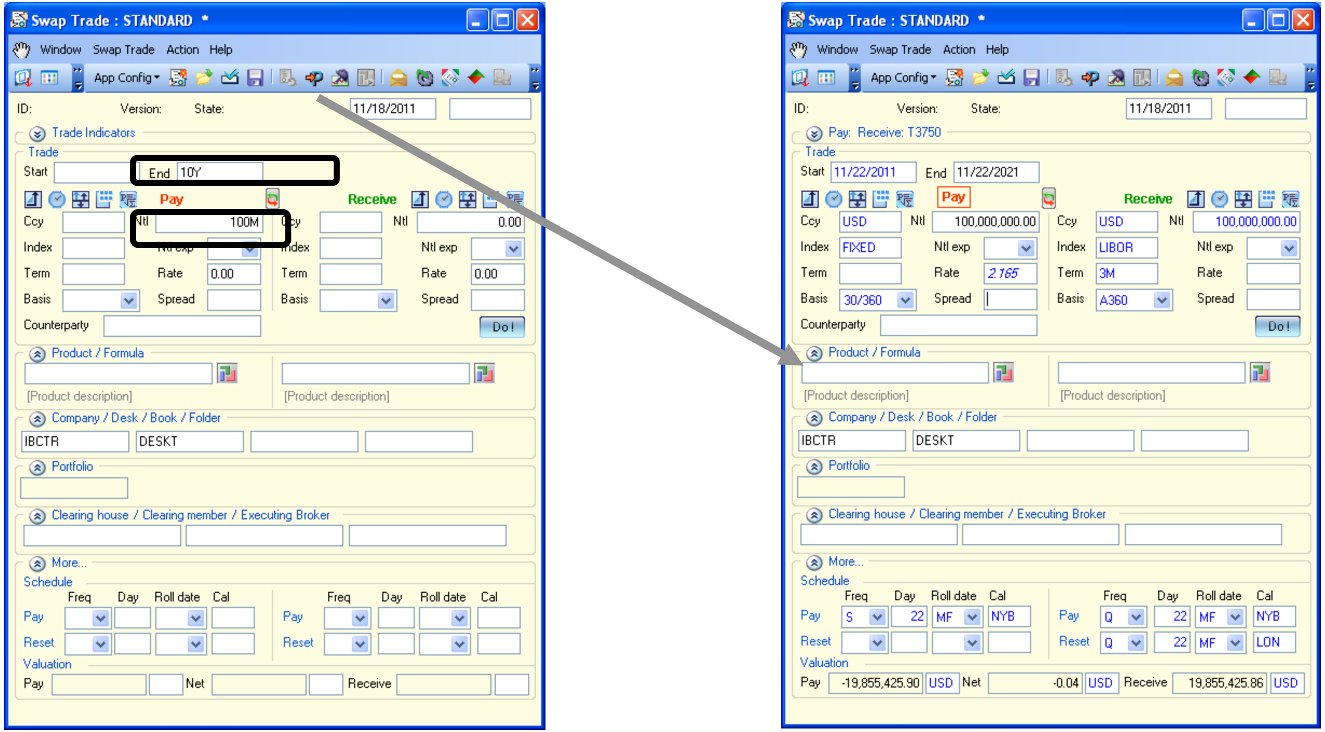
Equity
- Equity Cash
- Equity Options
- Equity Swaps

Multi-Underlying Structured Trades (MUST)
- MUST Bonds (MIB)
- NumeriX in MUST (MIX)
- Options

TRADING: BASIC TRADE CAPTURE AND PROCESSING

1. Launch the trade application
2. Enter minimum data and price the trade
3. ‘Do’ the trade
4. Retrieve, amend and resave the trade
8. Create a portfolio filter
9. Run a report
10. View previously run reports

ENTER MINIMAL TRADE DETAILS AND PRICE THE SWAP



WHAT ACTUALLY HAPPENED?

Data field translation

- 10Y is converted to 10 years from spot date
- 100M becomes 100,000,000.00 (DP according to specific Currency setup)

Derivation of empty fields

- Ccy = USD (Trading currency for the Location)
- Index = LIBOR (Default Index for USD currency)
- FIXED index goes on the side where notional amount was entered
- Asset details come from the default Assets set on USD LIBOR index

Business rule validation

- Is there violation of pre-defined business rules?

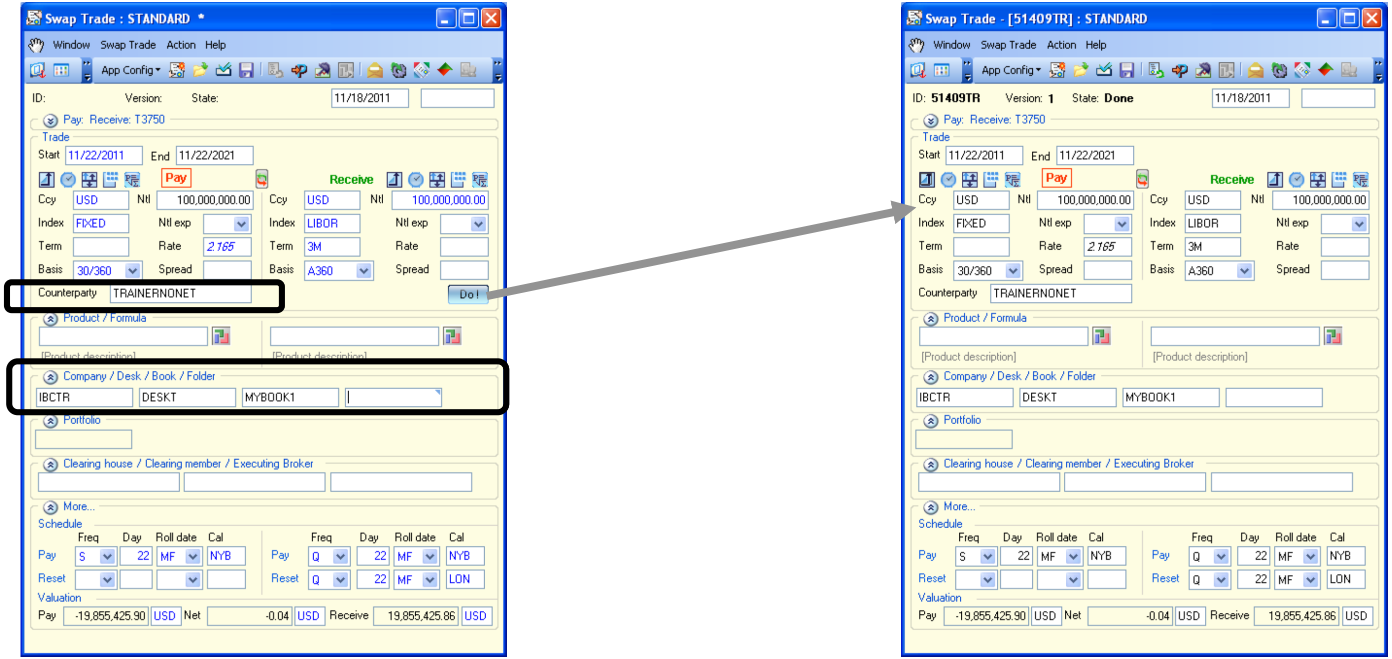
Market/Curve data retrieval

- USD Libor curve – Zero curve / Forward rates / Discount factors
- Derivation of the Fixed Rate as par rate

Trade valuation

- Value(Trade) = NPV(Trade) = NPV(Receive Leg) + NPV(Pay Leg)

‘DO’ THE TRADE

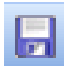


Add Counterparty and booking information

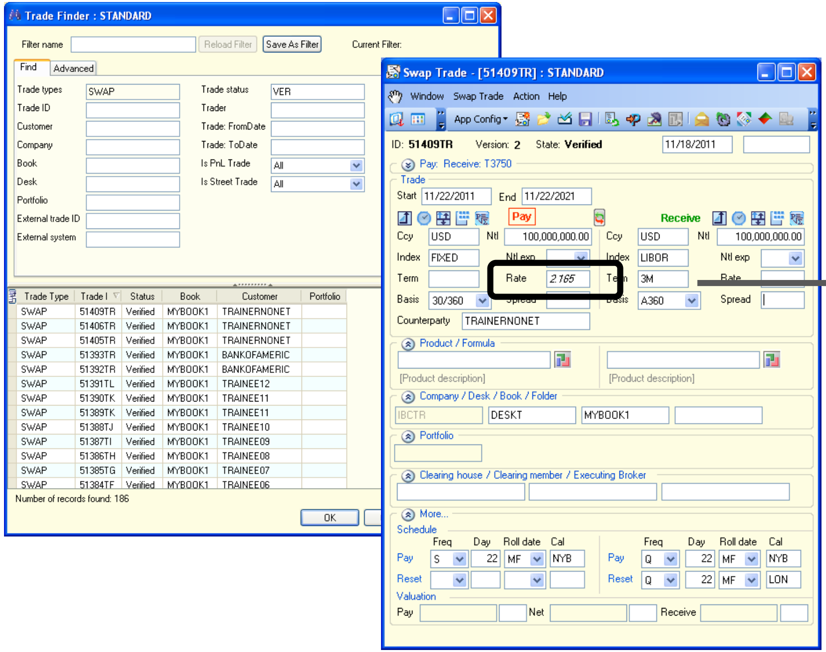
Do ! the trade

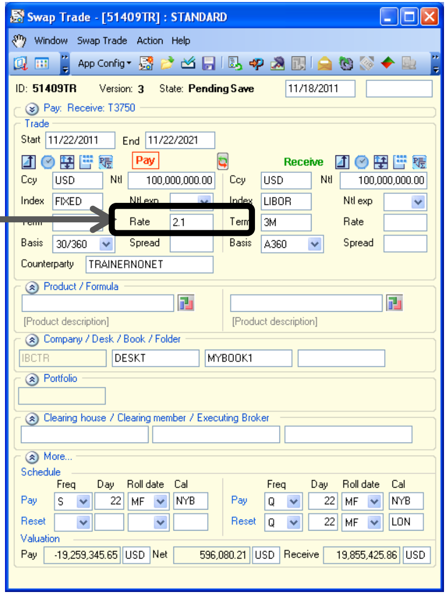
RETRIEVE, AMEND AND RESAVE THE TRADE

Use the  icon to launch the Trade Finder window, then open the trade you want



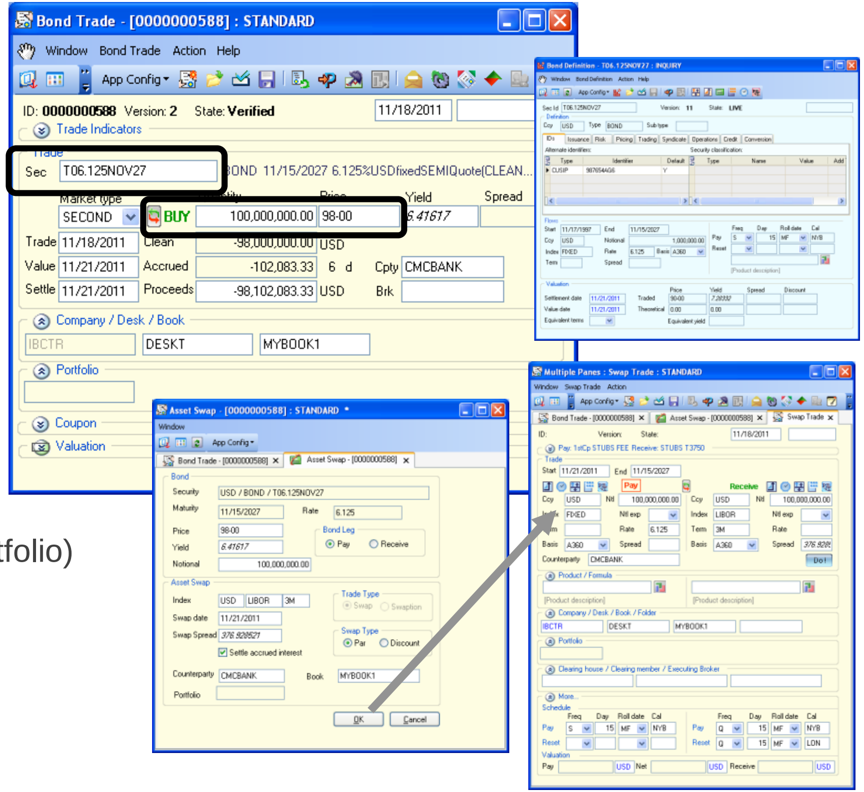
Make your changes, then resave the trade





ENTER MINIMAL BOND TRADE DETAILS

- Load the Security
- Enter the Quantity
- Enter the Price or the Yield
- Buy or Sell
- Counterparty
- Booking information (Company/Desk/Book or Portfolio)
- Do an asset swap from the bond trade



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Close-up look at a Swap Trade

•What you will see:

– Swap trade entry and work flow (state transition)

– Derivation

– Common underlying windows

– Viewing existing trades

FX TRADING TRADE TYPES

FX Spot supported deal types

- Interbank Spot Deal
- Spot Deal squared with a third currency (split)
- Internal Spot Deal
- Corporate Spot Deal

FX Forward supported deal types

- Interbank Deal
- Deal split with a third Currency
- Internal Deal
- Corporate Deal
- External Investment
- Non-Deliverable Forwards
- Time Options

FX Swap supported trade types

- Interbank FX Swap
  – Even FX Swap
  – Uneven FX Swap
  – Even Forward/Forward FX Swap
  – Uneven Forward/Forward FX Swap
- Investment FX Swap
  – External
  – Internal
- Internal
  – FX Spot Rollover
  – FX Swap Rollover

FX Option supported trade types

- European / American
- Asian / Digital
- Barrier
- Double No Touch / Double One Touch
- Knock-In / Knock-Out

CREDIT DERIVATIVES TRADE TYPES

Single Name

- Credit Default Swaps (CDS)
- 100/500 Contracts: standard trades as set out by the Standard North American Corporate (SNAC)
- Credit Linked Notes (CLN)
- Asset Back Swaps (ABS)
- Swaption

Index

- Credit Default Swaps (CDS)
- Nth to Default (NTD)
- Tranche
- Asset back Swaps (ABS)
- Commercial Mortgage Backed Securities (CMBX)

Bespoke (Basket)

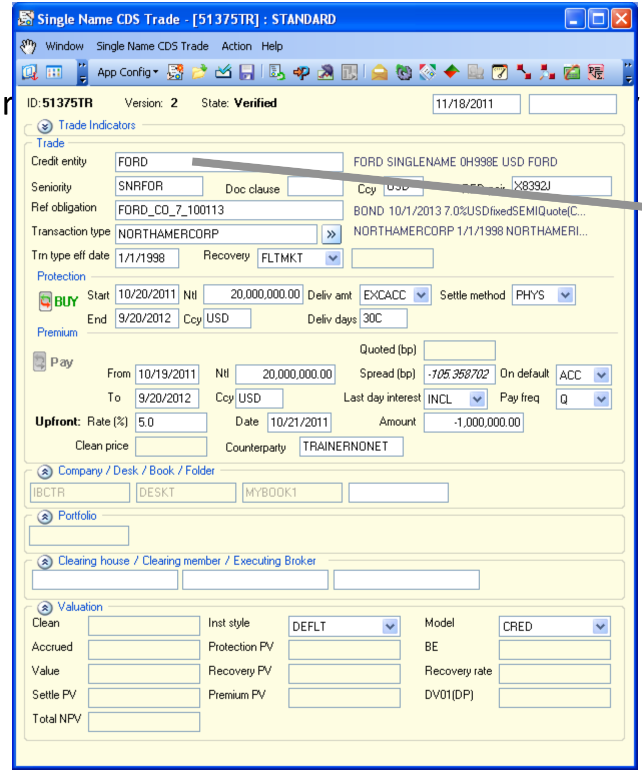
- Nth to Default (NTD)
- Tranche

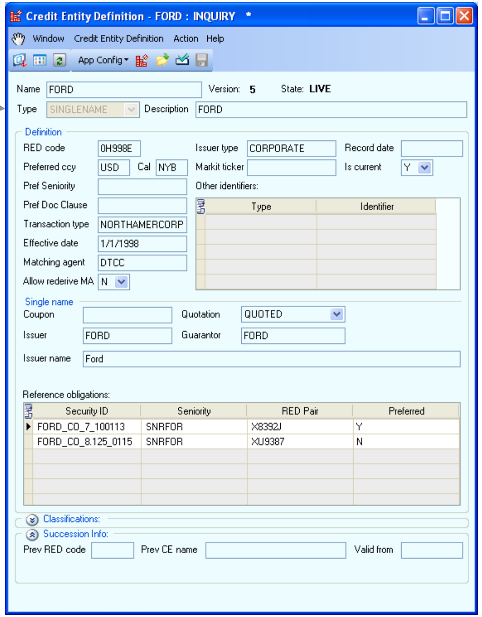
Loan / LCDS – Reference Obligation must be a syndicated secure loan

Total Return Swap

CREDIT DERIVATIVES TRADING: SINGLE NAME CDS

Each trade r





TRADING TOOLS

The following applications are available as trading tools:

- Trading Board
- Pricing Grids: available in Trading Board or as standalone applications
  - Cap & Floor (shown as an example)
  - Cap/Floor Matrix
  - Swap
  - Swaption
  - FRA
  - FX Option Strategy Builder
- Trade List
- Quick Trade Entry
- Environment Controller

TRADING TOOLS: TRADING BOARD

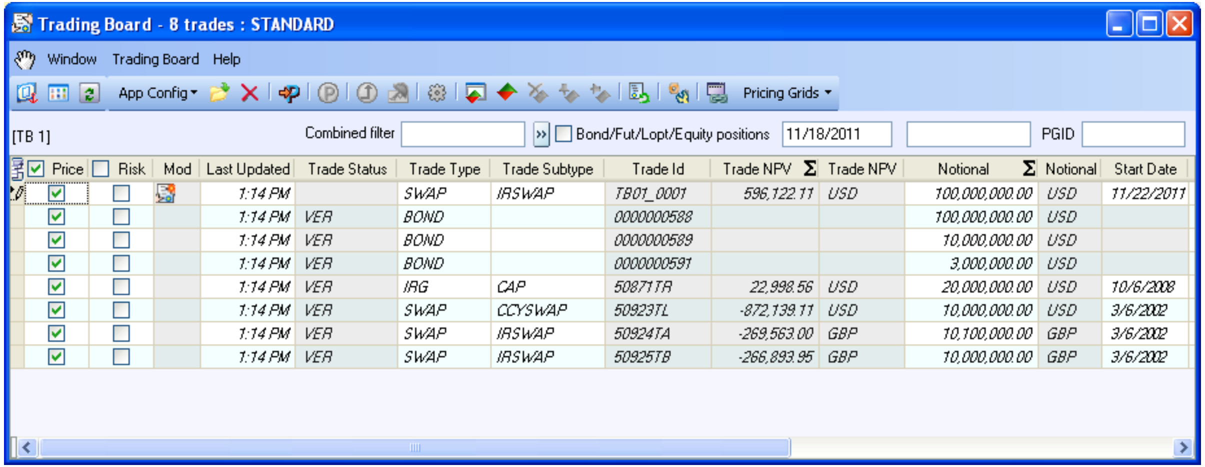
Trade any instrument

Load and view existing trades

Enter “what-if” trades

Hedge a large portfolio along with “what-if” trades

Link with other applications



TRADING TOOLS: PRICING GRIDS: CAP / FLOOR GRID EXAMPLE

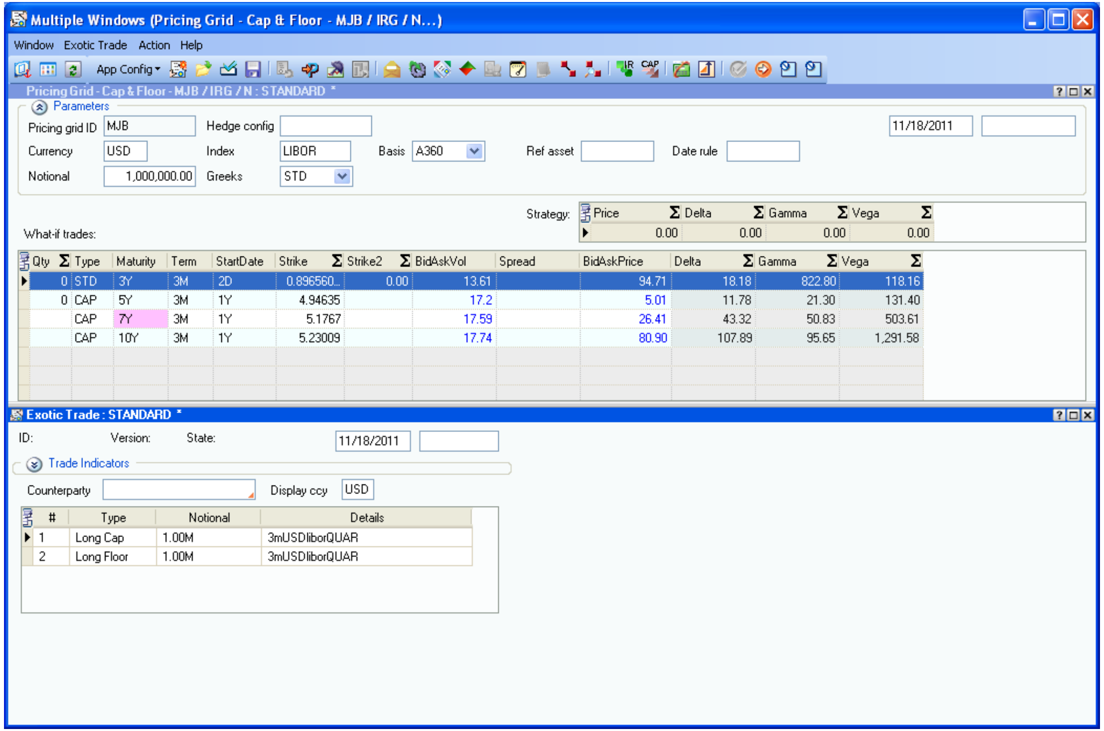
Insert rows to create the points you want to see

- Cap / Floor
- Strangle
- Straddle
- Collar

Right click in spreadsheet to

- Add trades to trading board
- Open trades
- Hedge
- Imply

You can save / load configured grids



TRADING TOOLS: TRADE LIST

Perform analysis on existing deals

Calculate Mark-to-Market and Option Greek statistics

Special treatments for Bond trades, FX trades, futures and listed option trades

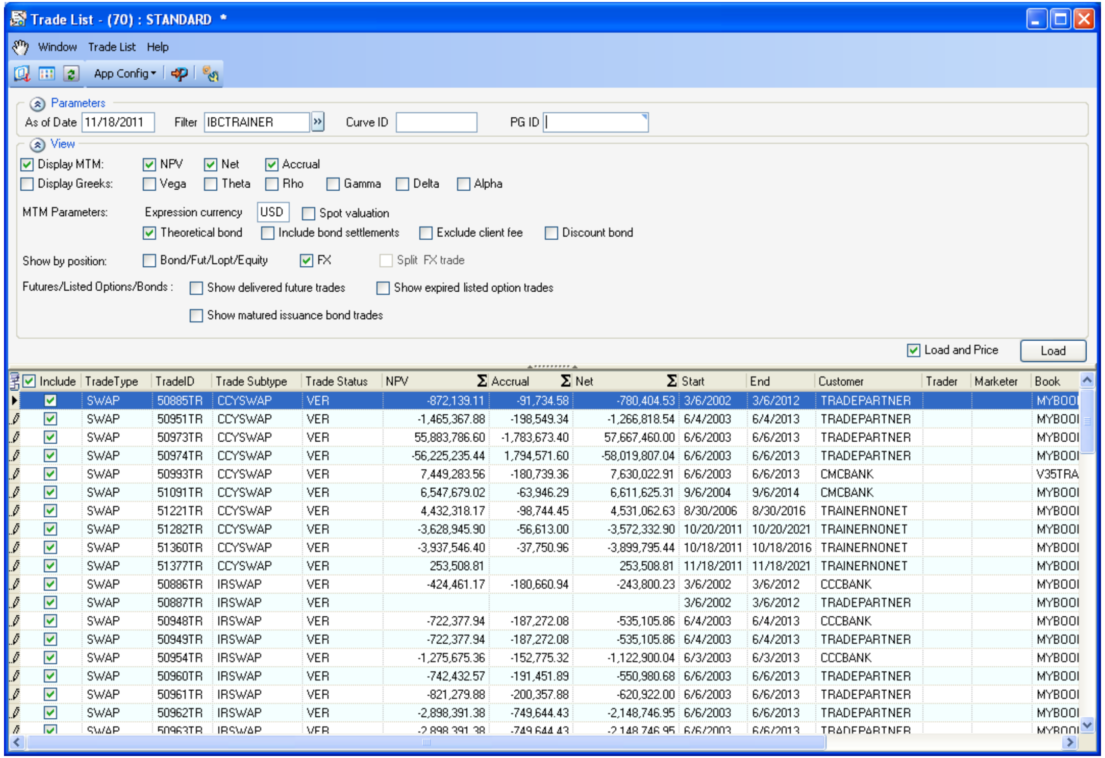
- Can be viewed by position

Drill down on trades

Environment Controller linkage

Unlimited number of trades can be processed

- Does NOT load trades to local memory



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Close-up look at Trading Tools

•What you will see:

– Load Trades into the Trading Board

– Trade entry to Trading Board

REPORTING

Several applications are available to run reports in Summit

- Filter Definition defines how trades are selected from the database
- Report launcher applications
  - Rate Reset Report
  - Expected Payments Report
  - Trade P&L Report
  - Broker Statement Report
  - Etc.
- Generic Report application
- Multiple Generic Report application
- Report Blotter

CREATE A PORTFOLIO FILTER

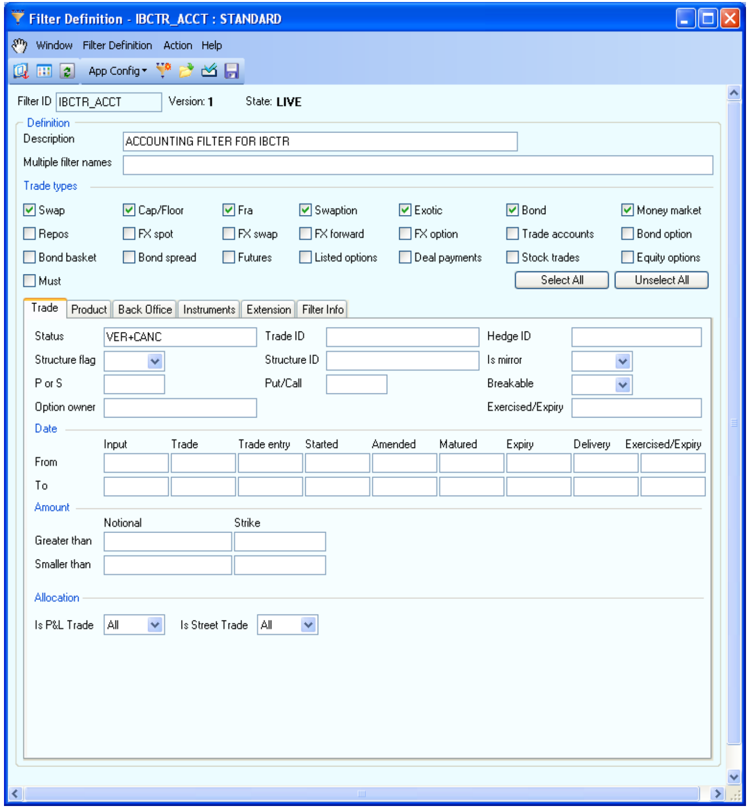
A Filter

- Defines how trades are selected from the database
- Is used when running reports, analytics, some processes and utilities
- Can be used for trade queries
- Is saved in the database

Some applications allow Filters to be built dynamically

Access to “official” Filters can be controlled

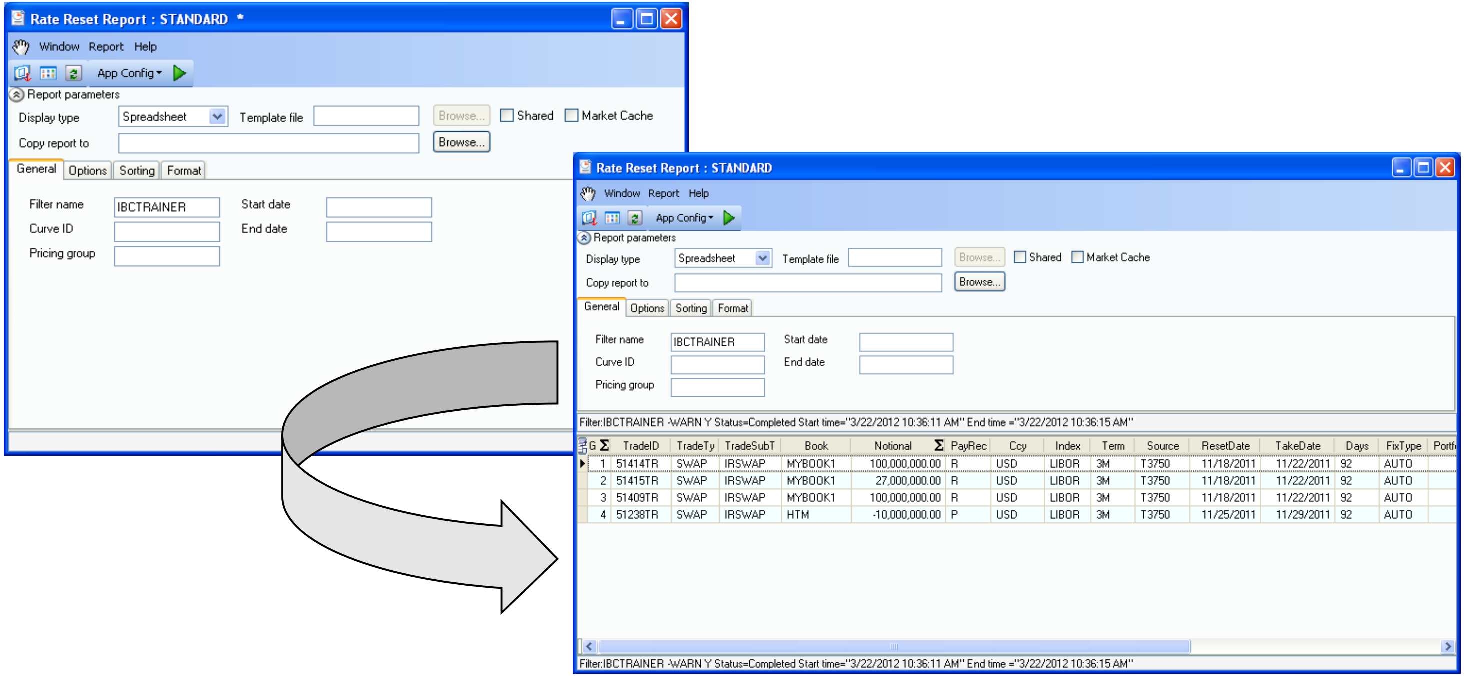
Trade type and trade status are required – or use multiple filter names



RUN A REPORT

Enter the report parameters

Click the Run icon  **t… un the report**



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Close-up look at Reporting

- What you will see:
  - Various Out-of-the-box reports
  - How to run reports in FT

RISK MANAGEMENT

Summit Market Risk

Full historical simulation capabilities

Real-time risk

Monte Carlo VaR

Market Risk Limits Monitoring

Misys Enterprise Wide Risk Solutions

Misys Risk Vision

Misys Eagleye

Misys Credit Risk Vantage

Summit Collateral Management

Real-time Collateral Management

Integration with Credit Risk analysis

Summit Credit Risk

Credit Risk Limits

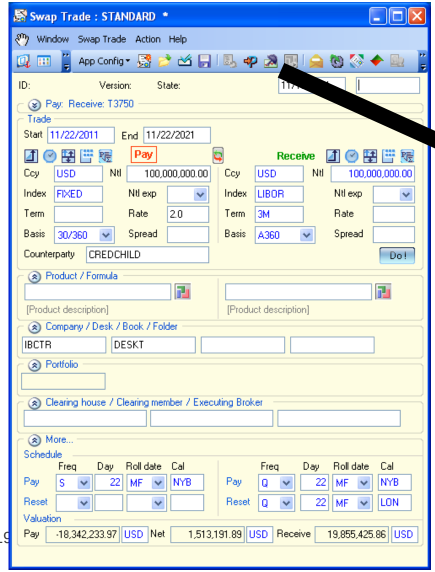
Credit VaR

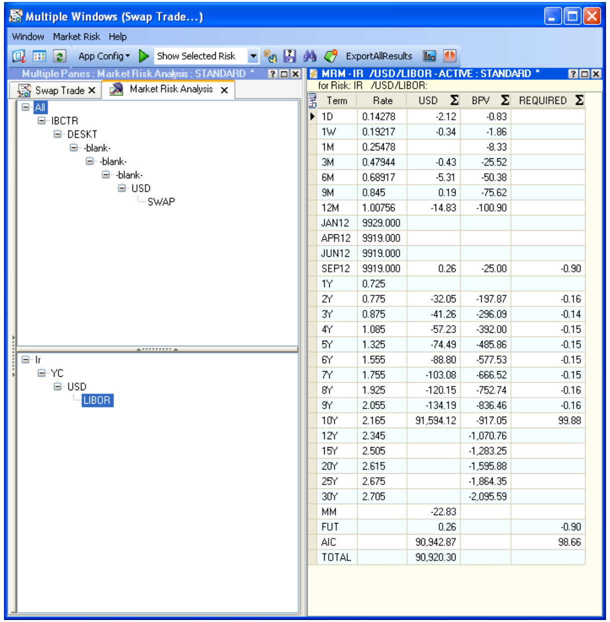
MARKET RISK ANALYSIS (HEDGE)

You can hedge

- From a trade (existing or “what-if”)
- As a report
- Portfolio real-time hedging (Market Risk Monitor)

Hedging from the trade:





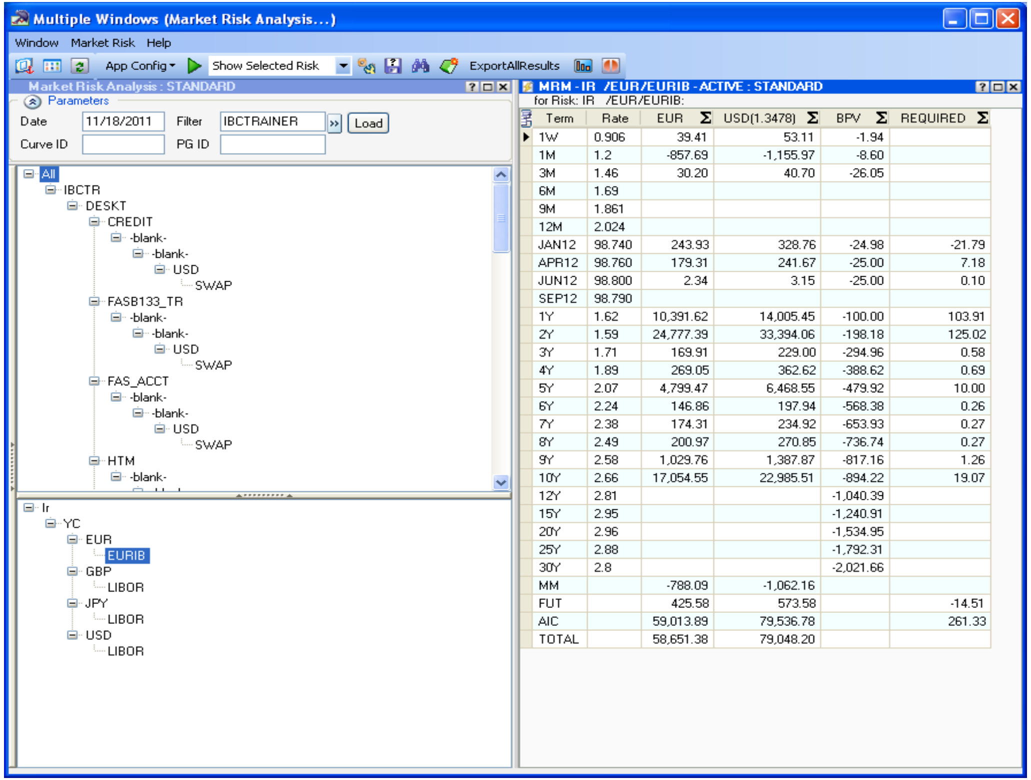
MARKET RISK ANALYSIS FOR A PORTFOLIO

Allows you to

- Hedge a portfolio of trades
- Save a hedge configuration
- Create the hedge trade

Shows the results at the various portfolio and risk levels

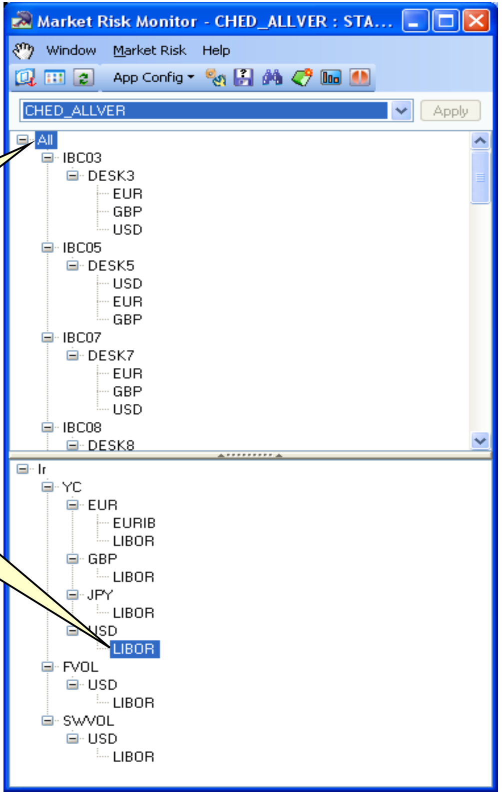
Can also be run in a batch process



MARKET RISK: MARKET RISK MONITOR

Portfolio – high level on Company

Risk USD Yield Curve



Results