Cephei

## Framework for Risk, Pricing and Rapid Structured Products

Cepheis



- Vision
- Value proposition
- Target Market/Usage
- Architecture
- Offering



Vision

- Export financial model directly to code
  - Excel addin functions used like any other quant library to build model
  - Spreadsheet compiled to assembly/source
- Model deployed without change
  - For pricing
  - For Risk and P&L





## • Faster Development

- No recoding of Excel in procedural languages means faster cheaper change
- Prototype models and explore profitability
- Better control
  - Model independent of Excel, can be locked on server
- Better Risk
  - Same model used for pricing/risk/capital



## Target Market/Usage

- Structured Products
  - Custom product for each trade built in Excel using Cephei.XL Excel addin, but product saved as XML
- Rapid Development
  - No more translating Excel VBA to professional language
    -> F# code generated through addin
- System development
  - Cell<> framework replicates Excel flexibility, but calculated in parallel without Excel



## Architecture







- Source-code is reverse engineered into UML repository
- 2. Internal classes filtered using Sparx EA tool
- 3. Comprehensive code generation of all layers



Repository

Model

Quantlib C++

source Code

2.Filter/Edit Sparx UML

3.Cephei.gen



• Software Package

- Cephei.XL Excel XLL addin with dependants

- Foundation Framework
  - Package plus tools for server application & integration
- Code generation for proprietary libraries
  - automated process from C++ library to F# & XLL
- Consulting / systems integration

