

Sceneric Quote Engine

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Introduction

- This presentation provides a technical overview of the Sceneric Quotes Engine
- The Sceneric Quotation Engine is the engine integrated within the Sceneric Proposal System
- This presentation is intended for an audience with technical knowledge of Life & Pensions quotes

Design Philosophy

Design Philosophy

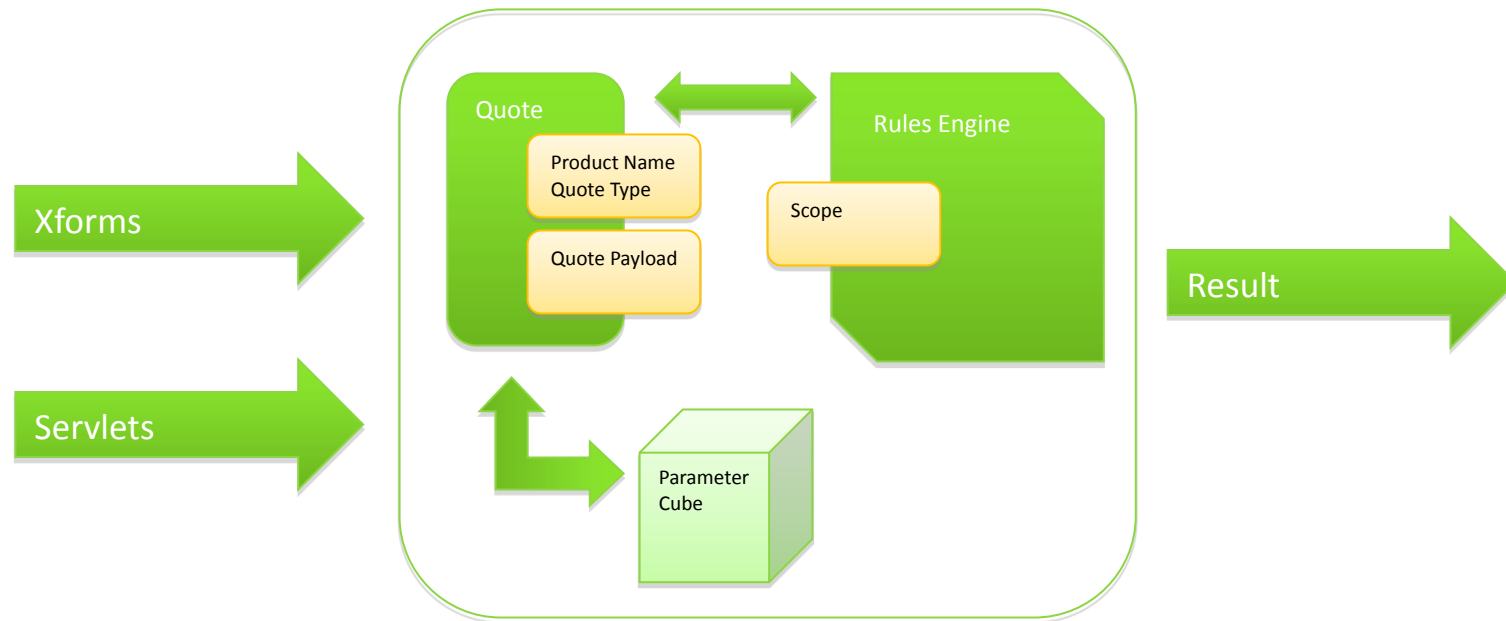
- Sceneric has developed the quotation engine with a number of considerations in mind
 - Rapidly Configurable Quotes
 - The ability to create quotes should be as easy as possible
 - Configured once and use across the system
 - Performance
 - The quote engine must be fast and scalable
 - Open and Extensible
 - The quote engine must be easy to integrate and extend

System Architecture

System Architecture - Overview

- The Sceneric Quote Engine is built from 3 main loosely coupled components
 - Interface Control
 - Parameter Engine
 - Rules Engine
- These 3 components work together to deliver quotes and illustrations as per the business requirements

System Architecture – Overview Diagram

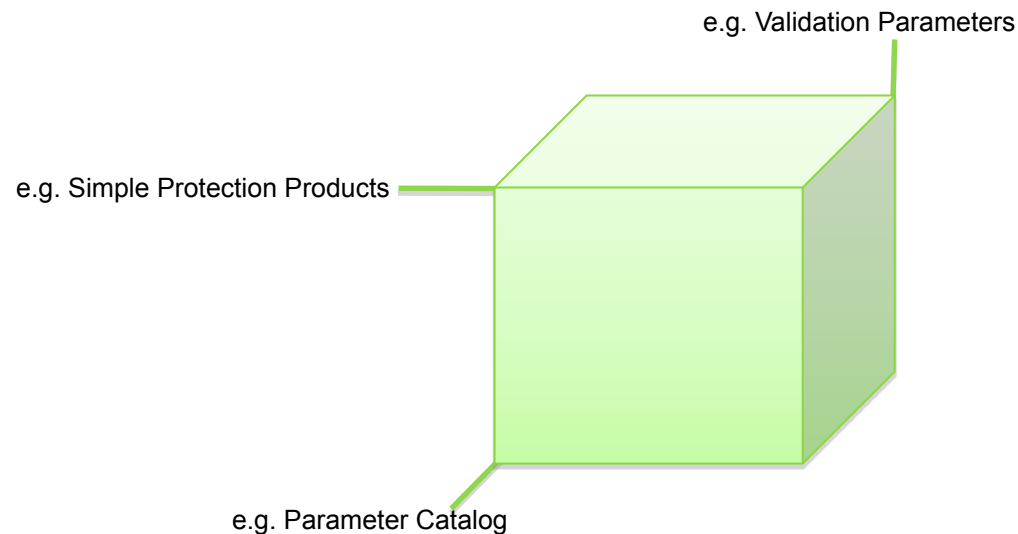


System Architecture – Quote Interface

- The Quote Interface provides an extensible interface for input of quote data
- 3 Key Parameters are required
 - Product Name – This is key for the product parameters
 - Quote Type – This is the type of quote – for example either a full quote or a simple upsell or comparison quote
 - Quote Payload – This is the XML with the quote parameters
- The Quote Interface then interrogates the Parameter Cube before passing the data to the rules engine

System Architecture – Parameter Cubes

- The Sceneric Quote Engine includes an extremely powerful mechanism for defining product parameters: the Parameter Cube
 - The cube allows for a 3 dimensional set of parameters to be stored for a product or a set of products



System Architecture – Parameter Cube Lookups

- Specifying different inputs affects the output from a Parameter Cube
- 3 Parameters will find a single point in a cube
 - e.g. premium adjustment value for a particular product for a particular age
- 2 Parameters will return a list of values (and the index)
 - e.g. return all field validation values for quote inputs for a particular product
- 1 Parameter will return a 2 dimensional array of values
 - e.g. return the entire rates table for a product

System Architecture – Parameter Cube Lookups

- In addition to the polymorphic nature of the interface, the Parameter Cubes can include scripts for complex lookups
 - e.g. Rate adjustments based on complex variations
 - E.g. Max and min sum assured base on age, gender, smoking , etc
 - Rider options base on premium, total risk amount, and etc.
- The lookup service encapsulates this complexity from the Quote Engine – it never knows that this is the case
- The complex lookup capability can be administered by the user, as can the entire Parameter Cube

System Architecture – Parameter Cube Administration

- The Sceneric Quote Engine includes a user administration interface for the Parameter Cube engine
- Parameters can be downloaded and updated through the use of Excel spreadsheets
- Parameter versioning is also being introduced in August 2009

System Architecture – Rules Engine

- The rules engine provides a flexible system for building quotes

The image displays three screenshots of the Sceneric web application interface, which is used for configuring and viewing packages of business rule assets.

Top Screenshot: Shows the 'over50s' package. The status is [Draft]. The interface includes tabs for Info, Rules, Packages, and Deployment. The main content area displays a list of rule assets with columns for Name, Last modified, and Status. The right sidebar shows metadata for the 'over50s' package, including categories, modified on date, version, and created on date.

Name	Last modified	Status
calculateAgeNextBirthday	Apr 2, 2009	Draft
calculateAgeNextBirthday	Apr 2, 2009	Draft
calculateSumAssure	Jul 2, 2009	Draft
calculateSumAssure	Jul 2, 2009	Draft
calculateFuneralLifePremium	Jul 1, 2009	Draft
calculateFuneralLifePremium	Jul 1, 2009	Draft
calculateUpsell	Jun 30, 2009	Draft
calculateUpsell	Jun 30, 2009	Draft

Middle Screenshot: Shows the 'calculateSumAssure' function. The status is [Draft]. The interface includes tabs for Info, Rules, Packages, and Deployment. The main content area displays the source code for the function, including imports and the function definition. The right sidebar shows metadata for the 'calculateSumAssure' function, including categories, modified on date, version, and created on date.

```
import java.text.DecimalFormat;
import java.math.BigDecimal;
import java.math.MathContext;
import java.math.RoundingMode;
import com.sceneric.service.quote.engine.QuoteEngineUtil;
import com.sceneric.util.NumberUtil;

function Double calculateSumAssure(Double premium, Double policyFee, Double rate, Double premiumAdjustment, Double sacrifice){

    DecimalFormat formatter = new DecimalFormat("#.###");
    BigDecimal sumAssureBD = null;

    Calculate Life Sum Assure
```

Bottom Screenshot: Shows the 'calculateSumAssure' function. The status is [Draft]. The interface includes tabs for Info, Rules, Packages, and Deployment. The main content area displays the source code for the function, including imports and the function definition. The right sidebar shows metadata for the 'calculateSumAssure' function, including categories, modified on date, version, and created on date.

```
import java.text.DecimalFormat;
import java.math.BigDecimal;
import java.math.MathContext;
import java.math.RoundingMode;
import com.sceneric.service.quote.engine.QuoteEngineUtil;
import com.sceneric.util.NumberUtil;

function Double calculateSumAssure(Double premium, Double policyFee, Double rate, Double premiumAdjustment, Double sacrifice){

    DecimalFormat formatter = new DecimalFormat("#.###");
    BigDecimal sumAssureBD = null;

    Calculate Life Sum Assure
```

System Architecture – Rules Engine

- Quote rules are built through the interface and deployed as packages to the quote engine through a CMS or other deployment methods
- Java methods can be used in quotes, and Sceneric has included methods for common financial functions

Real World

Where is the Sceneric Quote Engine being used?

- Legal & General are using the Sceneric Quote Engine within a consumer facing protection system
- Zurich Hong Kong are using the Sceneric Quote Engine to support 27 combined investment and protection products
- Currently the quote engine's main use is for new business, however it can support 'in force' quotes through it's open architecture ensuring ease of integration

Demo

About Sceneric

About Sceneric - Founders

- **Jim Herbert** - Ex IBM, Cambridge Technology Partners and KPMG with award winning Life and Pensions experience
 - **Wai Lok Ip** - Senior Technical Architect with an MSc in Computer Sciences from University of Birmingham
 - **George Brandie** – Ex Group Operations Director for a major IT Services company with an MA in Finance & Economics from University of Aberdeen
 - **David Wyllie** – Program Manager with experience within many Life and Pensions companies and a BE(Elec) from the University of New South Wales
- Sceneric specialises in the design and delivery of bespoke e-commerce solutions for financial services clients
 - The organisation brings together business experts, technologists, communications professionals and functional/graphic designers
 - Together, these diverse individuals combine to deliver a unique e-commerce offer that bridges the worlds of technology and business

Background

- The Company was founded in June 2006
- The principals are all experienced practitioners who have played key roles in many of the largest e-commerce implementations

- Zurich Life
- Legal & General
- HSA
- Fortis
- Savills
- Simplyhealth
- MGM Advantage



Partners

