

The Quandis Business Objects (QBO) Scoring module uses plug-ins to provide number crunching widgets to QBO systems. The Scoring module features include:

- Power-user defined meta-data to track any type of information desired
- A plug-in based on the Microsoft Excel Office Web Component (OWC)
- Transformations to support scripted questionnaires

When faced with a requirement to provide a power-user-configurable module to enable rapid deployment of complex equity calculations for mortgages, Quandis spend months working on a slick web-based wizard to enable configuration of complex formulas. During iterative review sessions, our client essentially nodded, and said, "nice, make it work like Bank A's Excel model", or "cool, make it work like Bank B's Excel model".

So we threw it all away, and built a module that enabled us to leverage Excel (and other modeling engines).

How a Score Works

Excel (and other modeling engines) are wonderful for rapid and easy configuration of formulas and performing what-if scenarios. However, if one models the NPV of a loan, and one has 10,000 loans to calculate an NVP for, one does not want 10,000 copies of Excel files lying around. Moreover, it can be a challenge to ensure users are using the most current version of an Excel spreadsheet (e.g. with the latest formulas and assumptions). Lastly, if work is distributed to outside partners, linking or copying data from a production database can be difficult.

The QBO Scoring Module provides an answer to these problems. Specifically:

- Modeling (formulas) are done in an Excel template
 - saved as an XML snippet to the QBO system
- When a score is requested, the QBO servers will:
 - open a copy of the template
 - inject any required data into one or more worksheets
 - call Excel's rendering engine to calculate all results
 - extract individual cells and save them to the QBO database
 - save a copy of the Excel spreadsheet as another XML snippet in the QBO database
- A score can be requested by:
 - a user clicking on a hyperlink via the front end,
 - a workflow automatically adding a score, or
 - calling a web service or automated event, or
 - mapping imported data into a score

Configure a Score Template

QBO systems can accommodate virtually unlimited **Score Templates**. A template defines:

- The object that the Score applies to
 - e.g. "Loan", "Valuation", "Broker", "Person", etc.
- What data to gather to feed to the Score
- The data points to be extracted from the Score and saved in the database
- The calculation model (spreadsheet)

Configure an Excel Plug-in

Use a Score as a Questionnaire

Uses Case: Calculate the Net Present Value of a Subordinate (2nd) Mortgage

Calculation of a Net Present Value (NPV) follows standard NVP modeling based on many data points, including the following:

- Balance of the mortgage
- Monthly payments
- Interest rate (including ARM adjustments)
- Internal rate of return
- Probability of default
- Cost of default