October 1, 2011

MAPS 2.0 Life Settlement Valuation Model
Release Notes - Effective 10/1/2011

MAPS 2.0 represents a new model which integrates the Policy and Portfolio models into a single unified system. Prior to this release, the models were implemented as separate applications. By combining the models into the same consistent platform, we realize a number of important advantages.

The two models now share a common database. Policies can be stored in the database and accessed by both models without the need to bridge cases from the Policy to Portfolio models. Actual paid premiums stored at the policy level can be used by the Portfolio model in its stochastic analysis. Both models now use the same mortality engine so that there is no longer a need to implement that functionality separately in each model. Aside from the savings in development and maintenance effort, this change will help ensure the models continue to produce consistent valuation results.

Although the models are combined into one platform, they can be licensed separately. Organizations which do not currently need portfolio analytics can opt to subscribe to the Policy model only. If at some point the firm's needs change, the Portfolio model can be activated and its full functionality will be available for all existing cases immediately. There will be no need to migrate or update existing data to a new data structure nor will it be necessary to learn a new application interface, since both models share the same consistent user screens and controls.

Policy Valuation Model

Actual Paid Premium History

The model now allows a history of actual premium payments made since contract purchase to be saved and used in premium projection and policy valuation. Actual paid premium can also be passed to the Portfolio model for use in the calculation of portfolio IRR.

Interim Premium Paid

The handling of premiums paid between the Illustration date and the Projection date has been strengthened significantly. If the premium payments made during this period are known, they can be entered on the date they were actually paid.

In addition the user can choose to assume RAP amounts (if present) were paid, or if the paid premium history has been entered, it can be filled automatically by the model. These options have been added in addition to the existing choices for specifying interim premium.

Modal Premium Overfunding Issue

We have corrected an issue which occurred in some cases when the policy's cash surrender value increased from year to year rather than decreased. This condition could occur as the premium projection transitioned from an initial period of zero cash value to positive cash value. It could also occur as the projection threshold changes from an Account Value to Cash Value basis (see below).

If the case was projected at a level modal premium (say quarterly) the model would overfund the policy during the transition year by generating a large catch-up premium in the first quarter and then repeating the premium for the rest of the policy year resulting in a less than optimal funding pattern.

The model now pays the required catch-up premium in the first period, but then adjusts subsequent modal premiums to a lower level amount for the remainder of the policy year resulting a more efficiently funded contract.

No Lapse Guarantee Switch

User Input premiums can now be marked with a No Lapse Guarantee (NLG) switch to indicate that the premiums will keep the policy in force even if the cash surrender value drops below the imputed surrender charge. After the user input premium stream expires, the model will project optimum premiums following its standard optimization algorithms.

Required Annual Premium

The model now accepts an input parameter to specify the payment mode for the required premium rather than assuming the premium is paid at the same mode as the Illustration.

In addition, the user may specify that RAP is paid at the end of each policy year rather than at the beginning which may be appropriate for some carriers.

Split Projection Threshold

The lapse basis of the policy can now be split during the premium projection.

For example, one could specify Account Value basis for the first 3 years and Cash Value basis thereafter. In this example, the model would allow the cash value to decline below the surrender charge during the first three years but would then require the surrender charge be funded in later years.

Cases such as this would typically generate a larger catch-up premium as the lapse basis switches back to Cash Value, but may more accurately mirror actual carrier practice.

Import Monthly Optimized Premium

In order to support modeling of portfolios received from third parties – often without the supporting policy illustration data, the model can now load optimized monthly premium data even if a policy illustration is not supplied.

The model cannot value cases lacking policy illustrations since COI charges cannot be calculated. However, if the user is willing to accept the optimized premium stream as correct, the Portfolio model can include these policies in a stochastic run.

Statutory Interest During Collection Delay

In some cases, Carriers are required by statute to pay interest on the policy death benefit during the period between the time the death claim is made and the benefit is paid. The model will now include this interest amount if the appropriate interest rate is supplied.

Grade Mortality Curve by Attained Age

The user can now specify that the select portion of the final mortality curve can be graded back into the ultimate rates over a user-specified range of ages near the end of the table, e.g., ages 105 to 120. This feature allows the Policy model to support similar functionality present in the current Portfolio model.

Tabular or Exact Mortality Age

The model now supports an exact age calculation when reading its mortality tables. If this option is selected, the model calculates the insured's exact age at underwriting and uses that age to interpolate rates from whatever mortality table is in use for the valuation.

Linear Transform of LE or Mortality Multiplier

The user can now choose to specify a global adjustment to all life expectancies or mortality multipliers selected for a given valuation run. For example one could increase all LE's by 5% and add an additional month of life expectancy. Mortality multipliers can be transformed similarly.

The primary value of these sensitivity adjustments will be with Portfolio model where it may be desired to stress test a portfolio of cases under a range of mortality levels. The model can quickly apply a specified mortality transformation to all policies without disturbing the underlying stored life expectancy values.

Revised and Updated Reporting

The Excel based management reports produced by the model have been extensively reviewed and a number of formatting changes have been made to make the reports more readable.

Useful information has been added to the Scenario Results report which should make this report more valuable as a quick snapshot of the current valuation.

Additional audit reports - *Interim Premium Paid* and *Mortality Development* - have been added to provide the analyst with comprehensive information about the model's calculated values.

Deaths Start Offset

Users wishing to stress life expectancy modeling can now specify that the model should not start to generate deaths for a number of months from the valuation date. If a positive number of months is specified, the model will adjust the survivorship curve to assume survival during the offset period and reset the subsequent curve to reflect the assumption of survival to the end of the offset period.

Instructing the model to build in an initial period of specified survival will typically reduce the calculated present value of the contract and can be useful to investors wishing to add a contingency margin to their pricing analysis.

Select Period Start Date

The model now allows the user to specify the date at which the underwriting selection event should be anchored. Previously, the model assumed that the effective date of the life expectancy implied new policy underwriting. Under this assumption, the model always built its survivorship curve starting with the first select duration of the table for the insured's attained age on the LE date. If a new LE was obtained a year or two later, the model again started from the first select duration of the table at the new attained age.

A specified selection date may now be specified in addition to the underwriting date associated with the LE. The model will enter the mortality table at the attained age on the selection date and then move along the select portion of the table until it reaches the underwriting date before starting its mortality calculations. As new LE's are obtained from year to year, the model's survivorship curve will start from a point further along the select table.

Choices for the selection date include policy issue date, contract purchase date, user specified date and underwriting date which is the default value and reproduces existing valuations. Depending on your point of view of how underwriting should be interpreted, changing the selection date may provide a more appropriate modeling assumption.

Portfolio Valuation Model

Retains Current Portfolio Model Functionality

Current Portfolio model users will find that the new model retains the existing analytic capabilities that they are familiar with. Input parameters have been grouped and named in a way that makes it easy for an existing user to quickly transition to the new model.

At the same time we have taken the opportunity to make significant improvements in several important areas. For example, it is now possible to supply multiple life expectancy effective dates for each policy and the portfolio model will create a properly duration adjusted average survivorship curve. This improvement alone results in significantly better analytics.

Portfolio Case Filter

All policies in the database are presented to the user at startup. The list of policies can be restricted to only those cases that have been assigned to a portfolio by selecting the portfolio name from a drop-down control at the bottom of the list. This makes it easy to work with a subset of all the policies contained in the database.

The user maintains full Policy model functionality when viewing a portfolio of cases. Any visible case can be selected, loaded and analyzed just as it currently can in the model.

Portfolio Builder Form

The contents of portfolios are managed through the Portfolio Builder facility. New portfolios can be created and existing portfolios can be edited or deleted. Cases are added to a portfolio by selecting from a list of all cases in the database.

Cases already contained in the portfolio are marked so that it's easy to see desired changes. A single policy can be assigned to more than one portfolio which allows portfolios to be created to model various investment scenarios using combinations of cases in the database.

Portfolio Parameters Form

Sets of modeling parameters which control how a portfolio run is to be performed can be created and managed independently of any portfolio. This allows an organization to create a common set of parameters and apply them to multiple portfolios. For example, a standard set of assumptions might be developed and used for monthly portfolio valuations. These parameters would not be likely to change and could be conveniently isolated from other modeling settings by storing them in a separate parameter set.

Portfolio Run Form

A portfolio run is executed with a combination of a portfolio and a set of portfolio parameters. This design allows great flexibility in modeling an organization's portfolios. A variety of parameter sets may be applied to a single portfolio to test it under multiple assumptions, or multiple portfolios may be subjected to the same parameters for comparison purposes.

Portfolio Analysis Reports

MAPS 2.0 has retained the full set of Excel based management reports that prior versions of the model supported, however the reports have been separated into more appropriate sections to more conveniently display important information.

In addition to the Excel reports, the model's ability to write large quantities of raw data to Comma Separated Value (CSV) files has been enhanced. Users who wish to pass output data from the model to downstream processes will find an abundance of data is available in this standard format.