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## **MAPS 2.1 Life Settlement Valuation Model**

### **Release Notes - Effective 3/1/2012**

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We have added a number of new features in MAPS 2.1 which should make the system more convenient to use on an ongoing basis as organizations manage their portfolio of cases over time. In addition, we have corrected a number of issues that have arisen since the rollout of MAPS 2.0.

#### **Code Manager**

The Code Manager allows users to customize the list of Insurance Carriers, Underwriters, Case Status, and Diagnosis directly. Users can add, edit, and delete these codes within the model, quickly and easily. This negates the need to open MS Access to support these changes, and avoids the risk of corrupting the database when modifying tables directly in Access.

#### **Person Manager**

The Person Manager allows updates to any Person in the database through the Tools menu without having to open a case. The user can create a new Person record, edit existing Person attributes, or delete records not associated with a saved case.

#### **Premium Manager**

Available with the Extended Edition, the Premium Manager enables direct updating of the Actual Paid Premium History through the Tools menu without having to individually open each case. This should lessen the time and effort in maintaining a portfolio of cases in which paid premiums are being regularly updated.

#### **Underwriting Manager**

To facilitate more efficient Portfolio management, the Underwriting Manager enables direct updating of the underwriting for all insureds through the Tools menu without having to individually open each case. This should lessen the time and effort in refreshing the underwriting for purchased cases or a Portfolio. The Underwriting Manager is an Extended Edition feature.

#### **Edit / Change Person Functionality**

In the Base Case Insured tab, the interface for the Person list is strengthened to prevent inadvertent selections, attribute changes, or deletions that can occur when working directly in the full Person list. The *Edit Life* button is removed, and replaced by a *Change Person* button that opens the Person list with functions limited to selecting another insured or adding a new person. Different shading distinguishes the current life from the new selection. Existing Persons cannot be deleted or their attributes changed from this form. Changing an insured's attributes will be done via the Person Manager.

### **Seller Death Benefit Schedule**

In addition to a single death benefit sharing percentage that applies to maturity, MAPS 2.1 allows the user to create a schedule of Seller Death Benefit rates. The user can define segments by year from purchase, with a different rate applying to each segment.

### **Import Optimized Premiums**

The facility to import a portfolio of cases from an Excel spreadsheet has been expanded. Optimized monthly premiums can be included in the spreadsheet and imported to MAPS 2.1. This allows pricing of cases imported without a carrier illustration. After importing the data, the user can then run a batch process to automatically create premium projections and pricing assumptions for those cases using default pricing assumptions from the *Options* screen. Optimized premium import is a feature of the Extended Edition.

### **Portfolio Status Reports and Logging**

The MAPS 2.1 *Portfolio Run* form is enhanced to display the run's progress through the processing steps. Cases in the portfolio that generate errors are logged to facilitate correction.

### **Minimum Attained Age Now 25**

The minimum attained age for input of a carrier illustration for premium projection is lowered to 25. In theory, such cases could extend for 95 years (to age 120), although it is not reasonable to assume a life settlement case would have such a long duration.

### **Joint Mortality Calculation**

We have re-visited the way in which the survivorship curve is developed for joint life cases. Previously the model applied Fraserization to the two individual curves starting from the latest LE date and then aged the Fraserized curve to the valuation date. This process was done under the model's original mortality logic in which the two LE dates were assumed to be equal at the latest date.

We have revised the above method to first age each of the individual survivorship curves to the valuation date, at which point the curves are Fraserized. This method recognizes that the analysis of a joint life case assumes that the two insureds are still alive as of the valuation date and includes that information in the calculation of survivorship. For joint cases that were previously valued with LE dates separated by time, the new methodology can result in decreased valuation results as the joint life status is reset at a later date.

## Issues Resolved

We have resolved a number of issues that came to light after MAPS 2.0 was rolled out.

## Policy Model

- Aged LE values have been corrected to display correctly for cases without extended death benefits. In some cases the model was truncating the mortality curve prior to the end of the table if the policy did not contain the extended death benefit option. *This was a display issue only – the contract value was correctly calculated using the entire curve.*
- The model now uses the underwriting effective date as the origin of mortality improvement when a survivorship curve is used instead of an LE to specify underwriting. The model formerly used the table origin date for the mortality table that happened to be selected, so changing the table could change the improvement results.
- Cases starting the premium projection with VOC values and containing an outstanding policy loan now correctly extend the VOC loan balance into future years. Formerly the model could revert to the illustrated loan balance if the premium projection started in a later policy year than the policy year of the VOC.
- We have corrected an issue with expense schedules in which the model could fail if the End Year for the last expense item was greater than the number of years remaining in the contract. The model now correctly stops the expense stream at the lesser of the End Year and the last year of the contract.
- Corrected an error which could be thrown when saving a new case using SQL Server rather than MS Access. The model now saves the case without error.
- Corrected a situation in which the model could report an invalid non-zero value. If the valuation date is set far enough after the LE date (not recommended) and the LE is short enough, the chance of survival to the valuation date can be essentially zero. In these cases, the model should report zero value (as of the valuation date). Prior to the correction, the model was reporting a non-zero price as it tabulated an initial death benefit and no benefits or premiums thereafter.
- Corrected an error which occurred with policy issue dates on the 31<sup>st</sup> of the month. The model was incorrectly extending the date stream for user input optimized premiums and actual paid premiums and throwing an error in the process. *This error did not affect the date logic supporting the financial calculations and had no effect on valuation or premium projection results.*
- Fixed the switch that controls saving pricing output to the database from the Pricing Assumptions screen. The model was ignoring the save output switch and was acting on the settings from the optimized premium switch on the Premium Projection screen. The two switches now work independently as designed.

- Corrected a display issue with invalid fields on the Scenario Results report for non-UL policies only. *This issue did not affect the valuation results* – the cells indicated an invalid value when they should have been displaying “n/a”.
- Corrected issues with the Batch Processor which could cause a run to fail under various conditions: when valuation assumptions were being deleted and re-created on the fly; when premium projections were being created for cases with no illustrated values; when pricing assumptions were being created for joint life cases; when the valuation date was set beyond the point at which survivorship became zero.

### **Portfolio Model**

- Cleaned up a formatting issues in sections of various Excel reports.
- Corrected problem with the display of Net Death Benefit for non-UL policies.
- Revised the Input Parameters report to present a more organized and formatted layout.
- Corrected an issue in the reporting of deaths for policies with no Purchase Date. The issue affected the Year of Death report and all CSV output files.
- Corrected an issue with slightly (up to 3 days) misaligned Expected cash flows for policies with no Purchase Date.
- Corrected an issue in which Expected premium was not appearing in the Monthly and Daily cash flow reports in the month prior to valuation. This issue would affect Expected IRR but not Expected NPV.
- Modified reports to display zero for all IRR calculations when one or more policies in the portfolio is missing a purchase date and/or price. While there is actually an IRR, it is misleading to report it without including all cash flows including the purchases.