



Q2

A newsletter of developments at QuasarSystems

Issue 54 -December 2007

This forum is used to inform you of changes and enhancements we've made to our Reinsurance Administration System as we continue to improve the processing of R² - *The Reinsurance Resolution*.

Gross Premium and Allowances

When we first created the Reinsurance Resolution software in 1989, we made the decision to include Statutory and Tax valuation modules - the creation of a database of valuation information from the inforce files and accompanying reports. For a few companies, this system provided the primary Valuation information for their Direct business. For most companies, that need is met outside of R² and only the Reinsurance Valuation is produced from R².

From the start, we created reports in two forms: (a) 'printer-ready' Valuation reports that you could later copy to your printer to create paper reports for each reinsurer; and (b) simple data files in the format specified by the *Society of Actuaries Reinsurance Committee* for electronic reporting between companies (SOA Files). These reports contain all of the standard information needed to identify a policy (insured name, policy number, etc.) as well as the data required to calculate reserves (face amount, policy date, as well as insured's age, sex, class and rating), the Reserve Basis (mortality table, interest rate and method), and the Net Premiums and Reserves that are calculated by the system.

Most of this information is also included on the Valuation (printer-ready) reports. In addition to this information, there is a column for **Gross**

Premium on these reports. These numbers have always been a conundrum. Traditionally, there was a direct relationship between (Valuation) *Net Premiums* and *Gross Policy Premiums*. In some cases the Net Premium was simply a constant percentage of the Gross Premium. During the 1980's, as price competition increased for Term Insurance (the 'Term Wars'), and Universal Life Insurance came on the scene, these simple relationships disappeared. There was no longer an ability to relate a competitively priced Gross Policy Premium to a conservatively calculated "Statutory" Net Premium. However, the side-by-side reporting of Gross Premium and Net Premium continued on the 'standardized' valuation reports.

A secondary shift occurred when more and more reinsurance moved from Coinsurance to YRT. With Coinsurance, the Reinsurance Gross Premium was simply a fraction of the Direct Policy Premium. With the introduction of "Flexible Premium" products (e.g. Universal Life) there was no longer a specified Direct Gross Premium. Under Coinsurance, the reinsurer would share not only share the mortality risk with the Direct Writing Company, but also the Investment and Pricing Risks. This was a true reinsurance partnership.

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Gross Premium and Allowances

With the advent of low cost term and flexible premiums, the mortality risk became more of a commodity, and was generally the only risk that could be priced and reinsured. One result of this change was the disappearance of a simple relationship between the *Direct Policy Gross premium* and the *Reinsurance Gross Premium*. This put an additional burden on the Reinsurance admin system to come up with a reasonable number to put into that column on the ceded reinsurance reports labeled *Gross Premium*.

In the simplest case, where the reinsurer is paid annually on a policy, that *Annual Reinsurance Premium* is the number that we use. Even if the reinsurer is paid a level monthly premium, the *Annualized Premium* (12 * monthly) will work. However, things very quickly become more complex. First, reinsurance for UL and other flexible premium policies is often based on the **actual** risk amount each month. The rate may be constant for the year, but the risk amount will change monthly based on premiums received, expense and COI charges deducted, and interest credits. So, if the Gross Monthly Reinsurance premium varies each month, what number should appear in the Gross Premium column of the report? One possibility is to use 12 times the most recent premium. Another is to add up all the premiums for the most recent 12 months. Another is to determine (via projection) the total expected monthly premiums for the current policy year. Each option has advantages, namely accuracy, and disadvantages, such as complexity.

You can then add on to this the complexity of policy changes, such as face increases or decreases, removal of table ratings or class changes, terminations and reinstatement and other events that affect the premiums paid to the reinsurer.

In all this complexity, one important thought should be recalled. These numbers, for all the policies in the report, when added up give a total value that has **no meaning**. Let me repeat this key concept. The Total of all the Gross Reinsurance Premiums on a Valuation Inforce Report has **no intrinsic meaning**. It does not represent the actual premiums paid during any time period, nor an annualized value of expected premiums. It is possible to use this number for analysis or financial projections, but even this must be done with great care and perhaps a pinch of skepticism about the value and methodology used, recognizing the limitations involved in even coming up with such a number for each policy.

As stated earlier, in days of yore, a comparison of Gross and Net premiums had some real-life meaning, and the Net-to-Gross Ratio held some significance about expense loadings. This is no longer the case, and has not been for over 20 years. Yet this number still gets reported on these reports because no one is willing to let go of their belief in its significance.

Over the years, we have tried to do our best to calculate and report these *Gross Premium* numbers in a way that works for the simplest cases (e.g. Annual reinsurance premiums; no policy changes) and approximate what seems like the most reasonable number in all the other, more complex cases. This logic and these calculations are accomplished in an additional valuation program called QSVL03p.

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Gross Premium and Allowances

This program does the following things:

- for a *new policy*, identify the reinsurance premium paid and store the **annualized amount** for that premium;
- for *renewals* do the same;
- for *policy changes*, identify the reinsurance premium paid for the current policy status and store that **annualized amount**.
- for policies with *no current transactions*, use the same **premium** that was **used last month**.

In this way, each policy should have at least one transaction during the year, so will get an updated value at least once per year. And, if nothing changes, then the value remains the same. The same logic is now applied to Allowances as well. These do not appear on the printed reports but some companies are using the Valuation Database for financial projections, and the corresponding Allowances for Reinsurance Premium are now available in ad hoc reports from the database.

I repeat my caution that the meaning of these numbers needs to be carefully considered when deciding how to use them in any way. For financial projections they represent a 'snapshot' of the premiums that **would be** paid and the allowance that **would be** provided if everything stayed exactly as it is in this moment. Of course, nothing is ever static, so the methods applied for the use of these numbers require judgement and validation, as they do for every other aspect of financial projections.

So, if you have a use for these new Allowances stored in your Valuation Database, please contact your Client liaison. The values are not fully initialized until twelve cycles of Transactions have been processed with QSVL03p. If you have you 12 more recent Transaction Databases, this can be done quickly and easily, but the process should be reviewed with your Liaison to ensure its accuracy.*

All the best to you
and yours this
holiday season.
Happy New Year!



We would be delighted to answer any questions you might have. If you would like a back issue of Q² please send an email to us at Q2@qsi-r2.com. The main topics of past issues were:

Issue 1 - Multiple Life Processing	Issue 21 - Standards for Backup Procedures	Issue 38 - Dates in R ²
Issue 2 - Retention Management	Issue 22 - Warnings and Errors	Issue 39 - Cleaning up System Directories; tracing through TX database
Issue 3 - Trailers, Help Screens Producer	Issue 23 - Manual Overrides and Conversions	Issue 40 - Sequences; Status 19
Issue 4 - Report Generator and Retention Schedules	Issue 24 - CF Flags and Resorting	Issue 41 - Expanded System
Issue 5 - Transaction Processing and Reinsurance Overrides	Issue 25 - Parsing	Issue 42 - Technical Considerations
Issue 6 - Input Extracts	Issue 26 - Manual Override O, Qsxt19p	Issue 43 - Allocate Error
Issue 7 - Schedule S	Issue 27 - Priors and Allocation	Issue 44 - Automating routine processing; Testing
Issue 8 - Report Generator	Issue 28 - Premium & Allowance Information	Issue 45 - RM Duplicate Report
Issue 9 - Year 2000	Issue 29 - Command Line Ad-hoc, qsre10p.exe	Issue 46 - Printing Rate Tables
Issue 10 - Backups	Issue 30 - Schedule S, Financial Adjustments	Issue 47 - Valuation Reserve Options
Issue 11 - Viewing Inforce Files	Issue 31 - Hot Keys, Printing Files, Electronic Files	Issue 48 - Coding Valuation Reserves
Issue 12 - Extracting Test Data, Status Codes, Transaction Codes	Issue 32 - Event Extracts, How to Rerun a Previous Cycle	Issue 49 - Side Files
Issue 13 - Trailers	Issue 33 - Electronic Output Viewing Package, Manual Override T	Issue 50 - Going Paperless
Issue 14 - R ² Windows	Issue 34 - End of Year Processing	Issue 51 - Manual Override F
Issue 15 - What's in a footer?	Issue 35 - Initializing New Company Area	Issue 52 - Anatomy of an Error Message
Issue 16 - Expanded Files	Issue 36 - Programs in Review	Issue 53 - Transaction Codes
Issue 17 - Retention Management, Reserves Q&A	Issue 37 - Waivers: Past and Present	Issue 54 - Gross Premium and Allowances
Issue 18 - T\$POSrt.Idx, Trailers Q&A		
Issue 19 - Sorting Files		
Issue 20 - Testing Billing/Valuation Samples		

The current version of the Electronic Output Viewing Package is 02c.



Editor : Kimberly Williams

Quasar*Systems Inc.

8989 N. Port Washington Rd. - Suite 227

Milwaukee Wisconsin USA 53217-1668

www.qsi-r2.com

☎ Voice: [414] 228-8622 * fax : [414] 228-8857

✉ email Q2@qsi-r2.com

*DarleneKosonic@qsi-r2.com ☎[905] 304-8098 *DanGapinski@qsi-r2.com ☎[414] 540-2421 *

*DougSzper@qsi-r2.com ☎[414] 228-9286 * JimSchoen@qsi-r2.com ☎[414] 540-2422 *

*LauraLowry@qsi-r2.com ☎[414] 540-2420 *LauraChristopher@qsi-r2.com ☎[414] 228-8622 *

*KimWilliams@qsi-r2.com ☎ [414] 540-2423 *