

ProVal version 3.04 introduces **WinTech's Grid Platform** for additional speed, robust methods for dealing with **duplicate records**, a **disclosure & budgeting** tool, a **U.K. pension mode**, some **preliminary changes for U.S. MAP-21**, **select & ultimate mortality**, and over 50 additional features.

Processing Speed

◆ WinTech's Grid Platform.



For even more speed, the WinTech Grid Platform plugs into ProVal and ProAdmin to distribute tasks such as Valuations, Core Projections, and Gain/Loss Analysis beyond the local machine to other computers on a network (known as "grid agents"). For more, see [WinTech's Grid Platform](#) on page 10.

◆ Inherently faster.

- Multi-core processing, originally released in version 3.03, has undergone a significant rewrite and performance improvement.
 - Multithreaded. Most of the logic which manages distributed processing is now in its own multithreaded program (WinTechGridUtil.dll), allowing it to be much faster. This also frees up the main ProVal application to focus entirely on its own thread of summarizing results.
 - More processors. Version 3.03 limited the number of processors using a simplistic requirement of 700 MB of available memory. Version 3.04 dynamically determines the number of processors based on the memory requirements of the specific run, generally resulting in using more processors.
 - We don't call it Cloud anymore. If you happened to have inserted a [Cloud] section in your proval.ini file and specified a MaxThreads= setting, you should remove it. There is a new [Grid] section and MaxThreads= is an option but you should allow the new logic to manage the number of processors.
- Valuations, Core Projections, and Gain/loss Analysis are generally faster across-the-board. In addition, runs that use an active post-decrement death benefit with beneficiary determined at member death (common in the Eurozone) are even faster. Finally, the performance drag running jobs while another user has the client open read-only has been vastly reduced.

Census Data

◆ Duplicate records.

- **Finding duplicates.** The Check for Duplicate Keys command doesn't just list duplicate records anymore. It flags them on the data (DupFlag field) so you can create your own lists, perform further analysis, and decide how to resolve the duplicates. What's more, it sets a

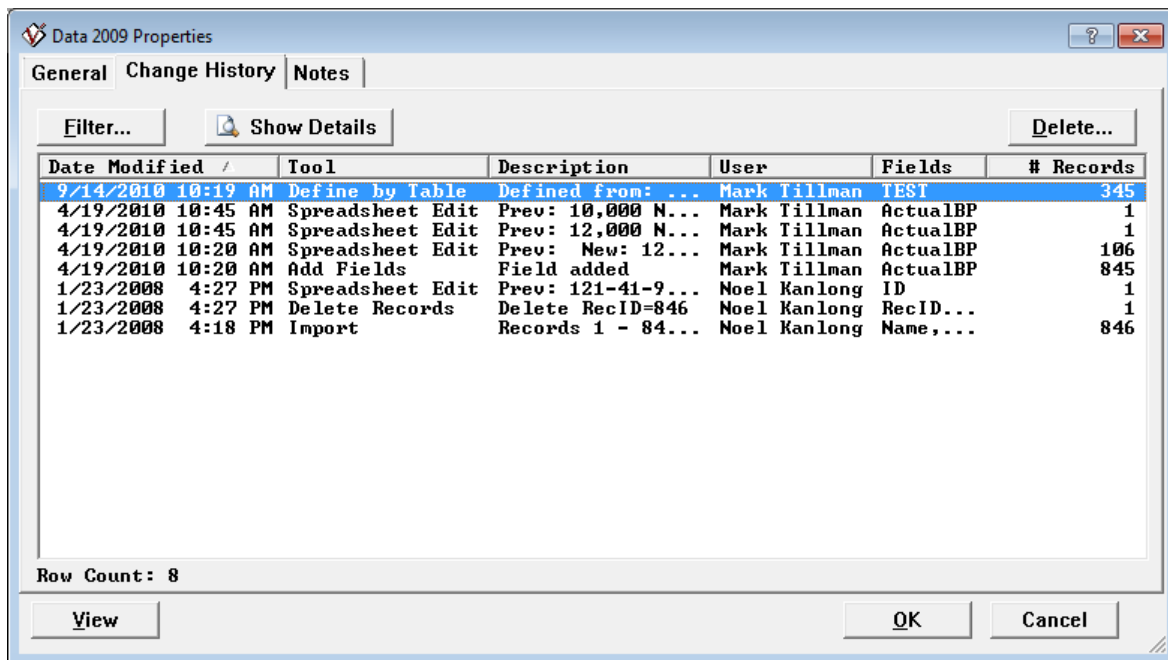
field (DupID) that can be used to uniquely identify valid duplicates or distinguish invalid duplicates from each other.

RecID	ID	DupFlag	DupID
841	111-11-1111	1	1
846	111-11-1111	1	2
838	222-22-2222	1	1
843	222-22-2222	1	2

- **Resolving duplicates.** The Condense Duplicates command now allows you to specify multiple rules for condensing invalid duplicates or leaving valid duplicates unchanged. When condensing duplicates, you can now select from the minimum or maximum value in a field, as well as specify the target names when keeping all values of a field.

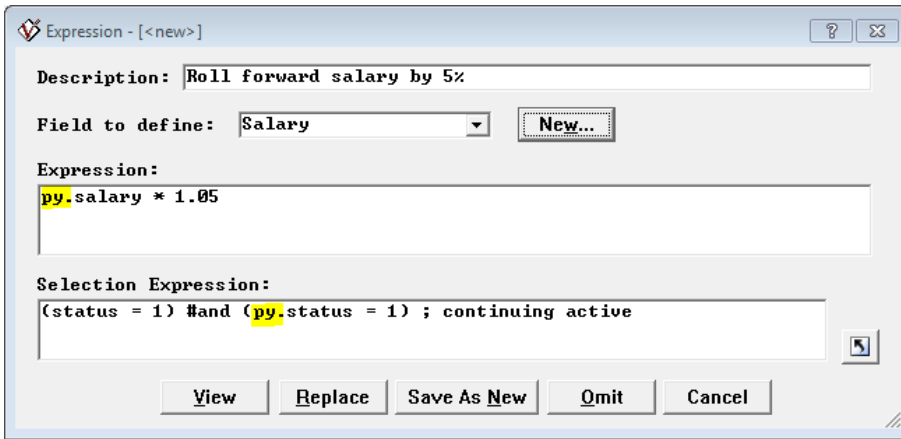
For more, see [Duplicate Records](#) on page 11.

- ◆ **Change History.** The Change History now contains one row for each logical change (rather than one row for each field associated with a logical change), making it easier to read through the chronology of changes. In addition, you can filter the list on any of the columns, so you can see changes in a date range, by a specific user, using a certain tool, etc. Further details are available by clicking the Details button, including the option to choose an identifier field for Spreadsheet Edit changes.



- ◆ **Expression Sets.**

- Expression sets can now refer to fields in other databases (typically the prior year's data), without having to merge the data in first.



- When running an expression set, the database's changes log will only reflect records with changes in the data (ignoring records that were selected, but whose data didn't change). This reduces the noise in the changes log when rerunning expression sets with only a few changes.

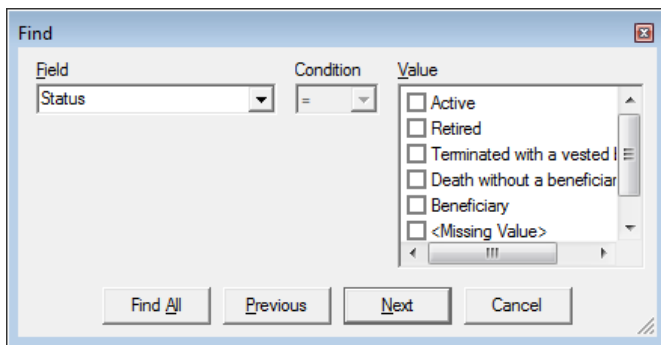
- ◆ The data import now lets you ignore rows at the top of the file that might contain client field names, blanks, etc. For example, to ignore the descriptions in row 1 of this file:

	A	B	C
1	Date of birth	Date of hire	Status this year
2	DOB	DOH	Status
3	1/1/1960	1/1/1990	A
4	1/1/1970	1/1/2000	A

You would:

Start import at row:

- ◆ In Spreadsheet Edit, the Find dialog can now be resized to avoid scrolling to see long labels for coded fields.



- ◆ The Data Dictionary view now parses nicely into cells when saving to Excel.

Disclosure & Budgeting

- ◆ The **Disclosure & Budgeting** tool is now part of ProVal, free of charge (previously part of ProVal PS under a separate license). For more, see [Disclosure & Budgeting](#) on page 15.

U.K. Pension Plans

- ◆ **U.K. Pension mode.** This new mode accommodates the specifics of U.K. pension schemes. Key features include:
 - Pension increases linked to an index (e.g., CPI, RPI) and subject to minimums and maximums.


- Guaranteed minimum pension amounts (GMPs) applied to active and inactive benefits. GMP increases can be linked to an index (e.g., CPI, RPI, Fixed Revaluation, Section 148 Orders) specified separately for the periods of active service, deferral, and payment.
- A separate interest rate for deferral periods. (This option is available in all pension modes other than German mode, but commonly used in the U.K.)

Constant interest rate	
Pre-decrement:	0.04
In-deferment:	0.05
Post-commencement:	0.06

- Commutation of member benefits (portion of annuity paid as a lump sum). Only the resulting member annuity amount is reduced; spouse benefits are unchanged.
- Lower earnings limit for use in benefits (#LEL accrual basis operator).
- Mortality rate adjustments by participant, for example, based on postcode analysis.
- Historical regulatory data for the Lower Earnings Limit, CPI, RPI, Section 148 Orders, and Fixed Revaluation.

U.S. Qualified Pension Plans

- ◆ **MAP-21.** Some preliminary changes for MAP-21 are included with this release. For more on our plans for the new law, see [MAP-21](#) on page 17.
 - The PBGC Premium can now be calculated in accordance with MAP-21.
 - Since MAP-21 requires a different interest rate basis to be used to calculate the minimum and maximum contributions, a new event called 2012 Pension Funding Stabilization will reflect the maximum contribution from one Valuation Set in your final Valuation Set. This enables the use of Valuation Set Exhibits and the Report Writer in the short term until the new interest rate basis is handled in ProVal.
- ◆ When valuing the at-risk funding target liability, new options let you:
 - Automatically determine the most valuable form to value (among normal & optional forms) participant by participant, decrement age by decrement age.
 - Assume 100% termination (not just 100% retirement) if eligible within the next 10 years, starting 1 year after the valuation date. This may be useful for plans that pay immediate lump sums.

 Liability Methodology

At-Risk Liability:

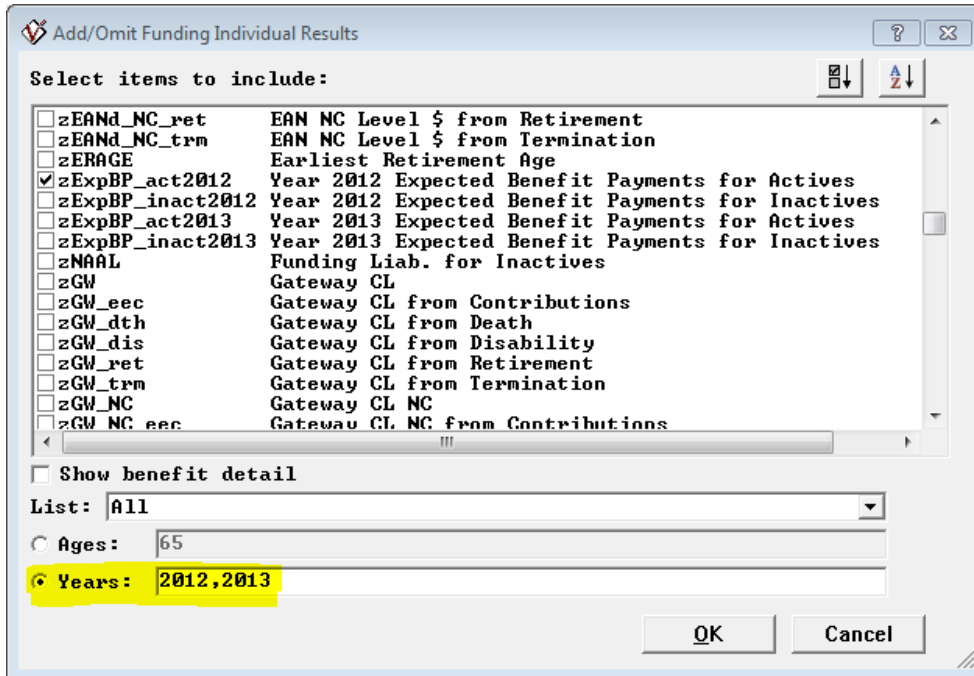
Use most valuable optional form at each decrement age

Assume 100% termination if eligible in next 10 years

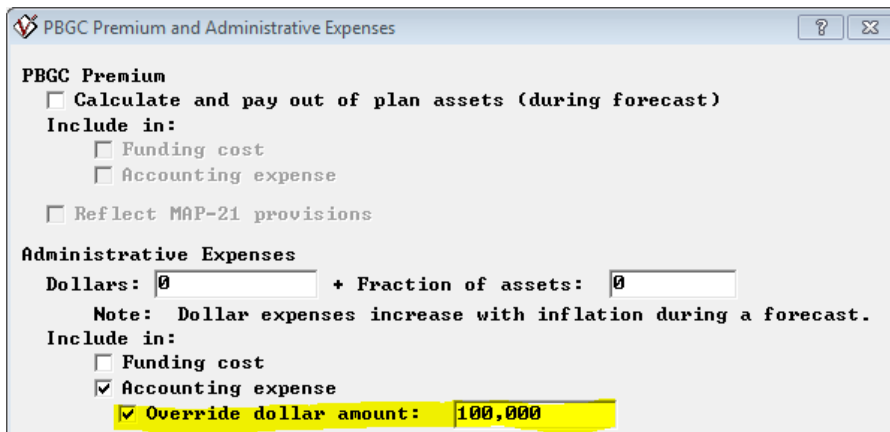
All Plans

- ◆ **Select & ultimate mortality.** Simply set the mortality table's type to "Age by Duration from Decrement" and enter your rates. This is useful, for example, for LTD plans where disability mortality trends toward healthy mortality as you get further from the date of disablement.
- ◆ Standard ProVal mortality tables are now protected. They cannot be modified or erased.
- ◆ The IAS 19 Accounting Methodology has been revised to reflect recent changes. The previous IAS 19 methodology is still available and has been renamed "IAS 19 (2008)" (in Asset & Funding Policies).
- ◆ Termination rates can now be set to 100% when assuming all participants decrement immediately. The previous workaround of using rates of 99.99% is now obsolete.

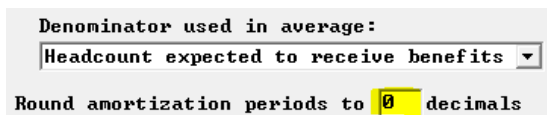
- ◆ Individual results in a Valuation can now specify multiple years in the future for projected benefit amounts (face amount) and expected benefit payments (cash flow).



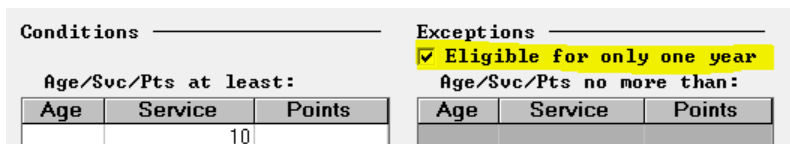
- ◆ In the Asset & Funding Policy > Administrative Expenses topic, dollar administrative expenses for accounting calculations can now differ from funding assumption. This is useful if funding includes investment and administrative expenses but the accounting discount rate is net of investment expenses.



- ◆ In the Asset & Funding Policy > Accounting Methodology topic, you can now control rounding of future service (or life expectancy) used for accounting amortization periods.



- ◆ For In-Service Benefit Definitions, the Eligibility topic has a new checkbox to specify that eligibility applies for only one year. This avoids having to enter exceptions that are the same as the conditions, adjusted by 1 year (in the example below, exception at 11 years of service).



- ◆ Custom parameters are now available for #AVGWB operators that allow the averaging of any of several built-in wage bases, U.S. 401(a)(17) limits, or a custom regulatory table specified by the user. In addition, custom rounding can be applied or the averaging period can be offset to end in the year prior to decrement.
- ◆ In Valuation Assumptions > Regulatory Data, the Historical Data now optionally displays only the data relevant to the current tab. In addition, the regulatory data headers now parse into cells when saving to Excel.
- ◆ When auto-creating a database field benefit formula component within a benefit formula, ProVal now follows the capitalization for the data dictionary (previously, UPPERCASE was used).
- ◆ A new valuation output item displays the average benefit payment timing ("k" in the Effective Interest Rate technical reference article) used to calculate effective interest rates. This should assist in discounting benefit payments to match the liability.

System

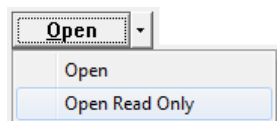
- ◆ A new "Ref'd By" button lets you easily find out where a library entry is used (no longer do you have to pretend to erase an entry).



- ◆ A new Copy button in sample lives, output, etc. places the entire contents of the viewer on the clipboard for copying into Excel or other applications. This is a fast alternative to using the File button (and doesn't require closing the file first).



- ◆ You can now open a client read only by choice so that you won't block other users who need write access.

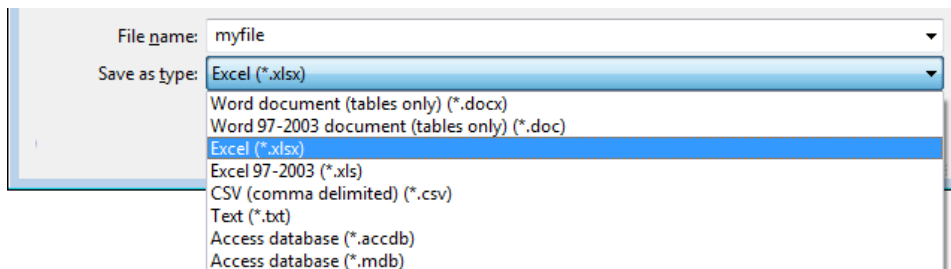


- ◆ The date last modified for each major input of executable runs (sample lives, valuations, valuation sets, etc.) is now reported in the View. This should allow a reviewer to easily tell if two printouts utilize the same inputs.

```
Accounting:
Run Date:   June 28, 2012  3:41 PM
Version:    3.04 Jun 28, 2012
Valuation Assumptions: Accounting pre/post comm int (5/16/2012 9:35 AM)

Census Data:
Database File:           Data 2009 (8/6/2012 3:41 PM)
Census Specifications:   Census Specifications (1/11/2008 12:06 PM)
```

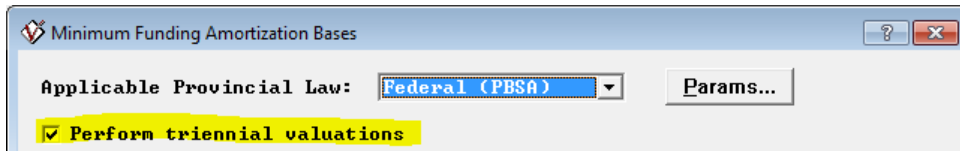
- ◆ When saving results to a file (e.g., Excel), you can specify the extension (e.g., *.xls or *.xlsx) simply by choosing from the dropdown list. Previously, you might have had to type it in.



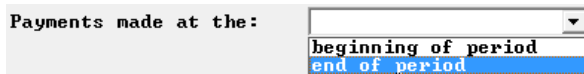
- ◆ You can now enter a range of ages or years (e.g., 60-65,70) instead of a list (e.g., 60 61 62 63 64 65 70) in the following places:
 - Sample lives: Decrement ages for active benefits
 - Individual results: Ages and years for benefits
 - Valuation assumptions: Years to vary post-decrement probabilities
 - Projection assumptions: Years to apply plan amendments for unit benefit and career average updates

Canadian Registered Pension Plans

- ◆ In Valuation Assumptions > Solvency Liability Interest rates topic, the split of annuity purchase and transfer value liability can now be specified using a flat percentage of those eligible to retire on the valuation date. This is useful for Federal Plans.
- ◆ In the Asset & Funding Policy > Minimum Funding Amortization Bases, a new checkbox performs triennial valuations in a forecast. If selected, a complete valuation will be performed in the initial valuation year and every third year after a full valuation. Partial valuations that maintain the normal cost rate will be performed for the interim years.



- ◆ In the Asset & Funding Policy > Minimum Funding Amortization Bases, a new option lets you assume that amortization payments are made at the end of the period rather than the beginning.



- ◆ In Valuation Assumptions, a new checkbox allows the Solvency Liability to be turned off. This is useful to decrease processing time when the ongoing and solvency liabilities are run separately.

German Pension Plans

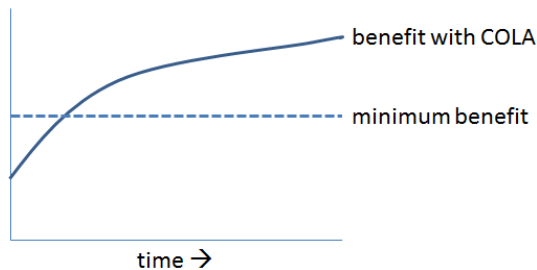
- ◆ In-service (e.g., jubilee) benefits are now available, including the 1992 offset in Tax Valuations.
- ◆ New operators, #BBG, #BBGKV, and #SVR are available for use in accrual definitions. The #SVR operator, that calculates German State Pensions for participants, is also available as a custom operator. The results of these operators are dependent on the coded field inputs in Valuation Assumption > Regulatory Data of who is a coal miner, severely handicapped or part-time pre-retirement (ATZ).
- ◆ In Valuation Assumptions, Regulatory Data now includes Current Pension Value (ARW), Social Security Contribution Ceiling (BBG), and Healthcare Contribution Ceiling (BBG KV).
- ◆ The Tax/Funding Valuation Assumption > Regulatory Data topic has a new checkbox to use regulatory data as of the valuation date for prior years for actives.
- ◆ Life Insurance payment forms are now available, with the option to only pay if married at death.

OPEB Plans

- ◆ Spot rates can now be used in OPEB core projection and gain/loss runs.

U.S. Public Pension Plans

- ◆ A new Entry Age Normal employee contribution methodology called "Level contributions for NC with accrued liability" determines the employee contribution normal cost based on the expected contribution pattern, but the employer normal cost based on a level amount (resulting in a total NC that is not level). (This option is available in all pension modes, but inspired by a U.S. Public Pension plan.)
- ◆ A minimum benefit can now be applied to active and inactive benefits with valuation COLAs. Thus, the minimum can be paid out until COLAs increase the benefit above it. (This option is available in all pension modes, but inspired by a U.S. Public Pension plan.)



- ◆ In Asset & Funding Policies, the market value corridor can be turned off for the asset valuation method.

Sample Lives

- ◆ New sample life reports detail the following calculations:
 - Expected Future Working Lifetime to Retirement (accounting runs)
 - Expected Future Working Lifetime to Full Eligibility (OPEB accounting runs)
 - Medical spending accounts (OPEB mode)
- ◆ In pension modes, liability and normal cost reports now include attribution service for benefits using a linear proration method.
- ◆ In Canadian mode, solvency sample lives now display separate reports for Annuity Purchase, Transfer Value, etc.
- ◆ For simplicity, the Active Benefits Decrement ages input for benefit definitions and PIA/CVCP is now specified together.
- ◆ The Execute > Sample Lives command has been retired in lieu of the per-run sample lives available in valuations, core projections, and elsewhere.

Forecasting

- ◆ In Stochastic Forecasts > Trial Detail, you can now select custom stochastic variables.
- ◆ In Stochastic Assumptions, if using an explicit capital market simulator and forecasting to a full yield curve, a new option limits valuation interest rates to zero if they were simulated to be negative.

Capital Market Simulations

- ◆ Zero coupon bond asset classes at any duration can be now defined directly, based on either government or corporate bonds.

Class Name:	<input type="text" value="Corp20"/>
Description:	<input type="text" value="20 Year Corporate Bonds"/>
<input checked="" type="checkbox"/> Return on	<input type="text" value="20"/> year zero coupon <input type="text" value="Corporate"/> bonds

- ◆ A Type column now appears in the library. The type is also shown when selecting a simulator in Stochastic Assumptions.

Type	Name /
• MeanVar	10/95 Illus. Classic Params. (7 classes)
• MeanVar	12/97 Illus. Classic Mean/Variance Params.
• MultiFac	12/97 Illus. Multi-Factor Term Structure Params.
MultiFac	1926-2003 Illus. Multi-Factor Term Structure Params.
MultiFac	Sample MFTS
Custom	Sample MFTS w/ Hedge

Gain/Loss Analysis

- ◆ A new individual results item, zGL_StatusTransition, outputs participants' status transition (active to active, active to retired, etc.). This makes it easy to group the unreconciled amounts, zGL_UnRec, by status transition the same way as in gain/loss analysis (and then drill into the records causing it).

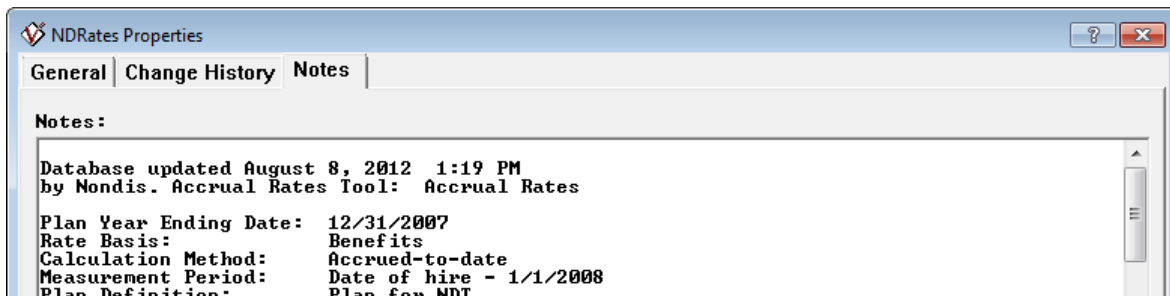
Gain/loss Analysis		Descriptive Statistics	
6. Unreconciled amounts, by status transition		zGL_StatusTransition	zGL UnRec Sum
(a) Continuing actives	(678)	Active to Active	-678.15
(b) Decrementing actives - retirement	542,574	Active to Retired	542,574.16
(c) Decrementing actives - termination	10,798	Active to Vested	10,797.94

Experience Studies

- ◆ Experience studies now honor data defaults for fields that don't exist in the database, just like in a valuation.

Nondiscrimination Testing

- ◆ When running U.S. Nondiscrimination Accrual Rates, the Notes for the individual results database now documents the parameters used to create it.



Government Forms

- ◆ The government forms extract has been updated for the 2011 forms (This was actually included as an update to version 3.03, but mentioned here in case you missed it.)

ProVal API

- ◆ A new FileOpen command allows a client to be opened read-only.

Changes Log

- ◆ Be sure to read the changes log (see the "changes log.doc" file in the ProVal directory) about updates to certain calculations that may change results.



Two Greenwich Office Park
Greenwich, CT 06831

tel: (203) 861-5530
fax: (203) 861-5531
email: support@winklevoss.com
website: www.winklevoss.com

WinTech's Grid Platform

WinTech's Grid Platform allows ProVal users to distribute CPU intensive ProVal runs across a network of computers to achieve faster processing times.

The Grid is created by connecting ProVal to one or more Grid Agents, using a common network folder. ProVal ships executable packets to the common folder, where a listening Agent fetches the packets, executes that small portion of the run, and ships results back to the shared folder. ProVal then fetches all results for a particular run and aggregates them.

Grid Agents are designed to utilize 100% of the machine's CPU. They should be installed on computers dedicated to running ProVal jobs. They should not be installed on individual workstations since there won't be free CPU cycles to run other applications.



What's included with ProVal?

Distributed processing on up to 4 local processors.

What's included with a Grid Platform license?

Unlimited Grid Agent machines.

Unlimited processors on local and Grid Agent machines.

How do I get it?

Contact WinTech Sales.

Sign a new license agreement.

Illustrative Performance Results

	No Grid			Grid		
ProVal version	3.02	3.03	3.04	3.04	3.04	3.04
Local processors	1 of 8	3 of 8	4 of 8	8 of 8	8 of 8	8 of 8
Grid Agent processors					4 of 4	24 of 24
Run time (h:m:s)	2:34:12	52:50	39:40	24:01	16:11	7:40
Speed up from 3.02		2.9	3.9	6.4	9.5	20.1
Speed up from 3.03			1.3	2.2	3.3	6.9
Speed up from No Grid				1.7	2.5	5.2

Task: Valuation with 230,000+ actives, 25 Benefit Definitions

Local machine: 8 processors @ 2.20GHz, 3GB RAM,

Grid Agent machine: 24 processors @ 3.07GHz, 64GB RAM

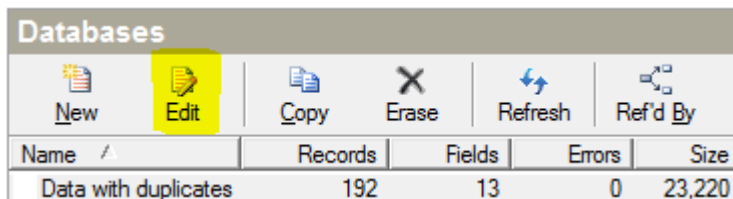
Duplicate Records

Version 3.04 features enhanced tools for finding and dealing with duplicates in your census data. Duplicates are records that have the same value in a key field such as social security number (or a combination of key fields such as division and employee ID). While some duplicates are valid, it's important to review them to make sure you aren't double counting anyone by mistake. In addition, you won't be able to perform some activities in ProVal (such as a status reconciliation or gain/loss analysis) without providing a unique key for each record, so you'll want a way to link valid duplicates from year to year. For larger clients, you might have thousands of sets of duplicates to resolve each year, so using tools to deal with them is essential. Though some duplicates may still need to be resolved manually, these new capabilities should reduce the effort considerably.

Resolving duplicates

Here is one method of using ProVal's tools to deal with duplicates. In the end, you'll have a new database with unique keys (either in your original key fields, or if you have valid duplicates, in the combination of your original key fields plus a new DupID field).

1. **Edit** your database.



Name	Records	Fields	Errors	Size
Data with duplicates	192	13	0	23,220

2. Run **Screen > Check for Duplicate Keys** to find and flag duplicates. This establishes values for the fields DupFlag (1 for duplicate keys, 0 for unique keys) and DupID (1 for the record with the first occurrence of a key value whether duplicate or not, 2 for the second record, etc.). To run this tool:

- Select your **key field(s)**
- Click **Run**
- Click **Save** to save the changes to DupFlag and DupID
- Click **View** to view the duplicate records

RecID	ID	DupFlag	DupID
841	111-11-1111	1	1
846	111-11-1111	1	2
838	222-22-2222	1	1
843	222-22-2222	1	2

ProVal will:

- Set the **Selection expression** to "DupFlag = 1" to select duplicates only (or, if you used a selection expression to check for duplicates, prefixing it with "(DupFlag = 1) #AND ...").

Selection expression DupFlag=1

- **Sort Records** to sort on key fields so duplicates appear consecutively

- **Sort Fields** to place key fields first (e.g., on the left)
- **Freeze Fields** to keep the key fields from scrolling

Tip: You may want to save this View in the Style Library so that it will be readily available if you want to complete your review of duplicates at a later time.

Advanced: For really messy data, it might be useful to make several Check for Duplicates passes with different combinations of key fields (e.g., SSN & location, SSN & Unioncode, etc.). In this case, assign a different field name for DupFlag and DupID for each pass (DupFlag1 and DupID1, DupFlag2 and DupID2, etc.).

3. Review the duplicates and look for patterns. Ask yourself the following questions for the first few sets of duplicates.
 - Are the duplicates valid? Valid duplicates are necessary for the valuation, such as transfers between plans (e.g., active with frozen past service benefit in one plan, active with future service benefit in another plan). Otherwise, the duplicates should be condensed into one record, such as duplicates that came from different import files (e.g., one record from the actives import file with a termination date and a second record from the terminations import file).
 - What fields can you use to identify this type of duplicate?

Tip: Don't try to review all the duplicates at once. Rather, identify a few patterns and then work iteratively until you've resolved all of the duplicates.

4. (Skip if all duplicates are valid) Run Tools > Condense Duplicates to condense invalid duplicates (and leave valid duplicates intact).
 - Set the **Input Database** to be your original data (even if this is a secondary iteration after getting to step 7 below).
 - Set the **Output Database** to something new, e.g., "Data yyyy without duplicates"
 - Set up a **Rule** for each type of valid duplicate to leave these records intact.
 - **Action:** select **Keep all records (and exclude from further rules)...**
 - **Apply to duplicates where:** Specify how to identify these duplicates, for example "TransferCode=1" in the first selection expression.
 - Set up a **Rule** for each type of invalid duplicate to condense them into a single record.
 - **Action:** either **Condense records into one** or **Keep one record and delete the rest**
 - **Apply to duplicates where:** Specify how to identify these duplicates.

```

One record meets selection expression #1 (blank for all)
[(Status = 1) #and (TermDate <> #MU)]; 1 = active

(at least) one record meets selection expression #2
(Status = 9) ; 9 = terminated

```

- (Optional, but recommended) Check the box to **Create DupRule field**. This can be useful in checking the output database.
 - **Run it**
5. **Edit** the new database (i.e., the output database from Condense Duplicates)
 6. (Optional. Skip if no valid duplicates) **Edit the DupID field** for valid duplicates to improve matches with prior year databases.

Prior year

ID	DupFlag	DupID	HSCode
111-11-1111	1	1	Salaried
111-11-1111	1	2	Hourly

Current year

ID	DupFlag	DupID	HSCode
111-11-1111	1	1 -2	Salaried
111-11-1111	1	2 -1	Hourly

Alternative: Use a different field from DupID to differentiate valid duplicates and match them up from year to year. You might even already have this field on your data. In the example above, the field HSCode could be used. For more complex situations, consider setting up a DupReason coded field that is more meaningful than DupID. The codes might be something like 1=Primary Record, 2=Secondary record: Transfer, 3=Secondary record: divorce, etc.

7. Run **Check for Duplicate Keys** on your new database. If there are any valid duplicates in your data, use a Selection Expression to exclude them (e.g., "DupRule #notin (1,2)" if duplicate rules 1 and 2 were the ones for valid duplicates). If any duplicates are found, go back to step 3.
8. **Manually resolve** any duplicates that must be resolved manually.

Checking and reviewing

The output database from Condense Duplicates has several useful features for checking your own work or reviewing someone else's:

- **Change History.** The Change History for the output database carries forward the Change History from the input database, appending an entry for "condense duplicates" for records that were deleted and modified. Note that RecIDs in the output database are the same as in the input database to make it easy to trace back to the original record(s).
- **Notes.** The Condense Duplicates "view" is written to the output database's Notes (starting with the input database's Notes, if any). This includes a description of each of the rules, which is a handy reference for interpreting the DupRule field.
- **DupRule field.** If you choose to save this, it will contain the number of the rule (1,2,3, etc.) that was used to condense the record or 0 if none. See the database Notes to translate 1,2,3, etc. into rules.

Running Status Reconciliation with valid duplicates

- If you haven't done so already, resolve duplicates on both the prior and current year databases, following the instructions above (at the least, follow steps 1 and 2 so DupID is defined on both databases).
- To get a basic flow of lives, select primary records only (DupID=1) in both the current and prior year databases. This will isolate the noise from records that didn't have duplicates in the prior year and do in the current year, and vice versa.

- Run Status Reconciliation on secondary records (DupID=2) to look for changes that don't make sense. If needed, also run Status Reconciliation on tertiary records (DupID=3), quaternary records (DupID=4), quinary records (DupID=5), etc.

Running Screen Data with valid duplicates

If you run Screen Data without prior year data, matching up current and prior year duplicates won't be a consideration. However, if you want to be able to screen for "Unexpected changes from prior year", "Status Changes", or "Salary Changes", you'll need to supply prior year data and account for the duplicates. To do this:

- If you haven't done so already, resolve duplicates on both the prior and current year databases, following the instructions above (at the least, follow steps 1 and 2 so DupID is defined on both databases).
- Include DupID as an additional key field
- Run with the screens for Status Changes turned off (or, at least, no X's in the "(absent)" row or column, since duplicates that are present in one year and not the other will be flagged falsely as errors.)

Alternative: Instead of including DupID as an additional key field and turning off Status changes, you could select primary records only (DupID=1) in both the current and prior year databases. Then, run Screen Data on secondary records (DupID=2), tertiary records (DupID=3), etc. as needed.

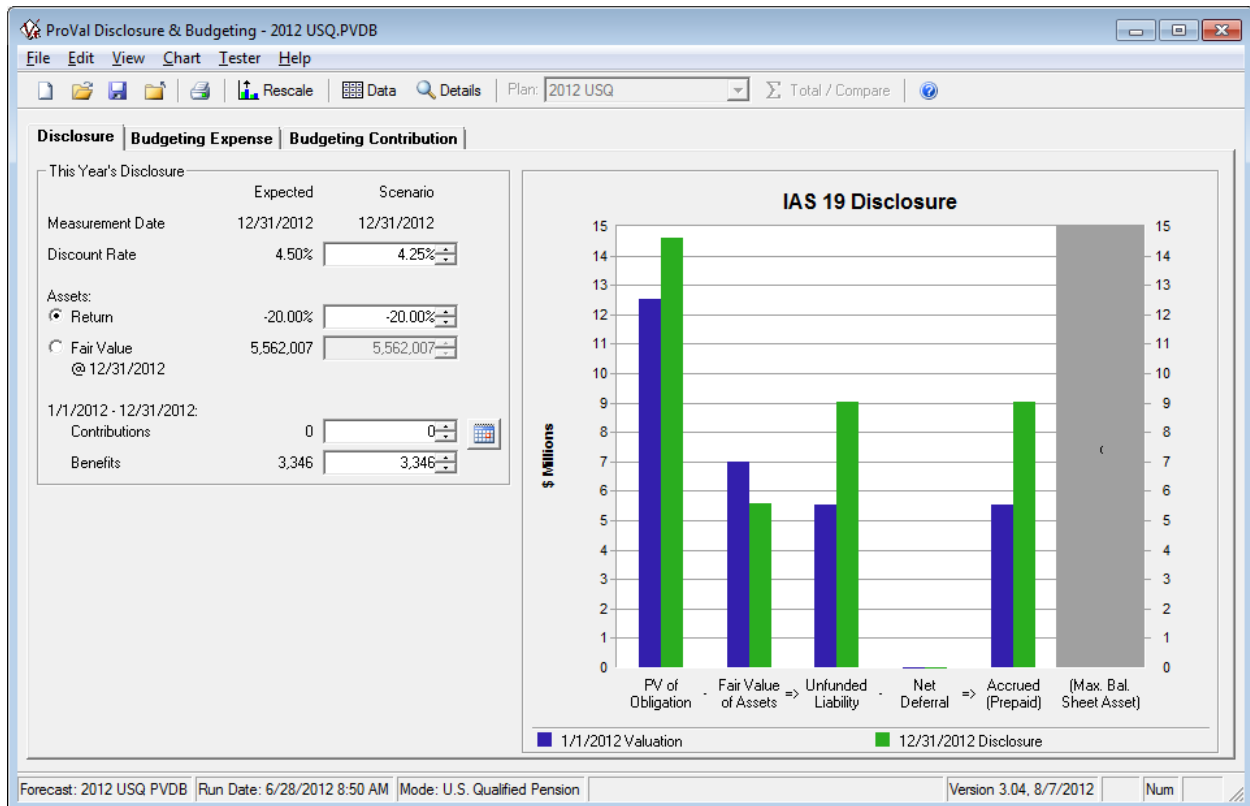
Running Gain/Loss Analysis with valid duplicates

- If you haven't done so already, resolve duplicates on both the beginning-of-period and end-of-period databases, following the instructions above (at the least, follow steps 1 and 2 so DupID is defined on both databases).
- Include DupID as an additional key field so that valid duplicates can be differentiated and matched up between the beginning and end of period.
- Run.

Use caution in interpreting the results if you have a lot of valid duplicates in one year but not the other. Secondary records (DupID=2) will seem to ProVal to "appear" or "disappear" if they don't have a match in the beginning or end of period data, respectively. These mismatches can affect ProVal's guesses for actual decrements, new entrant gain/loss, and bucketing of unreconciled amounts.

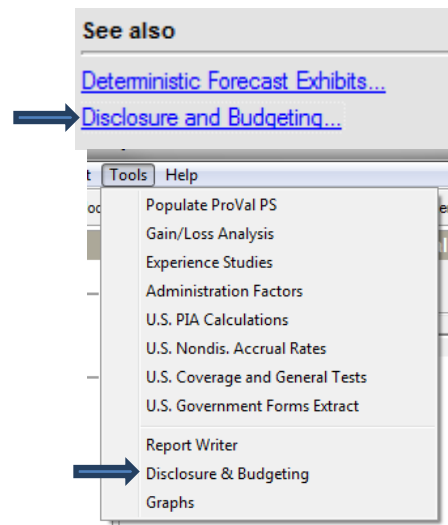
Disclosure & Budgeting

ProVal now includes Disclosure & Budgeting, a tool to help actuaries and plan sponsors quickly prepare year-end balance sheet projections as well as estimates of next year's cash and accounting costs. Disclosure & Budgeting was previously available in ProVal PS, which required a separate license agreement and fee, but is now available as part of ProVal. (ProVal PS no longer includes this tool).



Disclosure & Budgeting is accessible three ways:

- In ProVal, selecting one or more Deterministic Forecasts in the Deterministic Forecast library and clicking the new link for Disclosure & Budgeting
- In ProVal, navigating to ProVal's Tools menu and choosing Disclosure & Budgeting
- Outside ProVal, starting up the standalone application PVDB that was installed with ProVal 3.04



Disclosure & Budgeting allows the user to enter new year-end assumptions and display the results in real time. For example, the user can change the anticipated year-end discount rate using the spin control and instantly, the new liability and balance sheet projection results are graphed. There are other inputs including methods to estimate the year end asset value (where it supports either an annual return or a year-end asset value), as well as a fine tuning of contributions and benefit payments during the year.

The tabs that appear in Disclosure & Budgeting are dependent on the results in the ProVal Deterministic Forecast. You may see one tab or all three tabs depending on whether you have modeled accounting costs. For example, when selecting a Public Plan Deterministic Forecast, it is typical to see only a Budgeting Contributions tab (and no Disclosure or Budgeting Expense tabs) since accounting topics generally do not apply (at least until GASB standards requiring accrual accounting become effective).

The Disclosure & Budgeting tool supports multiple forecasts simultaneously. For example, you can open a sponsor's Salaried plan and two Hourly plans at the same time, and either Total or Compare the forecasted results. Note there are strict rules regarding compatibility. Files that are not compatible cannot be opened together. Some of the key compatibility rules are that the forecasts share the same valuation date, the same law set and accounting standard, and be created in the same ProVal mode (e.g. US Qualified Pension mode).

The PVDB standalone application is freely distributable and you may invite your clients to download and install it from our website. You may distribute .PVDB files freely. Clients with legacy ProVal PS files can open them in the new Disclosure & Budgeting tool (although to save them, the tool will rename them with a new extension).

MAP-21

On July 6, 2012, President Obama signed H.R. 4348, the Moving Ahead for Progress in the 21st Century Act (MAP-21) into law. Below is a summary of the law changes (that impact ProVal), the enhancements included in ProVal 3.04 and our plans for ProVal 3.05.

Pension Funding Stabilization

Summary:

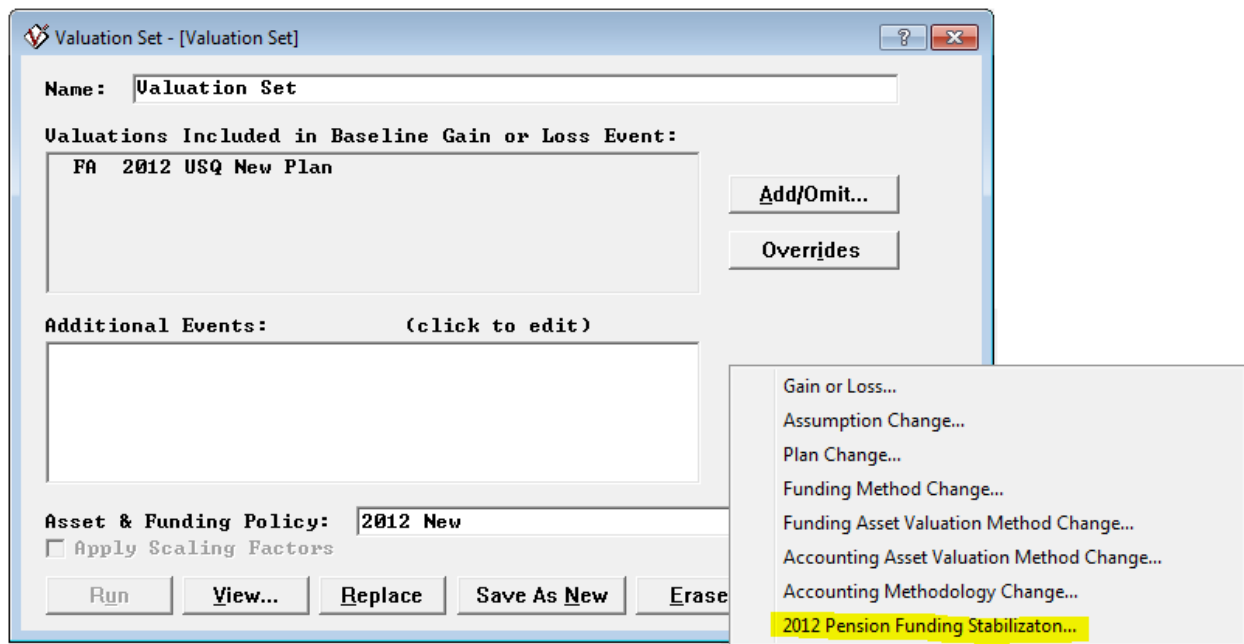
For plan years beginning in calendar year 2012 and later (with the option to opt out for 2012 only), segment rates are now subject to a corridor for purposes of computing the minimum required contribution and AFTAP (but not the maximum tax deductible or PBGC calculations). The corridor does not apply if you are using the (current) full yield curve instead of (smoothed) segment rates. The corridor is based on an historical average of segment rates over a 25 year period.

2012 Valuation Sets:

If you are applying the stabilized rates for the 2012 minimum contribution and also need to compute a maximum tax deductible contribution, use two separate Valuation Sets (based on two Valuations with different interest rates). Since the calculation of the maximum tax deductible contribution requires both a funding target and a max tax liability using the max tax (non-stabilized) interest rates, ProVal is currently unable to calculate both the minimum and maximum contribution amounts in a single Valuation Set.

In Valuation Sets, a new "2012 Pension Funding Stabilization" event will reflect the maximum contribution from one Valuation Set in your final Valuation Set. This enables the use of Valuation Set Exhibits and the Report Writer. This is only expected to be needed in the near term (see additional enhancements below for a long term solution). To use:

1. Run a Valuation and Valuation Set for the maximum tax deductible contribution, i.e., using non-stabilized interest rates ("ValSet max")
2. Run a Valuation and Valuation Set for the minimum required contribution, i.e., using stabilized interest rates. ("ValSet final")
3. Within "ValSet final", add a "2012 Pension Funding Stabilization" event that references "ValSet max".



Note: an option to apply the stabilized interest rates for minimum contribution purposes but not for AFTAP purposes for 2012 is allowed under the legislation. If the AFTAP is to be determined using different interest rates from those used for the minimum, you will need to input the correct credit balance subsequent to any waivers which may apply.

Forecasts:

Deterministic Forecasts may be run using the stabilized interest rate to determine the minimum required contributions. There is no workaround to determine maximum required contributions for Deterministic Forecasts.

Modeling MAP-21 in Stochastic Forecasts will require the use of custom code. Please contact us if you would be interested in that approach.

The following enhancements are currently being developed and will be released with ProVal 3.05:

1. In Valuation Assumptions, allow two sets of segment rates: funding and max tax. Both sets of rates will be available for look up (once published). ProVal will calculate results for max tax liabilities under both the unit credit and projected unit credit cost methods.
2. In Deterministic and Stochastic Assumptions, allow separate funding and max tax discount rates. For Stochastic Assumptions, automatically apply a corridor to segment rates for the minimum contribution liabilities (but not the max tax or PBGC liabilities), drawing on historical rates as needed to compute rolling 25 year averages.
3. In Asset & Funding Policies, additional inputs will be added to calculate the plan's At-Risk status for the maximum calculation.
4. In Asset & Funding Policies, if "waive credit balances to meet X% FTAP" is selected, a new option allows the FTAP to be determined using either the funding or the max tax interest rates. This should assist in waiving credit balances to avoid the 4010 filing.
5. In Asset & Funding Policies, allow additional end of year contribution to be a percent of any of the PPA liability bases.

Note: Since you can input a 2012 credit balance adjusted for waivers, no enhancements are currently planned to allow for a 2012 AFTAP which is determined using different interest rates from those used for the minimum.

PBGC Premiums

Summary:

PBGC single employer flat rate premiums, variable rate premiums, and multi-employer premiums are scheduled to increase beginning in 2013. In addition, a per-participant cap of \$400 (increased with inflation) on the variable rate premium will be effective beginning in 2013.

The PBGC Premium and Administrative Expenses topic contains a new option to "Reflect MAP-21 provisions." If selected, the premiums, beginning in 2013, will be calculated in accordance with the new law.

The screenshot shows a dialog box titled "PBGC Premium and Administrative Expenses". It contains the following settings:

- PBGC Premium**
 - Calculate and pay out of plan assets (during forecast)
 - Include in:
 - Funding cost
 - Accounting expense
 - Reflect MAP-21 provisions
- Administrative Expenses**
 - Dollars: + Fraction of assets:
 - Note: Dollar expenses increase with inflation during a forecast.
 - Include in:
 - Funding cost
 - Accounting expense
 - Override dollar amount:
- Fraction of year from Valuation Date to average date expenses are paid:

Buttons: OK, Cancel