ProAdmin version 3.04 introduces the ability to validate the Database Linkage, a new Late Retirement Calculation component, service and salary anniversary year measurement period, enhanced cash balance functionality, a data import utility and over 20 additional features. You’ll find details about these and several other enhancements below.

Database Linkage

- The Database Linkage now allows you to validate the fields without running a benefit calculation. Clicking the validate button at the bottom of the Database Linkage dialog will check all of the fields that have been linked, not just those associated with plan coding.
If there are some valid fields in the linkage, you will be given the opportunity to provide a Person ID to examine a sample data record.
- If a Person ID is provided, the validate option will return any data in the data source for the linked fields.

Data Dictionary
- The View button for the Data Dictionary now parses results nicely when the output is saved to Excel.
Service Definitions

- Service Definitions have been enhanced to include anniversary year as an available measurement period. The anniversary year will typically commence at the date of hire, but any static date or date field from the Data Dictionary may be specified to define the end of the measurement period.

- Elapsed time Service Definitions can now assume 365 day year rather than reflecting leap years.
Salary History

- A Type column now appears in the Salary History library indicating whether or not the entry is a rate. The type is also shown when selecting a Salary History in a Salary Definition.

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAL</td>
<td>Base Salary</td>
<td>1/12/2012 12:12 PM</td>
</tr>
<tr>
<td>SAL</td>
<td>Base Salary + Bonus Salary</td>
<td>8/03/2004 10:29 AM</td>
</tr>
<tr>
<td>SAL</td>
<td>Base Salary + Bonus Salary + OT</td>
<td>8/03/2004 10:30 AM</td>
</tr>
<tr>
<td>SAL</td>
<td>Hours</td>
<td>10/07/2011 1:18 PM</td>
</tr>
<tr>
<td>RATE</td>
<td>Hours Rate</td>
<td>11/05/2012 3:24 PM</td>
</tr>
<tr>
<td>SAL</td>
<td>Salary</td>
<td>6/01/2011 10:00 AM</td>
</tr>
</tbody>
</table>

Salary Definitions

- Salary Definitions have been enhanced to include anniversary year as an available measurement period. The anniversary year will typically commence at the date of hire, but any static date or date field from the Data Dictionary may be specified to define the end of the measurement period.
An option has been added to the Allocation tab of Salary Definitions to define projected salaries only at measurement period end dates. This choice is necessary for cash balance plans that credit interest on a weekly or bi-weekly basis, to ensure that the plan year end dates do not distort the appropriate accrual for the next following crediting date.

Plan Definitions

A feature has been added to restrict non-spouse J&S benefits in accordance with Internal Revenue Code regulations 1.401(a)(9). If this option is selected and a non-spouse beneficiary is evaluated, results will be provided only for valid J&S payment forms and a warning message indicates the maximum allowable J&S percentage under the law. See also Payment Forms on page 11 for the companion enhancement that facilitates calculation of custom J&S payment forms at the maximum allowably percentage.

In 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.
Benefit Formula Components

- A new Age... button has been added to refine the definition of age for accrual rates under Final Average, Career Average and Cash Balance type accrual definitions where the accrual rates vary by age or points. New options allow age to be defined in completed years and, for cash balance crediting, to allow age to vary by each crediting date during the plan year.

![Image of Accrual Rates: Age dialog]

- The “Apply annualized rate to career average / cash balance basis formula” checkbox now defaults to being checked on the accrual rates topic. This is virtually always what is desired for a career average or cash balance calculation: giving the full accrual rate to the basis during the period, rather than an accrual rate that is weighted by the service earned during the period. (The accrual rate continues to be 0 if no service is earned during the period.)

- A new Benefit Formula component type called Late Retirement has been added to simplify the coding of a late retirement calculation. It can do a comparison of the benefit at Normal Retirement Date to the continued accrual as of the commencement age or a plan year by plan year comparison up to commencement age.

![Image of Benefit Formula Component - [RetBen] dialog]
The Accrued Benefit selection should be the benefit formula (subformula) component that calculates the accrued benefit.

The “Calculation performed” choice on the bottom of the dialog chooses the approach for the late retirement calculation:

- The “At commencement age” choice indicates that the comparison should be between the benefit as defined by your Normal Retirement Date settings (NRD and Actuarial Equivalence assumptions) and the benefit at commencement.
- The “Annually” choice indicates that the comparison is done between the benefit as defined by your Normal Retirement Date settings (NRD and Actuarial Equivalence assumptions) and the benefit at commencement or plan year end if earlier. The greater of the two benefits is brought forward based on your Actuarial Equivalence assumptions and compared to the benefit at commencement or the next plan year end if earlier. This comparison continues to commencement.

The Cash Balance accrual definition type has been enhanced for new crediting frequencies of weekly, bi-weekly and semi-monthly. Note that if you select weekly or bi-weekly crediting frequency, then your accrual definition basis formula must reference a Salary Definition Set with a bi-weekly measurement period.
The Cash Balance accrual definition type has been enhanced to allow for a constant interest rate from a database field and also for interest rate tables that vary by coded database field. This will facilitate, for example, coding of “pattern plans” where benefit for several groups are identical except for the interest rate.

An option to automatically round the period accrual to cents has been added for career average and cash balance accrual definitions. This feature will be particularly helpful for cash balance plans that crediting interest more frequently than annually.
A new Miscellaneous tab has been added to the Interest Crediting topic of Cash Balance benefit formula components. The parameter on this new tab allows you to set the number of days in a year when using daily interest crediting. Previously 365 days per year was always assumed.

When auto-creating a database field benefit formula component within a benefit formula, ProAdmin now follows the capitalization for the data dictionary (previously, UPPERCASE was used).

**Custom Operators**

The prior #SSWB custom operator has been replaced with a new #AVGWB custom operator that allows 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. Any existing accrual basis formulas that referenced a #SSWB custom operator have been modified from, for example “#SSWBcust” to “(#SSWBcust 1)” to reflect the averaging period.
Payment Forms

- All joint & survivor payment form types have been enhanced to allow specification of the survivor percentage by reference to a database field. One use of this feature is to calculate the payment form value for a custom J&S percentage that is in compliance with Internal Revenue Code regulation 1.401(a)(9) for a non-spouse beneficiary.

- Fix payment form output for joint life payment forms when a value other than 1 is specified for the fraction of the J&S benefit received when only the member is alive and/or when both the member and the beneficiary are alive. Previously the calculations were correct, but ProAdmin was not returning the primary benefit adjusted for the continuation amount.
The default Age & Rounding assumptions have been changed to linear interpolation from no interpolation. In this way, the definition of age last birthday defaults to being unghosted.

![Age & Rounding Assumptions](image)

**Actuarial Equivalence**

- An option has been added to define the actuarial equivalence interest rate as a constant from a database field.

![Actuarial Equivalence - [new>]](image)

**Mortality Tables**

- Standard ProAdmin mortality tables are now protected. They cannot be modified or erased.
Census Specifications – Data Defaults

❖ The New... button in a Data Default specification now allows you to create a Data Dictionary field directly through this back door rather than having to exit the command, go to the Data Dictionary to define the field, and then return to the Census Specifications.

❖ An option has been added to define a field value whether or not the value in the data is missing. This is particularly useful for saved calculation data, to ensure that if data was manually modified, fields that are dependent on that data are properly defined.

![New Default Definition](image)

Calculation Results

❖ Output Definition results now parse nicely when saved to Excel. This enhancement facilitates the use of such results for generating forms and letters.

❖ Rather than showing all (irrelevant) calculation dates, cash balance detailed results now start with the calculation date immediately preceding the date of the empirical accrued benefit.

❖ Service Definition Set calculation dates will no longer include dates prior to the adjusted hire date even if that date is specified somewhere in the plan setup.

❖ The terminology for user-specified errors and warnings has been changed from “first failure date” to “condition first met.”

❖ The “condition first met” for user-specified errors and warnings is now included in server output similarly to desktop output.

❖ Several detailed results output tables have been clarified and footnotes have been added, especially with respect to cash balance parsing.
Added a warning message if the “Benefit Definition varies by” option (decrement, commencement or payment form) of an Output Definition differs from the specification for the XML output field.

**Data Load Tool**

- A new command has been added to the Tools menu to allow you to load data from an existing ProVal database into an Access database (*.mdb or *.accdb) for use with ProAdmin. The new Data Load tool can also automatically create the ProAdmin Data Dictionary fields and Database Linkage, so you can immediately run calculations after setting up the plan rules. For some information on how to use the new tool, see Data Load Tool on page 16. Additional information is available in the command reference help.

**Interface**

- System plans are not included in the tree under Other Calculations.
- A library entry’s dependent objects can now be viewed by:
  - Right clicking on a list view item, and clicking “Referenced By” in the popup list.
  - Clicking on the new “Ref’d By” button on the main form.
  - Clicking on the new “Ref’d By” button when editing a library through a backdoor button.

- There is a new Copy button available in places like sample lives, output, etc. that places the entire contents of the viewer on the clipboard. This allows results to be quickly copied to Excel for analysis.
System

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

♦ 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.

♦ A bug has been fixed that caused the PVOUT file to keep growing because packing the files could not eliminate deleted Estimate, Final and Dates/Age/Service calculations. This stranded data will automatically be deleted when client files are updated to this version 3.04.

♦ Speed up calculations that use a Database Linkage. The Database Linkage and Schema of the ADO database will no longer be validated before each calculation is run.

♦ Add the INI file setting [Config] CursorLocation to allow the user to specify the location of the cursor service as either 2 = adUseServer or 3 = adUseClient. The default value is CursorLocation=2.

Changes Log

♦ Be sure to read the changes log (see the “changes log.doc” file in the ProAdmin directory) about updates to certain calculations that may change results.
Data Load Tool

A new command has been added to the Tools menu to allow you to load data from an existing ProVal database into an Access database (*.mdb or *.accdb) for use with ProAdmin. The new Data Load tool can also automatically create the ProAdmin Data Dictionary fields and Database Linkage, so you can immediately run calculations after setting up the plan rules.

The **Source File** section of the dialog box (1) identifies the ProVal database file to be loaded, (2) sets the location of the ProVal client files, and (3) defines the Default Person Id in the ProVal Database file.

- The Client Directory... button, is where you set the location of the ProVal client files. By default it will use the path specified in the source file setting.
- Default Person ID Field is the field in the ProVal database file that identifies each record and will be used to define the key Person ID field in the Access database.
The **Target Fields** section of the dialog box identifies the fields from the ProVal database that will be loaded into the Access database specified by the Database Linkage selection.

<table>
<thead>
<tr>
<th>ProAdmin Field</th>
<th>ProVal Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>BeneDateOfBirth</td>
<td>SpDOB</td>
</tr>
<tr>
<td>BeneSex</td>
<td>SpSex</td>
</tr>
<tr>
<td>DateOfBirth</td>
<td>Dob</td>
</tr>
<tr>
<td>DateOfHire</td>
<td>DOH</td>
</tr>
<tr>
<td>EarnHistBase</td>
<td>Salary</td>
</tr>
<tr>
<td>EarnHistBase</td>
<td>SalaryWk</td>
</tr>
<tr>
<td>Feesex</td>
<td>Sex</td>
</tr>
<tr>
<td>LastName</td>
<td>Name</td>
</tr>
<tr>
<td>SocialSecurityNumber</td>
<td>ID</td>
</tr>
<tr>
<td>StatusHistory</td>
<td>Status</td>
</tr>
<tr>
<td>VestBen</td>
<td>AccBen</td>
</tr>
</tbody>
</table>

- Click on the Map Fields button to add fields. This will open up the Column Mapping dialog box. The left column lists all of the fields contained in the ProVal database file. In the right hand column you can select `<ignore>` (don't import this field), `<add to dictionary>` (create a new field in the Data Dictionary with the same name and type as the ProVal database field), or the field from the ProAdmin Data Dictionary that corresponds to the ProVal database field.

![Column Mappings](image)

- Additions to the ProAdmin data dictionary will be identified using brackets and incomplete mappings (array and coded fields) will be identified using an asterisk.
To finalize the target field definitions, click on the field in the Target Fields list and the Target Field Mapping dialog box will open. The Target Field Mapping (1) displays details of the ProAdmin Data Dictionary field, (2) allows you to define details such as start and stop date information for array fields, (3) allows you to map coded fields for existing ProAdmin database fields, and (4) provides a preview of the ProVal data to be loaded.

- Under the Source section of this dialog, you can set the additional attributes for array fields. These dates can either be mapped from a Field in the ProVal database file or specified as a Fixed Date. If a fixed date is selected, “no earlier than ProAdmin field” and/or “no later than ProAdmin field” constraints can be added to the field mapping instructions. Similar mapping can be done for effective date array fields.
If the ProVal field is a coded field and it is mapped to an existing ProAdmin Data Dictionary field, you can click on Reconcile Coded Labels… to reconcile the ProVal and ProAdmin codes & labels associated with this field. The data load tool can Match Values based on either Codes (exact matches only) or Labels. When you select labels, it can be set to exact matches (ignoring case) or Allow similar matches. The Map ProVal Codes and Labels section of the dialog box displays how the reconciliation will be interpreted by the data load tool.

Note that if you are mapping a ProVal coded field to what will be a new ProAdmin field, you can modify the ProAdmin codes and labels through the Field Attributes button on the main Data Load dialog.

The ProVal Data Preview section displays the data that will be imported. The Number of Records is defaulted to 100 or if lesser the total number of records in your ProVal database.

Once the source file location and field mapping tasks have been completed, click on the Load data… button to begin or review the load process. A series of dialog boxes will guide you through the three steps of the data load process.
Step 1 is to preview the target data. This dialog box allows you to review data, field by field, for a limited number of data load records from the ProVal database. No data changes can be made within this step, but it provides an opportunity to view reasonability of the data for several records within the source database. To preview data for a different field, select another Target Field entry. With a target field selected, the Target Data Preview section of the dialog box shows the data associated with the selected target field. This represents the data that will be written to Access. RecID is always shown, but won't be written to Access unless it's the Person ID. If the selected target field is an array field, additional data may be shown which will allow the user to validate the effective, start, and stop dates.
Step 2 is designed to (1) provide instructions for record selection, (2) name the new database and database linkage (if applicable), and (3) define handling of duplicate records and errors.

The Selection Expression for the ProVal Database allows you to use a logical expression to select a subset of the records (such as active participants) from the ProVal database to be loaded into an Access database. If the text box is left blank, all records will be loaded.

If you have chosen to <Create Database Linkage> as part of this Data Load, Step 2 of 3 is where you enter the path and file name for the MS Access Database to be created or updated by this load process. You may also change the default name for the new database linkage.

The Processing codes section defaults to what are intended to be the most useful choices for dealing with duplicate records and errors, but provides additional options. For example, if the MS Access database file already exists, the default processing selection is to Quit data load. Alternatively, you may choose to either Append to file, which will add the new records to the existing ProAdmin database, or Replace the existing ProAdmin database entirely with the new data (and possibly a new table/field structure).

Step 3 (Finish) process the data load. When complete, a processing report is created summarizing the processing statistics, including elapsed time of processing, record counts, errors and warnings encountered, and details of any new fields that were created.