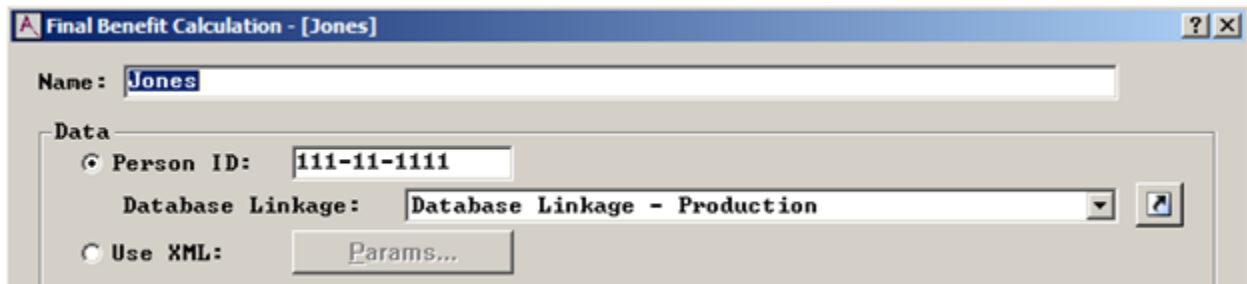


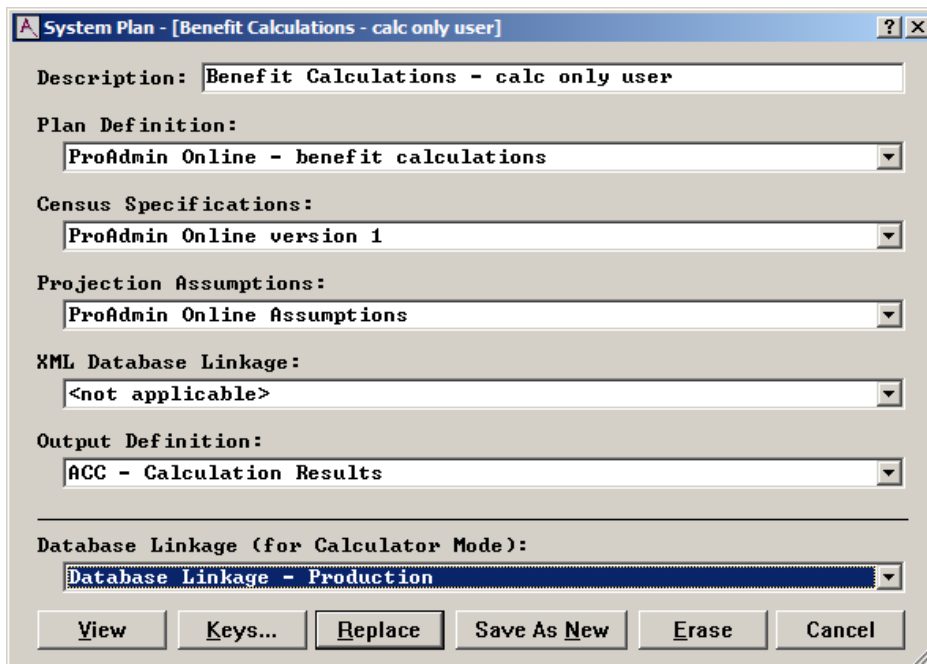
ProAdmin version 3.03 introduces a **Database Linkage Library, Plan Definition Fulfillment Components, Fulfillment Tool enhancements, easier navigation for sample lives, interface enhancements, and a new elapsed time calculation method.** You'll find details about these and other enhancements below.

### Database Linkage

- ◆ The Database Linkage topic has been expanded into a full ProAdmin library. This will allow you to store linkages to multiple databases within one client, such as production and test versions of the client's data.
- ◆ The dialog box for Estimate, Final, Dates/Age/Service and Batch Estimate Calculations will now require selection of the appropriate Database Linkage for the calculation. If there is only one Database Linkage in the library, it will be pre-populated as the selection.



A Database Linkage selection has also been added to the System Plans topic. This input is optional except when the Calculator Mode (where the user cannot change the Benefit Calculation inputs) is in use



## Array Operators

- ◆ #GETASOF has been added for use with Service and Salary Definitions. This new operator has the syntax *a #GETASOF b*. It retrieves the values from array field *b* that correspond to the dates specified in array *a*, where:

- *a* is an array of dates created by assignment
- *b* is an array field, an array created by assignment, or #THIS
- A value of zero is returned for any dates in *a* that are not in #DATE

#GETASOF is useful for moving data around. For example, this formula can be used to choose salary values (in a Salary Definition transformation) as of the end of each month:

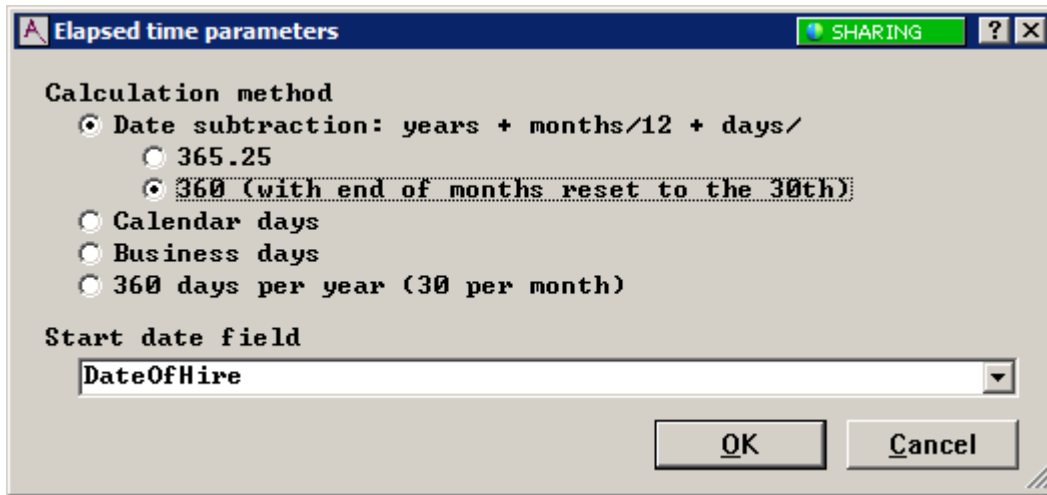
```
DT := #ENDMTH #DATE &  
DT #GETASOF #THIS
```

- ◆ #START has been added for use with Data Defaults. This new operator has the syntax *a #START b* and retrieves the start date (effective date in the case of an effective date array field) from each row in array *b*. The left argument *a* is optional and can be used as follows:
  - 0 = start date from the current row (default)
  - (-1) = start date from the previous row, using 0 for the first row
  - 1 = start date from the next row, using 0 for the last row
- ◆ #STOP has been added for use with Data Defaults. This new operator has the syntax *a #STOP b* and retrieves the stop date from each row in array *b*. The left argument *a* is optional and can be used as follows:
  - 0 = stop date from the current row (default)
  - (-1) = stop date from the previous row, using 0 for the first row
  - 1 = stop date from the next row, using 0 for the last row
- ◆ #VALUE has been added for use with Data Defaults. This new operator has the syntax *a #VALUE b* and retrieves the value from each row in array *b*. The left argument *a* is optional and can be used as follows:
  - 0 = value from the current row (default)
  - (-1) = value from the previous row, using 0 for the first row
  - 1 = value from the next row, using 0 for the last row
- ◆ New options have been added to the #ARRAY operator that will allow more flexibility defining new array data from existing data in the Data Defaults. The new left argument options 11 and 12 are used to create arrays using dates and values that were extracted from an existing array. The new left argument options 21 and 22 are used to create arrays by concatenating existing array fields. Options 11 and 21 are used to create a start/stop date array. Options 12 and 22 are used to create an effective data array. Here are some examples of how these options might be used, assuming that:

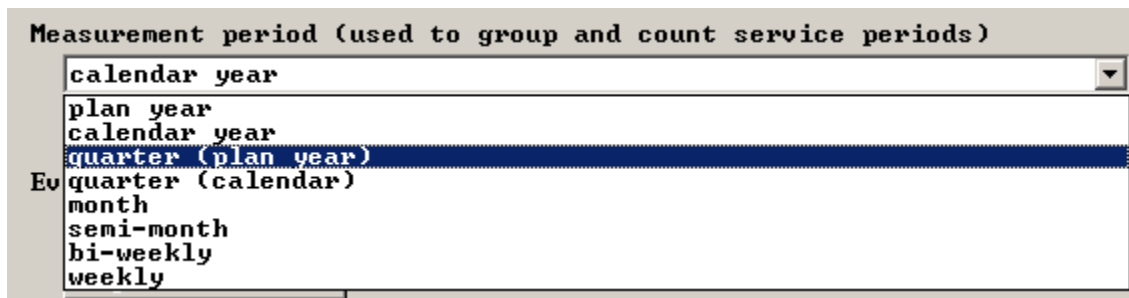
```
B := #START Salary & ; get the start dates of the salary array  
E := #STOP Salary & ; get the stop dates of the salary array  
V := #VALUE Salary & ; get the salaries from the salary array  
  
11 #ARRAY (B,E,V) ; create start/stop date array  
12 #ARRAY (B,V) ; create effective date array  
21 #ARRAY (Salary, Bonus, VacationPay, SickPay)  
 ; combine all reported salaries
```

## Service/Salary Definitions

- ◆ A 360-days-in-the-year date subtraction method has been added for elapsed time Service Definitions. This new method calculates elapsed time based on the difference between two dates as:  $(\text{year2} - \text{year1}) + [(\text{month2} - \text{month1})/12] + [(\text{day2} - \text{day1})/360]$ , where end of month dates are adjusted to be the 30<sup>th</sup>.

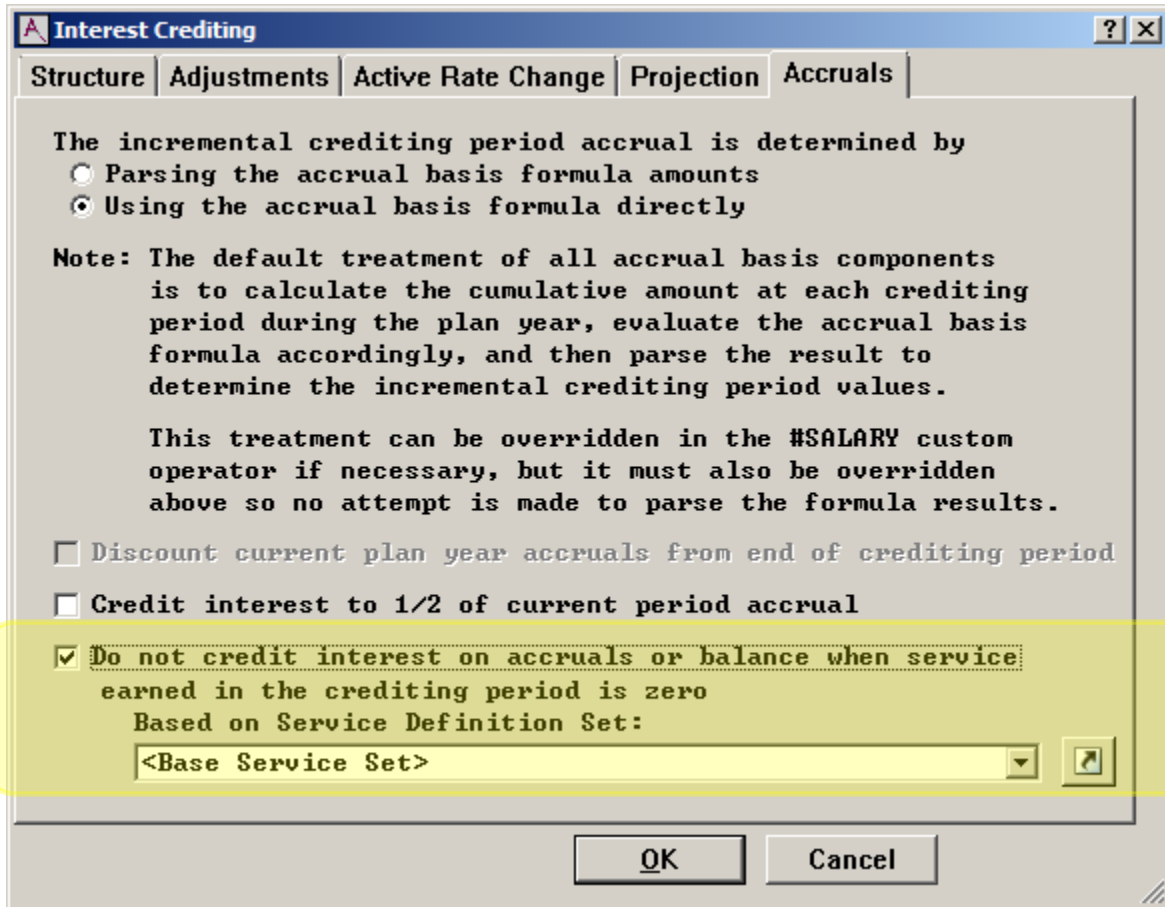


- ◆ A Quarterly Measurement Period has been added to the Service and Salary Definitions. This new measurement period can be on either a calendar or plan year basis.



## Benefit Formula Components

- ◆ A new option has been added to the Cash Balance type Accrual Definitions that does not credit interest on the accruals or balance if the service earned in the crediting period is zero. This new option can be found on the Accruals tab of the Interest Crediting topic.



## FAS Custom Operators

- ◆ The averaging and considered periods for Final Average Salary (FAS) custom operators can now be decimal as long as, when the measurement period is taken into account, they represent an integral number of measurement periods. The exact requirement is that the averaging period (or considered period) times the number of measurement periods per year must be an integer when the result is rounded to 4 decimal places.

For example, consider 3.75 #FASMP 5.333333, an averaging period of 3 3/4 years and a considered period of 5 1/3 years. This parameterization is valid for a monthly measurement period: a 45 month averaging period and a 64 month considered period. It is not valid for an annual measurement period or a quarterly measurement period (15 quarters is okay for the averaging period, but 21 1/3 quarters is invalid for the considered period).

- ◆ A new option has been added to the Final Average Salary (FAS) Custom Operators that allows calculation of a calendar year FAS for non-calendar year plan years. (The Salary Definition(s) must have a measurement period that allows calendar year salaries to be calculated.) This new option can be found on the Salaries & Basis topic.

**Salaries & Basis** [?] [X]

**Edit Salary Sets...**

**Included Salary Definition Set(s):**

| Salary Definition Set   | Multiplier |
|-------------------------|------------|
| Base Salary - (monthly) | 1          |

**Final average based on:**

- Plan year salaries
- Calendar year salaries
- Monthly (or quarterly, semi-monthly, bi-weekly, weekly) salaries

Final average salaries in consecutive measurement periods only

For a final calculation, reflect salaries after decrement in highest average

Override Plan Definition > Plan Attributes FAS current salary assumption

Averaging period  current salary

**OK** **Cancel**

## Errors / Warnings

- ◆ A new feature has been added to control the dates at which user-defined errors / warnings are reported. Now, for errors/warnings that apply to benefits (as opposed to census data), the error/warning condition can be evaluated at all dates, just decrement date(s), decrement and commencement date(s), or just commencement date(s). Previously the condition was evaluated at all dates, which may have resulted in inappropriate error/warning messages being issued.

**User-Defined Errors / Warnings - [Restricted Benefit Check]**

Description:

Error/Warning applies to:  
 Benefits  
 Census data

Error/Warning condition calculation:

Tip: #BENFORMULA is the result of the benefit formula

Apply condition at:

Evaluated for:  
 All Benefit Definitions  
 All Benefit Definitions for the contingency:  
 The following Benefit Definition(s):

Message Definition for  
Estimates:    
Finals:

- ◆ Error / Warning messages will now return the first applicable date that the condition was met.

**Estimated Benefit Calculation**

Estimated Benefit Calculation completed (Elapsed time 0:00:02)

----- Input Validation -----

----- User-defined Warnings -----

**Benefit: Traditional Plan Retirement - Limited**  
Benefit maybe restricted due to plan underfunding. Please have actuary review prior to releasing the calculation. (first failure: 12/31/2017)

**Benefit: Traditional Retirement - Unlimited**  
Benefit maybe restricted due to plan underfunding. Please have actuary review prior to releasing the calculation. (first failure: 12/31/2017)

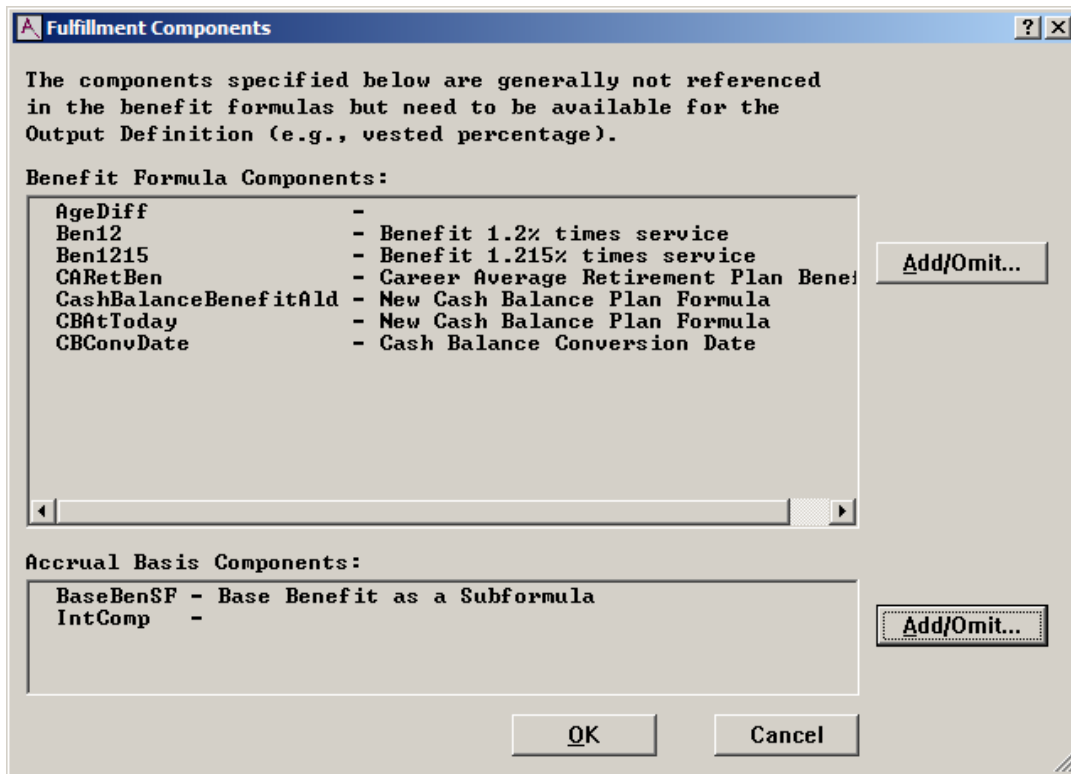
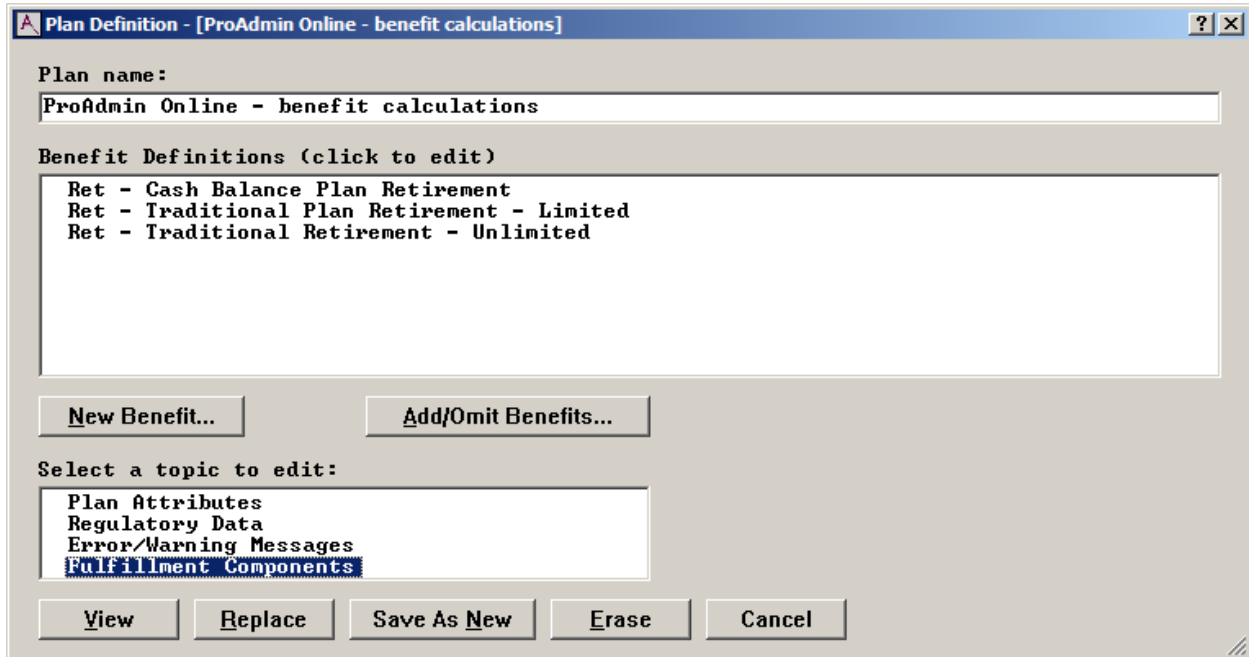
----- Data Defaults -----

No records had default values used

----- External Tables -----

## Plan Definitions

- ◆ **Fulfillment Components.** A new topic has been added to Plan Definitions for Fulfillment Components. These are components that are necessary for your Output Definitions but are not referenced in your Benefit Formula, such as the estimated Social Security PIA benefit. Previously these components were referenced as unused temporary variables in the benefit formula.



- ◆ When calculating early and late retirement actuarial equivalence factors for the Section 415 maximum benefit limit, the user will now have a choice between assuming annual benefit payments or the payment frequency and timing specified in the Plan Definition. Previously annual payments were assumed.

**U.S. 415(b) Maximum Benefit Limit**

**Dollar limitation:**  
Interest rate before age 62:   
after age 65:

**Mortality table:**  
  
 Apply mortality discount in actuarial reductions & increases  
 Apply actuarial increases after age 65

**Payment frequency for actuarial reduction & increase factors:**  
 Annual (beginning of year)  
 Plan's benefit payment frequency and timing

**Participation (proration) service based on Service Definition Set:**

**Highest 3-year average salary limitation:**  
 <Base Salary Set> (from Census Specifications)  
 Alternative Salary Definition Set  
  
 Not applicable

**Small benefits:**  
 Apply \$10,000 exemption



## Detailed Results

- ◆ **Easier navigation.** Detailed calculation results reports are now listed in a tree. Click on a report's name on the left side to display the report (the ↑ and ↓ arrow keys can also be used to move between reports). Many reports are grouped into folders. To expand or collapse a folder, click on ⊕ or ⊖ (or use the → and ← arrow keys). Alternatively, right-click on the tree and choose "Expand All" or "Collapse All".

The screenshot shows a software window titled "Detailed Results". On the left is a tree view with folders like "Benefit Definitions", "Benefit Formula Components", "Accrual Definition Basis Formulas", "Accrual Basis Components", "Accrual Basis Component Details", "Maximum Benefit Limit", "Payment Form Values", "Service Definition Sets", and "Salary Definition Sets". The right pane displays a report for "Benefit: Ret - Traditional Plan Retirement - Limited" for "PersonID: 111-11-1111".

| Date       | Age    | Eligible? | Salary     | RET BEN Component | ERF Component | VEST Component | Formu Benef |
|------------|--------|-----------|------------|-------------------|---------------|----------------|-------------|
| 12/31/2016 | 63y 3m | Yes       | 171,540.52 | 53,924.73         | 0.930000      | 1.000000       | 50,150      |
| 12/31/2017 | 64y 3m | Yes       | 176,643.85 | 58,999.56         | 0.970000      | 1.000000       | 57,229      |
| 01/01/2018 | 64y 4m | Yes       | 0.00       | 58,999.56         | 0.973300      | 1.000000       | 57,424      |

Benefit formula = RET BEN \* ERF \* VEST

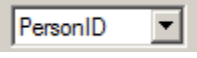
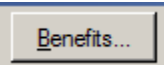
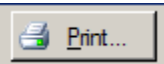

```

;RET BEN = 2% OF FAE MAX 30 YEARS
;ERF = THE EARLY RETIREMENT TABLE 4% FOR THE FIRST 5 YEARS
; AND 6% FOR THE NEXT 5
;VEST IS THE VESTING SCHEDULE

```

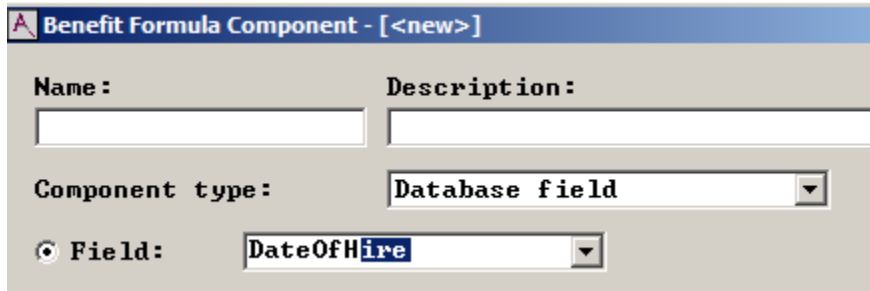
Estimate: Jones  
Client: ProAdmin Online Demo Plan Salary  
Project: ProAdmin Online Coding  
Run Date: January 12, 2012 9:39 AM

Besides navigating among reports, you can easily:

-  change the field used to identify records (PersonID is the default),
-  select benefits to display, and
-   print or save one or more reports.

## Interface

- ◆ Field name drop-down lists now let you type in the field name directly (previously, the best you could do was type the first letter repeatedly) as an alternative to picking it from the list. You can stop typing when you get to the field you want; ProAdmin autocompletes the field with the first match as you type.



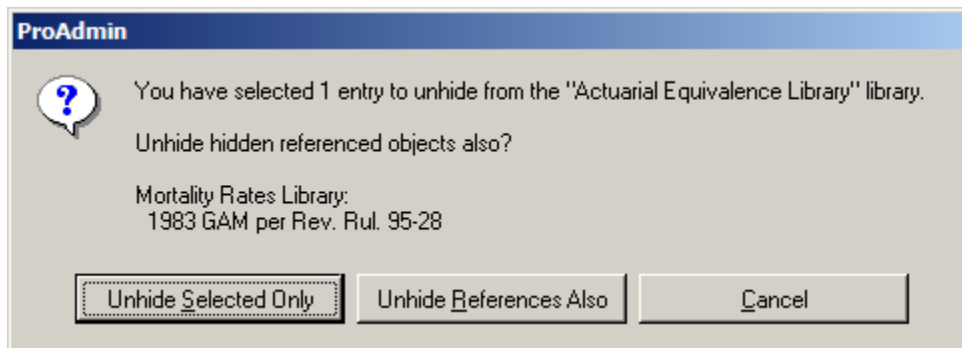
**Benefit Formula Component - [<new>]**

Name:  Description:

Component type:

Field:

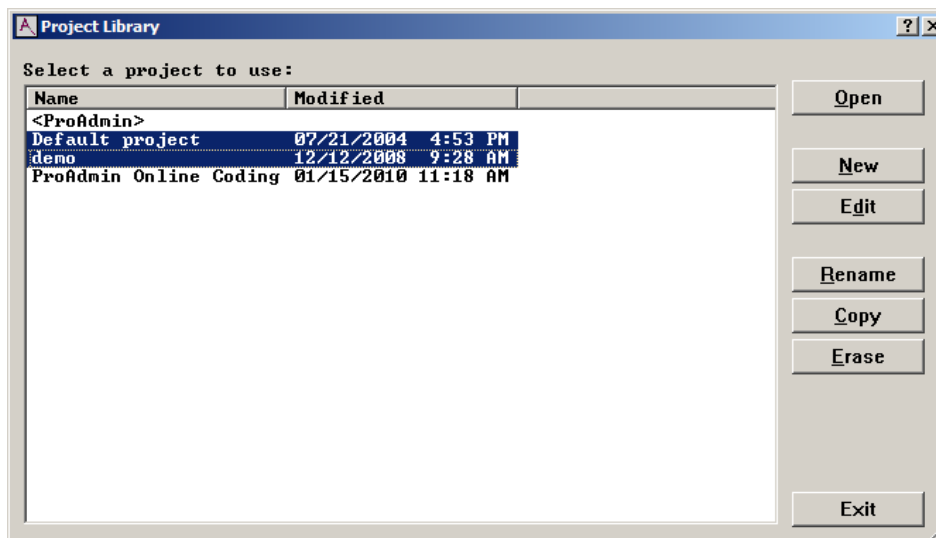
- ◆ When un hiding an object, ProAdmin now offers to unhide all referenced objects. For example, if you unhide an Actuarial Equivalence Library entry, ProAdmin will also offer to unhide the referenced Mortality Rates, etc.



**ProAdmin**

? You have selected 1 entry to unhide from the "Actuarial Equivalence Library" library.  
Unhide hidden referenced objects also?  
Mortality Rates Library:  
1983 GAM per Rev. Rul. 95-28

- ◆ The Project Library now utilizes the same interface found in other ProAdmin libraries. Among other things, multiple projects can now be deleted at once.



**Project Library**

Select a project to use:

| Name                   | Modified            |
|------------------------|---------------------|
| <ProAdmin>             |                     |
| Default project        | 07/21/2004 4:53 PM  |
| demo                   | 12/12/2008 9:28 AM  |
| ProAdmin Online Coding | 01/15/2010 11:18 AM |

- ◆ For Benefit Formula Components and Accrual Basis Components that vary by coded field, values for new codes can now be filled in without erasing prior results.

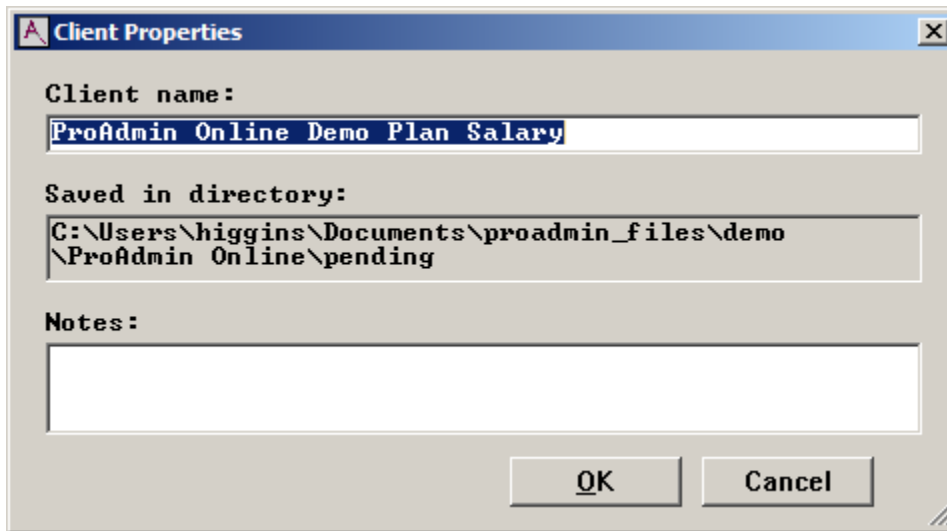
- ◆ ProAdmin now offers to create a database field benefit component if a reference is made to a database field in a subformula (just as it already did in a Benefit Formula).



- ◆ A new column in the Custom Operators Library displays the type (SALARY, FAS, SERVICE, PIA, CVCP or SSWB).
- ◆ The File > Options command now lets you select a font to view entries on ProAdmin's main screen (this command was previously found at File > System Maintenance > Options). For example, you might increase the font size to make entry names easier to read (tip: first try adjusting font size by using Windows Control Panel, so that the change applies to all applications, not just to ProAdmin). Additionally, you might select another font. For example, if your entry names rely on alignment for easy readability, you might select a fixed width font such as "Courier New", as displayed for these three (Plan Definitions library) entries:

Benefit Calculations  
 Batch Calculations  
 Early Retirement Window Calculations

- ◆ Client level notes can now be added in File > Properties.



- ◆ In List Objects or input listings, the table of contents will now display only selected objects by default (previously, the default was to display all objects).

## Fulfillment Tool

- ◆ The Package Map topic of the Fulfillment Tool has been enhanced to allow you to manually enter package codes. Previously a package code must have been associated with a calculation request within the database.

|     | Package Code | Document File  |
|-----|--------------|--|
| 1.  | 1            | C:\Documents and Settings\higgins\My Documents\proadmin_files\demo\ProAdmin... |
| 2.  | 2            | C:\Documents and Settings\higgins\My Documents\proadmin_files\demo\ProAdmin... |
| 3.  | 3            | C:\Users\higgins\Documents\proadmin_files\demo\ProAdmin Online\documents\w...  |
| 4.  |              |  |
| 5.  |              |  |
| 6.  |              |  |
| 7.  |              |  |
| 8.  |              |  |
| 9.  |              |  |
| 10. |              |  |

Output Documents

Document Folder: C:\Documents and Settings\higgins\My Documents\proadmin\_files\demo\ProAdmin...

OK Cancel