

ProAdmin version 3.02 introduces new interface enhancements, the ability to save cash balance and career average benefit component detailed results to XML, a new Sample Life exhibit for Service and Salary Transformation Expression details, a new #RANK operator and improvements to calculation speed. You'll find details about these and other enhancements below.

Interface

- ◆ When you change a ProAdmin parameter or dependent library entry, the data for saved calculations (Finals, Estimates, and Dates/Age/Service) will no longer be deleted as part of the audit trail process. The dialog box has changed to reflect the separation of the data review process and the calculation run process.

Estimated Benefit Calculation - [Smith]

Name:

Data

Person ID:

Use XML:

Calculation type:

One Decrement date:

Multiple decrement/commencement dates

Commencement:

Date(s)	Age(s)
07/01/2011	
01/01/2012	
05/01/2013	

Assumptions

Plan Definition:

Census Specifications:

Projection Assumptions:

Override salary inflation assumption with %

Override cash balance interest crediting rate with %

Output Definition:

- The Data Review check box has been replaced with a new Review Data split button which can have several options as described below. In addition, reviewed data will now be saved when either the Replace or Save as New button is used to exit the dialog box.

- "Load data & review" indicates that no data has been reviewed or saved, so the data will be loaded from the external data source.

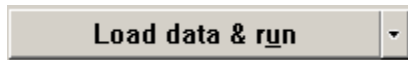


- "Refresh data & review" indicates that, while data was reviewed and or saved, you want to load new data from the external data source and review. When this is the default option, clicking on the split arrow will also make available a "Review saved data" (if data has previously been reviewed but no results have been saved), or a "Review saved data" option.



- The Run and Re-run buttons have been replaced by a split button with these options:

- "Load data & run" indicates that the member data should be retrieved from the external data source and the calculation run.



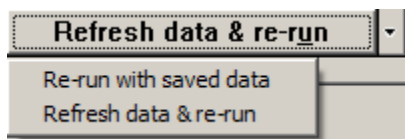
- "Run with reviewed data" indicates that the data has just been loaded and reviewed and it should be used to run the calculation. When this is the default option, clicking on the split arrow will also make available a "Refresh data and run" option.



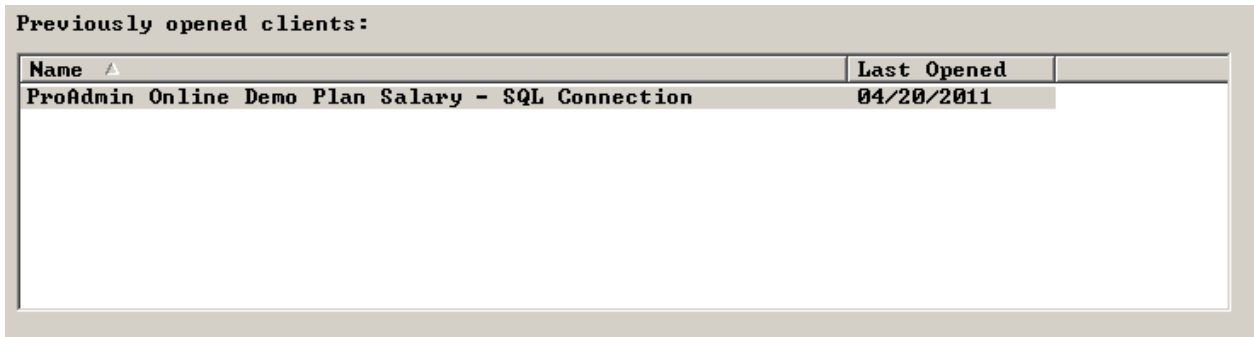
- If "Refresh data & run" is the default option, it means that data has previously been saved with the calculation assumptions but there are no saved calculation results. When this is the default option, clicking on the split arrow will also make available a "Run with saved data" option.



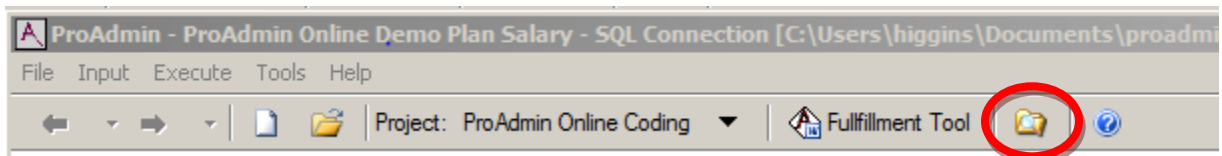
- "Refresh data & re-run" is the default option for calculations with saved results. In this case, clicking the split arrow will also make available a "Re-run with saved data" option. When a "re-run" occurs, the calculation results will be compared to any saved results and any differences will be reported.



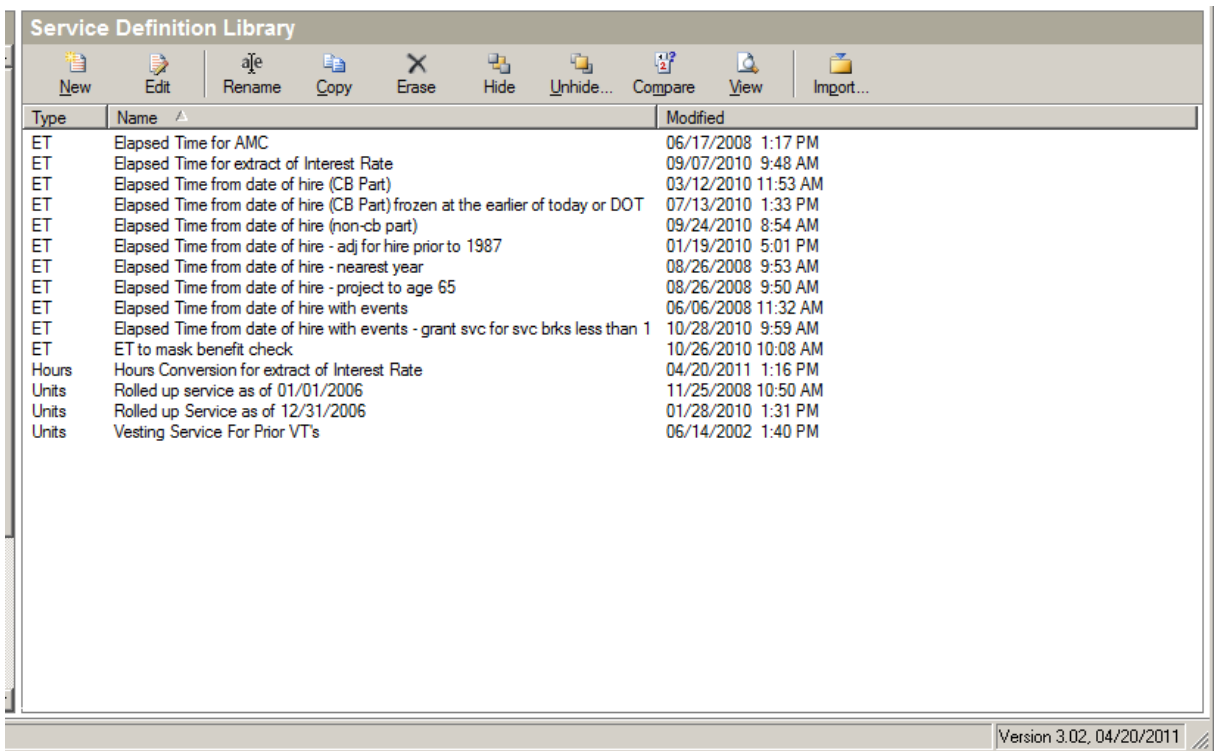
- ◆ When opening a client, the width of the Name and Last Opened columns is now adjustable so you can see long client names.



- ◆ A new toolbar button (“Explore Client Data Folder” option on the File menu) opens Windows Explorer directly to the client’s database directory. If you adhere to ProAdmin’s default of saving supporting client documents here (.xls, .doc, etc.), this makes it easy to get to them quickly.



- ◆ The Service Definition library now has a ‘Type’ column to identify the calculation method of the Service Definition. The potential calculation types are: ET for elapsed time, Hours for reported hours, and Units for reported units. You can sort Service Definitions by calculation method.



Sample Life Exhibits

- ◆ The detailed Cash Balance sample life exhibit has two new columns: accrual interest and balance interest. The balance interest column displays the interest that the balance

has earned during the crediting period from the prior date to the current date. The accrual interest column displays the interest that the accruals have earned during the crediting period from the prior date to the current date. (In the sample below with annual crediting, the accruals have interest because the "Credit Interest on 1/2 of current period accrual" option was checked on the Interest Crediting > Accruals tab.)

Benefit Formula Components
 Name: CASHBALANCEBENEFIT
 Type: Accrual Definition

PersonID: N/A

Date	Member Age	Benefit Service	Accrual Rate	Accrual Basis	Annual Accrual	Interest Rate	Accrual Interest	Balance Interest	Benefit Component
12/31/1997	44y 7m	0.000000	0.000000	0.00	0.00	0.056500	0.00	0.00	0.00
12/31/1998	45y 7m	0.000000	0.000000	0.00	0.00	0.056500	0.00	0.00	0.00
12/31/1999	46y 7m	0.000000	0.000000	0.00	0.00	0.056500	0.00	0.00	0.00
12/31/2000	47y 7m	2.000000	0.167917	15,500.00	2,602.71	0.056500	0.00	0.00	103,606.02
12/31/2001	48y 7m	3.000000	0.090000	16,500.00	1,485.00	0.056500	41.95	5,853.74	110,986.71
12/31/2002	49y 7m	4.000000	0.092917	17,500.00	1,626.04	0.056500	45.94	6,270.75	118,929.44
12/31/2003	50y 7m	5.000000	0.100000	18,500.00	1,850.00	0.056500	52.26	6,719.51	127,551.22
12/31/2004	51y 7m	6.000000	0.100000	19,000.00	1,900.00	0.056500	53.68	7,206.64	136,711.54
12/31/2005	52y 7m	7.000000	0.107917	23,450.00	2,530.65	0.056500	71.49	7,724.20	147,037.88
12/31/2006	53y 7m	8.000000	0.110000	25,000.00	2,750.00	0.056500	77.69	8,307.64	158,173.21
12/31/2007	54y 7m	9.000000	0.112917	49,583.35	5,598.79	0.056500	158.17	8,936.79	172,866.95
12/31/2008	55y 7m	10.000000	0.120000	36,044.76	4,325.37	0.056500	122.19	9,766.98	187,081.50
12/31/2009	56y 7m	11.000000	0.120000	37,420.62	4,490.47	0.056500	126.86	10,570.10	202,268.94
12/31/2010	57y 7m	12.000000	0.127917	38,331.86	4,903.28	0.056500	138.52	11,428.20	218,738.94
06/30/2011	58y 1m	12.500000	0.065000	19,932.57	1,295.62	0.028250	18.30	6,179.38	226,232.23
07/01/2011	58y 1m	12.500000	0.000000	0.00	0.00	0.000000	0.00	0.00	226,232.23
12/31/2011	58y 7m	12.500000	0.000000	19,932.57	0.00	0.027474	17.80	6,179.88	232,429.90
01/01/2012	58y 7m	12.500000	0.000000	0.00	0.00	0.000000	0.00	0.00	232,429.90
12/31/2012	59y 7m	12.500000	0.000000	19,932.57	0.00	0.056500	0.00	13,132.29	245,562.19
05/01/2013	59y 11m	12.500000	0.000000	0.00	0.00	0.014125	0.00	3,468.57	249,030.76
12/31/2013	60y 7m	12.500000	0.000000	19,932.57	0.00	0.041785	0.00	10,405.70	259,436.46
12/31/2014	61y 7m	12.500000	0.000000	19,932.57	0.00	0.056500	0.00	14,658.16	274,094.62

- ◆ Two new Detailed Results exhibits have been added to display the details of any transformation expressions that have been used in a Service or Salary Definition Set. Generally speaking, all values are shown as numbers unless they are known to be dates (e.g., #DATE). However, if you add _DT to any temporary assignment within the expression, ProAdmin will translate the result of that calculation to a date for display purposes. Numbers will display up to six (6) significant decimal places.

For Example: If one of your Service Definition Transformation Expression was like this

```

; beg of cal yr containing dec
DECBOY_DT:=(-12) #MONTHROUND #DODEC &

; end of plan yr in the calendar year contain decrement
DECBOYEOPY_DT:= #ENDMTH (2 #LSTBUSDAY DECBOY_DT) &

EarnSvc1:= #DATE < 01/01/2009 &
EarnSvc2:= (9 = #MONTH #DATE) #AND (30 = #DAY #DATE) #AND (#DATE <
DECBOYEOPY_DT) #AND (#THIS >= 1) &
EarnSvc3:= (#DATE = #DODEC) #AND (#THIS >= 1) &
EarnSvc:= EarnSvc1 #OR EarnSvc2 #OR EarnSvc3 &

1 #MIN (1 #MPSUM EarnSvc)

```

The Detailed Results would contain the following exhibit:

PersonID: N/A

Date (#DATE)	#THIS	DECBOY_DT	DECBOYEOPY_DT	EARN SVC1	EARN SVC2	EARN SVC3	EARN SVC	Expression Result
10/01/2006	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
10/31/2006	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
11/30/2006	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
12/31/2006	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
01/01/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
01/31/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
02/28/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
03/31/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
04/22/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
04/23/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
04/30/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
05/31/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
06/30/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
07/31/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
08/31/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
09/30/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
10/01/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
10/31/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
11/30/2007	0.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00
12/31/2007	1,400.00	01/01/2010	09/30/2010	1.00	0.00	0.00	1.00	1.00

Tables

- ◆ The "IRS 2008+ Small Plan Combined Static Mortality, 0 Pre-Comm (dynamic)" is now available in the mortality table library. In addition, some other small plan mortality tables have been renamed for clarity.

Output Definitions

- ◆ Cash balance and career average detailed calculations can now be included in Access and XML output. The new "Return benefit formula component details" checkbox is available in Benefit Detail output for applicable Benefit Formula Components and for Benefit Definitions when output by Decrement Date is selected. If checked, the results for all calculation dates, through the last benefit commencement date, is included in the output. For more information, see page 8.
- ◆ Fixed bug that FAS detail may not have been provided (and a message produced that no FAS operators were referenced) when the FAS operators were referenced within a subformula.

Administration Factors

- ◆ There is now an option to determine the beneficiary at commencement (e.g. only use member mortality during the deferral period).
- ◆ Continuous annuities have been given more precision. (This affects all ProAdmin calculations of continuous annuities, including those outside Administration Factors).

System

- ◆ ProAdmin now only calculates the benefits, benefit components and payment forms for which the participant is not excluded through the selection criteria of the Eligibility Definitions. This significantly speeds up calculations for complex plans by eliminating the calculation of any unused benefit formula components or accrual basis components. Similarly, ProAdmin now only evaluates unique PIA formulas for Social Security level income payment forms once, rather than re-evaluating for each payment form. As a consequence of this change:

- The "suppress n/a Benefit Definitions" option will no longer appear as ProAdmin is only calculating benefits where the member meets the eligibility criteria. Old runs will still automatically suppress the Benefit Definitions that are not applicable.
- Previously all of the components were calculated, so all of the values were written out, including component output in the XML. Now, if the components are not referenced by a Benefit Definition for which the member is eligible, they are not evaluated, so no data for these calculation results are available for the Output Definition or Summary Results. Thus, it may be necessary to re-define some Output Definition items that are desired but no longer calculated.
- ◆ A new ProAdmin operator, #RANK, has been added for Service and Salary transformation expressions. a #RANK b operates on array field (b) and returns integer values for the rank (highest to lowest) of the array values in (b) on or before the date (a). All values after the specified date (a) will have a rank of zero. If a date is not specified, the decrement date will be used. (The option to not specify a date is only available for single decrement calculations.)

An example where #RANK would be useful is a plan with a special lump sum that is based on the highest weekly salary in the 5 years preceding decrement. In this plan, salaries are reported weekly and our Salary Definition uses a weekly measurement period. What we'd like to do is use a FAS operator to get the lump sum value, but we can't do (1/52) #FAS 5, because both the averaging period and considered period must be integers. In this situation, #RANK can be used to (1) get the highest weekly salary in the 5 years preceding decrement, and (2) ensure the final salary is zero at every date except decrement. Note that this example doesn't worry about whether the first or last considered salary is a full weekly salary.

Our Salary Definition Transformation Expression would be as follows:

```

; Considered salaries: [5 years before decrement, decrement]
StopDate:= #DODEC & ; date of last considered weekly salary
StartDate:= StopDate #DATEMINUS 5Y & ; date of first considered salary
ConSals:=
  #IF #DATE < StartDate
    #THEN 0 ; zero out salaries before the 5 years preceding decrement
  #ELSE
    #THIS
  #ENDIF & ; considered salaries

; Rank the salaries in ConSals at each end of measurement period (weekly)
; and decrement
B:= #RANK ConSals & ; B is 0 at every date except each end of measurement
; period (before decrement) and decrement, where it's
; 1, 2, 3, 4, 5, ... and 1 = the highest salary.
; Because we zeroed out all salaries earned before 5 or more
; years before decrement, we've ensured that the salary we want
; is in the 5 yrs before decrement (unless the highest
; weekly salary is zero; then we don't care).

; zero all salaries except the highest weekly salary
S:= ConSals * (B = 1) & ; S is zero at every date except on the date that
; the highest salary was recognized

H:= #GETVALUE S & ; H (a scalar or single value) is the highest
; salary in the 5 years before decrement
; Since every salary in S is zero, except the largest, #GETVALUE
; will return the last (and only) non-zero value.

H * (#DATE = #DODEC) ; make sure salaries are zero except on decrement
; (so no extra benefits will be earned)

```

- ◆ Results of Final and Estimated Benefit Calculations and Dates/Age/Service Calculations can now be erased though the right-click menu.
- ◆ In expression help (F1) for Benefit Formula and Accrual Basis Components, the list of available Custom Operators will now always display the full operator names.
- ◆ Custom Regulatory Data information was added to the footer of the Sample Life tables and to the comments section in the XML results returned from ProAdmin Server. All external table information is now part of the comments section in the XML results written from ProAdmin Desktop.
- ◆ All of the processing messages from the Batch Estimate are now displayed when the calculation completes and a print button has been added to the display.
- ◆ The “no valid accrued benefit” warning message will now include the name of the applicable Benefit Formula Component.
- ◆ Fixed LENGTH ERROR opening a client, when updating more than one client in the Repository, where the directory of the previous client either didn’t exist or no longer contained a valid client.
- ◆ Several fixes were made so that the Import from Client option works properly in ProAdmin.
- ◆ ProAdmin is now compatible with Office 2010 (officially released 6/15/2010).
- ◆ Eliminate message, when saving data to a new Access Database, that you are trying to access a database that is exclusively tied.
- ◆ The client update log now consistently indicates the client path in addition to the client name.
- ◆ Many enhancements were made to the context-sensitive and Command Reference help.

Changes Log

- ◆ Be sure to read the changes log (see the “Changes Log (ProAdmin).doc” file in the ProAdmin directory) about updates to certain calculations that may change results.



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Cash Balance and Career Average results to XML

ProAdmin's Output Definitions have been enhanced to add the ability to output the detailed calculations for Cash Balance and Career Average benefit formula components to XML. This is similar to the Final Average Salary Details in that, in order to use this feature you must add a specific section to your XSD. This new section must be at the termination or decrement level. It can be used with both the Server and Desktop (XML) Output Definition types.

```
<xsd:element name="ProAdminBFCDetails" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="ProAdminBFC" maxOccurs="unbounded">
        <xsd:complexType>
          <xsd:sequence>
            <xsd:element name="Name"
type="xsd:string"/>
            <xsd:element name="Type"
type="xsd:string"/>
            <xsd:element name="Code"
type="xsd:decimal"/>
            <xsd:element name="ValueAtDec"
type="xsd:decimal"/>
            <xsd:element name="Details"
maxOccurs="unbounded">
              <xsd:complexType>
                <xsd:sequence>
                  <xsd:element
name="Date" type="xsd:date"/>
                  <xsd:element
name="MemberAge" type="xsd:decimal"/>
                  <xsd:element
name="BenefitService" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="MemberService" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="TableMemberAge" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="TableBeneAge" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="AccrualRate" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="AccrualBasis" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="Accrual" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="DiscountFactor" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="InterestRate" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="AccrualInterestRate" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="AccrualInterest" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="BalanceInterest" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="PreProjBenefit" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="ProjRate" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="ProjFactor" type="xsd:decimal" minOccurs="0"/>
                  <xsd:element
name="PreEmpiricalBenefit" type="xsd:decimal" minOccurs="0"/>
                </xsd:sequence>
              </xsd:complexType>
            </xsd:element>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
```



```

name="BFCResult" type="xsd:decimal" />
</xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>

```

Once you have imported the new schema into an XML Output Linkage, you may reference the linkage in an Output Definition. When you click on the **Add...** button and select **Benefit Detail**, the following dialog box below will display.

Enter the **Description** as you would for any other Output Definition component. Select the appropriate **Benefit Formula Component**. Check the box **Return benefit formula component details**. Click **Save As New**.

When you run an Estimate or Final Calculation that uses this Output Definition, a new section **Benefit Formula Component Details** will be contained within the **Output Definition Results**.

Benefit Formula Component details:

Name: CashBalanceBenefit
 Type: Accrual definition - cash balance
 Code: 3
 Value at decrement: 239,028.08

Date	MemberAge	BenefitService	AccrualRate	AccrualBasis	Accrual	InterestRate	AccrualInterest	BalanceInterest	BFCResult
12/31/2000	47.5833	11.500000	1.184583	15,500.00	18,361.04	0.056500	0.00	0.00	103,606.02
12/31/2001	48.5833	12.500000	0.130000	16,500.00	2,145.00	0.056500	60.60	5,853.74	111,665.36
12/31/2002	49.5833	13.500000	0.130000	17,500.00	2,275.00	0.056500	64.27	6,309.09	120,313.72
12/31/2003	50.5833	14.500000	0.137917	18,500.00	2,551.46	0.056500	72.08	6,797.73	129,734.98
12/31/2004	51.5833	15.500000	0.140000	19,000.00	2,660.00	0.056500	75.14	7,330.03	139,800.15
12/31/2005	52.5833	16.500000	0.142917	23,450.00	3,351.40	0.056500	94.68	7,898.71	151,144.93
12/31/2006	53.5833	17.500000	0.150000	25,000.00	3,750.00	0.056500	105.94	8,539.69	163,540.56
12/31/2007	54.5833	18.500000	0.150000	49,583.35	7,437.50	0.056500	210.11	9,240.04	180,428.21
12/31/2008	55.5833	19.500000	0.150000	36,044.76	5,406.71	0.056500	152.74	10,194.19	196,181.86
12/31/2009	56.5833	20.500000	0.150000	37,420.62	5,613.09	0.056500	158.57	11,084.28	213,037.80
12/31/2010	57.5833	21.500000	0.150000	38,331.86	5,749.78	0.056500	162.43	12,036.64	230,986.65
06/30/2011	58.0833	22.000000	0.075000	19,932.57	1,494.94	0.028250	21.12	6,525.37	239,028.08
07/01/2011	58.0833	22.000000	0.000000	0.00	0.00	0.000000	0.00	0.00	239,028.08
12/31/2011	58.5833	22.000000	0.000000	19,932.57	0.00	0.027474	20.54	6,525.95	245,574.57
01/01/2012	58.5833	22.000000	0.000000	0.00	0.00	0.000000	0.00	0.00	245,574.57
12/31/2012	59.5833	22.000000	0.000000	19,932.57	0.00	0.056500	0.00	13,874.96	259,449.53
05/01/2013	59.9167	22.000000	0.000000	0.00	0.00	0.014125	0.00	3,664.72	263,114.25

Run Parameters:

The XML will now contain this section mirroring the output results:

```

<ProAdminBFCDetails>
  <ProAdminBFC>
    <Name>CashBalanceBenefit</Name>
    <Type>Accrual definition - cash balance</Type>
    <Code>3</Code>
    <ValueAtDec>239028.08</ValueAtDec>
    <Details>
      <Date>2000-12-31</Date>
      <MemberAge>47.58333333333333</MemberAge>
      <BenefitService>11.5</BenefitService>
      <AccrualRate>1.18458333333333</AccrualRate>
      <AccrualBasis>15500</AccrualBasis>
      <Accrual>18361.0416666667</Accrual>
      <InterestRate>0.0565</InterestRate>
      <AccrualInterest>0</AccrualInterest>
      <BalanceInterest>0</BalanceInterest>
      <BFCResult>103606.02</BFCResult>
    </Details>
    <Details>
      <Date>2001-12-31</Date>
      <MemberAge>48.58333333333333</MemberAge>
      <BenefitService>12.5</BenefitService>
      <AccrualRate>0.13</AccrualRate>
      <AccrualBasis>16500</AccrualBasis>
      <Accrual>2145</Accrual>
      <InterestRate>0.0565</InterestRate>
      <AccrualInterest>60.59625</AccrualInterest>
      <BalanceInterest>5853.74013</BalanceInterest>
      <BFCResult>111665.36</BFCResult>
    </Details>
    <Details>.....
  </ProAdminBFC>
</ProAdminBFCDetails>

```

