# UNDERSTANDING THE CALCULATION OF AVERAGE VALUE BILLING

In PortfolioCenter, you have three options for calculating fees for your clients:

- the entire value on the first day of the billing period

- the entire value on the last day of the billing period,

- a calculation accounting for the value of the portfolio and/or group for each day (or month end) during the billing period.

Many assume that Average Value Billing is calculated by dividing the sum of the end-of-day/month values by the number of days/months in the time period to find the average; the Average Value Billing calculation in PortfolioCenter is much more complex to accurately account for special scenarios, such as accounts opening or closing in the middle of the billing period.

This document demonstrates the calculation using an example of the average **daily** billing calculation. This example uses a tiered rate schedule with five breakpoints, as shown in the image on the right, and a portfolio value that fluctuates enough to meet all five break points during some, but not all, of the days in the billing period.



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⊙ **Important**

- The Average Value Billing method can only be displayed using the client presentations in Presentation Studio. For more information about the billing pages, see the Presentations Gallery section on our website.

- This document is a guide for understanding the calculation and is not intended to be used as a guide for troubleshooting. However, there are tools you can use to help troubleshoot a calculation.

- Only the Average Value Billing scenario is covered in this document. See the Billing Scenarios list on our website for more information and instructions for creating the billing scenarios not covered in this document.

# EXAMPLE OF AVERAGE DAILY VALUE BILLING CALCULATION

Simplified, the daily Average Value Billing calculation creates a daily fee by using an appropriated daily rate multiplied by a daily value of billable assets in the portfolio for each day. The daily rate is calculated by dividing the annual rates by the number of days in the period. Finally, the daily fees for the period are added to give you the total management fee for the period. The examples in this document show how the calculations were done for February 1$^{st}$ when all breakpoints were met and again for February 16$^{th}$ when only four breakpoints were met. Once all daily fee amounts are calculated, they are summed to create the total fee amount before adjustments. The image below shows the daily fee calculations for the entire month of February as well as the total fee amount.

| DATE | PORTFOLIO VALUE | BREAKPOINT 1 CALCULATION | BREAKPOINT 2 CALCULATION | BREAKPOINT 3 CALCULATION | BREAKPOINT 4 CALCULATION | BREAKPOINT 5 CALCULATION | BREAKPOINT SUM | DAILY FACTOR | DAILY FEE |
|---|---|---|---|---|---|---|---|---|---|
| 2/1/2011 | $21,005,382.78 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $1,005.38 | $93,005.38 | .0027397260 | $254.81 |
| 2/2/2011 | $20,963,372.01 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $963.37 | $92,963.37 | .0027397260 | $254.69 |
| 2/3/2011 | $20,921,445.27 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $921.45 | $92,921.45 | .0027397260 | $254.58 |
| 2/4/2011 | $20,879,602.38 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $879.60 | $92,879.60 | .0027397260 | $254.46 |
| 2/5/2011 | $20,879,602.38 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $879.60 | $92,879.60 | .0027397260 | $254.46 |
| 2/6/2011 | $20,879,602.38 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $879.60 | $92,879.60 | .0027397260 | $254.46 |
| 2/7/2011 | $20,837,843.18 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $837.84 | $92,837.84 | .0027397260 | $254.35 |
| 2/8/2011 | $20,796,167.49 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $796.17 | $92,796.17 | .0027397260 | $254.24 |
| 2/9/2011 | $20,546,613.48 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $546.61 | $92,546.61 | .0027397260 | $253.55 |
| 2/10/2011 | $20,505,520.25 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $505.52 | $92,505.52 | .0027397260 | $253.44 |
| 2/11/2011 | $20,464,509.21 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $464.51 | $92,464.51 | .0027397260 | $253.33 |
| 2/12/2011 | $20,464,509.21 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $464.51 | $92,464.51 | .0027397260 | $253.33 |
| 2/13/2011 | $20,464,509.21 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $464.51 | $92,464.51 | .0027397260 | $253.33 |
| 2/14/2011 | $20,423,580.19 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $423.58 | $92,423.58 | .0027397260 | $253.22 |
| 2/15/2011 | $20,015,108.59 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $15.11 | $92,015.11 | .0027397260 | $252.10 |
| 2/16/2011 | $19,975,078.37 | $10,000.00 | $42,000.00 | $16,000.00 | $23,925.24 | $0 | $91,925.24 | .0027397260 | $251.85 |
| 2/17/2011 | $19,935,128.22 | $10,000.00 | $42,000.00 | $16,000.00 | $23,805.38 | $0 | $91,805.38 | .0027397260 | $251.52 |
| 2/18/2011 | $19,935,526.92 | $10,000.00 | $42,000.00 | $16,000.00 | $23,806.58 | $0 | $91,806.58 | .0027397260 | $251.52 |
| 2/19/2011 | $19,935,526.92 | $10,000.00 | $42,000.00 | $16,000.00 | $23,806.58 | $0 | $91,806.58 | .0027397260 | $251.52 |
| 2/20/2011 | $19,935,526.92 | $10,000.00 | $42,000.00 | $16,000.00 | $23,806.58 | $0 | $91,806.58 | .0027397260 | $251.52 |
| 2/21/2011 | $19,935,526.92* | $10,000.00 | $42,000.00 | $16,000.00 | $23,806.58 | $0 | $91,806.58 | .0027397260 | $251.52 |
| 2/22/2011 | $19,935,925.63 | $10,000.00 | $42,000.00 | $16,000.00 | $23,807.78 | $0 | $91,807.78 | .0027397260 | $251.53 |
| 2/23/2011 | $19,936,324.35 | $10,000.00 | $42,000.00 | $16,000.00 | $23,808.97 | $0 | $91,808.97 | .0027397260 | $251.53 |
| 2/24/2011 | $20,016,069.64 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $16.07 | $92,016.07 | .0027397260 | $252.10 |
| 2/25/2011 | $20,096,133.92 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $96.13 | $92,096.13 | .0027397260 | $252.32 |
| 2/26/2011 | $20,096,133.92 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $96.13 | $92,096.13 | .0027397260 | $252.32 |
| 2/27/2011 | $20,096,133.92 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $96.13 | $92,096.13 | .0027397260 | $252.32 |
| 2/28/2011 | $20,176,518.46 | $10,000.00 | $42,000.00 | $16,000.00 | $24,000.00 | $176.52 | $92,176.52 | .0027397260 | $252.54 |
| | | | | | | | | **TOTAL** | **$7,082.47** |

*President's Day

When management fees are calculated using the average daily value, PortfolioCenter calculates the fee on each days' ending value for the portfolio or group. For this example, assume a client using the average daily value billing method is billed at the end of February 2013 using the following tiered rate schedule:

| FROM VALUE | TO VALUE | YEARLY RATE |
|---|---|---|
| $0 | $1,000,000 | 1% |
| $1,000,000.01 | $8,000,000 | .6% |
| $8,000,000.01 | $12,000,000 | .4% |
| $12,000,000.01 | $20,000,000 | .3% |
| $20,000,000.01 | | .1% |

Below are the steps used to calculate the client's management fees for two days in the month of February.

**Tip**

The examples in this document do not use adjustments, such as discounts, service tax, or other miscellaneous adjustments. These adjustments are applied after the total fee for the period is calculated.

## EXAMPLE OF AVERAGE DAILY VALUE BILLING CALCULATION ACROSS *ALL* BREAKPOINTS

1   Calculate the billing period's daily factor by dividing the day count by the number of days in the year:

$$1 / 365 = .0027397260$$

**Note**

A typical year has 365 days, but a leap year will use 366 days in the daily factor calculation.

2   The first day of the period, February $1^{st}$, the portfolio value is $21,005,382.78, which falls into all five of the tiers in the rate schedule. In this step, calculate the annual equivalent billing fee for each tier by multiplying the annual tier rate by the amount of the portfolio assigned to the breakpoint:

| BILLING RATE | | VALUE BY BREAKPOINT | | ANNUAL RATE |
|---|---|---|---|---|
| .01 | * | $1,000,000.00 | = | $10,000.00 |
| .006 | * | $8,000,000.00 | = | $42,000.00 |
| .004 | * | $12,000,000.00 | = | $16,000.00 |
| .003 | * | $20,000,000.00 | = | $24,000.00 |
| .001 | * | $1,005,382.78 | = | $1,005.38 |
| Total **Annual** Billing Fee for Feb $1^{st}$ | | | = | $93,005.38 |

3   Next, allocate the annual fee for the **daily** amount for the February $1^{st}$ value by multiplying the daily factor calculated in step 1 by the annual billing fee calculated in step 2:

$$.0027397260 * \$93,005.38 = \$254.81$$

This step is repeated for the values on each day as long as the value of the portfolio is large enough to meet the minimum value for each breakpoint.

> **Important**
>
> - Do **NOT** create price files for weekends or holidays. PortfolioCenter automatically uses the prices from the last market day when calculating the daily average value billing fees on weekends or holidays.
>
> - If you are using accrued income (dividends, interest or gains), the accruals are included in the daily balances upon which the portfolio is billed.

**EXAMPLE OF AVERAGE DAILY VALUE BILLING CALCULATION ACROSS *SOME* BREAKPOINTS**

1. Similar to the first example, calculate the billing period's daily factor by dividing the day count by the number of days in the year:

   $$1 / 365 = .0027397260$$

2. On February 16th, the value of the portfolio is \$19,975,078.37, which only reaches the fourth tier in the rate schedule. Thus, in this step, calculate the annual equivalent billing fee for each of the first four tiers by multiplying the annual tier rate by the amount of the portfolio assigned to the breakpoint:

   | BILLING RATE | | VALUE BY BREAKPOINT | | ANNUAL RATE |
   |---|---|---|---|---|
   | .01 | * | \$1,000,000.00 | = | \$10,000.00 |
   | .006 | * | \$8,000,000.00 | = | \$42,000.00 |
   | .004 | * | \$12,000,000.00 | = | \$16,000.00 |
   | .003 | * | \$7,975,078.37 | = | \$23,925.24 |
   | .001 | * | \$0.00 | = | \$0.00 |
   | Total **Annual** Billing Fee for Feb 16th | | | = | \$91,925.24 |

3. Next, allocate the annual fee for the **daily** amount for the February 16th value by multiplying the daily factor calculated in step 1 by the annual billing fee calculated in step 2:

   $$.0027397260 * \$91,925.24 = \$251.85$$

   This step is repeated for the values on each day as long as the value of the portfolio is large enough to meet the minimum value for each breakpoint.