User Manual

Interest Calculation Add-on

Supernova Add-on for SAP® Business One

Date: October 2013

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TABLE OF CONTENTS

About Interest Calculation Add-on 4
Introduction 4
Background 4
Goals 4
Main Features 4
Calculation Methods 5
Configuration 9
Running the Interest Calculation Add-on 9
Using the Interest Calculation add-on 10
Setting up Business Partners with Interest Rates 10
Interest Rate Change 11
Interest Calculations 12
User Interface of Interest Calculation 12
Example 13
Scenario 1: Interest Calculations without Capitalization 14
Scenario 2: Interest Calculations with June Capitalization 16
Scenario 3: Interest Calculations with December Capitalization 18

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About Interest Calculation Add-on

Introduction

The Interest Calculation add-on runs as a seamless integrated application internal in SAP Business One. The purpose of the add-on is to calculate the Interest Charges of an amount that is due. This seamless integration is available in the Business Partner Master Data and A/R Invoice modules of SAP Business One.

Background

Using the sub-menu of Interest Calculation under the Business Partners menu of SAP Business One, users can manually add each month the Interest Calculation Charges, by using the information from each customer.

Furthermore, the Interest Calculation of a customer usually starts from an A/R Invoice. Therefore users need to able to create all the interest calculations automatically.

Another need addressed by this add-on is for users to know the customer balance and the due date from within the Interest Calculation window.

Goals

With the Interest Calculation add-on the user can create the Interest Calculation charges. The following are some of the benefits provided by this add-on.

- Full integration with SAP Business One, which enhances business process efficiency.
- Better flexibility when a user wants to change the interest rate.
- Real time information about the money due by the customers.

Main Features

The following features are provided by the add-on:

- Ability to calculate the interest charge per month.
- Ability to add the interest charge into the total amount
- Ability to calculate the total interest charge after a capitalization.

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Calculation Methods

Formula 1:

The add-on takes into account the due amount of each customer and makes the necessary calculations. These calculations are repeated each month until the customer settles the due amount. The formula of these calculations is the following:

$$\frac{\text{Due Amount from the transaction (i.e A/R Invoice)} \times \text{Interest Rate} \times \text{Total Days from the due date of the A/R Invoice / Total Days from the last interest calculation}}{\text{365 (Days of the Year)}} = \text{Total Amount of Interest Charge}$$

Formula 2:

In case the customer did not settle the due amount until 30/06 of the year, then the add-on makes the necessary calculations to include capitalization. In the capitalization the system makes the interest calculations of each interest amount between the 1st and the 5th month plus the total amount of interest charge for the 6th month.

1st Month (i.e. January)

$$\frac{\text{Total amount of interest charge for the 1st month} \times \text{Interest Rate} \times \text{152 (total days from the 1st until the 5th month)}}{\text{365 (Days of the Year)}} = \text{Total interest amount with interest charge}$$

+ 2nd Month (i.e. February)

$$\frac{\text{Total amount of interest charge for the 2nd month} \times \text{Interest Rate} \times \text{121 (total days from the 2nd until the 5th month)}}{\text{365 (Days of the Year)}} = \text{Total interest amount with interest charge}$$

+ 3rd Month (i.e. March)

$$\frac{\text{Total amount of interest charge for the 3rd month} \times \text{Interest Rate} \times 90}{\text{365 (Days of the Year)}} = \text{Total interest amount with interest charge}$$

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+ 4th Month (i.e. April 2012)

Total amount of interest charge for the 4th month	x	Interest Rate	x	60	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 5th Month (i.e. May)

Total amount of interest charge for the 5th month	x	Interest Rate	x	30	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 6th Month (i.e. June)

Due amount from the transaction (i.e. A/R Invoice)	x	Interest Rate	x	30 (total days from the last interest calculation)	=	Total amount of interest charge = Cumulative Balance (after 1st Capitalization)
365 (Days of the Year)						

Formula 3:

In case a customer did not settle the due amount until 31/12 of the year then the add-on makes the necessary calculations to include a 2nd capitalization. In the 2nd capitalization the system makes the interest calculations of each interest amount between the 7th and 11th month, plus the total amount of interest charge for 12th month plus interest on each interest amount that was already calculated for the first 6 months of the year.

7th Month (i.e. July)

Total amount of interest charge for the 7th month	x	Interest Rate	x	184 (total days from the 7th until the 11th month)	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 8th Month (i.e. August)

Total amount of interest charge for the 8th month	x	Interest Rate	x	153 (total days from the 8th until the 11th month)	=	Total interest amount with interest charge
365 (Days of the Year)						

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+ 9th Month (i.e. September)

Total amount of interest charge for the 9th month	x	Interest Rate	x	122	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 10th Month (i.e. October)

Total amount of interest charge for the 10th month	x	Interest Rate	x	92	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 11th Month (i.e. November)

Total amount of interest charge for the 11th month	x	Interest Rate	x	61	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 12th Month (i.e. December)

Due amount from the transaction (i.e. A/R Invoice)	x	Interest Rate	x	31 (total days from the last interest calculation)	=	Total amount of interest charge
365 (Days of the Year)						

+ 1st Month (i.e. January)

Total amount of interest charge for the 1st month	x	Interest Rate	x	182 (half year)	=	Total interest amount with interest charge
365 (Days of the Year)						

+ 2nd Month (i.e. February)

Total amount of interest charge for the 2nd month	x	Interest Rate	x	182 (half year)	=	Total interest amount with interest charge
365 (Days of the Year)						

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+ 3rd Month (i.e. March)

$$\frac{\text{Total amount of interest charge for the } 3^{rd} \text{ month} \times \text{Interest Rate} \times 182 \text{ (half year)}}{365 \text{ (Days of the Year)}} = \text{Total interest amount with interest charge}$$

+ 4th Month (i.e. April)

$$\frac{\text{Total amount of interest charge for the } 4^{th} \text{ month} \times \text{Interest Rate} \times 182 \text{ (half year)}}{365 \text{ (Days of the Year)}} = \text{Total interest amount with interest charge}$$

+ 5th Month (i.e. May)

$$\frac{\text{Total amount of interest charge for the } 5^{th} \text{ month} \times \text{Interest Rate} \times 182 \text{ (half year)}}{365 \text{ (Days of the Year)}} = \text{Total interest amount with interest charge}$$

+ 6th Month (i.e. June)

$$\frac{\text{Total amount of interest charge for the } 6^{th} \text{ month} \times \text{Interest Rate} \times 182 \text{ (half year)}}{365 \text{ (Days of the Year)}} = \text{Total interest amount with interest charge} = \text{Cumulative Balance (after } 2^{nd} \text{ capitalization)}$$

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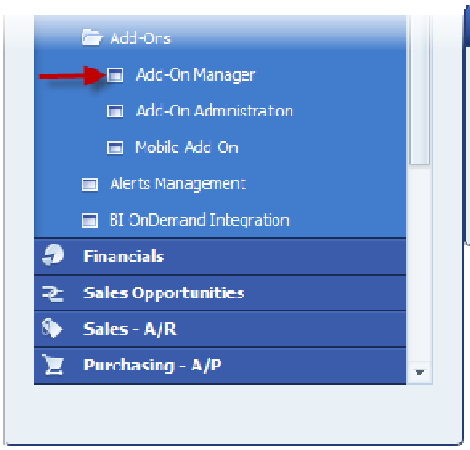
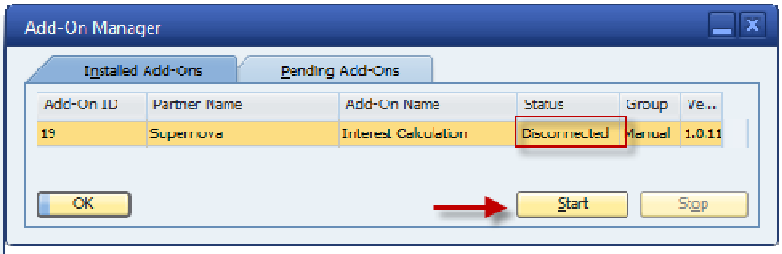
Configuration

Before starting to use the add-on, some configuration needs to take place. Any User Defined Fields which are essential for the add-on operation will automatically be created upon the first time the add-on is connected with the SAP Business One database.

Running the Interest Calculation Add-on

- Go to Modules → Administration → Add-On.
- Click to open the Add-on Manager – Setup window.
- This is where the Key User or the Consultant will define the settings when an item will be generated.





- **Status:** When the **Status** of the add-on appears as **Disconnected,** then to activate it again select the specific add-on, and press **Start** button.
  (Disconnected / Connected)

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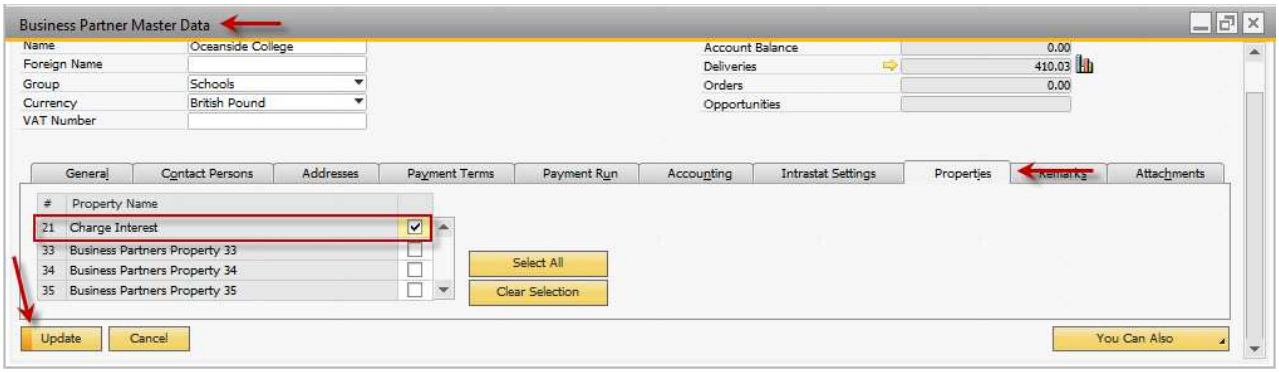
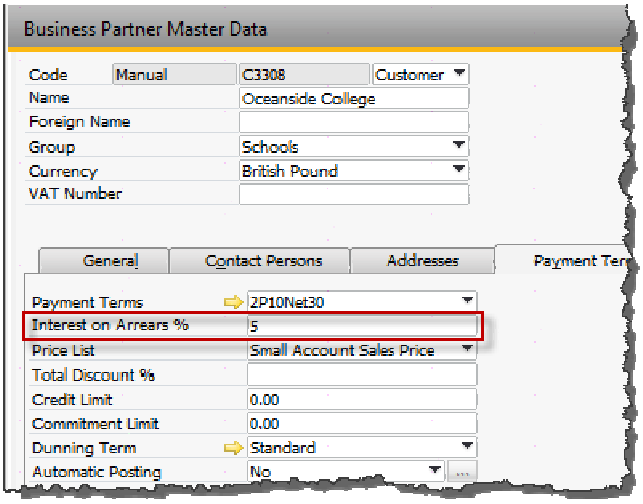
Using the Interest Calculation add-on

Setting up Business Partners with Interest Rates

- Find and select the required Business Partner.
- Go to Properties.
- Click to mark the property **Charge Interest**.



- Press **Update**, and **Ok** buttons. After saving, the user can see the specific business partner listed in the **Insert Rate Change** window which shows all customers that have been marked to have an interest rate.
- The Interest Rate value is also visible in the **Payment Terms** tab of the Business Partner window.



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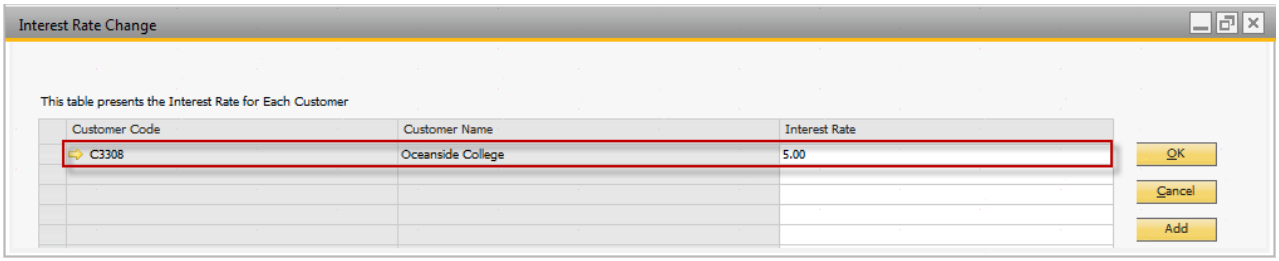
Interest Rate Change

- To view all customers who have been selected to have an interest rate go to Modules → Business Partners → Interest Calculation → Interest Rate Change.



  - **Customer Code**: this is the Code of the Business Partner.
  - **Customer Name**: this is the Name of the Business Partner.
  - **Interest Rate**: this is the Interest %, where the system will use for calculating the interest on a specific customer.
- Add or change an **Interest Rate** in the textbox.
- Press **Update**, **Add** and finally **OK** to save changes and close the window.

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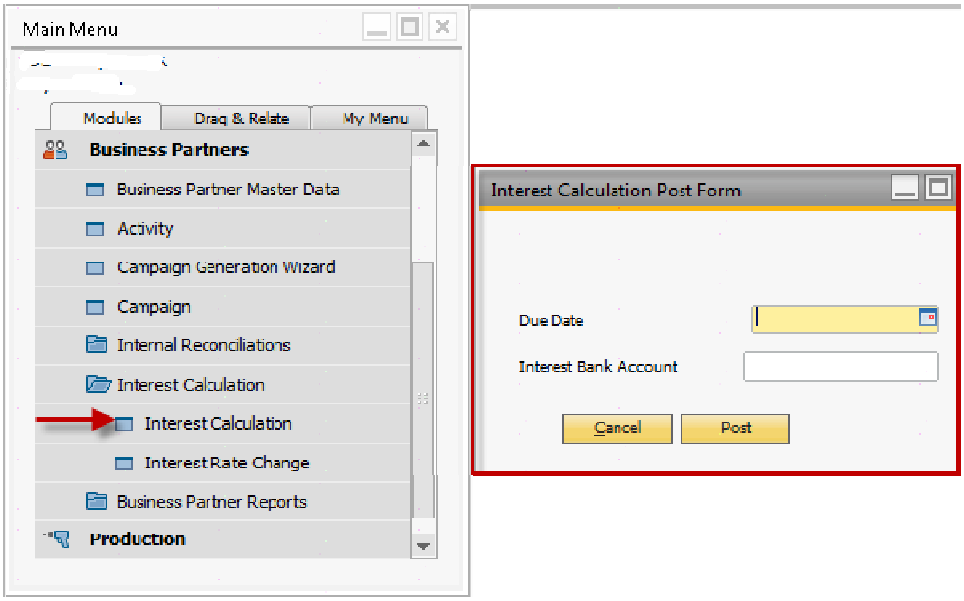
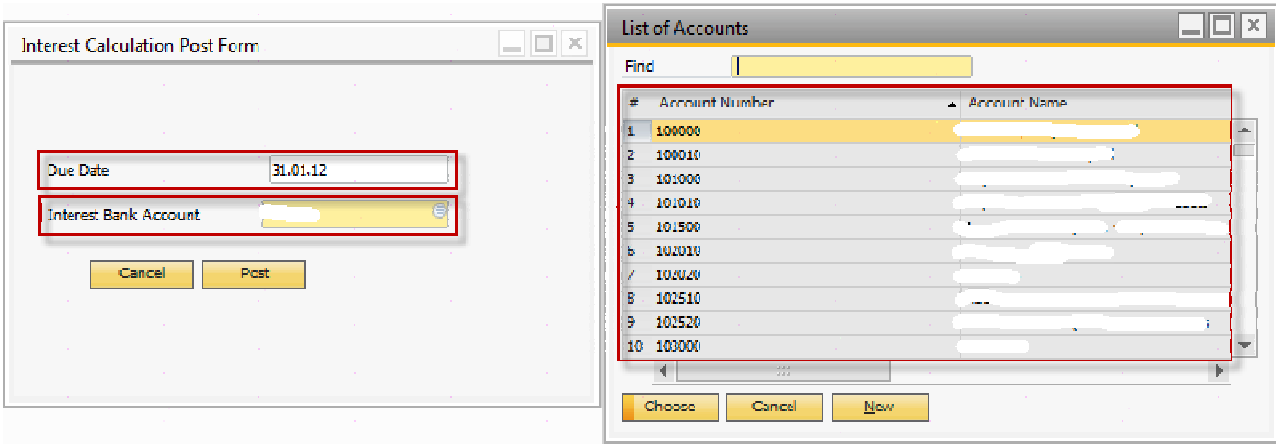
Interest Calculations

User Interface of Interest Calculation

- Go to Modules → Business Partners → Interest Calculation → Interest Calculation



- **Due Date**: the system will display all available due amounts until the date selected here.
- **Interest Bank Account**: the bank account that is going to be used when posting on Credit. This account will be defined by the accounting department.



- When running the Interest Calculation the system will affect two accounts:
  - the Debit account is the customer's account
  - the Credit account is the one affected by the interest value.

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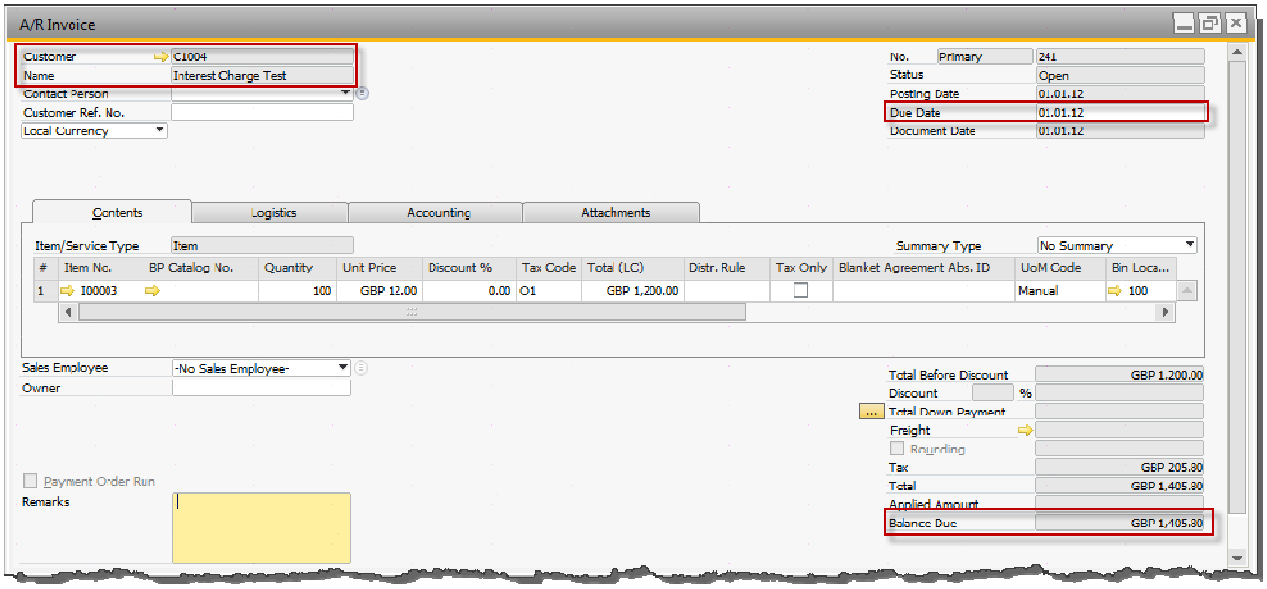
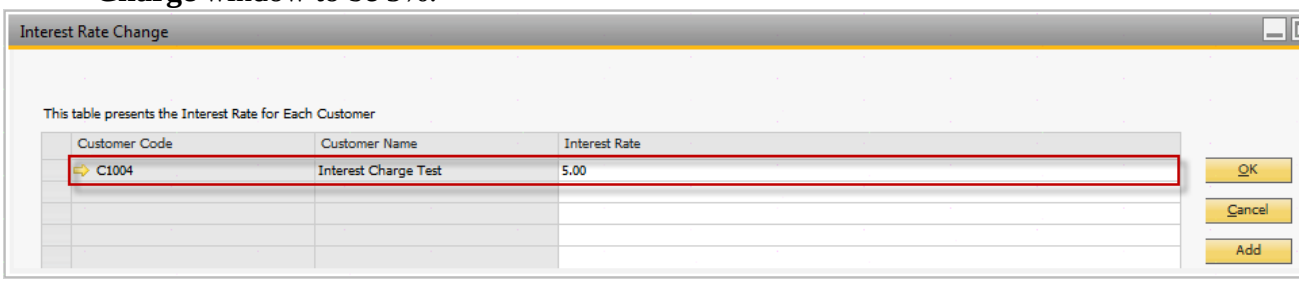
Example

An A/R Invoice for customer C2004 was posted for item I00004, with total due £1405.80. The customer has not settled the amount yet (as of 01.01.2013).



- **Customer:** C2004
- **Due Date:** 01.01.2012
- **Item No.:** I00004
- **Balance Due:** £1405.80

- The company defines the interest percentage for that customer through the **Interest Rate Charge** window to be 5%.



- **Customer Code:** C2004
- **Customer Name:** Interest Change Test
- **Interest Rate:** 5.00 = 5%

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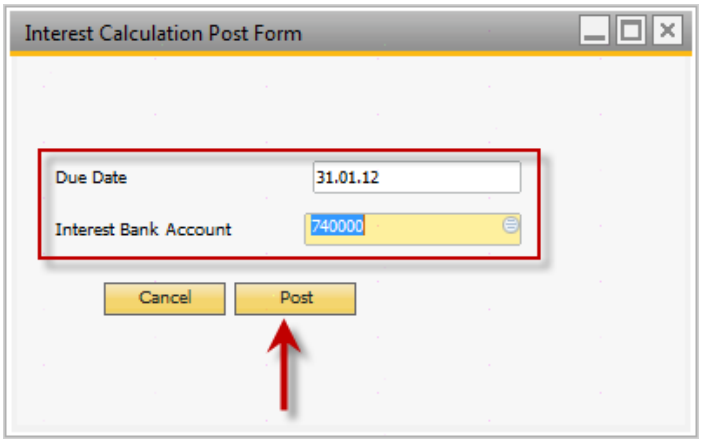
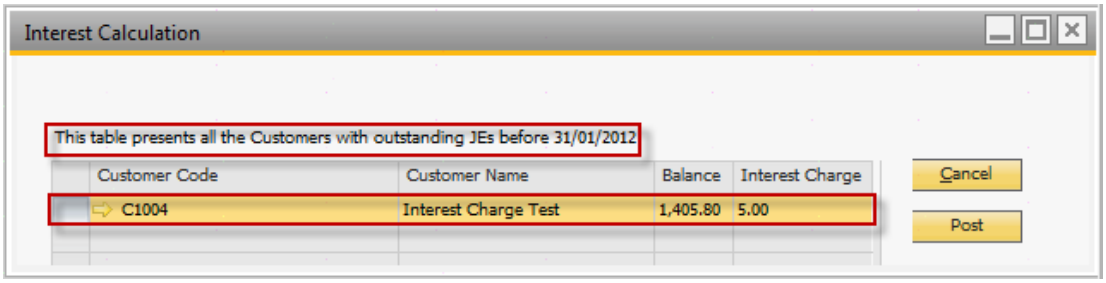
Scenario 1: Interest Calculations without Capitalization

- Based on the due amount the company will create the Interest Calculations post for that customer.



- Next, the system will display a list of all customers with an overdue balance. Select the required customer by pressing the grey box in front of the customer for which to run interest calculations.



- Press the post button and the system will automatically make all interest calculations.
- The user can view all calculations done through the **Business Partner Master Data** window and by pressing the arrow next to **Account Balance**.

- The window will display all financial transactions from the beginning (A/R Invoice) until the end (the Interest charges).

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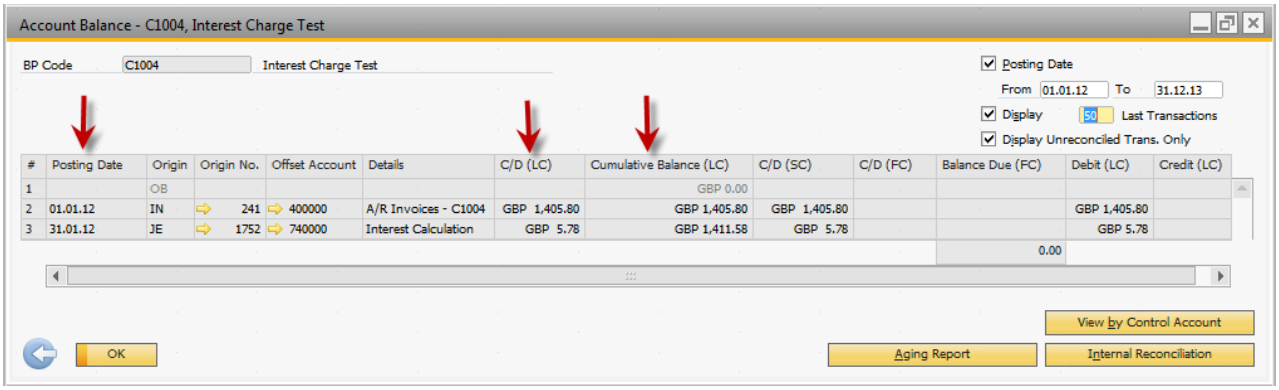

- **Posting Date:** 01.01.12 (due date of the A/R Invoice)
  31.01.2012 (date that interest calculations were applied on due amount)
- **C/D (LC):** 1,405.8 (due amount)
  5.78 [1,405.8 (due amount) x 5% (interest rate) x 30 (total days from the due date) / 365 = 5.78]
- **Cumulative Balance:** 1,405.8 (total due amount)
  5.78 (total Interest amount with interest calculation charge)

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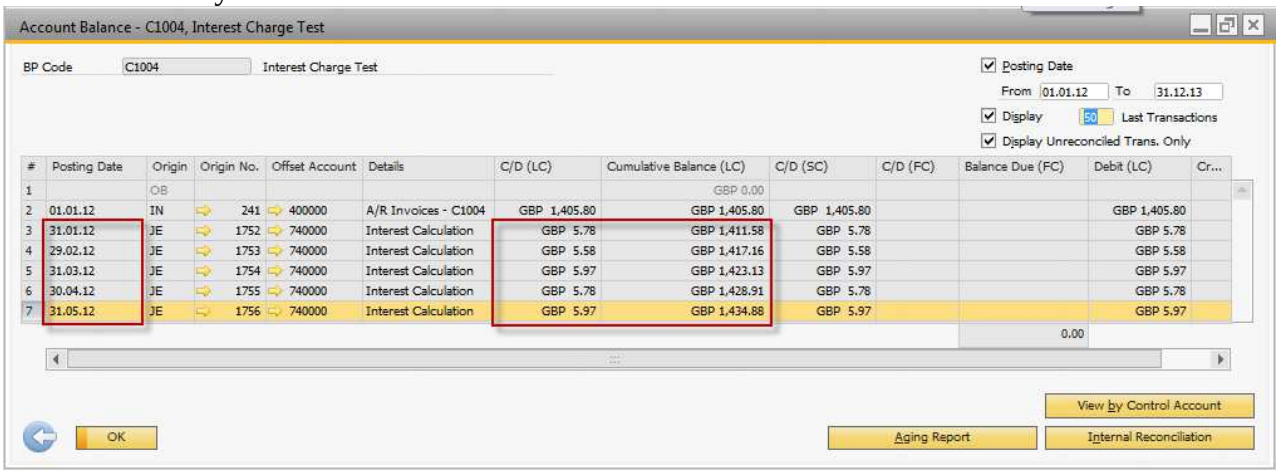
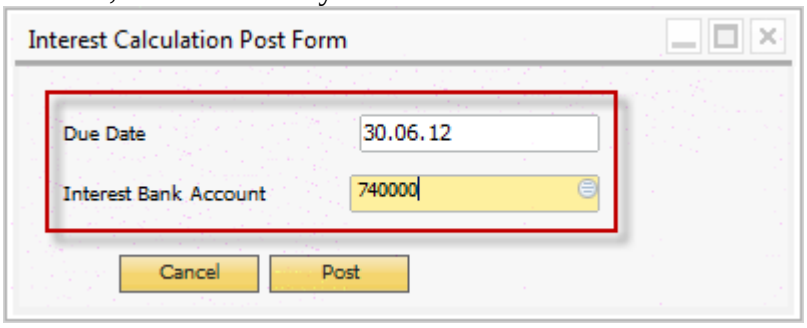
Scenario 2: Interest Calculations with June Capitalization

In the case where a customer does not settle the due amount until June, then the company will run interest calculations with a 1st capitalization.

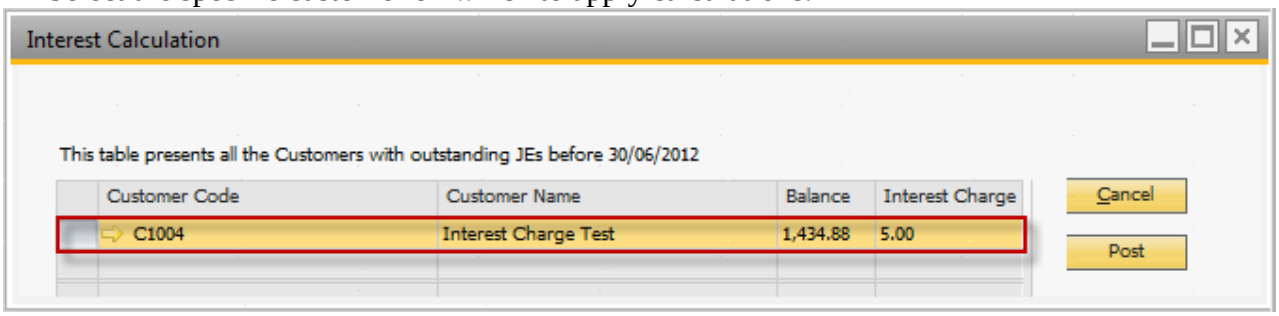
- On the 31st of May the Cumulative Balance was £1,434.88. That balance resulted from the calculations presented in the previous scenario and includes interest calculations up to the month of May.



- Now, the user is ready to run interest calculations for June.



- Select the specific customer on which to apply calculations.



- Press the post button and the system will automatically make all interest calculations.

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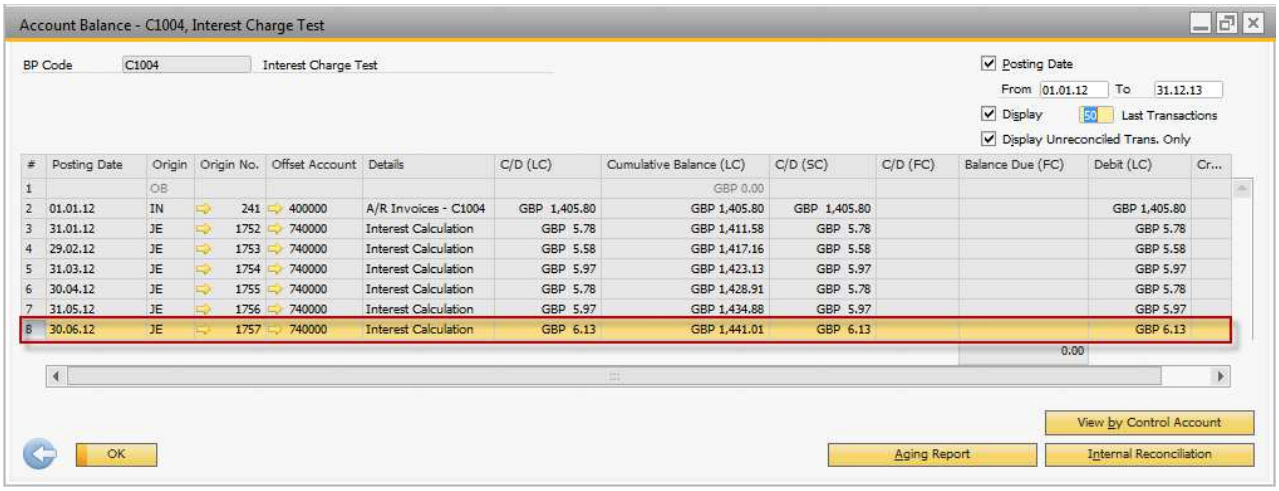

#	Posting Date	Origin	Origin No.	Offset Account	Details	C/D (LC)	Cumulative Balance (LC)	C/D (SC)	C/D (FC)	Balance Due (FC)	Debit (LC)	Cr...
1		OB					GBP 0.00					
2	01.01.12	IN	241	400000	A/R Invoices - C1004	GBP 1,405.80	GBP 1,405.80	GBP 1,405.80			GBP 1,405.80	
3	31.01.12	JE	1752	740000	Interest Calculation	GBP 5.78	GBP 1,411.58	GBP 5.78			GBP 5.78	
4	29.02.12	JE	1753	740000	Interest Calculation	GBP 5.58	GBP 1,417.16	GBP 5.58			GBP 5.58	
5	31.03.12	JE	1754	740000	Interest Calculation	GBP 5.97	GBP 1,423.13	GBP 5.97			GBP 5.97	
6	30.04.12	JE	1755	740000	Interest Calculation	GBP 5.78	GBP 1,428.91	GBP 5.78			GBP 5.78	
7	31.05.12	JE	1756	740000	Interest Calculation	GBP 5.97	GBP 1,434.88	GBP 5.97			GBP 5.97	
8	30.06.12	JE	1757	740000	Interest Calculation	GBP 6.13	GBP 1,441.01	GBP 6.13			GBP 6.13	

- **Posting Date:** 30.06.12
- **C/D (LC) and Cumulative Balance (LC):**

#	**Calculations**	**Amounts**	
1	(5.78 * 5% * 152) / 365 = (5.58 * 5% * 121) / 365 = (5.97 * 5% * 90) / 365 = (5.78 * 5% * 60) / 365 = (5.97 * 5% * 29) / 365 =	0.12 0.09 0.07 0.05 0.02 +	0.35
2	Total: (1.405.80 * 5% * 30) / 365 =		5.78
3	Last Cumulative Balance		1,434.88 +
	Total Cumulative Balance After Capitalization		**1,441.01**

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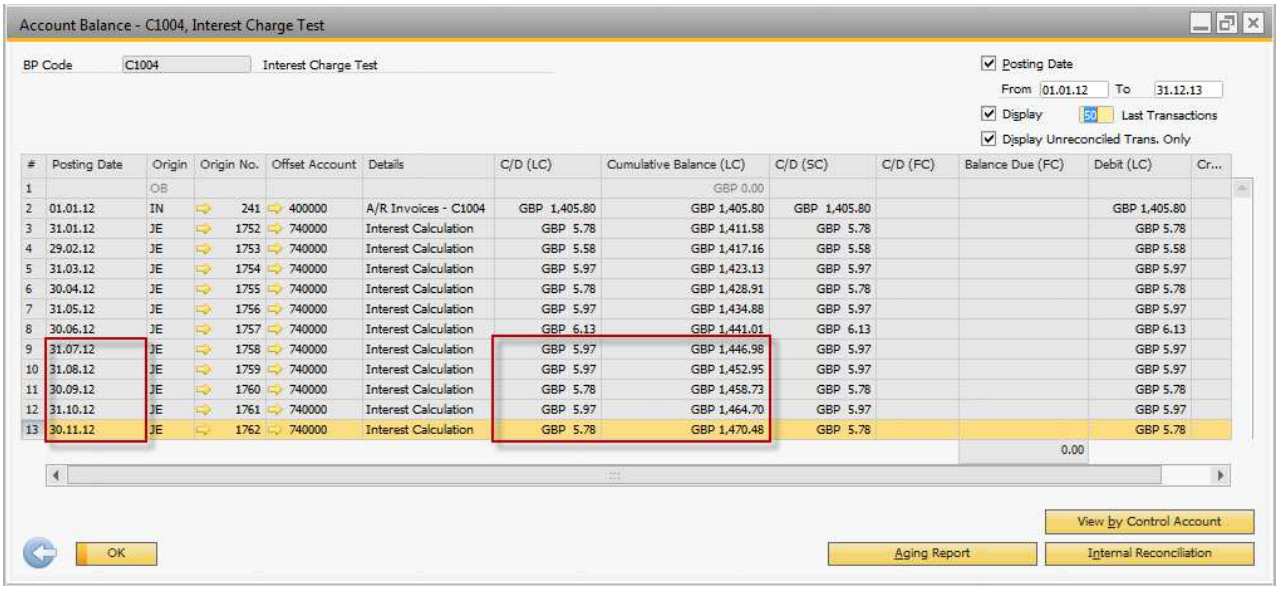
Scenario 3: Interest Calculations with December Capitalization

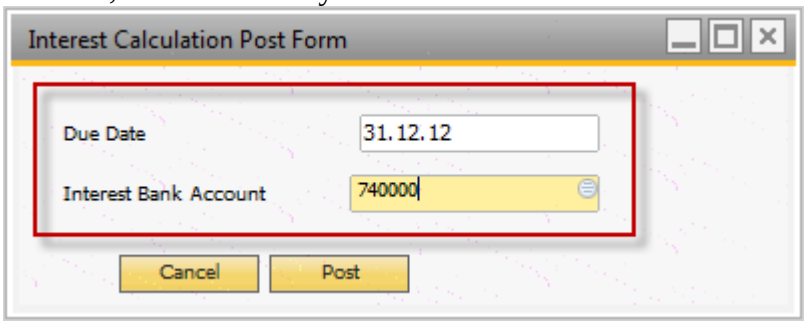
In the case where a customer does not settle the due amount until December, then the company will run interest calculations with a 2nd capitalization.

- On the 30th of December the Cumulative Balance was £1,470.48. That balance resulted from the calculations presented in the 1st & 2nd scenarios above. For the 7th until the 11th months, the user has to repeat the same procedures from the 1st scenario.

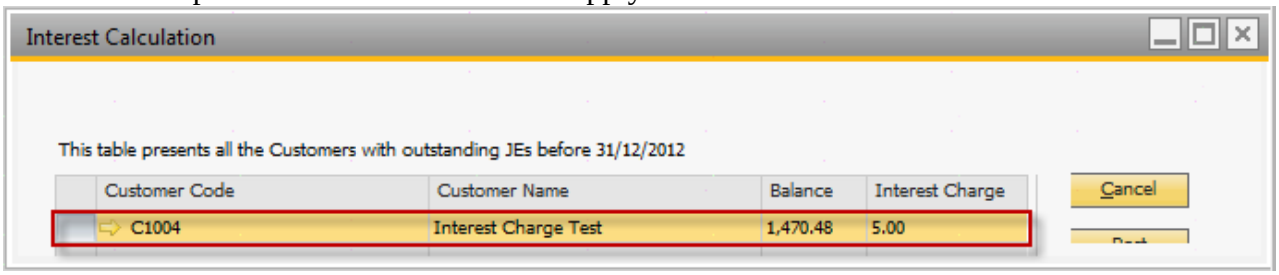


#	Posting Date	Origin	Origin No.	Offset Account	Details	C/D (LC)	Cumulative Balance (LC)	C/D (SC)	C/D (FC)	Balance Due (FC)	Debit (LC)	Cr...
1		OB					GBP 0.00					
2	01.01.12	IN	241	400000	A/R Invoices - C1004	GBP 1,405.80	GBP 1,405.80	GBP 1,405.80			GBP 1,405.80	
3	31.01.12	JE	1752	740000	Interest Calculation	GBP 5.78	GBP 1,411.58	GBP 5.78			GBP 5.78	
4	29.02.12	JE	1753	740000	Interest Calculation	GBP 5.58	GBP 1,417.16	GBP 5.58			GBP 5.58	
5	31.03.12	JE	1754	740000	Interest Calculation	GBP 5.97	GBP 1,423.13	GBP 5.97			GBP 5.97	
6	30.04.12	JE	1755	740000	Interest Calculation	GBP 5.78	GBP 1,428.91	GBP 5.78			GBP 5.78	
7	31.05.12	JE	1756	740000	Interest Calculation	GBP 5.97	GBP 1,434.88	GBP 5.97			GBP 5.97	
8	30.06.12	JE	1757	740000	Interest Calculation	GBP 6.13	GBP 1,441.01	GBP 6.13			GBP 6.13	
9	31.07.12	JE	1758	740000	Interest Calculation	GBP 5.97	GBP 1,446.98	GBP 5.97			GBP 5.97	
10	31.08.12	JE	1759	740000	Interest Calculation	GBP 5.97	GBP 1,452.95	GBP 5.97			GBP 5.97	
11	30.09.12	JE	1760	740000	Interest Calculation	GBP 5.78	GBP 1,458.73	GBP 5.78			GBP 5.78	
12	31.10.12	JE	1761	740000	Interest Calculation	GBP 5.97	GBP 1,464.70	GBP 5.97			GBP 5.97	
13	30.11.12	JE	1762	740000	Interest Calculation	GBP 5.78	GBP 1,470.48	GBP 5.78			GBP 5.78	
										0.00		

- Now, the user is ready to run interest calculations for June.



- Select the specific customer on which to apply calculations.



- Press the post button and the system will automatically make all interest calculations.

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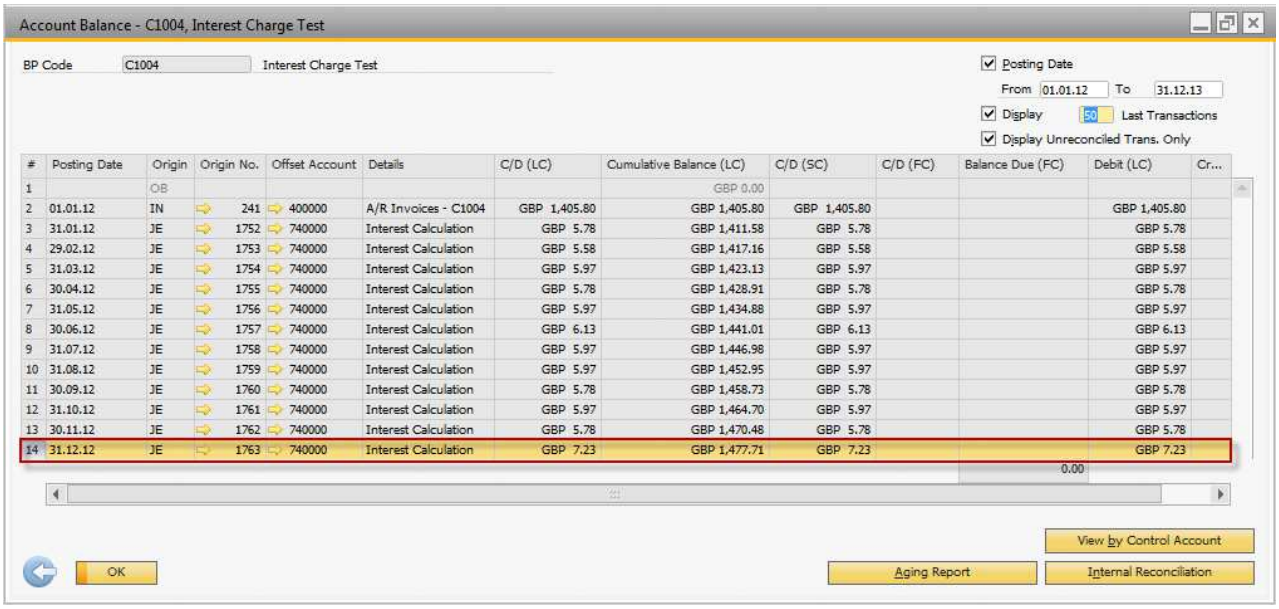

#	Posting Date	Origin	Origin No.	Offset Account	Details	C/D (LC)	Cumulative Balance (LC)	C/D (SC)	C/D (FC)	Balance Due (FC)	Debit (LC)	Cr...
1		OB					GBP 0.00					
2	01.01.12	IN	241	400000	A/R Invoices - C1004	GBP 1,405.80	GBP 1,405.80	GBP 1,405.80			GBP 1,405.80	
3	31.01.12	JE	1752	740000	Interest Calculation	GBP 5.78	GBP 1,411.58	GBP 5.78			GBP 5.78	
4	29.02.12	JE	1753	740000	Interest Calculation	GBP 5.58	GBP 1,417.16	GBP 5.58			GBP 5.58	
5	31.03.12	JE	1754	740000	Interest Calculation	GBP 5.97	GBP 1,423.13	GBP 5.97			GBP 5.97	
6	30.04.12	JE	1755	740000	Interest Calculation	GBP 5.78	GBP 1,428.91	GBP 5.78			GBP 5.78	
7	31.05.12	JE	1756	740000	Interest Calculation	GBP 5.97	GBP 1,434.88	GBP 5.97			GBP 5.97	
8	30.06.12	JE	1757	740000	Interest Calculation	GBP 6.13	GBP 1,441.01	GBP 6.13			GBP 6.13	
9	31.07.12	JE	1758	740000	Interest Calculation	GBP 5.97	GBP 1,446.98	GBP 5.97			GBP 5.97	
10	31.08.12	JE	1759	740000	Interest Calculation	GBP 5.97	GBP 1,452.95	GBP 5.97			GBP 5.97	
11	30.09.12	JE	1760	740000	Interest Calculation	GBP 5.78	GBP 1,458.73	GBP 5.78			GBP 5.78	
12	31.10.12	JE	1761	740000	Interest Calculation	GBP 5.97	GBP 1,464.70	GBP 5.97			GBP 5.97	
13	30.11.12	JE	1762	740000	Interest Calculation	GBP 5.78	GBP 1,470.48	GBP 5.78			GBP 5.78	
14	31.12.12	JE	1763	740000	Interest Calculation	GBP 7.23	GBP 1,477.71	GBP 7.23			GBP 7.23	
										0.00		

- **Posting Date:** 31.12.12
- **C/D (LC) and Cumulative Balance (LC):**

#	Calculations	Amounts	
	(5.97 * 5% * 153) / 365 =	0.12	
	(5. 97 * 5% * 122) / 365 =	0.10	
	(5.78 * 5% * 92) / 365 =	0.07	
	(5.97 * 5% * 61) / 365 =	0.05	
1	(5.78 * 5% * 31) / 365 =	0.02 +	0.36
2	(1.405.80 * 5% * 31) / 365 =		5.78
3	Last Cumulative Balance		1,470.48
	(5.78 * 5% * 182) / 365 =	0.14	
	(5.58 * 5% * 182) / 365 =	0.14	
	(5.97 * 5% * 182) / 365 =	0.15	
	(5.78 * 5% * 182) / 365 =	0.14	
	(5.97 * 5% * 182) / 365 =	0.15	
4	(6.13 * 5% * 182) / 365 =	0.15 +	0.78+
	Total Cumulative Balance After Capitalization		**1477.71**

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