Business One in Action – How does SAP Business One Deal with Realized and Unrealized Exchange Rate Differences?

Applies to:

SAP Business One, Accounting, Currency/Exchange Rates

Summary:

When trading internationally with foreign currency business partners, it is inevitable that fluctuations in the global currency market affect a company's accounts. This article explains in detail how SAP Business One deals with both realized and unrealized exchange rate differences using comprehensive examples.

Author: Kerstin Pauquet, Support Expert, GSC, SAP Business One

Company: SAP

Created on: March 2010

Author Biography:

Kerstin Pauquet joined SAP in 2003 and is currently active as Global Topic Lead and Support Expert for SAP Business One. She has worked as both technical and business consultant. She authored this article as a direct response to a partner enquiry during the Expert-on-Phone project, where she consulted on mainly financial and banking related topics.

Table of Content

How does SAP Business One deal with Realised and Unrealised Exchange Rate Differences?

When trading with foreign currency (FC) business partners (BP), it is inevitable that fluctuations in the global currency market affect a company's accounts. An invoice issued some weeks ago in a definitive amount of FC had at that point in time a definite value in local currency (LC) according to the exchange rate of the posting date. This invoice still has the FC value when payment is received, yet the LC value of this payment may not be the very same as it was when the invoice was issued due to a change in the exchange rate.

Realised exchange rate differences are the exact delta amounts between the values in LC of FC invoice and payment. SAP Business One will post these differences in most cases automatically.

Unrealised exchange rate differences refer to the delta amount in LC of an unpaid FC invoice at a precise point in time, generally at month-end or year-end closing reporting. These unrealised exchange rate differences are usually reversed at the first day of the new period.

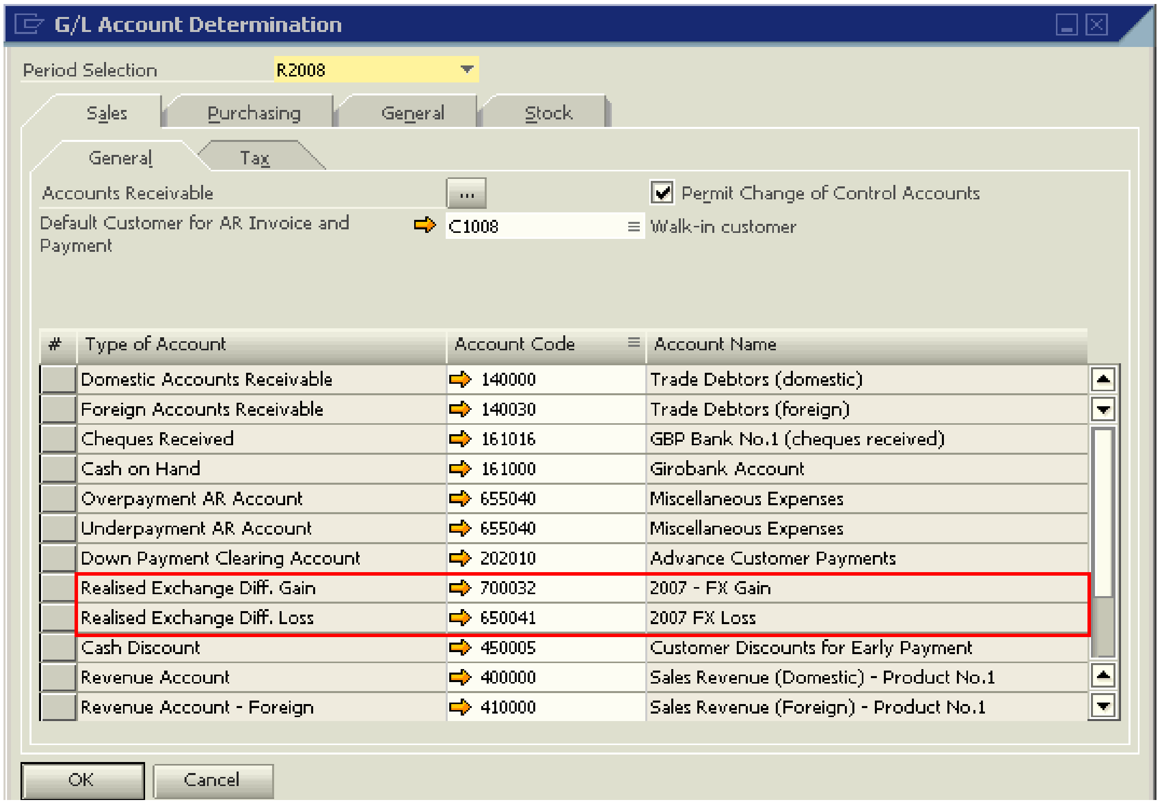
When executing the 'Exchange Rates Differences' functionality under 'Financials', SAP Business One calculates exchange rates differences postings and proposes to save these journals to the permanent file. The company accountant then verifies the values, manually approves them and then executes the postings.

For illustration purposes, a UK localisation database is used here, SAP Business One 2007 A pl42. The exchange rate differences posting method is 'Indirect' (1 unit of FC = x units of LC, where 'x' is calculated according to the rate defined under Administration -> Exchange rates). LC and system currency (SC) is GBP and FC in the example is EUR.

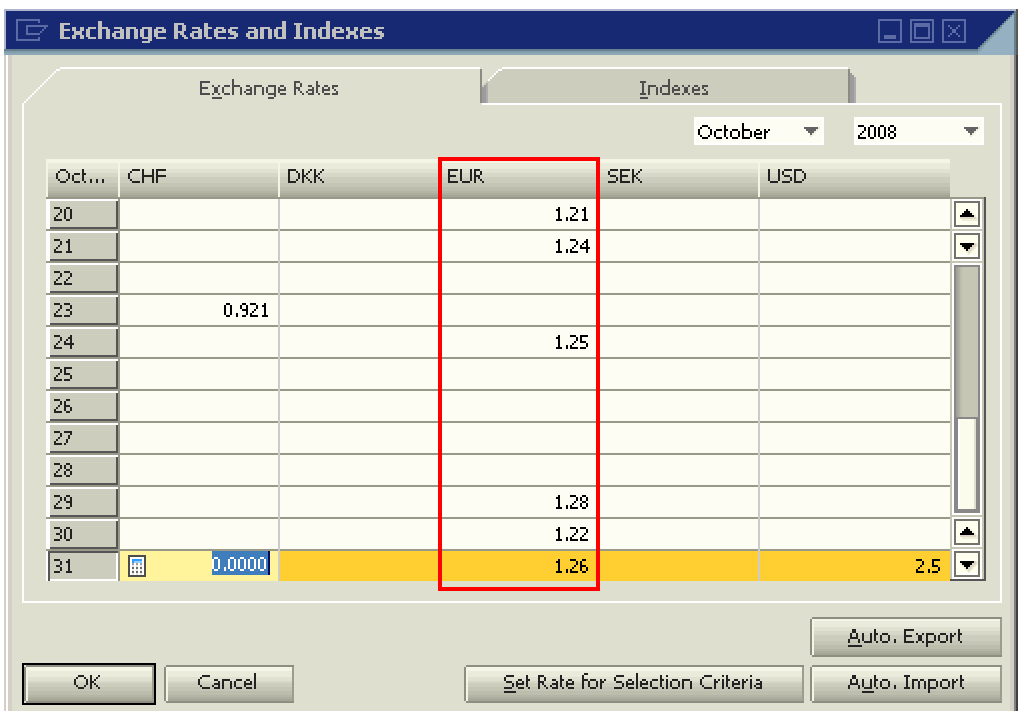
The following scenarios will be explained:

1.) FC invoice fully paid, exchange rate differs between posting dates of invoice and payment.
2.) FC invoice not paid at month-end.
3.) FC invoice partially paid, exchange rate differs between posting dates of invoice and partial payment and execution date of month-end closing.
4.) FC invoice to be paid in instalments, exchange rate differs between posting dates of invoice and instalment payment and execution date of month-end closing.

The exchange rate differences accounts for automatic and semiautomatic postings in SAP Business One are defined under Administration -> Setup -> Financials -> GL account Determination -> All Tabs, example 'Sales':

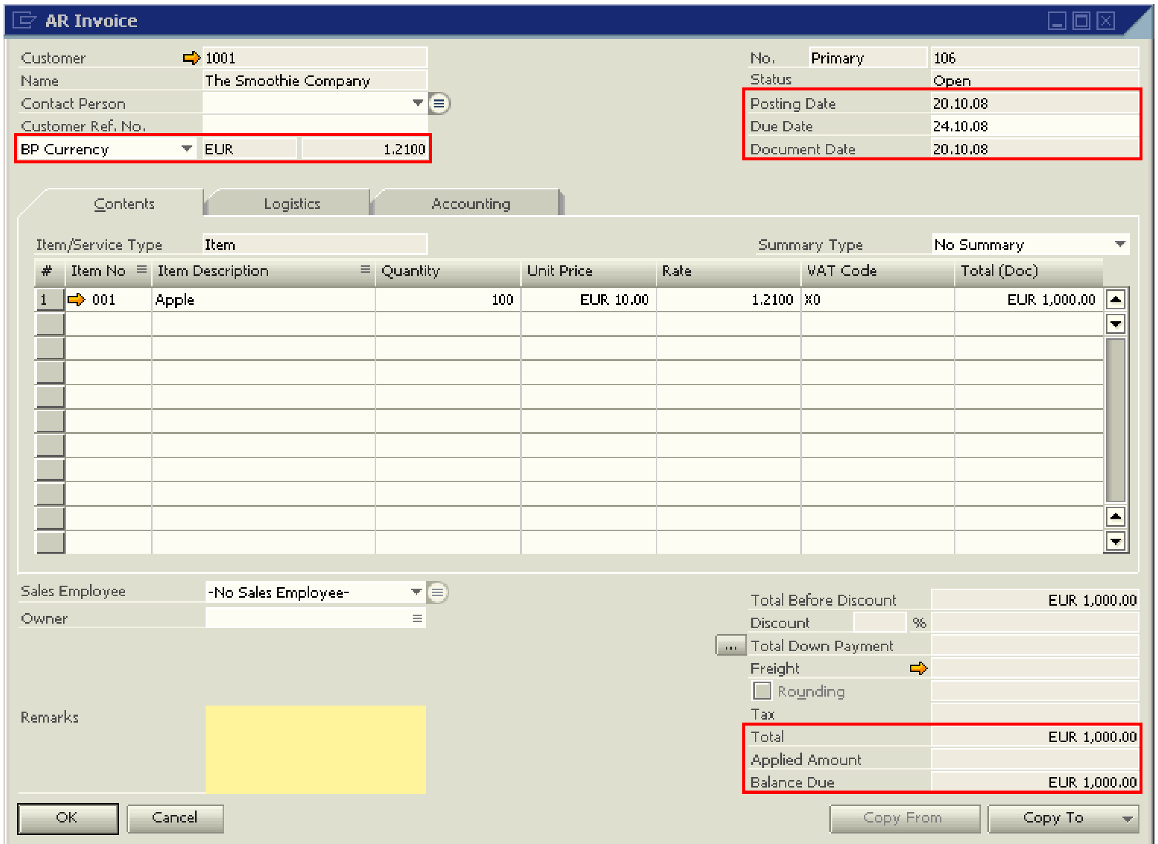


The exchange rates (Administration -> Exchange Rates and Indexes) are defined as follows:

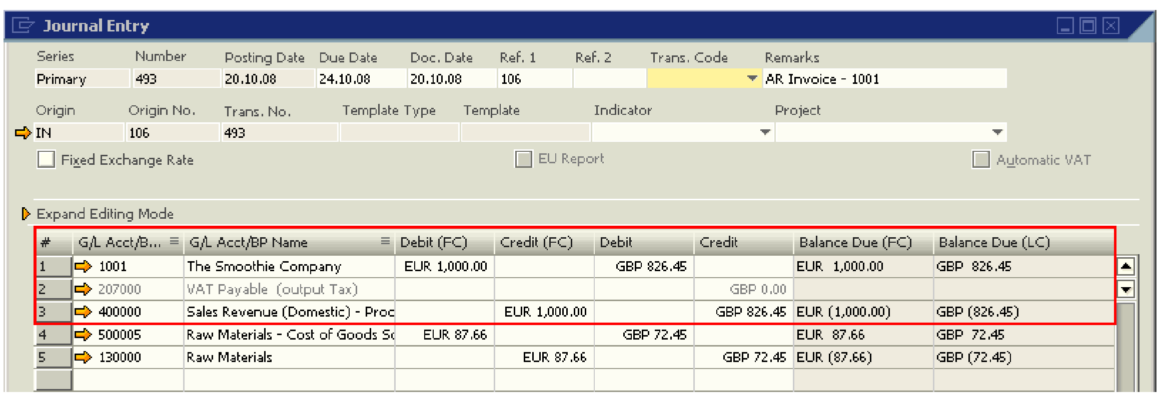


FC invoice fully paid, exchange rate differs between posting dates of invoice and payment.

Consider this AR invoice for an FC BP:



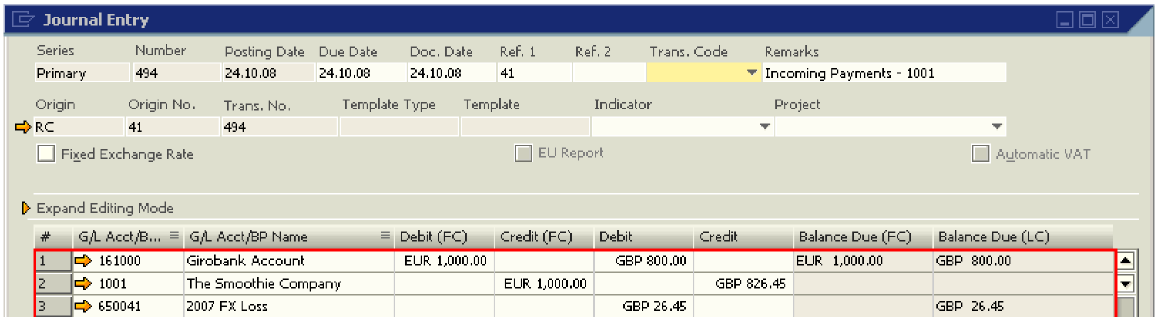
and the associated journal entry (JE):



According to the exchange rate on the posting date (EUR 1 = GBP 1.21), the calculation is as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 106	20.10.2008	1.21	1000.00	826.45	-

Full payment of this invoice on 24.10.2008 (Exchange Rate: EUR 1 = GBP1.25) results in this journal:

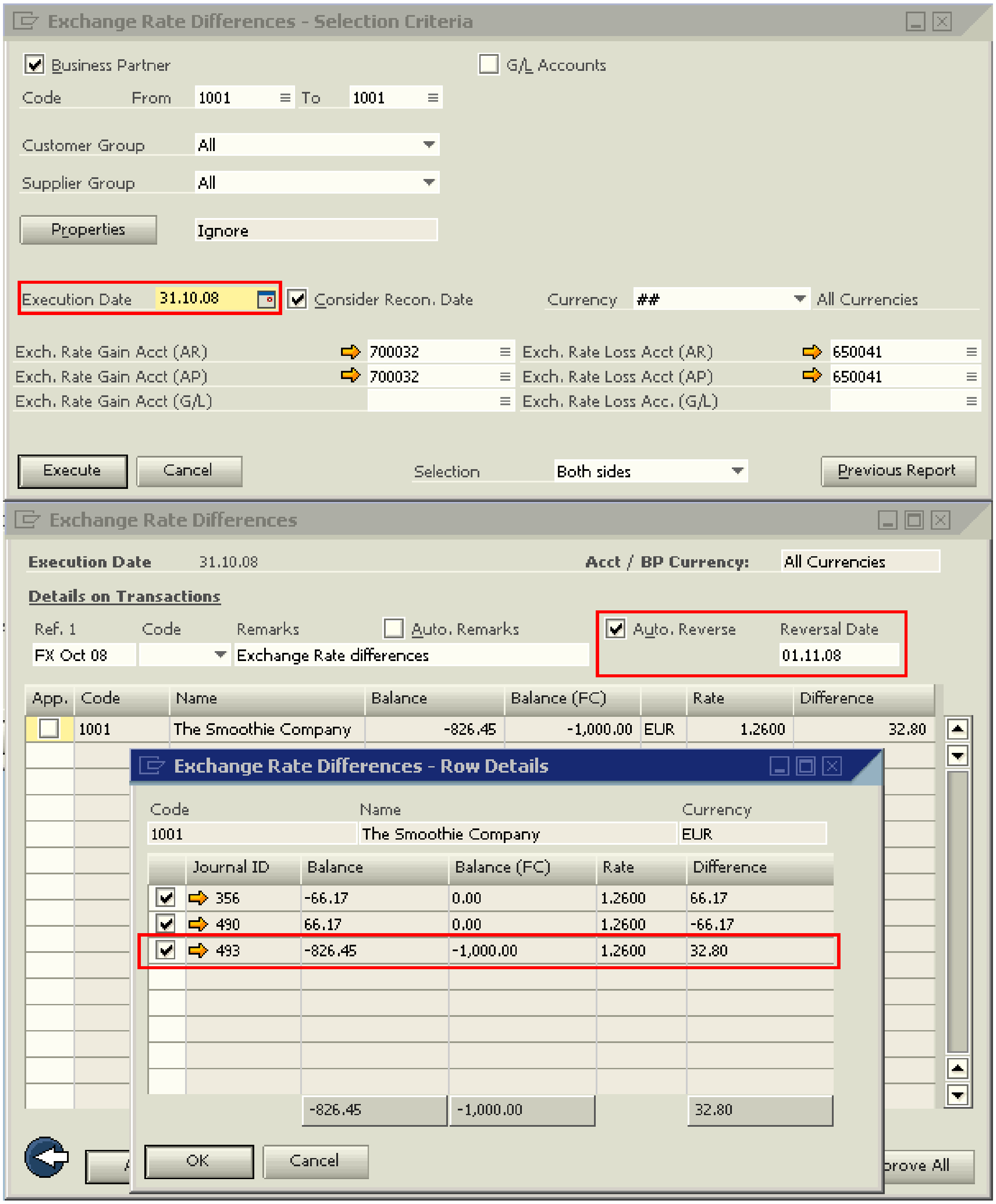


SAP Business One will automatically post the LC loss due to the exchange rate difference into the appropriate account (see above for GL account determination). The delta is calculated as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 106	20.10.2008	1.21	1000.00	826.45	-
Incoming payment 41	24.10.2008	1.25	1000.00	800.00	800-826.45 = Loss 26.45

FC invoice not paid at month-end

In order to report accurately on monies owed to our company at the end of an accounting period, unpaid FC invoices must be valued according to the rate on the execution day, here 31.10.2008. Our company's books must reflect that this FC BP owes us a definite amount of LC. SAP Business One therefore allows semiautomatic postings of exchange rate differences in open documents. Using the same AR invoice as above, in this example it remains unpaid on the execution day. Therefore the proposed exchange rates differences posting is as follows:



The calculation is as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 106	20.10.2008	1.21	1000.00	826.45	-
AR invoice 106 open value	31.10.2008	1.26	1000.00	793.65	793.65-826.45 = Loss 32.80

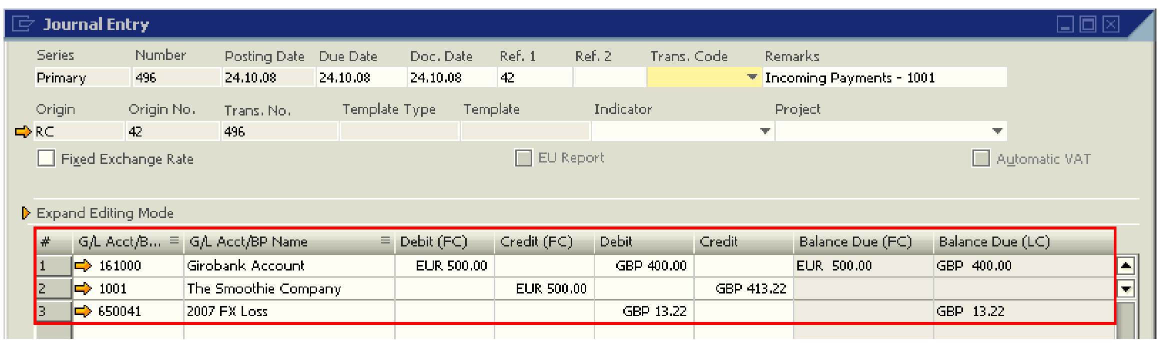
Hence, on 31.10.2008 the BP does not owe our company GBP 826.45, but according to the exchange rate GBP 793.65. This reduces the expected amount to be paid to our company by GBP 32.80 on 31.10.2008.

Naturally, this unrealised exchange rate difference must be reversed on the next day, the first day of the new accounting period, since we expect to be paid in full for this invoice at a future date, where the exchange rates differences posting will take place automatically with the incoming payment as illustrated above in Scenario 1.

FC invoice partially paid, exchange rate differs between posting dates of invoice and partial payment and execution date of month-end closing.

It happens frequently that although no payments by instalments had been previously agreed, a customer makes several payments against an invoice. In the case of an FC BP this naturally affects our company's revenue with respect to the exact amounts in LC we gain from the transaction.

Considering the AR invoice 106 from above and applying a partial payment of EUR 500.00 on 24.10.2008 (Exchange Rate: EUR 1 = GBP1.25), the associated journal entry will show the following:

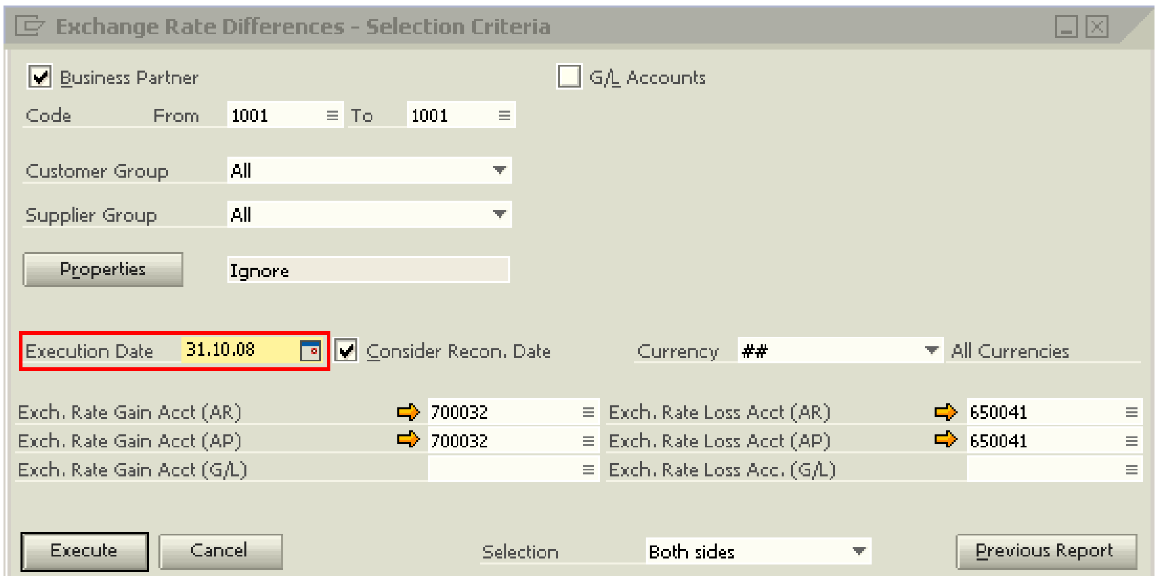


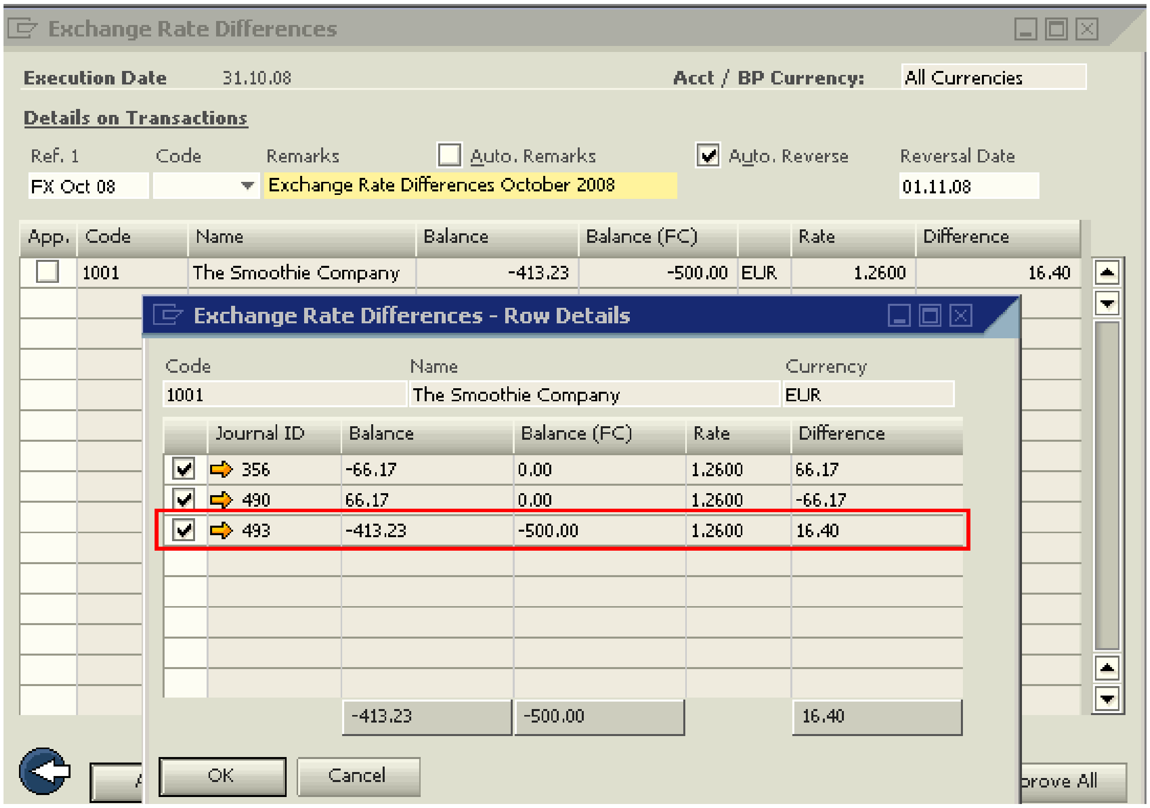
The calculation is as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 106	20.10.2008	1.21	1000.00	826.45	-
Incoming Payment 42	24.10.2005	1.25	500.00	400.00	400.00 – 413.22* = Loss 13.22

1000 FC = 826.446281 LC at a rate of 1.21, therefore 500 FC = 826.446281 LC/2 = 413.223141. This is rounded to 413.22. Hence 413.22 LC would be the expected amount in LC for a payment of 500 FC according to the exchange rate in the invoice.

Should this invoice remain open at month end, using these selection criteria, the proposed exchange rates differences posting will be:



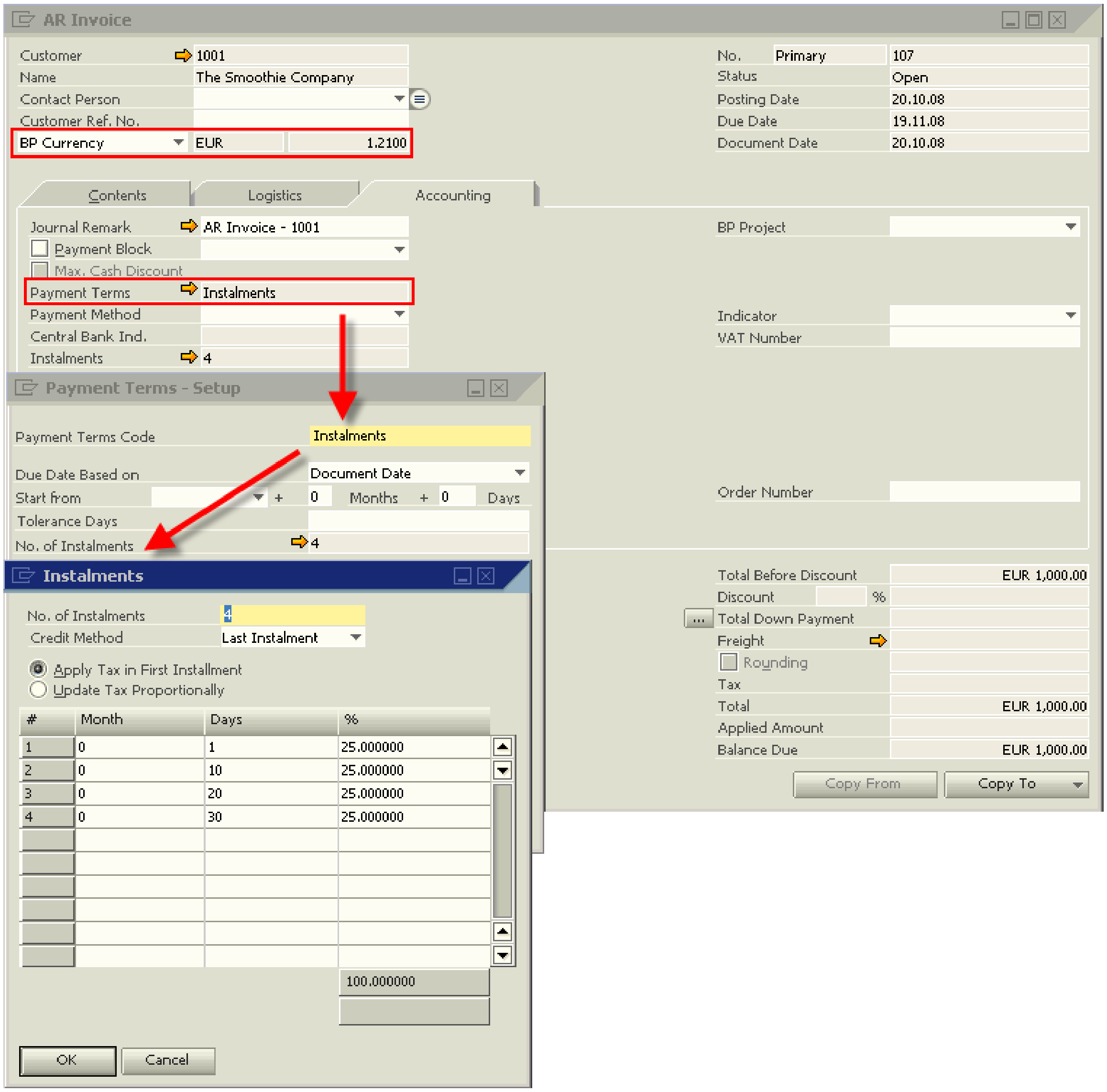


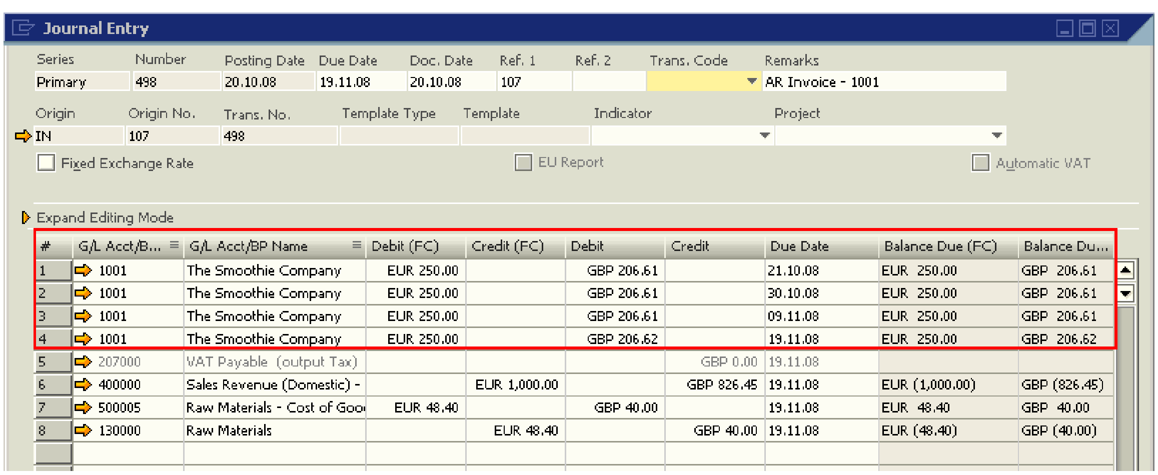
The calculation is as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 106	20.10.2008	1.21	1000.00	826.45	-
Incoming Payment 42	24.10.2008	1.25	500.00	400.00	400.00 – 413.22 = Loss 13.22
Month-end	31.10.2008	1.26	500.00	396.83	396.83- 413.22 = Loss 16.40

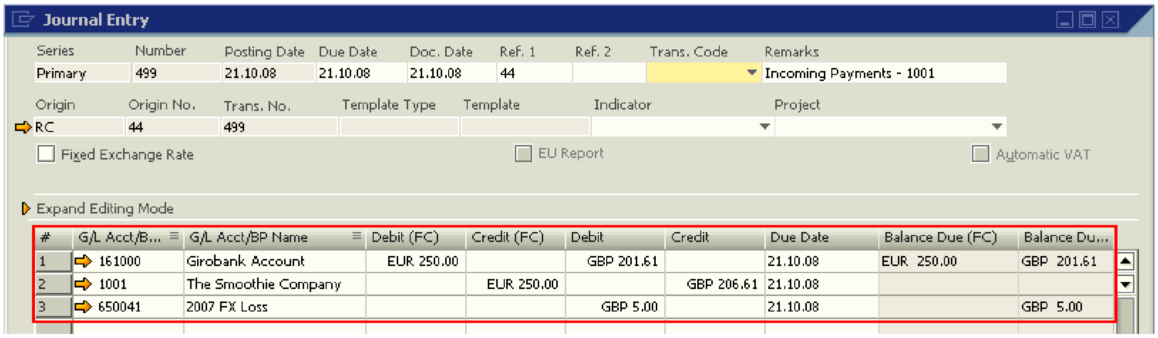
FC invoice to be paid in instalments, exchange rate differs between posting dates of invoice and instalment payment and execution date of month-end closing.

Invoices that are to be paid in instalments have a fundamentally different journal posting reflecting the expected payments. Consider this invoice and the associated JE:





This invoice is to be paid in 4 instalments of equal value, each expected payment is kept in a separate row in the JE. The first payment is due on 21.10.2008, where the exchange rate is defined to be 1.24. Therefore, the JE of the incoming payment at that date will reflect the following:



The exchange rate differences calculation is as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 107	20.10.2008	1.21	250.00	206.61	-
Incoming Payment 44	21.10.2008	1.24	250.00	201.61	201.61 – 206.61 = Loss 5.00

The second payment on 30.10.2008 with a rate of 1.22 is calculated as follows:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 107	20.10.2008	1.21	250.000	206.61	-
Incoming Payment 45	30.10.2008	1.22	250.00	204.92	204.92 – 206.61 = Loss 1.69

On 31.10.2008 the outstanding amount of invoice 107 is hence EUR 500.00. According to the rate of 1.26, the customer owes our company at that precise point in time EUR 500.00 which translates into an amount of GBP 396.83.

To summarise:

Document	Posting Date	Rate	Debit/Credit FC	Debit/Credit LC	Delta
AR invoice 107	20.10.2008	1.21	1000.00	826.45	-
Incoming Payment 44	21.10.2008	1.24	250.00	201.61	- 5.00
Incoming Payment 45	30.10.2008	1.22	250.00	204.92	- 1.69
Month end	31.10.2008	1.26	500.00	396.83	396.83- 413.22 = Loss 16.40

The initial expectation of revenue for this particular invoice in LC was GBP 826.45. The realized exchange rate differences that were generated with the incoming payments indicate that the actual revenue in LC was GBP6.69 (5.00+1.69) less than initially expected.

The remaining amount of EUR 500.00 had been valued at GBP 413.23 when the invoice had been posted. According to the exchange rate defined for the month-end execution day, 1.26, this expectation needs to be reduced by GBP 16.40.

Naturally, the exchange rates differences journal created upon month-end will be reversed at the first day of the new period, such that the actual exchange rate difference is posted correctly when the next installment is rendered by the customer.

Please note that regarding payments by installments in SAP Business One 2005 A SP 01 the system behavior was the same as in version 2007, but due to the duality of the separate reconciliation engine, no exchange rates differences posting took place when partial payments were rendered. In this scenario the 'Exchange Rate Differences' must be executed to calculate the exchange rate difference for this invoice. This posting, of course, should not be reversed.

Related Contents

- SAP Business One in Action Catalog Page
- How-to-Guides are available from the Documentation Resource Centre
- Expert Empowerment Session: Exchange Rate Differences (Exchange Rate Differences/Conversion Differences in 2004A/2005A and 2005A SP01 – SAP Note 941059).
- Expert Empowerment Session: Exchange Rate (Exchange Rates when copying base to target documents in SAP Business One 2005 SP01).
- Expert Empowerment Session: Tips and Tricks for Year End Closing.
- Expert Empowerment Session: FC and SC are the same – why don't they match? (System Currency and Foreign Currency are the same – why don't they match?).
- For more information, visit the Business One homepage.

Copyright