



**Segregating Internal &  
External Goods Receipts**  
by Rohana Gunawardena, Exium Inc.

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Logistics/MM

## Segregating Internal & External Goods Receipts

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*Editor's Note: Wouldn't it be great if every piece of SAP® functionality we needed was available right "out of the box"? As we all know, in the real world, there is always going to be a functionality gap between off-the-shelf software and the specific needs of particular companies. Fortunately, judicious use of SAP user exits can help give companies a way to fill the functionality gap. In this well-illustrated "how to" guide, FI/CO Editor Rohana Gunawardena tells us how to customize the FI module for the purposes of segregating internal and external goods receipts using SAP's official user exits. In the process, we learn some important tips about table T030, a table that is used for many SAP accounting functions and provides a vital link between the MM and the FI modules.*

### Introduction

When working with the GR/IR clearing account, have you ever wanted to know how much was from external vs. internal vendors? Have you ever wanted to analyze this account in some other manner, e.g. when performing a consolidation, you wanted to segregate your inter-company GR/IR from external vendors GR/IR? In this article, I will describe how to use an SAP user exit to get this result. As you're reading keep in mind that the GR/IR clearing account may also be known as the accrued receivers account, or REBNI, the "REceived But Not Invoiced" account. Note also that the tips in this article are based on an SAP R/3 4.5B environment.

When companies create vendor accounts, they will assign different reconciliation accounts to them, based on vendor type (e.g. regular customers vs. inter-company customers), in order to segregate vendor balances in the balance sheet. This example does the same for the GR/IR account. Our article will focus on segregating the goods receipts for an MM Material Document (See Figure 1).

**In the MM module, table T030 is used extensively to determine the GL accounts that will be posted when a material movement occurs.**



# Segregating Internal & External Goods Receipts

**Display Material Document 5009016181 : Overview**

Posting date: 06/07/2003      Name: SAPTIPS

Item	Quantity	EUn Material	PInt	SLoc	PurchOrder	Item	S DCI
		BUn Material description			Batch	R MvT S T	
1	100	EA 9999-99999	5000	0001	4500421489	10	<input checked="" type="checkbox"/>
Any Part						101	+

**Figure 1: A Typical MM Goods Receipt Document**

## Process

Here is a quick overview of the transaction flow for this process:

- ME21 Create PO
- ME28 Release/Approve PO
- MB01 Post Goods Receipt for PO. At this step, an MM document and a FI document are posted.

## MM Account Determination

Before showing you the detail of the user exit here is a quick recap of MM account determination for those of you who are not familiar with this area.

In the MM module, table T030, the Standard Accounts Table, is used extensively to determine the GL accounts that will be posted when a material movement occurs. In the case of a goods receipt, movement type 101 is used.

### T030 Entries

Before we go into the detail of specific entries, I will need to give our readers a quick explanation of the fields in table T030 and how they are used. The T030 table is used extensively throughout the FI system for account determination of many processes - not just MM related postings.

I will show you typical contents of T030 using transaction SE16, as the normal configuration transaction OMWB shows a more restricted set of fields. Seeing the full set of fields will give you a more comprehensive understanding of this table (See Figure 2).

Chart of accts	Transaction	Val.grpg.code	Acct modif	Valuation class	G/L account	G/L account
CANA	BSX	0001			140000	140000
CANA	BSX	0001		3200	140000	140000
CANA	BSX	0001		7900	140000	140000

**Figure 2: T030 Entries for Stock Account Determination, Using SE16**

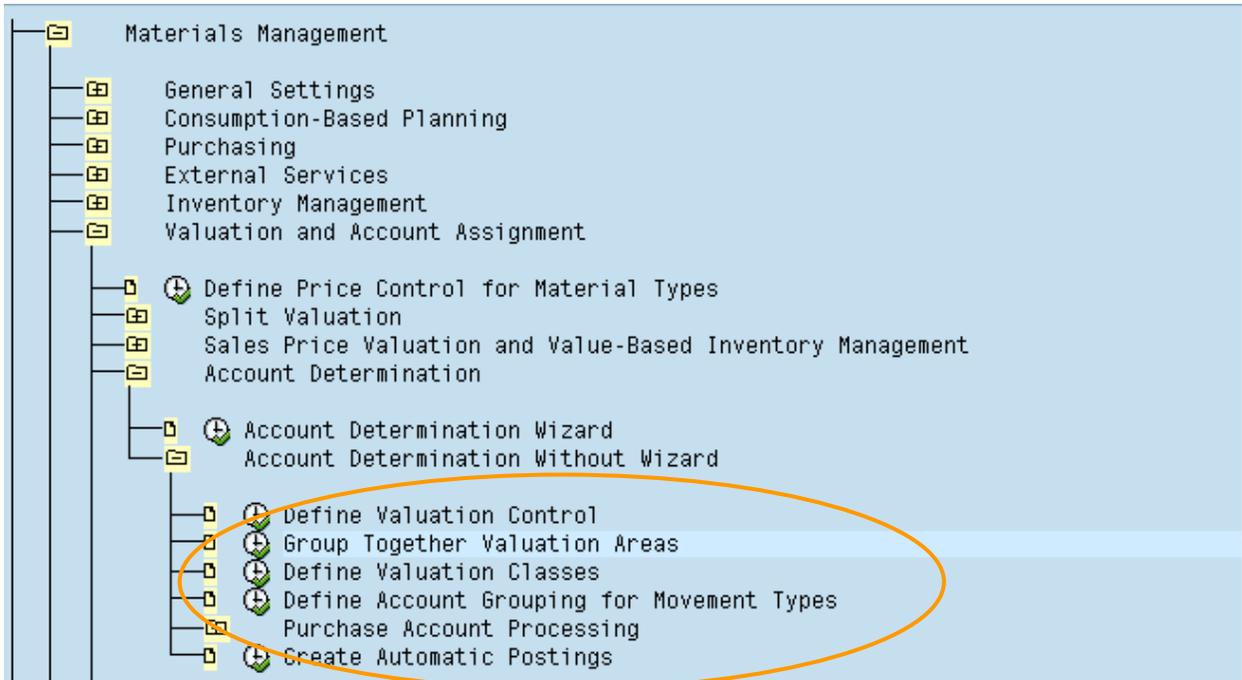
# Segregating Internal & External Goods Receipts

In Figure 3, I've provided a detailed explanation for the headings in T030.

Field	Update	Explanation
Chart of Accounts	OB13	The chart of accounts used by the company code.
Transaction Key		Preset three character codes that represent different types of business transactions. T030 contains entries for many processes not just MM, e.g. foreign exchange revaluation accounts. Set of values predefined by SAP.
Valuation Grouping Code	OMWD	This code is used to group together different company codes so that the same configuration does not have to be repeated many times
Account Modifier	OMWB	An additional field to allow more detailed account determination than by transaction key alone. Some Values are predefined by SAP, e.g. transaction key GBB, or they can be user-defined.
Valuation Class	OMSK	A set of values used to segregate different materials. Each material is given a valuation class in its accounting view - can be different for each plant.
DR G/L Account	FS01	The G/L account selected for debit postings.
CR G/L Account	FS01	The G/L account selected for credit postings.

**Figure 3: Explanation of T030 fields**

The entire configuration related to T030 and material movements is grouped together in the IMG (See Figure 4).



**Figure 4: IMG Location for MM Account Determination Configuration**

TIP: You can get a detailed list of the SAP transaction keys and account modifiers for MM by double-clicking on the text "Create Automatic Postings" in the IMG; this will launch SAP Online



# Segregating Internal & External Goods Receipts

IMG Help in your Internet browser. Print this out and keep this useful reference as a cheat sheet during MM account determination configuration.

TIP: Another good source of information on table T030 MM entries is ASAP. If you have the ASAP software go to Implementation Assistant → Knowledge Corner → SAP Products Corner → R/3 → Procurement → Automatic Account Assignment (ZIP file) → AcctDeterm.doc.

The valuation class is assigned to each material in its accounting view; the view and its values are plant-dependent. See Figure 5.

**Change Material: Accounting M HALB**

Material: 9999-99999 Any Part  
Plant: 5000 CENTRAL WAREHOUSE

General data

Base unit of measure	EA Each	Valuation category	
Currency	USD	Current period	08 2003
Division	28	Settlement control	<input type="checkbox"/> <input type="checkbox"/> ML act.

Current valuation

Valuation class	7900	Project stock VC	
Sales order stock VC		Price unit	1
Price control	S	Standard cost	1.29
Mov. avg. price	1.33	Total value	129.00
Total stock	100	<input type="checkbox"/> Valued proportion	
Future price		Valid from	

Figure 5: Accounting View of Material With Valuation Class

## A Typical GL Posting

Here is a typical GL posting, which has resulted from a goods receipt for a PO with movement type 101, DR stock and CR GR/IR clearing account. MM account determination is used twice for this posting, once for the stock account and once for the GR/IR account. See Figure 6.



## Segregating Internal & External Goods Receipts

Document number	5000216965	Company code	0001	Fiscal year	2003
Document date	06/07/2003	Posting date	06/07/2003	Period	8
Reference		Cross-CC no.			
Currency	USD	Texts exist	<input type="checkbox"/>		

Item	PK	BusA	Acct no.	Description	TC	Tax	Amount in	USD
001	89	0022	140000	Raw Mat Stores			129.00	
002	96	0022	211200	GR/IR Clearing			129.00-	

**Figure 6: A Typical Goods Receipt GL Posting**

### Stock Account Determination

The stock account is identified using transaction key BSX. The plant 5000 belongs to company code 0001 that is assigned to valuation group code 0001 and has chart of accounts CAAM, the material has valuation class 7900. Using this information to read table T030 results in GL account 140000 being chosen for a debit posting. See Figure 2 for the T030 entries and Figure 5 for the material master data. No account modifier is used with BSX. /

### GR/IR Account Determination

The GR/IR account is identified with transaction key WRX. Using the same information as the stock account determination to read table T030 results in GL account 211200 being chosen for a credit posting. No account modifier is used with WRX as standard.

Chart of accts	Transaction	Val. grpg. code	Acct modif	Valuation class	G/L account	G/L account
CANA	WRX	0001			211200	211200
CANA	WRX	0001		3200	211200	211200
CANA	WRX	0001		7900	211200	211200

**Figure 7: T030 entries for GR/IR account determination, using SE16**

TIP: The valuation class <blank> entry is required for WRX when indirect purchasing occurs. Because there is no material master record, no valuation class can be determined for indirect purchasing items.

### The User Exit

SAP provides the following user exit, which allows modification of the values used to read table T030 and determine the GR/IR account to be posted. Use the SAP enhancement LMR1M002, account grouping for GR/IR account maintenance, which contains function EXIT\_SAPLKONT\_011, and includes ZXM08U18. See Figure 8.

Enhancement Components	Short text
LMR1M002	Account grouping for GR/IR account maintenance
Function exits: EXIT_SAPLKONT_011	Account grouping for GR/IR account maintenance

**Figure 8: Enhancement LMR1M002**

What this user exit allows you to do is place a value in the account modifier field. Normally the account modifier is <blank> when reading T030 for GR/IR account, transaction key WRX. By introducing an account modifier into the account determination, you can have multiple GR/IR accounts for a single plant and valuation class. See Figure 9.

*Function Module: Display EXIT\_SAPLKONT\_011 / LXM08U18*



```

1 function exit_saplkont_011.
2  *-----
3  ***"Lokale Schnittstelle:
4  *      IMPORTING
5  *          VALUE(I_WRXMOD) LIKE WRXMOD STRUCTURE WRXMOD
6  *      EXPORTING
7  *          VALUE(E_KONTO_MODIF) LIKE T030-KOMOK
8  *-----
9
10
11 include zxm08u18 .
12
13
14 endfunction.

```

**Figure 9: Function exit EXIT\_SAPLKONT\_011 contents**

The function exit takes as input structure I\_WRXMOD. This contains the PO number and line item. Based on user coding, it will output an account modifier, E\_KONTO\_MODIF.

## Solution

The solution for segregating inter-company GR/IR from external vendors GR/IR is to use the user exit to set the account modifier based on the company code of the PO and the vendor account group. All inter-company vendors use the specific ICOM account group in this example. You may need to use a different identifier to get the same results depending on your own vendor master configuration. See Figure 10.



**Figure 10: Account Group in Vendor Master, View With XK03, Extras \ Administrative Data**

Additional T030 entries will need to be made for transaction key WRX so that the new account modifier keys will have separate GL accounts.

## Steps

Talk to your ABAP, Technical and Basis teams to provide the correct resources to create the custom table and user exit coding before starting this development.

### Create a Project

In transaction CMOD, create a new customer project and assign enhancement LMR1M002 to it.

### Activate Project

Press the "activate" button in transaction CMOD for your project. *SAP will not go to the user exit until the project it is in is activated.*

### Create Custom Table

In this example, custom table ZFWRX is used to determine the account modifier based on the company code and vendor account group. All inter-company vendors have vendor account group ICOM and table ZFWRX contains account modifier Z01 for this vendor account group. The actual structure of this table will depend on the criteria you use for segregating the GR/IR account. See Figure 11.

**Dictionary: Table/Structure: Change Fields**

Name: ZFWRX    Transparent table  
 Short text: GR/IR Account Modifier Selection  
 Last changed: SAPTIPS    06/07/2003    Original language: EN  
 Status: Active    Saved    Development class: ZZZZ

Delivery class: C Customizing table, maintenance only by cust., not SAP import  
 Tab.Maint.Allowed:

Field name	Key	Data element	DTyp	Length	CheckTable	Short text
MANDT	<input checked="" type="checkbox"/>	MANDT	CLNT	3	T000	Client
BUKRS	<input checked="" type="checkbox"/>	BUKRS	CHAR	4	T001	Company code
KTOKK	<input checked="" type="checkbox"/>	KTOKK	CHAR	4	T077K	Vendor account group
KOMOK	<input type="checkbox"/>	KOMOK	CHAR	3		Account modification

**Figure 11: Custom Table ZFWRX Fields, Viewed Using SE11**

Once you create your custom table, remember to create a maintenance view so that values can be entered in the table.

TIP: As table ZFWRX will get called every time a goods receipt is posted, you can speed up performance by setting buffering "on" and enabling full buffering in the technical settings of this table.

### Populate Custom Table

Add your entries to table ZFWRX.

Company code	Account group	Acct modif
0001	ICOM	Z01

**Figure 12: Table ZFWRX entries, using SE16**

### Code The User Exit

Here is the code used in my example that uses the company code and vendor account group to determine the account modifier. The actual code will depend on the criteria you use for segregating the GR/IR account.

```

*-----*
*-----*
*   INCLUDE ZXM08U18
*
*-----*
*-----*
* function EXIT_SAPLKONT_011

```



## Segregating Internal & External Goods Receipts

```
*"-----
-----
*"*"Lokale Schnittstelle:
*"      IMPORTING
*"      VALUE(I_WRXMOD) LIKE  WRXMOD STRUCTURE  WRXMOD
*"      EXPORTING
*"      VALUE(E_KONTO_MODIF) LIKE  T030-KOMOK
*"-----
-----

TABLES: EKKO,      " Purchasing Document Header
        LFA1,      " Vendor Master (General Section)
        ZFWRX.     " GR/IR Account Modifier Selection

* Set default value to blank for account modifier
CLEAR: E_KONTO_MODIF.

* Select the company code and vendor number from the purchase
order
CLEAR: EKKO.
SELECT SINGLE BUKRS LIFNR FROM EKKO INTO (EKKO-BUKRS, EKKO-LIFNR)
        WHERE EBELN = I_WRXMOD-EBELN.

* Exit if no record is found
CHECK SY-SUBRC EQ 0.

*Obtain the vendor account group from the vendor master
CLEAR: LFA1.
SELECT SINGLE KTOKK INTO LFA1-KTOKK FROM LFA1
        WHERE LIFNR EQ EKKO-LIFNR.

* Exit if no record is found
CHECK SY-SUBRC EQ 0.

* Select the account modifier from the custom table
CLEAR: ZFWRX.
SELECT SINGLE * FROM ZFWRX WHERE BUKRS = EKKO-BUKRS
        AND KTOKK = LFA1-KTOKK.

* Exit if no record is found
CHECK SY-SUBRC EQ 0.

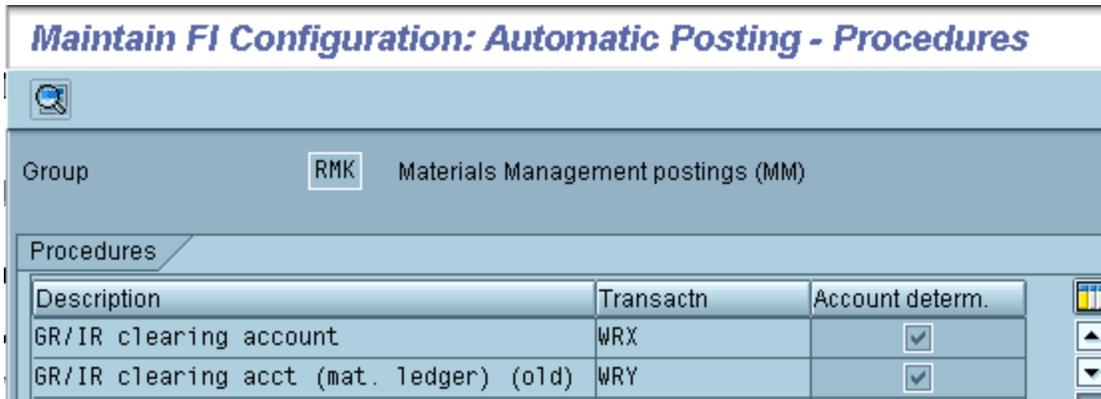
* Output selected account modifier
E_KONTO_MODIF = ZFWRX-KOMOK.
```

### Modify Structure of T030

This is the tricky part. When you look at the configuration, transaction OMWB, you cannot see the account modifier column in the data entry screen. If you get any popups before you see the toolbar in Figure 13, just press "cancel" to suppress the popups. After you select "Account Assignment" (Figure 13), then scroll down the list of transaction keys and double-click on "WRX" (Figure 14). Next, enter the chart of accounts in the popup screen (Figure 15). Keep in mind that the initial set of WRX entries does not have valuation class or account modifier (Figure 16).



**Figure 13: OMWB Initial Screen, Press "Account Assignment" Button**



**Figure 14: Scroll down the list of transaction keys and double click on WRX**



**Figure 15: Enter the chart of accounts in the popup screen**



**Figure 16: Initial set of WRX entries does not have valuation class or account modifier**

## Segregating Internal & External Goods Receipts

To make the valuation class and account/general modification column appear, you need to press the "Rules" button and check the "Valuation class" and "General modification" checkbox (See Figure 17). Before you do this, you must record all existing WRX entries, as you will lose all of them when you make this change, and you will need to manually re-enter all of the lost entries. You will need to do these steps manually in all systems; do not transport.

To strictly implement the example, you only need to add the account/general modification column. Adding the "Valuation class" column gives you more flexibility, but also means more configuration entries to maintain.

**Depending on your current implementation of the WRX transaction code, you may not need to make any changes at this stage. What is shown is based on the SAP default settings. After changing the rule, the valuation class and account/general modification columns appear (See Figure 18).**



**Maintain FI Configuration: Automatic Posting - Rules**

Accounts Posting keys

Chart of accounts **CANA** Chart of accounts - North America  
Transaction **WRX** GR/IR clearing account

Accounts are determined based on

Debit/credit	<input type="checkbox"/>
General modification	<input checked="" type="checkbox"/>
Valuation modifier	<input checked="" type="checkbox"/>
Valuation class	<input type="checkbox"/>

**Figure 17: Check the General Modification and Valuation Modifier Checkboxes**

**Maintain FI Configuration: Automatic Posting - Accounts**

Posting keys | Groups | Procedures | Rules

Chart of accounts: CANA | Chart of accounts - North America  
 Transaction: WRX | GR/IR clearing account

Account assignment

Valuation modif.	General modification	Valuation class	Account
0001			211200
0001		3200	211200
0001		7900	211200
0001	Z01		140160
0001	Z01	3200	140160
0001	Z01	7900	140160

**Figure 18: After Changing the Rule, the Valuation Class and Account/General Modification Columns Appear**

You can now make new WRX entries with an account/general modification code and enter different GR/IR accounts.

TIP: You could potentially lose all of your T030 entries, and that would make a lot of FI, MM and SD functions inoperable. As a backup, list all of the contents of T030 in transaction SE16 and save it to a file on your PC so you have a full record of entries. You could save all T030 entries in a manual transport to be restored to the same system as a backup, but do not move this transport to another system.

TIP: Do not transport T030 entries or automatic posting rules. When you create a transport using Posting procedure → Transport → Entries in TR, you cannot choose individual entries. The transport will move all WRX entries in T030, even test items that could cause a problem in production. It is safest to treat T030 updates as manual configuration in each system and not to transport.

**Test**

Create purchase orders for inter-company and external vendors and perform a goods receipt - transaction MB01 with movement type 101. Check that they are posted to different GR/IR accounts. If the values are the same, the most frequent problem is that the project has not been activated in CMOD, additional entries were not made in T030 or ZFWRX, or the account modifier codes do not match from T030 to ZFWRX.

**Summary**

This simple modification allows you a great deal of flexibility in recording goods receipts from your vendors, allowing a parallel between vendor reconciliation accounts and GR/IR accounts. When making the changes, be careful of the problems with amending, updating and transporting T030 table entries so you do not lose or corrupt data. Although user exits do need a bit more care at upgrade time than straight configuration, SAP's policy is to keep user exits consistent across different releases. In most cases, your work should remain valid for years to come as you



## Segregating Internal & External Goods Receipts

continue to upgrade. Any questions regarding the "upgradability" of your user exit can (and should) be reviewed with your SAP representative.

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### **About The Author**

Rohana Gunawardena heads the SAP practice division at Exium. Exium is a leading business and technology consulting firm that enables companies to achieve their strategic business goals. Exium specializes in delivering superior IT solutions using SAP products.

Rohana has worked on a variety of SAP projects since 1992, focusing on large multi-year implementations of SAP following the full SAP life-cycle from strategic planning to production support. Rohana has a special focus on the Order-to-Cash process and cross-module integration to FI/CO.

Rohana is a Fellow of the Institute of Chartered Accountants in England & Wales. Previously Rohana has worked with the consulting practices of Accenture, Deloitte and PwC.

He has spoken at many SAP conferences and has published more than 30 magazine articles in SAP Financials Expert, SAP SCM Expert and SAPtips on various aspects of SAP. Rohana is widely acknowledged as a leading SAP expert.

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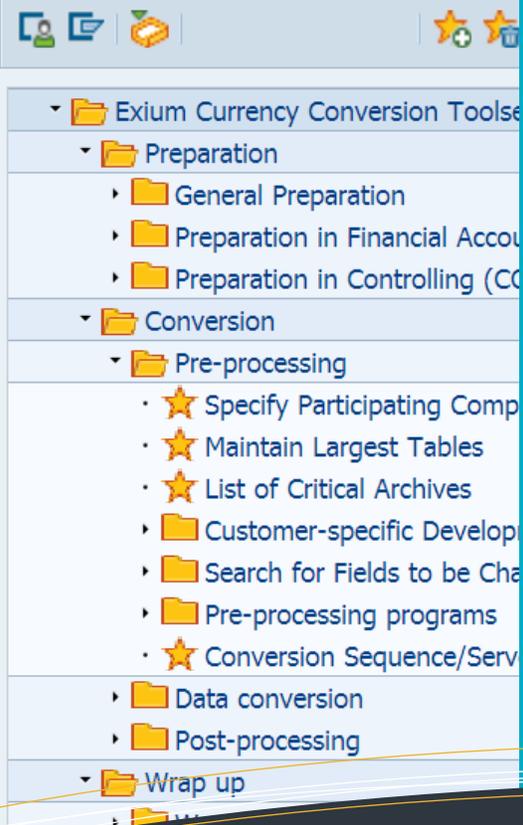
## Solution Highlights

- **Accelerated Transformation**  
Projects as quick as 8 - 12 weeks
- **Smooth and Safe Transition**  
Structured methodology to support transformation
- **Data Integrity**  
Financial data validation before and after transformation
- **Reduced Project Costs**  
Lower cost than re-implementing to correct system settings
- **Success-based Pricing**  
Fixed-bid pricing to avoid cost overruns
- **Active Participation**  
On-site team actively involved

# Group Currency Conversion



## Exium Currency Conversion



## Conversion Scenarios

Our sophisticated solutions allow organizations to maximize their ROI and extend the life of their system by correcting data, which is normally not possible through simple configuration, to reflect the current business environment.

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- Chart of Account rationalization
- Controlling Area merger
- Currency type alignments
- Material Ledger alignment
- Local Currency changeover
- many more.

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