

MRC - An Implementation

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Introduction

The functionality of Multiple Reporting Currencies (MRC) has been introduced in Release 11 of Oracle Applications and is an extension of the Dual Reporting Currencies in earlier Oracle Application Releases. The functionality allows users to view and report on transactions in currencies other than the one that is their Functional Currency or the Transaction Currency.

This paper intends to depict the global implementation path taken for Oracle Applications Release 11 at Novell. Furthermore, the paper will inform the audience of the choices that we, at Novell were faced with and made, the reasons behind our decisions and the impact on the business. The paper will also outline various design and setup activities that impacted on the way MRC works and necessary setup procedures. This will be followed by specific setup criteria at the company.

To round out the document, an overview will be presented of the possibilities that Oracle Applications allows the user within the MRC functionality – new install as opposed to an upgrade – and implementation scenarios. At the end of the presentation the audience should be able to understand what the MRC functionality addresses from a business perspective. Additionally, it will also help users/implementers make a choice from among the options available to tackle various end-user requirements.

Finally, this paper will address the main implication of using MRC and its usefulness would impact business that have a global presence and specific volume of financial transactions in various countries that need to report in the parent companies functional currency on a periodic basis.

European countries that are part of the EEC or deal with the euro in their transactions will in effect (according to EEC ruling) need to report in their functional currency (if not euro) and the euro. MRC is ideally suited for these implementation scenarios.

Companies that deal with subsidiary or joint-venture companies that are based in countries that have a volatile and fluctuating money market (high exchange rate fluctuation base) would benefit from getting up-to-date reporting results if they used MRC.

Various options are available to implement the MRC functionality and the paper will discuss the options, their impact on the implementation, the port-implementation impact; and why choose one over the other. The emphasis will be on the current implementation and the papers will deal with this in detail.

The paper will also discuss technical aspects regarding installation, patches, upgrade path and modules supported to a certain extent. The technical coverage will be directed to a non-technical user audience.

Overview

Multiple Reporting Currencies (MRC) is a functionality that was introduced with the release of Oracle Applications Version 11. This functionality allows a user to "store" and report transactions in a currency other than the one that is the functional currency for that organization. The functional currency is defined as the currency that the company usually transacts in most of the time. Many companies based in a specific country use that country's national currency as their functional currency.

The MRC functionality adds another dimension to inquiry and reporting, allowing a user to utilize yet another currency against which the user can report and inquire on transactions and balances. This currency is another (third) currency from the transacted (first) and the functional (second) currencies.

This functionality is most useful and meaningful for companies that are:

- a) Global;
- b) Require reporting in the local currency and another currency (e.g. parent company),
- c) Are operating in countries where the local currency is volatile; and
- d) Is a country belonging to the European Economic Community, and is required to report in local currency as well as the euro (at least up to 2002).

MRC functionality is also useful where a reduction in usage of the Translation feature of General Ledger is desirable and for those requirements where MRC is the new functionality. However, the MRC functionality is not to be used as a replacement for the existing Translation feature in Oracle GL. This Translation feature translates balances only whereas MRC "translates" all transactions and converts balances to another currency. Further, care should be taken to arrive at a decision regarding unique business requirements and management capacity prior to implementing MRC as it also adds overhead on maintenance of the database and additional steps when patches are applied. The users are also required to run additional processes in addition to what they would normally run. An example of an extra process a user would have to run is the transfer to GL in AP required once for the Primary Set of Books and once for each Reporting Set of Books.

Oracle Design for MRC

MRC is a base product along with Oracle Applications Release 11 and must be "installed" as an option in Auto Install. The installation option is called "Convert to Multiple Reporting Currencies" and is similar to "Convert to Multi-Org" in the options. (Refer to Oracle Applications Installation Manual A-2) The installation process creates an MRC schema, registers it, creates the database objects in the MRC schema and creates triggers in APPS schema.

In the background, the installation process converting to MRC functionality creates triggers, packages, functions, tables and views to support it within the applications. MRC functionality does not truly duplicate transactions in a physical sense; but, stores the relevant information in the same transaction record and other sub-tables. These additional tables stores the data specifically used by the MRC functionality. (A list of some of the objects that are created is available in Appendix - A).

The design of MRC provides for the definition of a Primary Set of Books. This 'transactional' Set of Books requires a defined currency which is called the Primary Functional Currency. The other Set of Book(s) that must be defined is called the Reporting Set of Books and the currencies (ies) are called Reporting Functional Currency (ies).

Oracle documentation states that the user can define and attach to a Primary Set of Books as many as eight (8) Reporting Sets of Books. The documentation, however, suggests that no more than three reporting sets of books be define and assigned to a single Primary Set of Books due to anticipated performance issues. From a business perspective it seems that there may not be a business need for more than two (2) Reporting Sets of Books attached to one Primary Set of Books.

Once the conversion to MRC has been completed the "Maintain MRC Schema" process must be run. This is required because the MRC functionality is actually implemented as a separate install and once the MRC conversion is complete, two Oracle User Id's will be seen as part of the Applications Schema - the standard APPS and the additional MRC_APPS (these are both the default names and can be changed at the time of installation).

Whenever patches are installed to the database/application, Oracle suggests that the Maintain MRC Schema be run every time. This process could take anywhere from 30 minutes to a couple of hours. This is more dependent on database size and to some extent on the machine specifications.

Modules Supported by MRC

The General Ledger application stores data as though it were another Set of Books (which it is!). The data gets converted and stored in a Reporting Set of Books when the user Posts the Journal in the Primary General Ledger. There are many more functions that need to be done specifically in both the Primary and Reporting Set of Books in the General Ledger module.

For all sub-ledgers MRC stores the converted transaction when you save. The only exception is Cost Management. In Cost Management the conversion is done when you request a report to be run for a specific Reporting Set of Books.

In all the sub-ledger modules you need to run the process to "transfer to GL" in both the Primary Set of Books and Reporting Set of Books independently. This is true for all the sub-modules except in Purchasing where the Accrual Build Process is to be run only once from the Primary Purchasing Responsibility. The user however, has to run the Journal Import for this Source from within each Reporting GL Responsibility.

The modules supported by MRC are:

- Accounts Payables
- Accounts Receivables
- Purchasing
- Projects
- Assets
- Cash Management
- Cost Management

NOTE: Inventory is to be added at a later date.

Other than the last two modules there is a requirement for specific tasks to be done in each module as part of the set of period-end tasks. Many of these take the form of transferring transactions to the General Ledger module. These have to be done once for each Reporting Set of Books in addition to being done for the Primary Set of Books.

Transactions are converted based on a daily rate and a rate type defined as part of the definition process and is based on the transaction date. Currency rates should be available for each transaction date for transactions to be converted by the MRC functionality. The rates may be entered on a daily basis or a Profile Option may be set to be able to use one specific rate for a number of days.

If the Currency Rate is not available for the transaction date, the system will give an error message when you post transactions in General Ledger, or try to save them in your sub-ledger modules currently supported by MRC functionality and enabled at your site.

Below is a short explanation of each of the processes and other information relevant to specific modules supported by MRC.

General Ledger

All transactions that are entered or that you import from external sources other than Oracle Applications into the General Ledger module (Journal Entries) are converted based on conversion rules you specify with Journal Source and Journal Category combinations.

The following Journal Sources are reserved and should not be used to define conversion rules:

- Receivables

- Payables
- AX Receivables
- AX Payables
- **(Revaluation)**
- Move/Merge (and its Reversal)
- Assets
- Projects

The journals that get imported from sub-ledger modules supported by the MRC functionality are not converted in General Ledger to the Reporting Set of Books. These are imported into the Reporting General Ledger from the Reporting sub-ledger module.

There are a few activities part of General Ledger functionality that is not duplicated in the Reporting Set of Books when done in the Primary. These activities are to be done in both the Primary and Reporting Set of Books.

These activities / processes are:

- Open and Close Periods
- **(Revaluation)**
- Mass Changes
- Journal Posting
- Mass Maintenance Activities

Budgetary Control cannot be enabled in Reporting Set of Books and Budgets are not converted. In case there is a requirement to see budget figures in the Reporting Set of Books they will have to be separately loaded or entered into the Reporting Set of Books.

The journals that you enter in your Primary Set of Books are not converted and created in your Reporting Set of Books unless you post them in your Primary Set of Books. Once you post them on your Primary Set of Books, they are converted into each of your Reporting Set of Books. You must independently post them in each of your Reporting Set of Books. This ensures that the balances are synchronized in your Primary and Reporting Set of Books.

NOTE: Transactions should NEVER be entered in the Reporting Set of Books, because this would lead to a mismatch in your balances between your Primary and Reporting Set of Books balances.

Sub-Ledgers

The following lists specifies tasks and special considerations that relate to the sub-ledger module supported by the MRC functionality.

- The interface / transfer to General Ledger from the sub-ledgers should be run in both the Primary and each Reporting Set of Books (except for Accrual Build Process in Purchasing)
- For all Sub-Ledgers Open and Close Periods are to be done only in the Primary Set of Books.

Fixed Assets

Calculate Gains/Losses MUST BE RUN FIRST in the Primary Asset Book.
 Depreciation MUST then BE RUN IN each of the Reporting Asset of Books.
 Last, Depreciation should be run for the Primary Asset Book.

When loading external data using the Mass Additions process, you must load relevant records in FA_MC_MASS_RATES table. The data to be loaded into this table is for each Reporting Asset Book and for each line in the FA_MASS_ADDITIONS table.

Payables

Automatic Offsets are not created in the Reporting Set of Books

Receivables

None

Purchasing

The Accrual Build Process is to be run once only in the Primary Responsibility.

Projects

Interface to sub-ledgers is to be run only in Primary Set of Books.

For the Sub-ledger modules seeded responsibility/menu combinations are available (that Oracle strongly recommends you use) that disallow any transactions. For GL however, there is no such seeded responsibility. (The Application Documentation lists the MRC related Responsibilities and the Reports against each responsibility. Please refer to Multiple Reporting Currencies in Oracle Applications User Manual Appendix A).

Note: The paper does not necessarily cover the issues related to the Self-Service Web Applications.

Implementation Considerations

With the initial release of Oracle Application Release 11 the options available for implementing MRC were either a FRESH INSTALL or implementing a new Set of Books/Operating Unit. The second option was called Upgrade Scenario 1 and was very similar to their first option of a fresh install because there was an assumption no data would come over from earlier application versions. Subsequently, Oracle released an Upgrade/Maintenance Patch to introduce another set of Upgrade Scenarios for current users of Applications.

- Upgrade Scenario 2 (Enable MRC in Sub-ledgers with Open Transactions)
- Upgrade Scenario 3 (Enable MRC in Sub-Ledgers with Open Transactions and need historical data in their Reporting Set of Books)

In December 1998 Oracle Released the MRC Mini Pack (Patch # 740124) that introduced the Upgrade Scenario 2 for existing Application Users. This was followed by a patch to get users up to the latest code revision for MRC- Patch # 853555. (Appendix B contains a list of the latest MRC patches to be applied as part of a successful MRC implementation.)

Important Nomenclatures

- Logical Effective Date -- The date that will be used to initialize account balances in your Reporting Set of Books. An important note is that this date must fall within a period where no transactions have been performed. To keep track of reporting correctness in both the Primary and Reporting Set of Books this should ideally be the beginning date of a quarter.

Note: If you have enabled and are using "Average Balance Method" then this date should be the first day of your fiscal year.

- From Date -- This date should precede the Logical Effective Date. The date specifies when conversion of transactions should start. The date must accommodate any backdated transactions that may be entered into the system. Preferably, it should be the beginning date of the fiscal period that your Logical Effective Date falls within.

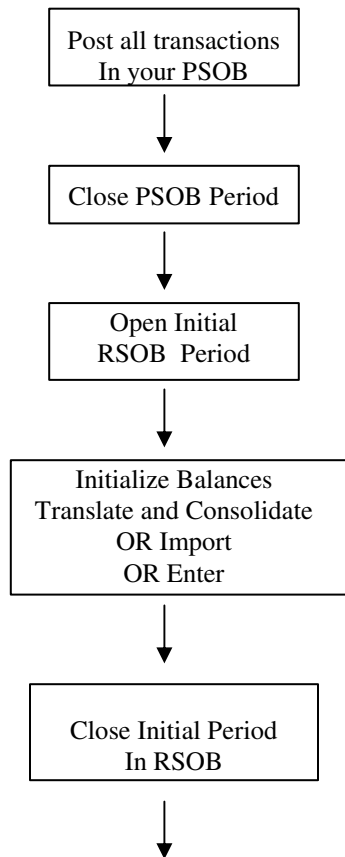
NOTE: The From Date is defaulted for Fixed Assets as the Earliest Date Placed in Service and for Projects as the System Date. These dates cannot be changed.

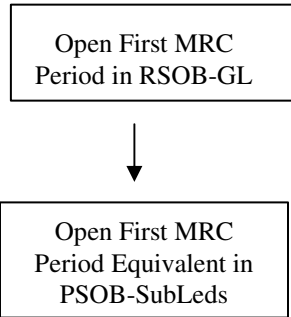
- First MRC Period -- The period from which you wish to start using MRC is the period would probably be the one that has its beginning date as the Logical Effective Date.
- Initial Period -- The period prior to the First MRC Period is the initial period. This period will be used to load Opening Balances in General Ledger.

Initializing Balances in the Reporting set of Books

- First MRC Period is the period from which you wish to start using the MRC functionality
- Initial Period is the period prior to the First MRC Period

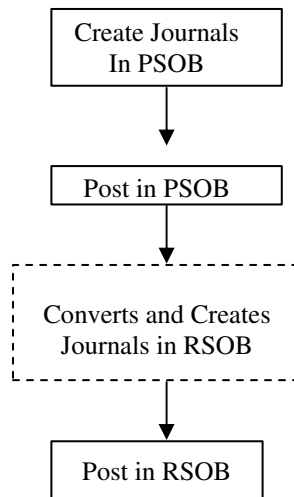
Steps to initialize the balances in RSOB



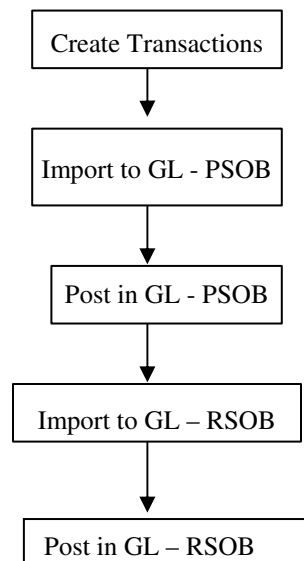


Transaction Processing with MRC implemented in General Ledger and Sub Ledgers

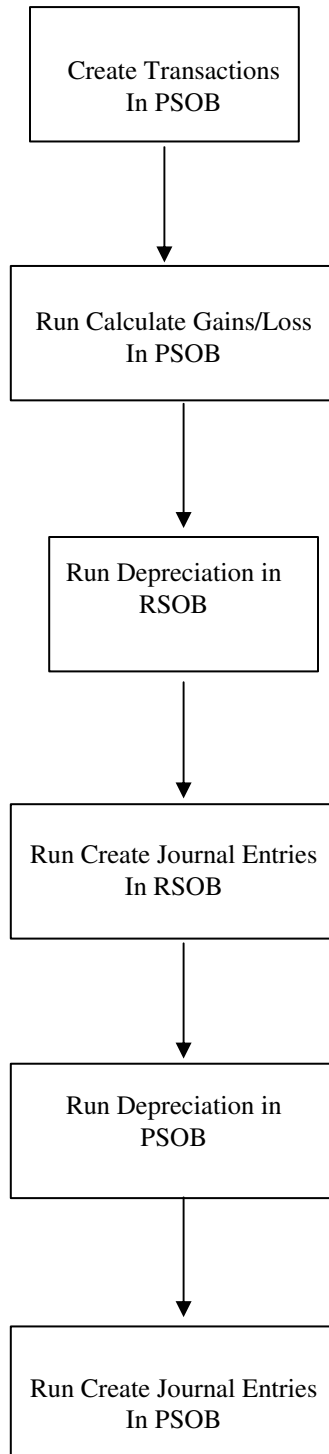
General Ledger



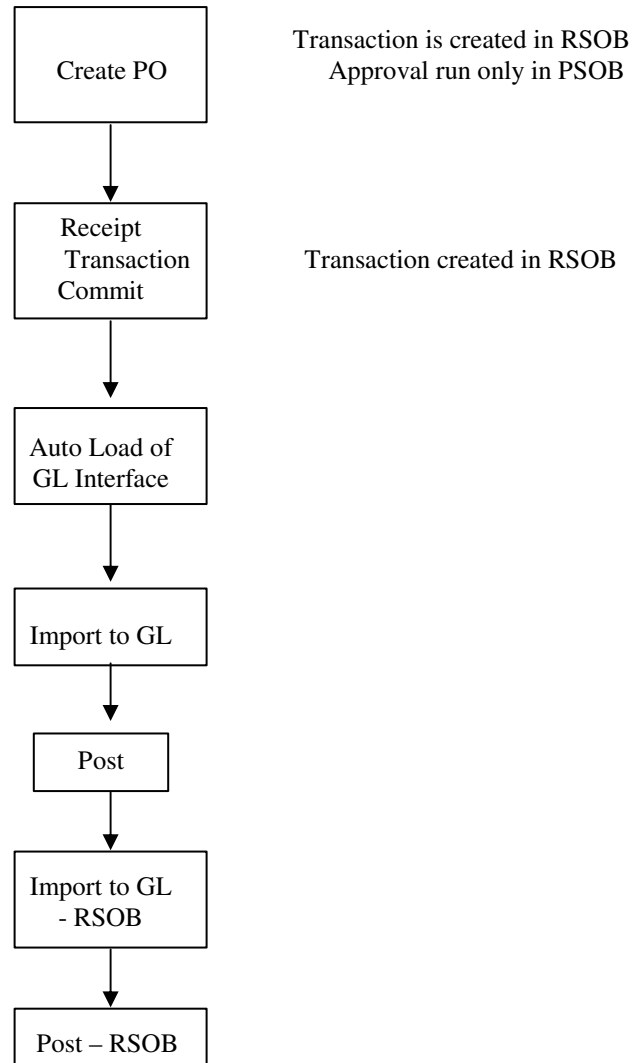
Accounts Payable and Accounts Receivable



Assets



Purchasing



Installations

Oracle intended that users would use MRC and achieve its implementation potential in three ways

- a) New/Fresh Install of Applications: This would mean any new user of Applications who has chosen to use Oracle Applications for the first time (introduction to Oracle Apps is with Release 11)
- b) Upgrade Scenario I - Users upgrading from a previous version, but will have a new Set of Books or a New Operating Unit that is to be MRC enabled. This would mean existing users of Oracle Applications, but limited to those who are planning to implement the Applications in additional offices/sites. These offices would probably be situated in different countries, and under different Operating Units.
- c) Upgrade Scenario II - Upgrades from previous version and enables MRC in an existing Set of Books and Sub-ledgers that have open transactions. This is a scenario where an existing user upgrades to Release 11 and wants to enable MRC in their current Set of Books that they are already using in their offices and with a need to handle past (open) transactions in the Sub-ledger.

Important Implementation Planning Step

Two dates are absolutely critical the MRC implementation to be successful. "Success of the MRC implementation would mean that the system is setup to perform the conversion as desired, and its proper execution (setup)."

To ensure that the above statement is true the following two dates are important.

First MRC Date

This date is only required if you are in an Upgrade Scenario II implementation. You do not need to specify this date if you are in any other implementation path. In addition to this date you also will be prompted to specify two other fields of data - Conversion Date and Conversion Type. Along with the First MRC Period the Conversion Date and Type are used to convert existing open/reversible transactions in the Sub-ledgers.

The First MRC Period can only be a Future Enterable or Unopened period in the GL. The conversion Date is the first (beginning) date of the First MRC Period. This also is the date for which you **MUST** have defined an exchange rate. This exchange rate is used as the initializing conversion rates for open balances.

You could have defined an additional (separate) Conversion Rate Type for the Conversion process. This might allow you, at a later date to differentiate transaction amounts and their rates that did not come across during conversion.

The First MRC Period differentiates the transactions that get converted by the MRC functionality going forward and the transactions (open/reversible) that get converted by the Upgrade Utilities installed as part of the MRC Mini Pack. (Patch# 740124)

Ideally choose a period that is a start of a quarter to be the first MRC period so that the QTD balances will be in sync in both Primary and Reporting Set of Books.

NOTE: If using Average Balance Processing it should be the beginning of the Fiscal Year. The First MRC date is specified in the Assignment Screen.

From Date

The From Date is defined for each module (GL, AP, AR, FA) in the Conversion Options screen, in addition to a few other details. This date ensures that all transactions with a transaction date on or after this date are converted to the Reporting Set of Books using the MRC functionality. The exchange rate used for this conversion will be the Transactions Date for GL, AP & AR. For Purchasing it is the system date on which the transaction is entered and saved.

MRC converts all transactions from the date the Conversion Option was defined going forward. The From Date is not used for any comparison to any date in these modules

You can put an End Date to the conversion rules for each of the modules if you want to stop the MRC conversion process in your installation. However, **DO NOT** put an End Date (To Date) to either the Assets module or Projects module, because this will cause the system to stop the conversion on the date you enter the End Date on the screen and save the record, regardless of whether the End Date is a future date.

Importance of Choosing a Practical From Date

A very practical date must be chosen to have the correct business impact for your financial results and other reporting activities.

It is always an ideal situation for you to be implementing MRC at the beginning of a fiscal year.

However, when you implement, the From Date must cover all possibilities of transactions that might occur. As an example whenever you start implementing MRC it might be in the middle of your fiscal year and the From Date should cover any possibility that any transaction - past dated could also be entered (within your fiscal year) and must properly affect your balances.

Having a From Date that is the first date of your fiscal year is a wise choice. This would ensure that any transaction can be entered within your fiscal year and would affect MRC balances appropriately. The other break-even point of impact that may need to be looked into is to have MRC begin with the conversion process at the beginning of a quarter.

Setup

General Ledger Setups

- Define Primary Set of Books. The definition form is the same as the pre-MRC Define Set of Books Form. The difference is that there is now an additional region to specify if the Set of Books you are defining is a Primary, Reporting or as Not Applicable.
- Define Reporting Set of Books. This region is called the Reporting Currency Options. You can only choose one of these options when defining a Set of Books.
- Assign Reporting Set of Books to the Primary. An additional option in the Menu under Setup - Financial - Books-Assign allows you to assign Reporting Set of Book(s) to Primary Set of Books with their relevant Conversion Options.

Assign Reporting Sets of Books

Action Edit Query Go Folder Special Help

Primary Set of Books **Novell Canada, Ltd.**

Currency **CAD**

Chart of Accounts **Novell Accounting Flexfield**

Calendar **NOV Calendar**

Reporting Set of Books	Functional Currency	First MRC Period	[]
Canada MRC USD	USD		

Conversion Options

Reporting Book Initialization

Action Edit Query Go Folder Special Help

Transaction & Balance

Conversion Date **01-MAY-2000**

Conversion Type

Cancel **OK**

Define Conversion Options

For all modules you specify the Begin/Start Dates except for Fixed Assets and Projects. The Start dates specify the date when the MRC functionality will start being used. The date is matched with the date of the transaction and if the transaction date falls on or after the begin date the transaction is "converted".

Define the modules that you are going to define as MRC enabled (Only GL, FA, AP, AR, PO and Projects). When defining conversion options for AP, AR and PO dates can be defined when you want to invoke the MRC conversion process to begin.

In addition you also need to enter the Conversion Rate Type to be used for the MRC functionality to convert the transactions and the Organization (Multi-Org) for all Sub-Ledgers and Asset Book Name for Fixed Assets.

Conversion Options - Canada, Canada USD

Action Edit Query Go Folder Special Help

Primary
 Set of Books **Novell Canada, Ltd.**
 Currency **CAD**

Reporting
 Set of Books **Canada MRC USD**
 Currency **USD**

Operating Units/Books

Application	Operating Unit	Asset Book	AP Reporting Secondary Book	[] [G]
Oracle General Ledger				
Oracle Assets		CANADA CORP DEPRECI		
Oracle Payables	NOV_OU_CANADA			
Oracle Receivables	NOV_OU_CANADA			
Oracle Purchasing	NOV_OU_CANADA			

GL Conversion Rules

Conversion Options - Canada, Canada USD

Action Edit Query Go Folder Special Help

Primary
 Set of Books **Novell Canada, Ltd.**
 Currency **CAD**

Reporting
 Set of Books **Canada MRC USD**
 Currency **USD**

Conversion Options

Effective Dates

Application	Reporting Conversion Type	No Rate Action	From	To	[] [G]
Oracle General Ledger		Use Last Rate	01-OCT-1998		
Oracle Assets	Corporate	Use Last Rate	01-OCT-1983		
Oracle Payables	Corporate	Use Last Rate	01-NOV-1998		
Oracle Receivables	Corporate	Use Last Rate	01-NOV-1998		
Oracle Purchasing	Corporate	Use Last Rate	01-NOV-1998		

GL Conversion Rules

For General Ledger you need to specify the Journal Source and Category combination information with the Conversion Rate Type to be used for conversion. This would define conversion rules for all manually entered journals and those imported from external non-Oracle Systems.

"No Action Rate" is used to either generate an error if no rate is found for the transaction date or to use the last available rate. You could leave the option to Use Last Rate, so that the user does not get an error if there is no rate defined for the date of the transaction in that module, but has used any previous rate in that module. There is a profile option that would determine how far back the system would go to check the last defined rate.

System Administration Setups

Define Responsibilities

To be able to access the "MRC" data and test the functionality of MRC you need to define specific responsibilities to allow access to the data. Oracle Applications comes pre-seeded with Responsibilities that support this. When defining a Reporting Responsibility it is suggested that you use the seeded Responsibilities and copy them and make name changes as appropriate. There is however, no seeded Responsibility for the General Ledger module. An important point to be made is that there should be no transactions performed by logging in with the Reporting Responsibility. To avoid this eventuality you should use the pre-seeded Responsibility Menus and Report Groups. The pre-seeded menus allow only specific inquiry forms and reporting, and do not allow users to enter any data. The Report Groups allow only a sub-set of reports that you can normally use with each sub-ledger and only these should be used to report on the MRC data.

An important point to remember when defining MRC specific Responsibilities is that the Data Group name MUST be the one that you defined for the MRC Schema when you installed MRC.

The screenshot shows the 'Responsibilities' window in Oracle Applications. The window title is 'Responsibilities' and it has a menu bar with 'Action', 'Edit', 'Query', 'Go', 'Folder', 'Special', and 'Help'. The main area is divided into several sections:

- Responsibility Name:** MRC Fixed Assets Manager
- Application:** Oracle Assets
- Responsibility Key:** FA_MRC_NAVIGATOR
- Description:** MRC Fixed Assets Responsibility - Sta
- Effective Dates:** From 06-JAN-1998, To (empty)
- Available From:**
 - Oracle Applications
 - Oracle Self Service Web Applications
- Data Group:**
 - Name:** Multiple Reporting Currencies
 - Application:** Oracle Assets
- Menu:** FA_MRC_NAVIGATOR_GUI
- Request Group:**
 - Name:** MRC Programs FA
 - Application:** Oracle Assets
- Web Host Name:** (empty)
- Web Agent Name:** (empty)
- Function and Menu Exclusions:** (dropdown menu)
- Table:** A table with columns 'Type', 'Name', and 'Description'. The first row is 'Function' and the rest are empty.

Set Profile Options (at Site as well as Responsibility levels as applicable)

There are three (3) Profile Options that need to be setup and attached to the Responsibilities that will be used to access the Reporting Set of Books.

These Profile Options and an explanation of their values are given below:

MRC Maximum Days to Roll

Forward Conversion Rate- To be set to number of days back, the system should check for a rate if it is not defined for the transaction date.

NOTE: If this profile option value is left blank (NULL) the system will search as far back as the first defined rate it can find.

GL Set of Books Name of the Reporting Set of Books

MRC Reporting Set of Books Name of the Reporting Set of Books

In case the installation is MultiOrg

MO: Operating Unit Operating Unit for which this Reporting Set of Books is to be used.

Profile	Site	Application	Responsibility			User
			CA	GL	MRC USD	
MRC: Maximum Days to Roll Forward Conversion Rate	31					
MRC: Reporting Set of Books	N/A		Canada	MRC	USD	

Transaction related setups - Recurring

Daily Rates Entry – Rates have to be entered between your Primary Functional Currency and your Reporting Functional currency (or currencies as the case may be) for every day. The standard functionality in Oracle Applications converts the Entered Currency transaction to Functional Currency if they differ. MRC will further convert the amounts to the Functional Currency of Reporting Set of Books. If the transaction currency is the same as the Primary Functional Currency - MRC converts to the Reporting Currency directly from the transaction currency.

MRC will first convert from the transaction currency to the Primary Functional Currency and then to the Reporting Functional Currency. The Exchange Rate Type used for the MRC conversion is the one specified in the conversion options for that module.

For Fixed Conversion Rate as defined between the euro and the EEC member country's currencies, a triangulation method is used to arrive at the "exchange rate" and amounts are converted accordingly. Oracle Applications is installed with all seeded currency codes for all currencies using ISO abbreviations. It is dependent upon the installation the currencies that will be enabled. In the case of the euro it has to be

defined as the euro in the system (Define Currencies form), and the related EEC member countries, that became part of the EEC and agreed to use the euro as legal tender their currencies, have to be defined with a Currency Derivation as Euro Derived.

Code	Name	Extended Precision	Minimum Accountable Unit	Currency Derivation Type	Factor	E
ATS	Schilling	5		Euro Derived	13.7603	0
BEF	Belgian Franc	3		Euro Derived	40.3399	0
DEM	Deutsche Mark	5		Euro Derived	1.95583	0
ESP	Spanish Peseta	3		Euro Derived	166.386	0
FIM	Markka	5		Euro Derived	5.94573	0
FRF	French Franc	5		Euro Derived	6.55957	0
IEP	Irish Pound	5		Euro Derived	.787564	0
ITL	Italian Lira	3		Euro Derived	1936.27	0
NLG	Netherlands Guilder	5		Euro Derived	2.20371	0
PTE	Portuguese Escudo	3		Euro Derived	200.482	0

Rounding occurs as defined in the Currency definition - Currency Precision, Extended Precision and Minimum Accountable Unit.

Code	Name	Issuing Territory	Symbol	Precision	Extended Precision	Minimum Accountable Unit
ATS	Schilling	Austria		2	5	
BEF	Belgian Franc	Belgium		0	3	
DEM	Deutsche Mark	Germany		2	5	
ESP	Spanish Peseta	Spain		0	3	
FIM	Markka	Finland		2	5	
FRF	French Franc	France		2	5	
IEP	Irish Pound	Ireland		2	5	
ITL	Italian Lira	Italy		0	3	
NLG	Netherlands Guilder	Netherlands		2	5	
PTE	Portuguese Escudo	Portugal		0	3	

After the MRC Mini-Pack (Patch # 740124) was released and applied the MRC functionality allowed you to upgrade your existing transactions into a Reporting Set of Books. This was the introduction of the Upgrade Option # 2. The ability to enable users to convert existing open transactions from the sub-ledgers to an MRC enabled environment.

Rates

When you assign the Reporting Set of Books to the Primary and define the modules that will be MRC enabled you need to enter a Rate Type that will be used to convert amounts from the Primary to the Reporting Set Of Books. For MRC to function properly there must be a rate defined in your daily rates table for the each transaction date. In case you set the MRC to Maximum Days to Roll Forward Conversion Rate profile option, a rate should exist on the date that is calculated as (Transaction Date - Value in Profile Option number of days). For the functionality to work without a hitch it will be necessary to define rates into your daily rates table as an automatic process to ensure smooth functioning. To enable this Oracle has provided an Open Interface for the Daily Rates table where you can load the relevant rates.

Typical Requirement

Novell has distribution centers in the US and Ireland (they also have additional distribution offices in other countries but we are limiting reference to only areas concerned with this implementation) and sales offices in other countries. Most of the offices prior to Release 11 implementation were transacting in their local currencies using local systems and would report back to the Corporate Office in US Dollars.

With the advent of the European Economic Community and their decision to introduce a unified currency for the European Region the fiscal requirements for business in these countries took a more complicated turn as far as reporting to local agencies, the European Community (if they were a member) and to the Corporate Office in the US.

Further dealing with the EEC - specifically the introduction of the euro- its definition and the derivation for those initial thirteen countries that would start using the euro from January 1st 1999 would make the local reporting requirements a little complicated. At the same time with the decision that a unified currency would become the norm in Europe by 2002 (1st Jan, 2002) there was also a requirement to lay the groundwork to be in a position to change financial reporting and other business reporting to the unified currency in 2002.

The requirement for Novell was to be in a position to report from Oracle in both the local currency (transaction currency) and in US Dollars (Corporate Office Functional Currency) and in case of the European Economic Community countries in euro. Further, the Treasury Department at Novell was also looking to explore possibilities of using the MRC functionality for information regarding currency fluctuation.

Where Oracle Applications Release 11 and MRC Fits

Novell had already been using Oracle Applications in their US Offices beginning with Oracle Applications Ver 9.3. They were in complete understanding and were aware of the multi-currency capabilities of Oracle Applications, though they did not need to use it in their US operations.

They were confident that they could continue to use the Applications basic functionality and achieve their business reporting and fiscal reporting goals if they implemented the basic application in Canada and the European countries. However, they knew that to be able to be Y2K compliant they had to upgrade to 10.7 and they did that in 1997.

With the imminent possibility of the EEC findings and recommendations being implemented they needed to find avenues for their European offices to have more flexibility in transactional as well as reporting capabilities.

Most of their operations in countries abroad were all transacting in their local currencies, with Canada having a few transactions in US Dollars. However their Ireland operations, including Order Entry and Distribution were mostly transacted in various local currencies but many fiscal/business reporting was required to be done in US Dollars to the Corporate Office, Oracle Applications was the best solution and further their proclivity to use Oracle Applications was nurtured by the fact that the Corporate Office was already using it for the past few years.

Oracle Applications already had functionality to:

- Store and report on data for each operating unit (multi-org)
- Allow multi-currency transactions and
- Allow the fiscal reporting currency (Functional currency) to be different from the transacted currency.

Still the application would allow the user to report in both currencies for their day-to-day reporting (i.e., Transactional and Corporate Functional). Added to this the functionality of MRC that was introduced with Release 11 that allowed them to parallel report on all day-to-day transactions as well as period-end and year-end fiscal reporting in multiple currencies.

Ireland was the ideal place for the functionality of MRC and useful for the following reasons:

- Their Functional Currency was USD (due to business reasons the decision was made early on that the Functional Currency for the Primary Ireland Set of Books would be the US Dollar)
- Majority of transactions and some local financial reporting was required in local currency (IEP); and
- Ireland was a member of the EEC and had opted to be one of the first 13 countries to introduce the euro as a legal tender beginning January 1, 1999.

So the ideal combination for the Ireland Operating Unit was Primary Set of Books with functional currency as USD and two (2) Reporting Set of Books - one in IEP and another in euro.

How MRC Provided An Answer

With Canada and all European country operations needing to report in more than one currency - to either headquarters or to local agencies, the need for a transactional and fiscal reporting. Structure was required.

As an example, Canada might be able to report all transactions in their local currency for their own and local agency requirements, and also be able to report to Corporate Office in US Dollars at period-end and year-end without any additional process. (i.e., translation). MRC functionality would ensure that conversions are done at the time of transaction entry, or posting in the case of General Ledger. Though this was not intended to be the best use of the MRC functionality, this was where Novell chose to implement and test the process first.

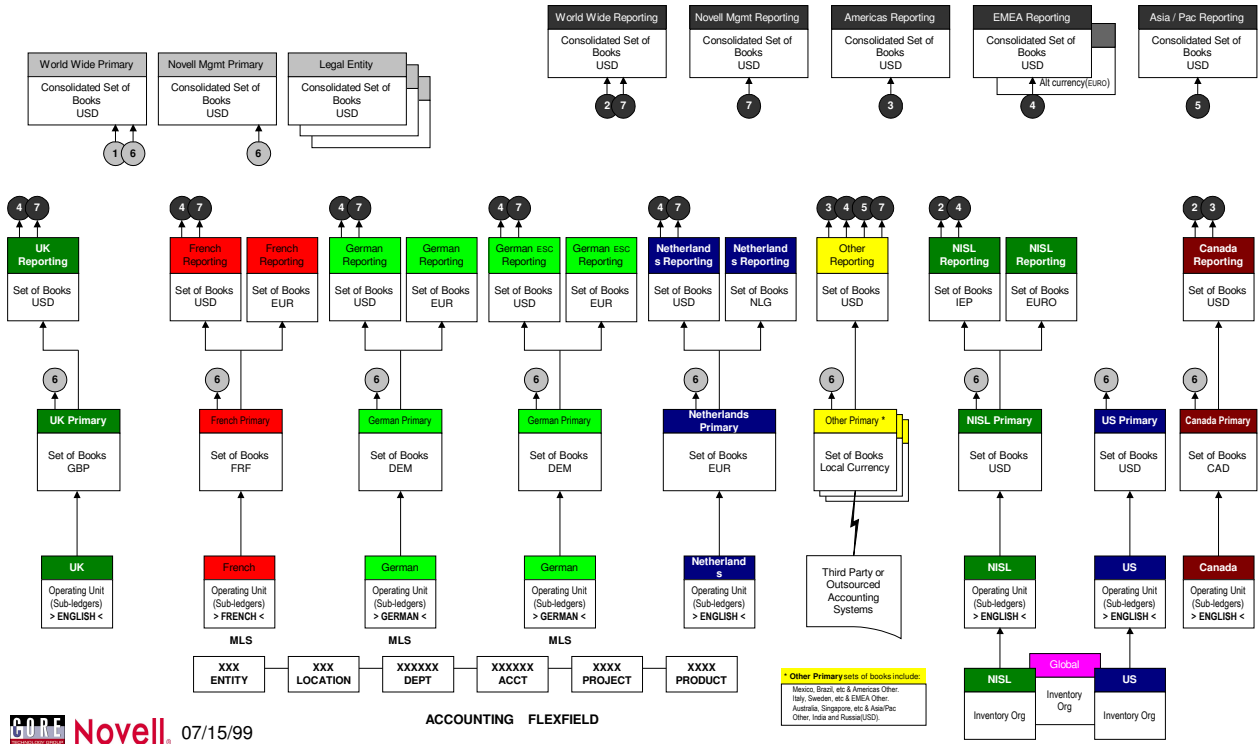
However, looking at the European offices it was a different scenario. Countries that were the initial 13 members who opted to introduce euro as a legal currency beginning January 1, 1999, would and/or might like to have some reporting in euro – other than transaction based. They could either have their Functional Currency as euro or their local currency, and would require submitting period-end and year-end consolidation figures in USD to the Corporate Office in the US.

One of the first thoughts was that the non-US functional currency Set of Books could actually use one of the Reporting Set of Books to provide figures for period-end (and /or quarter-end) to the head office. This was expected to replace the period-end revaluation of balances from each Set of Books and translation to US Dollar prior to remitting figures for final consolidation to the Corporate Office.

The other result of the MRC functionality would be reporting in local (or euro) for those European countries that were one of the initial 13 countries to introduce euro as legal tender beginning January 1, 1999. Ireland would be in a position to use the MRC Functionality to good use and probably the maximum advantage.

Further, they being members and one of the initial 13 to introduce euro in January 1999, reporting requirements in euro would follow soon.

The structure for the implementation of Oracle Application Release 11 - VISIO drawing is given next.

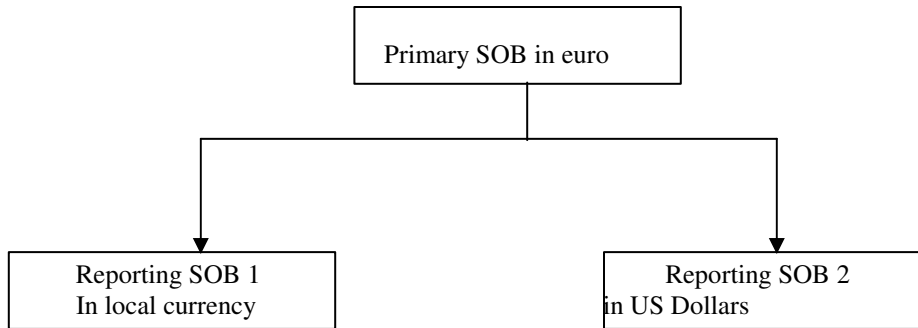


A Typical Setup That Implements MRC

For this example of a typical setup, I will assume the following:

Company is US based and has operations in Europe, in a country that has opted to introduce euro as legal tender beginning 1-1-99. The typical setup for a company with this structure would be to have a primary set of books (mandatory) and two reporting set of books.

The Following diagram will elucidate the matter further.



To be used for local reporting (financial).
To also be used for Taxation related
Reporting and filing in local currency.

To be used for fiscal reporting to Corporate.
Any Regional Consolidation in USD will also
Use these Set of Books.

The modules that a typical company would look for would be GL, AP and AR. FA is being left out because it was felt that probably it would be the least required where users would like to look at Asset Value in a currency different from the Functional.

The process for transfer of data from the sub-ledgers to GL takes on additional processes if MRC is implemented. Following is a table that shows these processes and how they need to be done.

Module	Process	Open/Close Periods
GL	Post – Independent	Independent
AP	Transfer to GL – Once each	Once in Primary
AR	Transfer to GL – Once each	Once in Primary
FA	Depreciation – Once in each	NA
PO	Accrual Build – Once in Primary	NA
Projects	Transfer to GL – Once in Primary	NA

You cannot close the period in Primary AP and AR if the process to transfer from the sub-ledger to the GL is not done successfully in all of your Primary and Reporting Set of Books.

In each module the processes need to be done in the Primary before doing them in the Reporting – except in Fixed Assets where the Calculate Gains and Loss program must be run first in the Primary only and then you need to run Depreciation in each of the Reporting Set of Books before you run Depreciation in the Primary Set of Books.

MRC Implementation @ Novell

Global Company

Novell is a Global Company and has various offices in the United States, Canada Europe, Asia Pac and Latin America. The US, Canada and EMEA offices were primarily identified to use the Release 11 product of the Oracle Applications, beginning in mid 1999.

Novell is a company that makes the Networking software – the Netware Operating System. It also has other File Management, Network Directory Services, other Directory Services and Internet related products.

Their operation is based out of Provo, Utah – their registered Corporate Office, and has offices all over the world. Their major distribution centers are in the US and Ireland.

For the implementation being referenced in this paper we will look at the offices based in the Northern American continent and the EMEA group of countries.

The Corporate offices, based in Orem and Provo, Utah and San Jose, California were already using an earlier version and had upgraded to Release 10.7 in 1997. Their schedule was to upgrade the US installation to Release 11 and then implement Release 11 in their offices in Canada and Europe. The offices in Europe included sites in UK, Ireland, Dubai, Netherlands, Germany and France with a Shared Services in Dublin, Ireland.

The initial plan was to have reporting sets of books (MRC) for the following countries: Canada, UK, Ireland, Netherlands, Germany and France and for the countries handled by the Shared Services center. All of the countries would have 2 Reporting Set of Books except Canada & UK.

Novell upgraded their existing Oracle Applications Financials from 9.3 to 10.7 and later to Release 11. Their implementation before they upgraded to Release 11 included only the Financial Track – General Ledger, Accounts Payable, Fixed Assets and PO, including Web Requisitions. They introduced Project Accounting in the first quarter of 1998(November 1998), when they were still using 10.7. They upgraded from 10.7 Release 11.01 in February of 1999. They further upgraded to Release 11.02 in April 1999.

Modules Implemented at Novell

The plan was to upgrade the existing implementation - operations US Finance - to Release 11, follow it up with the complete suite of Financials modules in Canada, Netherlands and UK. This would be followed by the “big bang” implementation of the Financials, Order Entry and Distributions suite, in the US (only AR in Finance and OE including Distribution) and Ireland in August and thereafter follows through with implementations of financial modules in France and Germany.

Below is a table identifying various definition criteria and the modules planned to be implemented as well as the scheduled start dates as per the initial plan.

Country	Set of Books Currency	Legal Entity	Operating Unit	Modules Implemented	Go-Live Date
US	USD	Yes	Yes	GL, AP, FA, AR, Cash Management, PO, Projects, Web Requisitions, Order Entry, Inventory, BOM	01-FEB-1999 for upgrade of Finance. 01-AUG-1999 for AR Order Entry and Distribution.
Canada	CAD	Yes	Yes	GL, AP, FA, AR, PO	01-MAY-1999
Netherlands	NLG	Yes	Yes	GL, AP, FA, AR, PO	01-JUN-1999
United Kingdom	GBP	Yes	Yes	GL, AP, FA, AR, PO	01-JUL-1999
Ireland	USD	Yes	Yes	GL, AP, FA, AR, Cash Management, PO, Order Entry, Inventory, BOM	01-AUG-1999

France	FRF	Yes	Yes	GL, AP, FA, AR, PO	01-NOV-1999
Germany	DEM	Yes	Yes	GL, AP, FA, AR, PO	01-NOV-1999

The decision to implement MRC was made at Novell as early as February 1999 and we tried various test scenarios and were able to look at how the functionality would work. The testing was primarily done in the Vision Demo Database that Oracle supplies with the Applications installation.

When we had discussions with Support and the MRC group at Oracle we were informed that MRC would best work with Release 11.02 of Oracle Applications and after application of the, first of the many, MRC Mini-Packs (740124). This patch would ensure that we had the latest code that would comply with the specifications of the EEC and all known (at that time) issues would be resolved and fixed.

Novell while testing and performing various pilots with users and actual data, had found anomalies in the Distribution modules that were needed to be rectified before they could successfully pilot, and get User Acceptance. Oracle support informed them that most of these anomalies would be rectified if we upgraded to Release 11.02 of the Application.

So Novell was forced to reconsider their stance on the upgrade to Release 11.02. When they did decide to go ahead with Release 11.02 they also decided that they would convert their installation (implementation) to be "MRC enabled". This would enable them to meet the objectives of implementing the Distribution modules successfully and also initiate their Finance users to a functionality that would give them flexibility in Reporting and Inquiry of data, especially in Europe. This upgrade and MRC enabling of the instance happened in April 99.

This facilitated the implementation of MRC for the Canada, Netherlands, UK, Ireland, France and Germany operations for all the Financials modules, except Projects. The first country to go live with the MRC functionality was Canada with all the Financial modules.

The decision to utilize the MRC functionality in Canada was made primarily to gauge how the MRC functionality would operate in a Production environment and to address any issues to be faced in a relatively small Operating Unit. Further, this use of MRC functionality also enabled Canada to view and report on transactions in USD as and when they chose. They could potentially have used the Reporting Set of Books to transmit their balances at period-end in US Dollars. They chose not to use this option, however. Instead, they chose to use the current method of translating in Oracle Applications, and downloading both the translated and functional balances to be used in an external package where the consolidation would be performed.

The first of the many problems we faced were in the implementation in Canada and they were not too difficult to overcome. There were two real issues and they were one in Accounts Payable and Fixed Assets. The one in Fixed Assets actually was a pre-implementation issue.

The next section will identify how we worked through implementation considerations and how setups evolved over the initial setup/installation and through testing and final implementation stage.

Implementation considerations and Evolution of Setups

Canada

The initial testing and go-live date earliest after the upgrade to 11.02 and converting to MRC was Canada on 01-MAY-1999.

In order to see a Production system go live and watch how it behaves in a real time transactional world we decided to implement MRC for Canada beginning May 99. The decision was to implement MRC for all the modules implemented in Canada.

General Ledger

We decided to load balances from the beginning of the fiscal year (Novell's fiscal year is Nov-Oct). We loaded balances in General Ledger from the beginning of the fiscal year 1999 (November 98). To do this the start date was set to 01-OCT-98 and balances for the period ending OCT-98 were loaded in the Primary Set of Books.

For the balances to be loaded and maintained in the Reporting Set of Books we considered using the MRC functionality to convert all the balances in the Reporting Set of Books (in US Dollars) for the months NOV-98 through APR-98.

However, because Canada was never on Oracle Financials and their Consolidation Process was using another application where transacted balances were already available and had been reported to SEC we were unsure if we could use the balances that were converted using the MRC functionality and still make them auditable. We could have achieved a very closely acceptable figure if we had used the period-end rate for each of the months to be the Exchange rate to be used by MRC functionality.

However, as the balances were available for Canada for each of those months and had been filed with the appropriate authorities it was easier and more acceptable to load their USD balances for each of those months into the Reporting Set of Books in General Ledger.

The transactions that were converted over from the Primary on posting were left as unposted journals in the Reporting Set of Books.

Sub-Ledgers - Accounts Payable and Receivable

We had already decided that for all other sub-ledger modules the first date when we wanted to have the MRC functionality start was the beginning of the fiscal year 01/NOV/98. This was because we had decided to restrict the open items from their legacy system to as few as possible. The decision was that they would only enter the previous months open invoices, and that too limited to the very crucial ones in their local (legacy Accounts Payable) system. The other two modules Accounts Receivable and Purchasing were not to have any historical data being entered into the new system.

Fixed Assets

Fixed Assets however was another issue. We decided to load all assets with their values as at the end of April 99 using the new Applications Desktop Integrator (ADI) tool that was expected to work with Release 11. The version of ADI that Novell was already using was ADI V 3.2. Though V3.2 was certified for use with Release 11, the Fixed Asset was not working in this version and we were requested to upgrade to ADI 4.0.

Once we upgraded to ADI V4.0 we realized that the Assets module worked and we tested this on an initial test instance. However, when we tested this against a copy of our Production System we could not connect using the version of ADI 4.0. Surprisingly, it was detected that this version of ADI would not work with Self Service Web Applications enabled on the instance. We then upgraded to ADI 4.1 and finally to ADI 4.2 when we finally got the tool to work for our purposes and requirement.

The method that Assets loads new assets into the system is by using the Mass Addition functionality - the same functionality that is used when Assets get pulled in from the Accounts Payable module to be created as New Assets in the Fixed Assets Asset Book. We had decided to use this functionality to load all the Assets into the system for Canada. When we tried to test this we found that we had missed out on an

important issue - that of loading exchange rates for each of the Assets Date Placed in Service. This was required because the MRC functionality was converting the Assets into the Reporting Set of Books at the same time as creating them in the Primary Asset Book.

Once we populated the table FA_MC_MASS_RATES the running was smooth. We loaded rates into the system for the first of every month back to the Earliest Date Placed in Service. We could do this because when we set the Profile Option "MRC: Maximum Days to Roll Forward Conversion Rate" to 31 to accommodate the whole month. We had to do this for each line that we had loaded into the FA_MASS_ADDITIONS table.

To be able to have the Assets in the same status as they were in the old legacy systems we had to make changes to some assets with regard to their "lives". This created another small problem. As mentioned earlier we had set the rates in FA_MC_MASS_RATES table for the first of the month for each month back to the earliest date placed in service. However, when we tried to make changes to the Asset we were required to have rates in GL-DAILY-RATES table for the exact dates these assets were placed in service.

The MRC functionality requires that a rate be in the GL_DAILY_RATES table for the date on which the transaction is being entered. We would need to have this entered on a daily basis between the US Dollar and the Canadian Dollar. This would have been easy if only Canada was to be on the system, but the implementation was planned to extend to other countries in Europe.

To make this an automated chore and not have any break in the creation of daily exchange rates we wrote a piece of custom code to download the rates from a financial institution and inserted them into the GL-DAILY-RATES-INTERFACE and then to GL-DAILY-RATES on a daily basis. We tested this and inserted rates not only for Canada, but also for all other rates that we would require for maintaining all our Reporting Set of Books in the EMEA. Because we were not going to set the currencies of the initial 13 countries to adopt the euro as "euro derived" until August'99, we also calculated and inserted the rates for these currencies in relation to USD for the period up to July 31st 1999.

This process was automated to download rates from the web site of a recognized financial institution and calculate relevant rates on a daily basis. If we did not get a download- like on holidays and weekends - we duplicated the previous days' rate.

Once these initial hurdles were crossed we were ready to go into live mode.

Issues and resolutions in the Canada Implementation

General Ledger

We identified and defined the following as the Journal Source/Category combinations for our Canada go-live.

GL Conversion Rules - Ireland, Ireland EUR

Action Edit Query Go Folder Special Help

Convert

	Source	Category	Reporting Conversion Type	No Rate Action	[] [G]
<input checked="" type="checkbox"/>	Consolidation	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Intercompany	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Inventory	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Manual	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Manufacturing	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	MassAllocation	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Recurring	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Revenue	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>

Cancel OK

GL Conversion Rules - Ireland, Ireland EUR

Action Edit Query Go Folder Special Help

Convert

	Source	Category	Reporting Conversion Type	No Rate Action	[] [G]
<input checked="" type="checkbox"/>	Inventory	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Manual	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Manufacturing	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	MassAllocation	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Recurring	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Revenue	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Spreadsheet	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/>	Statistical	Other	Corporate	Use Last Rate	<input type="checkbox"/> <input type="checkbox"/>

Cancel OK

As Canada went live we also had testing/pilots being done for our Distribution Application. Through the testing of these applications we identified two more Source/Category combinations that we had to define. (Manufacturing and Inventory)

Accounts Payable

The decision to enter as few open transactions into the new system enabled us to ensure - or at least assume - that we would have no problems with MRC functionality once we went live in Canada.

However, the decision made was to keep the MRC initial date as 1st NOV 98 (Novell's fiscal year beginning date). Notwithstanding the fact that we had decided not have any open transactions - as far as possible - entered into the new system, we still had transactions that had to be entered.

One of the problems that we faced was that somehow an Invoice Transaction with an Invoice (Transaction) Date prior to 01-NOV-98 was entered. With the setup that our MRC initial date was 01-NOV-98, this transaction did not get converted to the Reporting Set of Books; and it was not expected to as per our understanding. However, this invoice was eligible to be paid and was picked up for payment in one of the payment batches post MAY-99.

The payment Batch was built, printed and the checks sent out and then we had a problem when we tried to confirm the Batch. The Batch would not confirm because the one single Invoice -pre-MRC initialization - had nowhere to be updated with the payment information in the Reporting Set of Books.

We did open a TAR with Oracle and had to have a manual workaround fix for this situation -

The solution was as follows:

- Identify the offending transaction (Invoice)
- Cancel the Batch
- Cancel the Invoice
- Enter the Invoice again with a transaction date 01-NOV-98 (refer to the original transaction date in the description field)
- Approve the Invoice
- Rerun the payment batch and make sure the same number of transactions and same amount gets paid again.
- Confirm the batch.

In most cases where checks are printed the Confirmation of the batch is probably done before the checks are mailed out. In our case unfortunately the checks had already been mailed out prior to the confirmation of the batch and so the above stated method had to be used to ensure that the Payment Batch retained its initial state of number of documents paid, proper check sequence and total amount paid.

Netherlands

The implementation for the next two countries was in Europe. The EMEA countries had one major difference, that they would have two Reporting Sets of Books. The decision was to use the euro as the Primary Set of Books Functional currency for all the countries that were part of the initial euro conversion in 1999. In addition these countries would then have two Reporting Sets of Books - one in local currency (aka NCU) and one in USD.

The first one to go live a month later in June 99 was the Netherlands and the decision to load data for them was as follows

GL - Balance loads from fiscal '97 (Oct'96)
AP, AR, PO - No loads for legacy data
FA - Complete load for Assets

For the Netherlands we used ADI to load all the GL balances into both the reporting Set of Books and converted to euro for the Primary and loaded May'99 closing Balances. We decided to only link up the euro currencies and make the euro derived in August 99 with our big-bang implementation in the US and Ireland. So to enable smooth implementation of the MRC functionality in Netherlands we defined rates between euro and Netherlands Guilder on a daily basis. We actually defined it beginning Nov'98 to Apr'99 for each month (beginning day) and had set the profile option to allow roll-forward for 31 days. Beginning 01-MAY-99 and up to 31- JUL-99 we defined rates for each day between the euro and NLG.

We also loaded into the Primary the General Ledger Account balances for the euro from their current legacy system. We loaded the rates going back to November 1998 as we did for Canada. To arrive at the euro equivalent of their balances we used the set rate between the NLG and the euro that had been defined as the conversion rate beginning January 1, 1999. In the Reporting Set of Books (USD and NLG) we loaded the available balance figures for each of the months beginning November 1998 to April 1999. For the Assets we loaded all assets using the same method that we used in Canada using ADI.

United Kingdom

The next go-live was for the UK operations and here we defined only one Reporting Set of Books. The UK had its Primary Set of Books in GBP and it had one Reporting Set of Books in USD. Because UK was not one of the countries to have agreed to adopt the euro, it did not need to have a euro Reporting Set of Books.

The process to load the balances was done in the same manner as before and we used the existing balances as had been reported to the Corporate Offices, and they were loaded into the system from November 1998 in the Primary General Ledger as well as the Reporting General Ledger. No transactions were expected to be loaded into the sub-ledgers except a few Open Accounts Payable Invoices.

Ireland

While all this implementation was going on we were checking to make sure that when we go live with the big bang and convert legacy data, we get proper results in the data that gets converted into Oracle from the legacy AR data. Novell had decided that they would convert AR data

Novell had decided to use the interface tables that are used between OE and AR to load their legacy Invoices. This would then come across using the Auto Invoice Process. The AR Invoices we loaded were any open transactions and those transactions that were part of a maintenance license or service billing. In those cases where an invoice is created but the revenue is recognized over a contract period (i.e. 12 months), we wanted to bring over all the links to create a complete deferred revenue picture. In some cases, these invoices were paid and closed but not all the revenue had been recognized. This process enabled Novell to automate their deferred revenue reporting and eliminate numerous manual procedures.

We loaded receipts into the system using a modified Lockbox process that would take care of loading the legacy receipts that were needed to be able to get the financial picture in the same way as at the time when we migrated to Oracle Applications Release 11 for the Operating Units that went live with Accounts Receivable and Order Entry combination.

The AR transactions were to be converted only for the US and Ireland organizations. The decision to convert past three years data was based on the requirement that they had service contracts that required tracking and that these were related to the deferred revenue rule that they had for orders. Due to this requirement the conversion rule begin date for Accounts Receivable for Ireland MRC was set to begin in 01-AUG-1996. This ensured that all converted data also got properly “converted” to the Reporting Set of Books.

The conversion process was difficult and we had to perform many trial runs to ensure that all the transactions were done according to requirement and reconciled. The conversion process for AR was only done for the US and Ireland operating Units. The US operating unit had no Reporting Set of Books, but the Ireland operating unit had 2 Reporting Set of Books (in euro and Irish Pound).

The Ireland Operating Unit had the following data loads –

GL	Opening Balances in Primary (USD) from July’99. In both the Reporting Sets of Books from Nov’96
AP, PO	No data loads, only manual entry of Open AP Invoices.
AR	Transactions from 1 st August 1996
FA	All Assets

The General Ledger loads and Assets loads were done using ADI, and the Accounts Receivable loads were done into the Primary Set of Books, and the standard MRC functionality ensured populating the Reporting Set of Books. We defined rates between the IEP and USD going back to August 1996 to ensure converted Accounts Receivable transactions did not error when some internal functionality in MRC required rates. These were defined just so that we do not have any problems with the MRC needing any of these rates. The transactions that were brought over did have the original currency exchange rate and these were also loaded into the system as User Rate Type.

The General Ledger balances for the USD and IEP were already available from the fiscal year of 1997 (starting period November 1996) from their legacy systems and were loaded into the IEP Reporting Set of Books using ADI. The US balances were only loaded from the beginning of the current fiscal year - Nov 98. For the EUR balances we used the EUR rate between the USD and EUR as of 01-JAN-99. These calculated balances were loaded from the fiscal year 1997 (November 96).

We will describe both these issues and their resolutions, and where available, the reason for these problems.

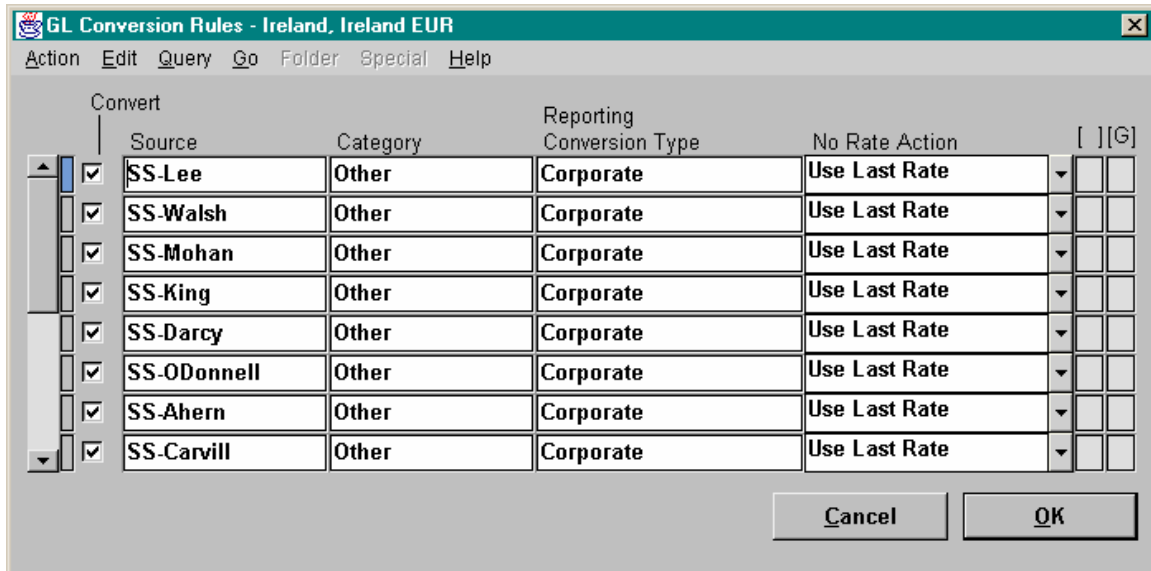
General Ledger

At Novell there is a requirement for transaction loads that each country office does using ADI, including US. Each of the journal loads uses the Source "Spreadsheet" as a default and this creates problems when multiple people/users are uploading journals. This is because the Journal Import Program in GL uses the Journal Source as one of the parameters (that is required) when you submit a Journal Import Process. When multiple people use Journal Import all of their uploaded records have the same source - Spreadsheet - and thus leads to some problems with records in the GL-INTERFACE. To overcome this problem the countries in Europe - UK, NL, and IE created Journal Sources with their user ID in Oracle appended by a Hyphen and the letters "SS" (for SpreadSheet).

As mentioned earlier we had defined specific Journal Source/Category combinations to effect the GL conversions from Primary to Reporting in the Setups and the one defined was only for a Journal Source of "Spread Sheet" and a Category of "Other". This was a problem since the journals that were uploaded using the Source of Spreadsheet-'User ID' never got "converted" into the Reporting Set of Books.

The problem was identified a couple of months down the line and we had a choice of rectifying it within the Applications or with a dump outside using ADI, a translation to each Reporting Currency, and upload into each Reporting Set of Books using ADI.

We chose the latter and downloaded all of these Journals into Excel. We translated using appropriate rates into each Reporting Currency and using ADI uploaded them directly into each of the Reporting Set of Books. This was not a difficult task given the fact that the Spreadsheet loads of the transactions were done as part of the Period-end process and were done on a single-day. To ensure that we do not encounter the problem going forward we defined a Journal Source/Category combination of all such Journal Sources "User ID-SS" and a category of "Other".



Patch For PO Accrual

Novell's business decision was that they would post to the General Ledger from the sub-ledger in Summary as opposed to Detail. This was tested and as the transfers were done from each of the Reporting sub-ledgers to the Reporting General Ledgers the testing went perfect. However, for Accrual Builds - the process that populates the Interface Table (GL_INTERFACE) is run only once in the Primary Purchasing Responsibility.

Unlike the other sub-ledgers (AP and AR) the Journal Import is not automatically submitted when the Transfer to General Ledger is done from the sub-ledger. The process to import the transactions into General Ledger is done from the General Ledger Responsibility. This would then need to be done from the Primary and then each of the Reporting Set of Books.

In the case of Ireland we needed to submit the Journal Import thrice - one for the Primary and once each for the Reporting Set of Books. In the Primary Set of Books we found that the Journals were created in Summary as per Setup requirement. However, in the Reporting Set of Books, the Journals were created in Detail.

When we contacted Oracle Support we were told that there was a MRC Mini-pack that would resolve this issue. Due to reasons of not having time to test a mini-pack (Patch# 973993) and the fiscal year-end just round the corner - we requested and got a separate patch to resolve our issue. (Patch# 949366).

Accounts Receivable

The problems that we had in AR were many and inconsistent. It started with the July close process. Though AR was implemented in the US and Ireland at the same time - August'99 along with the Distribution Application modules the conversion of data was done in the July period (JUL-99). All the converted transactions were created in July and they were all also posted to the General Ledger in July. But, what the users and the support personnel failed to realize was that the MRC Reporting Set of Books needed their own independent GL transfers. They only realized this when they tried to close the July period sometime in August due to open issues with reconciliation.

Once they noticed that this required a separate GL transfer for the Reporting Set of Books - they tried to perform it and because of the large volume of transactions it continuously failed to complete. We had problems with the Transfer to General Ledger itself taking sometimes 36 hours or more to complete and also problems with the Rollback Segments getting full. However, when we got rid of the performance and resource issues for this transfer we found that we had problems with "rounding" in the Reporting Set of Books and almost all the transactions ended up in the Unposted Items Report in each of the Reporting Set of Books.

Oracle Support was called in and we were asked to apply one of the many MRC mini-packs (Patch# 925415). This would fix the issue that was causing the problem in the conversion and creating the rounding problems. This however, did not ease the problem of our huge Unposted Item Report. This was due to the fact that we had already entered these transactions and the rounding problem already existed in the Reporting Set of Books data. To resolve the issue we had to run a fix-it script that Oracle Development (MRC development team) provided us through Oracle support. This allowed us to close our July period sometime in September!

When we started to perform the August month-end we faced similar problems and were forced to run the data fix script for those transactions that had been created prior to applying the patch (Patch# 925415). However, this was not our only problem, we had a couple of receipts that were a problem and they were appearing as Unposted in the Primary Set of Books also. This was a strange case of reversal and we never found out what the actual problem was. Oracle Support provided us a data fix script that resolved the issues. We had another Receipt that was a rounding issue again in the Reporting Set of Books and again it was an issue of some MRC background triggers/functionality that had not worked!

Once we had done that we found that though our Unposted Items Report was completely clean, meaning we did not have one, we still could not close the period. We kept getting a message that we should post all of our transactions before we could close the period. Finally the solution was a data fix script that Oracle Support provided that enabled us to close the period.

This brought us to the close situation for the September period and we were heading towards our year-end close (Novell's fiscal year is Nov-Oct). We were already in the second week of October and could not be sure that we could have September and October closed on time.

Up until now our problems in the Unposted Items Report had only been with Trade Receipts. In the month of September we found that we had Credit Memos, Sales Invoices, Trade Receipts and Cross-Currency issues to be dealt with. We logged a TAR with Oracle and started working the issues almost from day one at a severity1 level. It was found that the problem with the Credit Memos and Sales Invoices was one of an incorrect trigger firing mechanism (MRC) functionality and that we would have this issue continually up until we applied the latest MRC patch. (Patch# 973993)

Strangely enough this was not happening in any of the other countries where we had AR installed. The difference in the case of Ireland was that it also had Order Entry and Distribution implemented and all Invoices and Credit Memo Transactions were generated through Auto Invoice. We also found that we did not have any Unposted Items for Credit Memos/Sales Invoices that had been entered manually. All RMA credits had to be entered manually whenever the original sales order was a converted item. The rest of the September items were a repeat of what we had in August, the only difference was volume and we started getting Cross-Currency issues also. Data-fix scripts from Oracle resolved both the issues.

However, in September we had a serious issue with us not being able to close the period even though we had cleared the items on the Unposted Items Report. We had a curious problem that when we tried to close the period for the Ireland Set of Books we got a dialogue box that had no text but just a hand. This was strange and we had no idea what to make of it and this was the problem we had faced earlier in August when Oracle Support had fixed the data in a specific table to resolve the issue. However, when they looked at the specific issue they found no problem.

As we were first trying this on a test instance before doing the fixes in Production we had a lag in the status of the periods for the various Sets of Books. We found that there were a couple of Sets of Books where we had the AR period open for the same period (SEP-99). Once we closed these periods we could close the Ireland period also. This was something we found out by chance and Oracle Support told us that the latest patch to the AR module would have fixed the issue (or the latest MRC Minipack would have).

October was Novell's year-end and our first look at the Unposted Items Report for the Reporting Set of Books gave us a jolt, as it was a hundred and fifty pages. We were as stated earlier expecting to see only Receipts but the bulk of the items 85% happened to be Credit Memos/Sales Invoices. This led us to believe that problems seemed to be with Invoices/Credit Memos that had been generated by Auto Invoice. Going by past experience and second nature we logged a TAR with Oracle Support and immediately moved it to a SEV 1. In fact this was done even prior to fully resolving the September issue.

A bug was logged again and Development was looking into the issue. In this case again both AR and MRC development were involved and finally they gave us a data fix script that picked up data from a MRC table. Somehow it seems that a trigger did not fire properly or failed to execute and thereby some fields in the MRC columns of the RA_CUST_TRX_GL_DIST_ALL table were not populated properly. The data fix script called the same data from an offshoot MRC table and populated these fields correctly. Once this was done the Unposted Items Report showed only the Receipt issues and again we were given data fix scripts from Oracle Support.

This had now led us to run the Credit Memo/Sales Invoices data fix script on a weekly basis and then open a regular periodic TAR's with Oracle to fix the Receipt problem. This will continue as a process until we upgrade to the latest Mini-pack for MRC. (Patch# 973993) Unfortunately by the time the October issues got resolved and things had settled down we had another MRC Mini-Pack (Patch# 1007037). Due to the intensity and seriousness of this problem we chose not to apply these mini-packs until we had tested them in a test instance and with Y2K and calendar year-end looming we decided to postpone the application of the patch.

France and Germany

The next thing to be worked out was the implementation of the core financial modules in Germany and France beginning scheduled to be done in November'99. The problems that we faced in the EMEA countries we implemented were two fold. One was a small hitch and this was in GL and the other a more important issue that was seen in AR. The AR problem in MRC was only seen in the Ireland Operating Unit (functional currency of Primary USD and two (2) Reporting Sets of Books - IEP and EUR and the implementation of Order Entry and Distribution.

As per our original schedule we were expected to implement and go-live in the France and Germany org/operating units on November 1st 1999. Due to various business considerations, Novell decided to push back and put off these implementations to February 1st 2000. The date was chosen, as it would be past the first quarter-end close in the new application for all the operating units that had already implemented R11 and past the ubiquitous Y2K hurdle.

This brought us to another issue/problem that necessitated us making changes to the implementation setups. For both France and Germany, as with other European countries that were part of the 13 countries that adopted euro on 1st Jan 1999, Novell had decided that their Primary Set of Books would have a functional currency of euro. This was the plan as per the original schedule and the setups would have remained the same as for the other European countries if we had implemented on November 1st, 1999. However as we had not done so and intended to do so on February 1st, 2000 there was a local legal requirement that prohibited the usage of the already existing setups.

The legacy systems that the offices in these two countries used were in their local currencies, and the local tax/audit requirement was that companies that opened their fiscal year in a specific currency must also close the fiscal year in that currency. This meant when we implemented for France and Germany we would not be able to implement with a Primary Set of Books with a functional currency of euro. They would have to use the local currency as their Functional currency in their Primary Set of Books.

This meant that we had to define a new Set of Books for France and Germany with the Primary functional currency in each of their local currencies. We would use this setup until the fiscal end of 2000 (October 2000) and then revert back to the original plan of having the Primary Functional currency as the euro.

To achieve this we decided to start of with setting up a fresh Legal Entity, Operating Unit and Set of Books. We would then revert back to the original setup that would have used if the go-live date had remained 1st November 1999. The problems that we envisaged would be for the Reporting Set of Books. The plan to juggle around with the Reporting Set of Books was to be able to ensure a smoother transition in Nov-2000.

Status at go-live In FEBRUARY 2000

- Define Primary Set of Books with the functional currency as Duetsche Mark (DEM)
- Define 3 Reporting Set of Books (USD, EUR, DEM)
- Sub-ledgers to be implemented to be accordingly setup.

Proposed solution to make the move to a Primary Functional Currency of euro in November 2000:

- Define a new Primary Set of Books with the Functional Currency as euro (we would use the existing setups for GL and other sub-modules).
- Use existing Reporting Set of Books to get the euro balances for the beginning in November 2000.
- Use the existing Reporting Sets of Book in USD and in DEM and attach them to the new Primary Set of Books in euro.
- Attach/define new sub-ledger modules to each of the above.
- Make a transition of as few open items as possible
- Make available an inquiry responsibility to Users for accessing transactions for the previous fiscal year.

Glossary

Back Dated Transaction	A transaction whose transaction date precedes the "first MRC date"
Closed Transaction	A transaction whose accounting life cycle has been completed. (E.g.) Payables Invoice that has been paid and the check have been reconciled.
First MRC date	the beginning date of your first MRC period.
First MRC period	the first period for which MRC functionality Starts to convert your transactions to your Reporting currencies.
From Date & To date	as defined for each module in the Conversion Options window to begin MRC functionality.
Future Dated Transaction	Any transaction whose transaction date is on Or after the first MRC date.
Initial Period	The period preceding the first MRC period.
Initializing Rate	Single rate users specified between each Transaction currency and reporting currency defined For the conversion date and type as specified in the Reporting Book Initialization Form. This rate will be Used to convert transactions and initialize monetary Account balances in Reporting Set of Books during The upgrade process.
Monetary Assets/Liability	An asset or liability whose recorded amount is fixed or Determinable in the functional currency without regard to future prices of specific goods and services
NCU	National Currency Unit. The national currency unit of an EMU member country as of 01-JAN-1999.
Open Item	An Invoice (in either Payables or Receivables) against which cash has not been fully applied by either a payment or a receipt of cash.
Open Transaction	A Transaction is a sub-ledger whose full accounting life cycle has not been completed.
First Run	The first time you run the upgrade utility for a specific sub-ledger. Only transactions with transaction date prior to the first MRC date are converted, including future-dated transaction.
Rerun	When you run the upgrade utility a subsequent time to extend the volume of transactions in the RSOB.
Reversible Transaction	A sub-ledger transaction that can be reversed.

APPENDIX - A

List of Objects created by the Convert to MRC option in ADADMIN -

List of Tables

Owner	Table Name
AP	AP_MC_CHECKS
AP	AP_MC_INVOICE_DISTS
AP	AP_MC_INVOICE_PAYMENTS
AP	AP_MC_INVOICES
AP	AP_MC_PAYMENT_DISTS_ALL
AP	AP_MC_RECON_DISTS_ALL
AP	AP_MC_TRIAL_BALANCE
AR	AR_MC_ADJUSTMENTS
AR	AR_MC_CASH_RECEIPT_HIST
AR	AR_MC_CASH_RECEIPTS
AR	AR_MC_DISTRIBUTIONS_ALL
AR	AR_MC_MISC_CASH_DISTS
AR	AR_MC_PAYMENT_SCHEDULES
AR	AR_MC_RATE_ADJUSTMENTS
AR	AR_MC_RECEIVABLE_APPS
AX	AX_MC_TABLES
FA	FA_MC_ADJUSTMENTS
FA	FA_MC_ASSET_INVOICES
FA	FA_MC_BOOK_CONTROLS
FA	FA_MC_BOOKS
FA	FA_MC_BOOKS_RATES
FA	FA_MC_CONVERSION_HISTORY
FA	FA_MC_CONVERSION_RATES
FA	FA_MC_DEFERRED_DEPRN
FA	FA_MC_DEPRN_DETAIL
FA	FA_MC_DEPRN_PERIODS
FA	FA_MC_DEPRN_SUMMARY
FA	FA_MC_MASS_RATES
FA	FA_MC_RETIREMENTS
GL	GL_MC_BOOK_ASSIGNMENTS
GL	GL_MC_CONV_INT_20461
GL	GL_MC_CONVERSION_RULES
GL	GL_MC_OPTIONS_INT_20461
GL	GL_MC_REPORTING_OPTIONS
GL	GL_MC_UPGRADE_HISTORY
GL	GL_MC_UPGRADE_RATES
PA	PA_MC_COST_DIST_LINES_ALL
PA	PA_MC_CUST_EVENT_RDL_ALL
PA	PA_MC_CUST_RDL_ALL
PA	PA_MC_DRAFT_INV_ITEMS
PA	PA_MC_DRAFT_REVS_ALL
PA	PA_MC_EVENTS
PA	PA_MC_EXP_ITEMS_ALL
PA	PA_MC_PRJ_AST_LINE_DTLS
PA	PA_MC_PRJ_AST_LINES_ALL
PA	PA_MC_TXN_INTERFACE_ALL
PA	PA_MRC_UPG_HISTORY
PO	PO_MC_DISTRIBUTIONS

PO	PO_MC_HEADERS
AR	RA_MC_CUSTOMER_TRX
Owner	Table Name
APPS	RA_MC_CUSTOMER_TRX_TMP
AR	RA_MC_TRX_LINE_GL_DIST
PO	RCV_MC_REC_SUB_LEDGER
PO	RCV_MC_SHIPMENT_HEADERS
PO	RCV_MC_SHIPMENT_LINES
PO	RCV_MC_TRANSACTIONS

List of Packages

Owner	Object Name	Object Type
APPS	AP_AR_MRC_UPG_INIT_PKG	PACKAGE
APPS	AP_AR_MRC_UPG_INIT_PKG	PACKAGE BODY
APPS	AP_AR_MRC_UPG_SETUP_PKG	PACKAGE
APPS	AP_AR_MRC_UPG_SETUP_PKG	PACKAGE BODY
APPS	AP_AR_MRC_UPG_UTILS_PKG	PACKAGE
APPS	AP_AR_MRC_UPG_UTILS_PKG	PACKAGE BODY
APPS	AP_AR_MRC_UPG_VALID_PKG	PACKAGE
APPS	AP_AR_MRC_UPG_VALID_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_FUT_TRANS_PKG	PACKAGE
APPS	AP_MRC_UPG_FUT_TRANS_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_INS_TB_PKG	PACKAGE
APPS	AP_MRC_UPG_INS_TB_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_INS_TRANS_PKG	PACKAGE
APPS	AP_MRC_UPG_INS_TRANS_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_MAIN_PKG	PACKAGE
APPS	AP_MRC_UPG_MAIN_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_RND_TRANS_PKG	PACKAGE
APPS	AP_MRC_UPG_RND_TRANS_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_UPDATE_TRANS_PKG	PACKAGE
APPS	AP_MRC_UPG_UPDATE_TRANS_PKG	PACKAGE BODY
APPS	AP_MRC_UPG_UTILS_PKG	PACKAGE
APPS	AP_MRC_UPG_UTILS_PKG	PACKAGE BODY
APPS	AR_MRC_CRH_PKG	PACKAGE
APPS	AR_MRC_UPG_FUT_TRANS	PACKAGE
APPS	AR_MRC_UPG_FUT_TRANS	PACKAGE BODY
APPS	AR_MRC_UPG_INS_TRANS_PKG	PACKAGE
APPS	AR_MRC_UPG_INS_TRANS_PKG	PACKAGE BODY
APPS	AR_MRC_UPG_MAIN_PKG	PACKAGE
APPS	AR_MRC_UPG_MAIN_PKG	PACKAGE BODY
APPS	AR_MRC_UPG_UPD_TRANS_PKG	PACKAGE
APPS	AR_MRC_UPG_UPD_TRANS_PKG	PACKAGE BODY
APPS	AR_MRC_UPG_UTILS_PKG	PACKAGE
APPS	AR_MRC_UPG_UTILS_PKG	PACKAGE BODY
APPS	AR_MRC_UTILITY_PKG	PACKAGE
APPS	AR_MRC_UTILITY_PKG	PACKAGE BODY
APPS	PO_MRC_INS_UPG_PKG	PACKAGE
APPS	PO_MRC_INS_UPG_PKG	PACKAGE BODY
APPS	PO_MRC_MAIN_UPGRADE_PKG	PACKAGE
APPS	PO_MRC_MAIN_UPGRADE_PKG	PACKAGE BODY
APPS	PO_MRC_UPD_UPG_PKG	PACKAGE
APPS	PO_MRC_UPD_UPG_PKG	PACKAGE BODY
APPS	PO_MRC_UPG_UTILS_PKG	PACKAGE
APPS	PO_MRC_UPG_UTILS_PKG	PACKAGE BODY
APPS_MRC	AP_AR_MRC_UPG_INIT_PKG	PACKAGE
APPS_MRC	AP_AR_MRC_UPG_SETUP_PKG	PACKAGE

APPS_MRC	AP_AR_MRC_UPG_UTILS_PKG	PACKAGE
APPS_MRC	AP_AR_MRC_UPG_VALID_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_FUT_TRANS_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_INS_TB_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_INS_TRANS_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_MAIN_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_RND_TRANS_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_UPDATE_TRANS_PKG	PACKAGE
APPS_MRC	AP_MRC_UPG_UTILS_PKG	PACKAGE
APPS_MRC	AR_MRC_CRH_PKG	PACKAGE
APPS_MRC	AR_MRC_UPG_FUT_TRANS	PACKAGE
APPS_MRC	AR_MRC_UPG_INS_TRANS_PKG	PACKAGE
APPS_MRC	AR_MRC_UPG_MAIN_PKG	PACKAGE
APPS_MRC	AR_MRC_UPG_UPD_TRANS_PKG	PACKAGE
APPS_MRC	AR_MRC_UPG_UTILS_PKG	PACKAGE
APPS_MRC	AR_MRC_UTILITY_PKG	PACKAGE
APPS_MRC	PO_MRC_INS_UPG_PKG	PACKAGE
APPS_MRC	PO_MRC_MAIN_UPGRADE_PKG	PACKAGE
APPS_MRC	PO_MRC_UPD_UPG_PKG	PACKAGE
APPS_MRC	PO_MRC_UPG_UTILS_PKG	PACKAGE

List of Triggers

Owner	Trigger Name	Trigger Type	Triggering Event	Table Name
APPS	AP_MRC_CHECKS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AP_CHECKS_ALL AP_MC_CHECKS
APPS	AP_MRC_CHECKS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AP_CHECKS_MRC_V
APPS	AP_MRC_INVOICES_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AP_INVOICES_ALL Updates Varchar2 column AP_MC_INVOICES
APPS	AP_MRC_INVOICES_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AP_INVOICES_MRC_V
APPS	AP_MRC_INVOICE_DISTIS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AP_INVOICE_DISTRIBUTIONS_ALL Updates Varchar2 column AP_MC_INVOICE_DISTIS
APPS	AP_MRC_INVOICE_DISTIS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AP_INVOICE_DISTIS_MRC_V
APPS	AP_MRC_INVOICE_PAYMENTS_BID	BEFORE EACH ROW	INSERT OR DELETE	AP_INVOICE_PAYMENTS_ALL AP_MC_INVOICE_PAYMENTS
APPS	AP_MRC_INVOICE_PAYMENTS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AP_INVOICE_PAYMENTS_MRC_V
APPS	AP_MRC_INV_DISTIS_POST_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AP_INV_DISTIS_POST_MRC_V
APPS	AP_MRC_INV_PAYMENTS_POST_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AP_INV_PAYMENTS_POST_MRC_V
APPS	AP_MRC_PAYMENT_DISTIS_BID	AFTER EACH ROW	INSERT OR DELETE	AP_PAYMENT_DISTRIBUTIONS_ALL AP_MC_PAYMENTS_ALL
APPS	AP_MRC_PAYMENT_DISTIS_IID	INSTEAD OF	INSERT OR DELETE	AP_PAYMENT_DISTIS_MRC_V
APPS	AP_MRC_RECON_DISTIS_BIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	AP_RECON_DISTRIBUTIONS_ALL AP_MC_RECON_DISTIS_ALL
APPS	AP_MRC_RECON_DISTIS_IID	INSTEAD OF	INSERT OR DELETE	AP_RECON_DISTIS_MRC_V
APPS	AR_MRC_ADJUSTMENTS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AR_ADJUSTMENTS_ALL Updates Varchar2 column AR_MC_ADJUSTMENTS
APPS	AR_MRC_ADJUSTMENTS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_ADJUSTMENTS_MRC_V
APPS	AR_MRC_CASH_RECEIPTS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AR_CASH_RECEIPTS_ALL Updates Varchar2 column AR_MC_CASH_RECEIPTS
APPS	AR_MRC_CASH_RECEIPTS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_CASH_RECEIPTS_MRC_V
APPS	AR_MRC_CASH_RECEIPT_HIST_BID	BEFORE EACH ROW	INSERT OR DELETE	AR_CASH_RECEIPT_HISTORY_ALL Updates Varchar2 column AR_MC_CASH_RECEIPT_HIST

APPS	AR_MRC_CASH_RECEIPT_HIST_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_CASH_RECEIPT_HIST_MRC_V
APPS	AR_MRC_DISTRIBUTIONS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AR_DISTRIBUTIONS_ALL AR_MC_DISTRIBUTIONS_ALL
APPS	AR_MRC_DISTRIBUTIONS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_DISTRIBUTIONS_MRC_V
APPS	AR_MRC_MISC_CASH_DISTS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AR_MISC_CASH_DISTRIBUTIONS_ALL Updates Varchar2 column AR_MC_MISC_CASH_DISTS
APPS	AR_MRC_MISC_CASH_DIST_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_MISC_CASH_DISTS_MRC_V
APPS	AR_MRC_PAYMENT_SCHEDULES_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AR_PAYMENT_SCHEDULES_ALL Updates Varchar2 column AR_MC_PAYMENT_SCHEDULES
APPS	AR_MRC_PAYMENT_SCHEDULES_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_PAYMENT_SCHEDULES_MRC_V
APPS	AR_MRC_RATE_ADJUSTMENTS_BI	BEFORE EACH ROW	INSERT	AR_RATE_ADJUSTMENTS_ALL Updates Varchar2 column AR_MC_RATE_ADJUSTMENTS
APPS	AR_MRC_RATE_ADJUSTMENTS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_RATE_ADJUSTMENTS_MRC_V
APPS	AR_MRC_RECEIVABLE_APPS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	AR_RECEIVABLE_APPLICATIONS_ALL Updates Varchar2 column AR_MC_RECEIVABLE_APPS
APPS	AR_MRC_RECEIVABLE_APPS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	AR_RECEIVABLE_APPS_MRC_V
APPS	GL_MRC_PERIOD_STATUSES_AU	AFTER STATEMENT	UPDATE	GL_PERIOD_STATUSES GL_PERIOD_STATUSES
APPS	GL_MRC_PERIOD_STATUSES_BRU	BEFORE EACH ROW	UPDATE	GL_PERIOD_STATUSES for use with above Trigger
APPS	PA_MRC_CDL_ALL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_COST_DISTRIBUTIONS_ALL PA_MC_COST_DIST_LINES_ALL
APPS	PA_MRC_CUST_ERDL_ALL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_CUSTEVENT_RDL_ALL PA_MC_CUST_EVENT_RDL_ALL
APPS	PA_MRC_CUST_RDL_ALL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_CUST_REV_DIST_LINES_ALL PA_MC_CUST_RDL_ALL
APPS	PA_MRC_DRAFT_INVS_AIUD	AFTER EACH ROW	UPDATE	PA_DRAFT_INVOICES_ALL PA_MC_DRAFT_INV_ITEMS
APPS	PA_MRC_DRAFT_INV_ITEMS_AIUD	AFTER EACH ROW	UPDATE OR DELETE	PA_DRAFT_INVOICE_ITEMS PA_MC_DRAFT_INV_ITEMS
APPS	PA_MRC_DRAFT_REVS_ALL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_DRAFT_REVENUES_ALL PA_MC_DRAFT_REVS_ALL

APPS	PA_MRC_EVENTS_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_EVENTS PA_MC_EVENTS
APPS	PA_MRC_EXP_ITEMS_ALL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_EXPENDITURE_ITEMS_ALL PA_MC_EXPENSE_ITEMS_ALL
APPS	PA_MRC_PRJ_AST_LINES_ALL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	PA_PROJECT_ASSET_LINES_ALL PA_MC_PRJ_AST_LINES_ALL
APPS	PA_MRC_PRJ_AST_LINE_DET_AID	AFTER EACH ROW	INSERT OR DELETE	PA_PROJECT_ASSET_LINES_DETAILS PA_MC_PRJ_AST_LINE_DTLS
APPS	PO_MRC_DISTRIBUTIONS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	PO_DISTRIBUTIONS_ALL Updates Varchar2 column PO_MC_DISTRIBUTIONS
APPS	PO_MRC_DISTRIBUTIONS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	PO_DISTRIBUTIONS_MRC_V
APPS	PO_MRC_HEADERS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	PO_HEADERS_ALL Updates Varchar2 column PO_MC_HEADERS
APPS	PO_MRC_HEADERS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	PO_HEADERS_MRC_V
APPS	RA_MRC_CUSTOMER_TRX_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	RA_CUSTOMER_TRX_ALL Updates Varchar2 column RA_MC_CUSTOMER_TRX
APPS	RA_MRC_CUSTOMER_TRX_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	RA_CUSTOMER_TRX_MRC_V
APPS	RA_MRC_TRX_LINE_GL_DIST_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	RA_CUST_TRX_LINE_GL_DIST_ALL Updates Varchar2 column RA_MC_TRX_LINE_GL_DIST
APPS	RA_MRC_TRX_LINE_GL_DIST_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	RA_TRX_LINE_GL_DIST_MRC_V
APPS	RCV_MRC_REC_SUB_LEDGER_BI	BEFORE EACH ROW	INSERT	RCV_RECEIVING_SUB_LEDGER
APPS	RCV_MRC_REC_SUB_LEDGER_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	RCV_REC_SUB_LEDGER_MRC_V
APPS	RCV_MRC_SHIPMENT_HEADERS_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	RCV_SHIPMENT_HEADERS RCV_MC_SHIPMENT_HEADERS
APPS	RCV_MRC_SHIPMENT_HEADERS_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	RCV_SHIPMENT_HEADERS_MRC_V
APPS	RCV_MRC_SHIPMENT_LINES_BIUD	BEFORE EACH ROW	INSERT OR UPDATE OR DELETE	RCV_SHIPMENT_LINES RCV_MC_SHIPMENT_LINES
APPS	RCV_MRC_SHIPMENT_LINES_IIUD	INSTEAD OF	INSERT OR UPDATE OR DELETE	RCV_SHIPMENT_LINES_MRC_V
APPS	RCV_MRC_TRANSACTIONS_BID	BEFORE EACH ROW	INSERT OR DELETE	RCV_TRANSACTIONS RCV_MC_TRANSACTIONS
APPS	RCV_MRC_TRANSACTIONS_IIUD	INSTEAD	INSERT OR	RCV_TRANSACTIONS_MRC_V

		OF	UPDATE OR DELETE	
APPS	FA_MC_ADJUSTMENTS_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	FA_ADJUSTMENTS FA_MC_ADJUSTMENTS
APPS	FA_MC_ASSET_INVOICES_AID	AFTER EACH ROW	INSERT OR DELETE	FA_ASSET_INVOICES FA_MC_ADJUSTMENTS
APPS	FA_MC_BOOK_CONTROLS_AD	AFTER EACH ROW	DELETE	FA_BOOK_CONTROLS FA_MC_BOOK_CONTROLS
APPS	FA_MC_BOOKS_AIUD			
APPS	FA_MC_DEPRN_DETAIL_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	FA_DEPRN_DETAIL FA_MC_DEPRN_DETAIL
APPS	FA_MC_DEPRN_PERIODS_AD	AFTER EACH ROW	DELETE	FA_DEPRN_PERIODS FA_MC_BOOK_CONTROLS
APPS	FA_MC_DEPRN_SUMMARY_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	FA_DEPRN_SUMMARY FA_MC_DEPRN_DETAIL
APPS	FA_MC_MASS_ADDITIONS_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	FA_MASS_ADDITIONS FA_MC_MASS_ADDITIONS
APPS	FA_MC_RETIREMENTS_AIUD	AFTER EACH ROW	INSERT OR UPDATE OR DELETE	FA_RETIREMENTS FA_MC_RETIREMENTS
APPS	FA_MC_TRANSACTION_HEADERS_AI UD	AFTER EACH ROW	INSERT	FA_TRANSACTION_HEADERS FA_TRANSACTION_HEADERS

APPENDIX - B

List of patches that were (or were supposed to be) applied to ensure smooth MRC functionality.
(As supplied from Oracle – courtesy Helen Shanahan - MRC Product Manager)

MRC Requirements Listing			
R = Required O = Optional X = In Base			
	11.0.1	11.0.2	11.0.3
MRC	X	X	X
Transactions Upgrade Minipack (740124)	O	O	X
Euro Summer Enhancements Minipack (912631)			O
MRC Post 11.0.3 Minipack (797753)			R
MRC Maintenance Micropack (1113592)	R	R	R
FA Maintenance Pack (733163)	R	X	X
MRC FA Micropack (1171492)			R