EGLi Configurable Macro User Guide

v1.0 and above

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Contents

About this guide

This guide provides an overview of configurable macros and describes the types of configurable macro operations. This guide describes the requirements, setup instructions, and the steps to create configurable macros and provides examples that demonstrate how to configure macros for arithmetic and special operations.

Intended audience

This guide is intended for financial managers who are responsible for defining the reporting requirements in an organization.

Terminology

The terminology that is used in EGLi can vary depending on your ERP. In XA, the data source for a macro is an attribute on an object. In LX, the data source for the macro is a field in an LX file. We refer to both object/attribute and file/field in this guide.

Related documents

You can find the documents in the product documentation section of the Infor Xtreme Support portal, as described in "Contacting Infor" on page 5.

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Chapter 1 Introduction to Configurable Macros

Configurable macros allow you to tailor the operations performed over the ERP database to your specific needs. You can configure macros to create custom journal entries that are unique to your business. You can conceivably configure a macro for any object/attribute or file/field in your system.

Configurable macros function similarly to the predefined macros you receive with EGLi. Like predefined macros, you use configurable macros to define these parts of a model:

- Account segment
- Amount that posts to an account balance
- Reference field
- Analysis field

During model resolution, both types of macros retrieve the information that the ATP posting engine inserts into the appropriate journal model from the ERP database.

Configurable macro processing is designed, however, to provide you with additional flexibility during model resolution. Configurable macros allow you to modify the retrieved information to fit your specific needs. You can use configurable macros to perform additional arithmetic or other functions on the retrieved information. For example, you can define a configurable macro to resolve a positive value as a debit and a negative value as a credit.

You can use a configurable macro to extract data from a field. For example, you record your sales revenue based on the item brand code and the item number contains the brand code. With configurable macro processing, you can extract the brand code from the item number and use the result to point to the proper sales revenue account.

Configurable macro processing is a powerful tool that enables you to create your own unique journal entries and to define the information that you need.

Configurable macro processing

Configurable macros can perform arithmetic and special operations. Arithmetic operations allow arithmetic calculations with a combination of attributes or fields, constants, and macros. Special operations allow calculations with absolute values and concatenation of fields and field substrings. You use a combination of attribute/fields in the Macro object to define these operations.

Review the material below to familiarize yourself with macros before you create configurable macros.

Arithmetic operations

Arithmetic operations enable you to use a combination of attributes/fields, constants, and macros to perform arithmetic calculations.

Use these arithmetic operations to perform calculations:

- Add (+)
- Subtract (-)
- Multiply (*)
- Divide (/)

To perform the defined arithmetic operation, use these combinations:

- Source attribute/field and a constant value
- Source attribute/field and the result retrieved by a macro

Special processing options

Special processes enable you to perform arithmetic calculations, concatenate two attributes/fields or to retrieve a substring of an attribute/field. Special processes include these options:

- Value less than zero

  The engine programs return a value if the defined source attribute/field has a resolved value that is less than zero. The engine programs then multiply the value by -1.
- Value greater than zero

  The engine programs return a value if the defined source attribute/field has a resolved value that is greater than zero.

  Select special operation 1 or 2 when an attribute’s or field's value determines that it is a debit or credit amount. For example, a purchase price variance can result in either a positive or negative amount. When the value is less than zero, you can post the purchase price variance as a positive credit amount. When the value is greater than zero, you can post the amount as a positive debit amount.
- Date in user format

  Select the date special operation to populate a reference field or an analysis field with a date. The engine programs return the date in user date format specified in the ERP.
- Do not select the date special operation for date fields.
- Concatenate

This operation joins two fields or attributes. You define a source attribute/field and a macro operand. The Concatenate option trims any trailing blanks from the first field value.

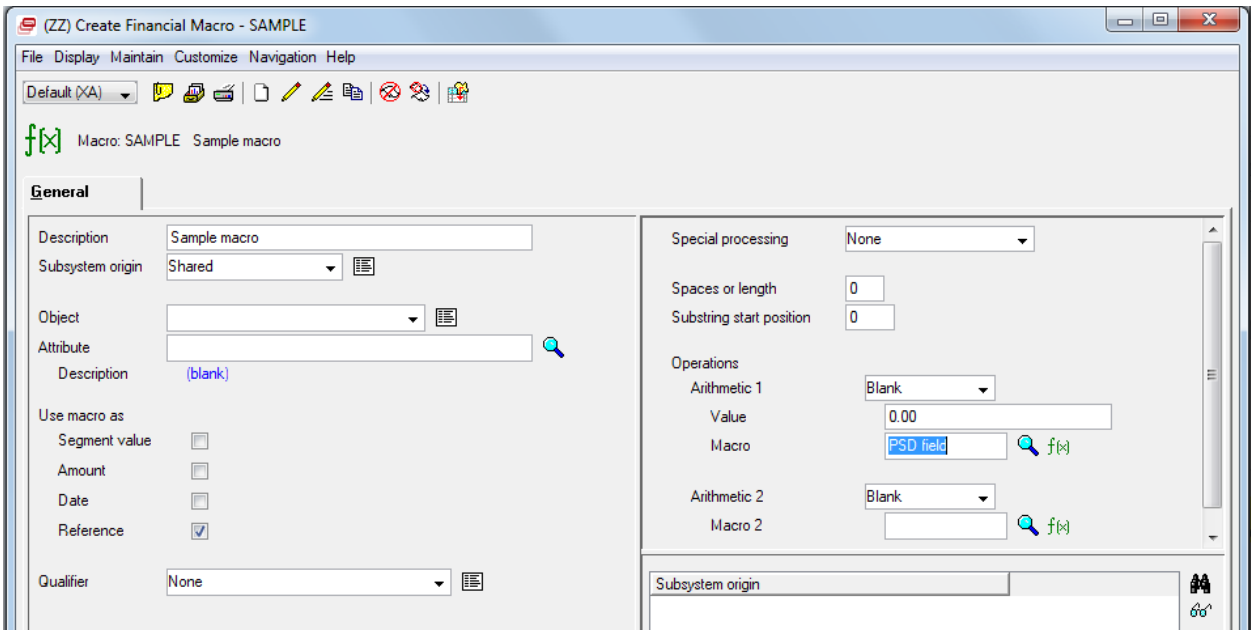
- Concatenate – Fixed

  This character operation joins two attributes/fields, but the engine programs include blank field values or trailing blanks as part of the macro resolution. You define a source attribute/field and a macro operand for this special operation.

- Substring

  This character operation returns a value that is only part of an attribute/field. Reference the start position and the length of the resolved value. For example, a brand code is embedded in positions 5 and 6 of the product name. Define the start position as 6 and the macro length as 2.

LX Note: For numeric and concatenation operations, if you perform an operation with a Process Data Structure (PDS) field and a file/field or object/attribute, you must define the PDS field as the operations macro as shown in this screen:



Chapter 2 Create a Configurable Macro

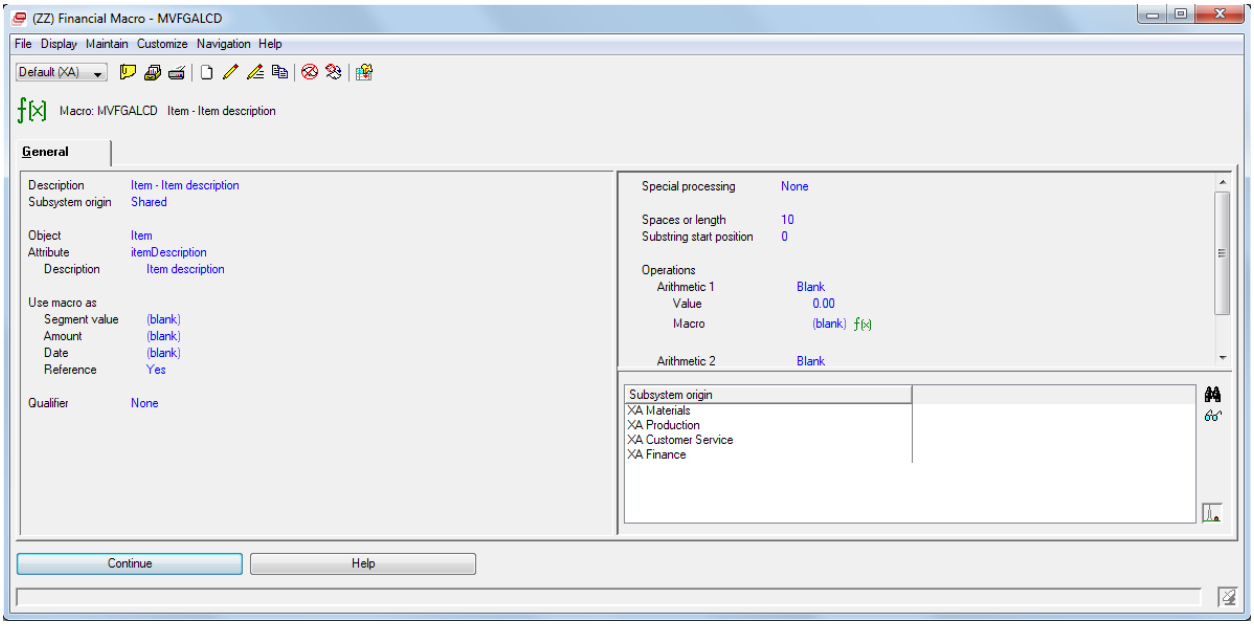
Review the following procedures before you set up your own configurable macros. To expedite the setup process, use the naming standards for your ERP and verify that the proper records exist for each macro.

Naming standards

Each ERP delivers predefined macros and each ERP has its own naming standards. See *Appendix A, Naming Standards.* You must use unique names for your user-defined macros.

Macro validation

The Financial Macros list window shows the subsystem for each macro. If a macro is shared it can be used in more than one subsystem. To see the valid subsystems, display the macro detail. The bottom right panel lists the valid subsystems. In this example, the Item – Item description is valid in four subsystems.



XA example

The Purchase Order Item – Account Number macro is shared by two subsystems. That is, more than one subsystem origin can use this macro.

Object	Attribute	Subsystem origin
Purchase order item	Account number	XA Materials
		XA Finance

The model object does not allow you to use the macro Purchase Order Item – Account Number if you create a model for XA Production. However, you can use the macro Purchase Order Item – Account Number if you create models for XA Materials or XA Finance.

LX example

The macro for the Liability Profit Center from Vendor Type (VTLPC) is defined as shared. That is, more than one subsystem origin can use this macro. This table shows the subsystems in which macro VTLPC is valid:

File	Field	Subsystem Origin
AVT	VTLPC	Vendor Invoice
AVT	VTLPC	Vendor Payment

File	Field	Subsystem Origin
AVT	VTLPC	Vendor Drafts
AVT	VTLPC	A/P Revaluation

The model object does not allow you to use the macro VTLPC if you create a model for Customer Invoice Processing. However, you can use the macro VTLPC if you create models for Vendor Invoicing or Vendor Payments.

Creating configurable macros

Create new macros in the Financial Macro object. On the Financial Macro card, specify the macro definitions and functions.

For example, you can create a macro to accrue sales commission based on revenue. To define this macro, first specify the object/attribute or file/field that is the data source for the revenue. For the arithmetic operation, specify multiply (*). For the percentage, specify an operand value, such as 0.05 for five percent.

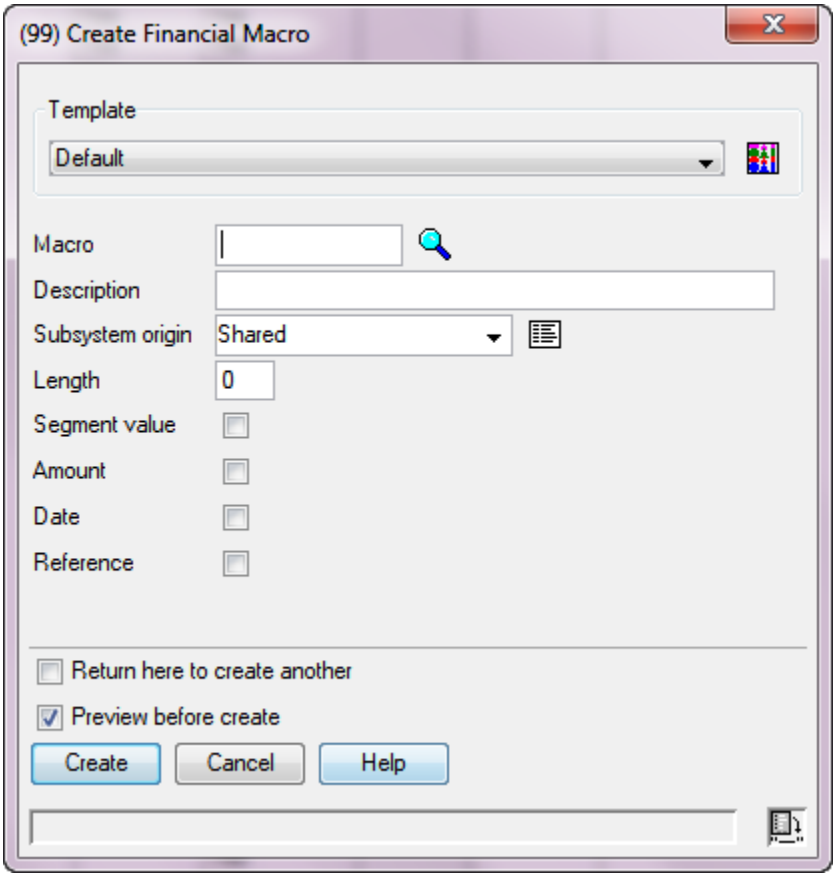
Creating a financial macro

Create the macro in the Financial Macro object. For more detailed information to configure specific types of macros, see “Configurable Macro Examples.”

To define a financial macro:

1 Select Financial Macros to display the Financial Macros list.

2 Select **Maintain > Create**.



3 Specify this information:

Macro

Specify the user-defined macro name.

Description

Specify a description of the macro.

Subsystem origin

Specify the subsystem origin that uses this macro. If more than one subsystem process uses this macro, select **Shared**.

Length

Specify the length, or number of characters and spaces, in the macro. This option refers to the total length of the macro for these macro types:

- A regular macro
- The result of an arithmetic operation
- The result of a special operation
- A substring of a field

If the macro is a result of a concatenation, the length is the number of spaces between the two values. If the defined macro is a result of a concatenation-fixed operation, leave blank.

Segment Value

Select this check box if the macro returns a value which is used as a whole or partial journal entry account string.

Amount

Select this check box if the macro returns a debit or credit value which is used in an amount field. Amount macros can also be used as a Statistic.

Date

Select this check box if the macro returns a value which is used as a Date.

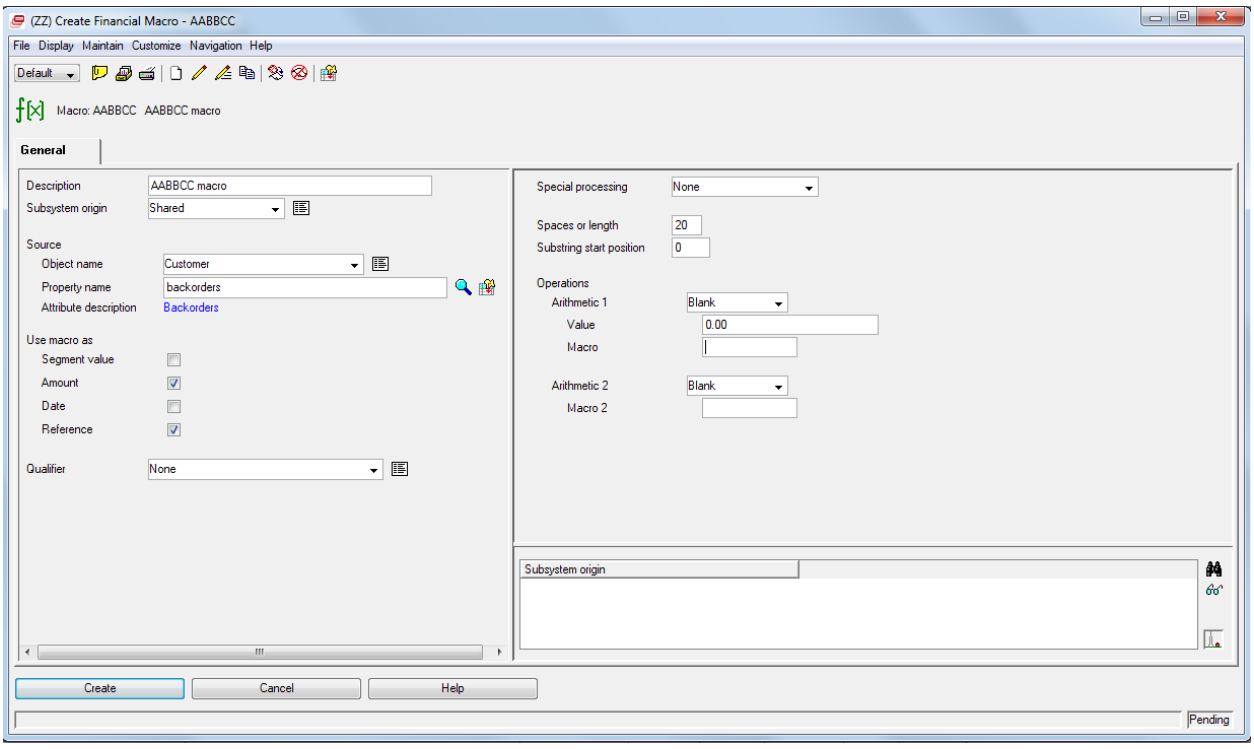
Reference

Select this check box if the macro returns a value which is used as a reference.

Preview before create

Select this check box to enter additional information.

4 Click **Create**.



5 The information on the card may vary depending on your ERP. You must specify the source of the data to use in the macro. ATP must support the source object/attribute and file/field. Specify this additional information:

Object/File name

Specify the object/file that includes the attribute/field that is the data source for the macro.

Property/Field name

Specify the attribute/field that is the data source for the macro.

Attribute description

To display the description of the attribute or field that you selected, click **File > Refresh**.

Qualifier

XA users should not use a qualifier on a configured macro.

For LX users, the qualifier determines which invoice amount line is returned from the Invoice Detail file (ASD) or Batch Transactions Line (IGGBL). You can use a qualifier if these conditions are met:

- The macro is used as an amount macro
- The subsystem is Vendor Invoice, Shared, or Batch Transactions

6 After you enter basic macro definition information, you can define macro functions, for example, special processing and operations. Specify this information:

Special processing

Specify a special process:

None	No special operation
Value less than zero	Retrieve the value if it is less than zero. The retrieved value is multiplied by negative 1.
Value greater than zero	Retrieve the value only if it is greater than zero.
Date in user format	Format the date in user date format specified in the ERP. This option applies only if you use a date in a non-date reference or analysis field.
Concatenate	Concatenate the data source with the macro operand. Trailing blanks are dropped from the data source. Specify the spaces or length to place a fixed number of spaces between the two fields.
Concatenate – Fixed	Concatenate the data source with the macro operand. Trailing blanks in the data source are retained.
Substring	Select a portion of the attribute/field to use as a substring. Specify a substring start position and spaces or length.

Spaces or length

Specify spaces or length if you select a concatenate or substring option.

- If you concatenate two fields, specify the number of spaces required between the two fields.
- If you select a substring, specify the number of characters to retrieve from the field.

Substring start position

If you select substring as the character process, specify the start position to retrieve part of a data source for the operation. For example, specify **6** to retrieve the last four values from a ten-character field.

7 Specify these arithmetic operations if applicable for the macro:

Arithmetic 1 and Arithmetic 2

For numeric-defined macros, select up to two operations. The selected operations are performed for the data source and the specified value or macro.

Blank	No operation to perform.
Add	Add the attribute/field to the specified value or macro.
Subtract	Subtract the specified value or macro from the attribute/field.
Multiply	Multiply the attribute/field with the specified value or macro.
Divide	Divide the attribute/field by the specified value or macro.

Value and Macro

There are two types of operands: a numeric constant value or a macro. For arithmetic operations, specify a value or a macro. For special operations, specify a macro. EGLI does not allow embedded configurable macros; therefore, the operand macro must be a predefined macro. Specify one value and up to two macros.

The macro you create and the operand macros must belong to the same subsystem origin. See the examples below.

8 Click **Create**.

Chapter 3 Configurable Macro Examples

This chapter provides examples for XA and LX that demonstrate how to configure macros for arithmetic and special processing options.

Arithmetic operations

This section provides examples for arithmetic operations.

Predefined macro and a value

In these examples a predefined macro is multiplied by a percentage to get a new amount.

XA Recover business meals expense amount

Apply a fixed rate to a business meals expense to get the recoverable expense amount. In this example, the business meals expense is recovered at a rate of 80%. Create MYMACRO01 to recover this amount.

Create the macro with these values:

Attribute	Value
Macro	MYMACRO01
Description	Financial transaction charge – business meals
Subsystem	XA Finance
Length	19
Amount	Select this check box
Object	Financial Transaction Charge
Attribute	Charge line value (transaction currency)

Attribute	Value
Operations – Arithmetic 1	Multiply
Value	0.80

With a value of 120.00 as the charge line value, the macro MYMACRO01 is resolved as 96.00:

MYMACRO = 120 * 0.80 = 96

LX Sales commission example

Apply a fixed rate to sales for each salesperson's commission. In this example, you accrue sales commission equal to five percent of the gross revenue. You create macro ILREVCOM5 to record a fixed percentage of sales

To perform this calculation, multiply the predefined macro ILREV by five percent (0.05). Macro ILREV retrieves the G/L revenue from the Invoice Line History (SIL) file.

Create macro ILREVCOM5 with these values:

Attribute	Value
Macro	ILREVCOM5
Description	Commission – Sales
Subsystem	Shared
Length	15
Amount	Select this check box
File	SIL
Field	ILREV
Operations – Arithmetic 1	Multiply
Value	0.05

With a value of 150.00 in ILREV, the macro ILREVCOM5 is resolved as 7.5:

ILREVCOM5 = 150 * 0.05 = 7.5

Operations with two predefined macros

In these examples a predefined macro is multiplied a second predefined macro.

XA Non-recoverable tax amount

Create a new macro, MYMACRO02, to calculate the non-recoverable tax amount. To get the Non-recoverable tax amount, the new macro performs this calculation: Financial Transaction Tax – Tax amount (transaction currency) minus Financial Transaction Tax – Recoverable tax amount (transaction currency).

Create the macro with these values:

Attribute	Value
Macro	MYMACRO02
Description	Non-recoverable tax amount (transaction currency)
Subsystem	XA Finance
Length	19
Amount	Select this check box
Object	Financial Transaction Tax
Attribute	Tax amount (transaction currency)
Operations – Arithmetic 1	Subtract
Macro	Financial Transaction Tax – Recoverable tax amount (transaction currency)

LX Revenue net of price discounts example

In this example, you multiply quantity by net price to record the revenue net of price discounts in your company books. You create a macro, ILQTYPRCE, to record the revenue net of price discounts.

Multiply the value that the predefined macro ILQTY retrieves by the value that the predefined macro ILNET retrieves. Macros ILQTY and ILNET retrieve the quantity sold and net price from the Invoice Line History (SIL) file, respectively.

The field length of a configurable macro and the field length of the source values can be different. In this example, ILQTYPRCE is defined as 15, 2. Fifteen is the total number of positions and two is the number of positions after the decimal place. This differs from the field length of the source field and operand macro, which have lengths of 11, 3 and 14, 4 respectively.

Create macro ILQTYPRCE with these values:

Attribute	Value
Macro	ILQTYPRCE

Attribute	Value
Description	Net sales revenue
Subsystem	Shared
Length	15
Decimal	2
Amount	Select this check box
File	SIL
Field	ILQTY
Operations – Arithmetic 1	Multiply
Macro	ILNET

Use ILQTYPRCE in the Credit Macro field on any Customer Invoice Model with these expected results.

ILQTYNPRCE = 123.456 * 8.5432 = 1054.7092992

The engine programs resolve macro ILREVCOM5 as 1054.71, when the value in ILQTY is 123.456 and the value in ILNET is 8.5432.

Special Processing

These examples use the Special Processing options that are available on the Create Macro card. These options are available to use in configured macros:

- Value less than zero
- Value greater than zero
- Date in user format (LX only)
- Concatenate
- Concatenate – Fixed
- Substring

Credit and debit macros

This section provides examples that use the Value less than zero and Value greater than zero options to create macros that resolve as a credit or a debit.

XA Non-recoverable tax amount

The non-recoverable VAT tax amount may be a debit or credit, depending on whether the financial transaction is a sales invoice, a sales credit return, a purchase invoice or a purchase credit return.

Create macros based on the Non-recoverable tax amount macro that was defined above.

Create the credit and debit macros with these values:

Attribute	Value
Macro	MYMACRO02Credit MYMACRO02Debit
Description	Non-recoverable tax amount credit Non-recoverable tax amount debit
Subsystem	XA Finance
Length	19
Amount	Select this check box
Object	MYMACRO02
Attribute	Tax amount (transaction currency)
Special processing	Value less than zero Value greater than zero

LX Purchase Price Variance

In this example, the Purchase Price Variance (PPV) is a positive credit if the value resolves as a negative, and is a positive debit if the value resolves as a positive. Create these macros:

- SDPACS11CR to book PPV as a credit if the amount is negative
- SDPACS11DR to book PPV as a debit if the amount is positive.

SDPACS11CR resolves when the value in the SDPACS field for line type 11 is negative. SDPACS11DR resolves when the value in the SDPACS field for line type 11 is positive. The SDPACS field is in the Invoice (ASD) file.

To create the two macros, select Special processing options Value less than zero and Values greater than zero. You enter each macro on the same journal model line.

Create macros SDPACS11CR and SDPACS11DR with these values:

Attribute	Value
Macro	SDPACS11CR SDPACS11DR

Attribute	Value
Description	Purchase price variance credit Purchase price variance debit
Length	15
Decimal	2
Amount	Select this check box
File	ASD
Field	SDPACS
Line Type (Qualifier)	11
Special processing	Value less than zero Value greater than zero

Specify **`Purchase Price Variance`** as the account for both the credit and debit macros.

Use macros SDPACS11DR and SDPACS11CR in the Debit and Credit Macro fields on any Vendor Invoice Model with these expected results.

- If the value in SDPACS for line type 11 (Purchase Price Variance) is -50.00, the engine program resolves macro SDPACS11CR. It multiplies -50.00 by -1 resulting in 50.00. The journal resolves with 50.00 as a credit amount.
- If the value in SDPACS for line type 11 (Purchase Price Variance) is 50.00, the engine program resolves macro SDPACS11CR. It multiplies 50.00 by 1 resulting in 50.00. The journal resolves with 50.00 as a debit amount.

Concatenation, drop trailing blanks

This section provides examples that use a special processing option to create a configured macro that is the result of the concatenation of two predefined macros.

This table shows how the engine programs resolve the configured macro and how the field length is used. A hyphen (-) represents a space.

Customer type	Item class	Field Length	MYMACRO
USA-	D101	0	USAD101
DIST	D101	0	DISTD101
----	D101	0	D101
USA-	D101	2	USA--D101
DIST	D101	2	DIST--D101
----	D101	2	D101

XA Revenue based on customer class and item class

In this example you book revenue based on the combination of customer class and item class. Concatenate macro Customer – Customer class with macro Item Warehouse – Item class.

Create a macro with these values:

Attribute	Value
Macro	MYMACRO03
Description	Revenue by customer class and item class
Subsystem	Shared
Length	1
Segment Value	Select this check box
Reference	Select this check box
Object	Customer
Attribute	Customer Class
Special processing	Concatenate
Macro	Item Warehouse – Item class

LX Revenue based on customer type and group sales

In this example, you book revenue based on the combination of customer type and group sales.

Create macro SICTYPGS1 to concatenate these predefined macros:

- SICTYP retrieves the customer type from the Invoice History (SIH) file.
- CREF01 retrieves the Group Sales Analysis Field 01 from the Customer Master (RCM) file.

Create a macro with these values:

Attribute	Value
Macro	SICTYPGS1
Description	Customer type/group sales 1
Subsystem	Shared
Length	blank
Decimals	blank
Segment Value	Select this check box
Reference	Select this check box

Attribute	Value
Field	SICTYP
Special processing	Concatenate
Macro	CREF01

Concatenation, Retain Trailing Blanks

This table shows how the engine programs resolve a macro when a field value is blank. A hyphen (-) represents a space.

Document Prefix	Document number	Field Length	MYMACRO
DA	12345	0	DA00012345
--	12345	0	--00012345

XA Tax applied to a transaction

Combine two predefined macros to identify the tax applied to a transaction. Use this macro in reference or analysis fields.

Create a macro with these values:

Attribute	Value
Macro	MYMACRO04
Description	Tax applied to a transaction
Subsystem	Shared
Length	1
Reference	Select this check box
Object	Financial Transaction Tax
Attribute	Tax code
Special processing	Concatenate - Fixed
Macro	Financial Transaction Tax – Tax code result

LX Combine document prefix and document number

This example demonstrates how to combine the original document prefix and the original document number for use in the document reference field. You extract data from the document reference field plan to create external reports. You align the information in the field, to retain the trailing blanks for proper alignment. Create macro ARODPXDOC to combine the original document prefix and the original document number.

To perform this function, concatenate the predefined macros ARODPX and RINVC. Macros ARODPX and RINVC retrieve the original document prefix and original document number from the Accounts Receivable Detail (RAR) file, respectively.

Attribute	Value
Macro	ARODPXDOC
Description	Original prefix/Doc number
Subsystem	Shared
Length	blank
Decimals	blank
Reference	Select this check box
File	RAR
Field	ARODPX
Special processing	Concatenate - Fixed
Macro	RINVC

Substring

Both examples in this section show the setup for a macro that retrieves the brand code from an item number. This table illustrates how the engine resolves the macro and how the start position is used.

Item	Start Position	Field Length	Extracted value
01ITEMABXY	1	2	01
01ITEMABXY	7	2	AB
01ITEMABXY	9	2	XY

XA Extract a brand code from the item number

Extract the brand code that is embedded in the first two characters of your item number. Create a macro to retrieve the first two characters of the macro Item Warehouse – Item.

Create a macro with these values:

Attribute	Value
Macro	MYMACRO05
Description	Item brand code
Subsystem	XA Materials
Length	
Reference	Select this check box
Object	Item Warehouse
Attribute	Item
Special processing	Substring
Spaces or length	2
Substring start position	1

LX Extract a brand code from the item number

Extract the brand code embedded in the first two characters of your item number to use as a segment value in your financial model. Create macro ILPRODBRND to retrieve the first two characters from the macro ILPROD (Product Number). ILPROD retrieves the product number from the Invoice Line History (SIL) field.

Create a macro with these values:

Attribute	Value
Macro	ILPRODBRND
Description	Item Brand code
Subsystem	Shared
Length	2
Segment value	Select this check box
Reference	Select this check box
File	SIL
Field	ILPROD

Attribute	Value
Special processing	Substring
Spaces or length	2
Substring start position	1

Date in user format

XA delivers defined macros over the date attributes.

LX Dates

This example demonstrates how to format dates in the format in your LX System Parameters. You can create external reports to extract the data from the date and reference fields. The dates on the report follow a standard format.

Create macro ARRCDTFORM. Macro ARRCDT retrieves the value in the recognition date field from the Accounts Receivable Detail (RAR) file.

EGLi automatically formats dates in the date reference and date analysis fields. This date format option applies only if you use a date in a non-date reference or analysis field.

Create a macro with these values:

Attribute	Value
Macro	ARRCDTFORM
Description	Exchange rate date
Subsystem	Shared
Length	8
Decimals	blank
Reference	Select this check box
File	RAR
Field	ARRCDT
Special processing	Date in user format
Spaces or length	8

If the value in ARRCDT is 20121031, the engine program resolves ARRCDTFORM to use these date formats:

System parameter date format	Date display
1 - YYMMDD	12/10/31
2 - MMDDYY	10/31/12
3 - DDMMYY	31/10/12

Appendix A Macro Names

Each ERP has its own naming standards.

XA naming standards

XA macro names are 10 characters and the names use this format:

Description	Characters
Application ID	Alpha 2
Group ID	Alpha 2
Attribute ID	Alpha 4
Suffix	Alpha 2

XA delivers predefined macros as part of the sprinkle data. When you create your own macros, you must use unique names.

LX naming standards

LX uses specific naming standards for predefined macros. An LX predefined macro is named according to the field name the macro represents. For example, macro RAMT represents the original amount (RAMT) field from the Accounts Receivable Detail (RAR) file.

LX predefined macros for non-persistent values and calculated values also follow a naming standard. Non-persistent values are those not stored in the database. A macro is named for the five- or six-character field name that the macro is based on, plus a four-character abbreviated extension. For example, the macro for the Accounts Receivable Account Number is CI01TPARAC. CI01TP represents the **Customer Type** field from the Customer Invoice Process Data Structure, and ARAC represents Accounts Receivable (AR) Account (AC).

LX delivers predefined macros in the Available Macro (IGGAM) file as part of the priming data. When you create a macro, you must use a unique name. You can, for example, use your company number for the first two characters of a macro.