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Optimizing Inventory and Valuation Strategies with Material Ledger and Parallel Valuation in SAP S/4HANA

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***Abstract*—SAP's Material Ledger is a robust solution for recording, valuing, and reporting inventory transactions. Serving as a subledger for inventory valuation, it captures values and quantities while seamlessly integrating with financial processes. The Material Ledger offers two primary functions: Actual Costing and support for multiple inventory valuations.**

In today's global business landscape, organizations frequently operate across borders and transact in multiple currencies. Consequently, there is a growing need to report inventory in various currencies using distinct valuation methods. This white paper delves into the capabilities of the Material Ledger, highlighting its support for parallel currencies to ensure accurate and consistent inventory valuation.

***Keywords* – SAP S/4 HANA, ML, CO-PA, FI, CO**

I. INTRODUCTION

The Material Ledger was traditionally implemented by organizations to fulfill business requirements or comply with legal mandates. For example, in countries like Brazil and India, it is common practice to value inventory at actual cost, and SAP's Material Ledger functionality supports this requirement. Key benefits of using the Material Ledger include:

1) Ability to revalue inventory at actual cost.
2) Capability to maintain standard prices for materials/products in multiple currencies.
3) Recording of all material transactions in multiple currencies for valuation and reporting
4) Identification of intercompany profit within inventory
5) Accurate derivation of the true cost of goods sold.

Despite its advantages, the Material Ledger was often viewed as complex, requiring strict data discipline and contributing to longer financial close cycles. In ECC, this perception led many organizations to avoid its implementation unless legally mandated. However, with the introduction of S/4HANA as part of SAP's transformation journey, the Material Ledger became mandatory. SAP also enhanced its flexibility and functionality, offering customers more options and ease of use.

II. MATERIAL LEDGER AND UNIVERSAL JOURNAL

In ECC, currency definitions and mappings had to be maintained separately across Finance, Controlling, Material Ledger, Profitability Analysis (CO-PA), and Asset Accounting. These currencies were not integrated, often requiring reconciliation between applications. With S/4HANA, SAP introduced the Universal Journal (table ACDOCA), an "all-in-one" solution that consolidates attributes including currencies from all financial components—Finance, Controlling, Material Ledger, and more. This eliminated the need for cross-application reconciliation, as all data is readily available within ACDOCA.

In ECC, inventory valuation was managed via the Inventory Management (IM) module using classic tables like MBEW and EBEW, which frequently posed reconciliation challenges with Finance. With S/4HANA, SAP not only introduced the Universal Journal but also harmonized the definition and use of currency types, making it crucial to streamline and consistently reconcile inventory valuation. S/4HANA transitions inventory valuation from the IM module to the mandatory use of the Material Ledger. This shift enables support for actual costing and parallel valuation. While activating the Material Ledger is mandatory, organizations can choose whether to use multiple valuation approaches and actual costing based on their business needs.

III. MULTIPLE VALUATIONS

In SAP Material Ledger, a valuation view represents a specific perspective or method used to value inventory, depending on legal or management requirements. It allows businesses to maintain and report inventory values using different valuation approaches simultaneously. Material ledger can support up to three valuation views:

A. Legal Valuation (Company Code View)

1) Required by law for financial reporting.
2) Reflects how inventory is valued for external statutory purposes.
3) Each company code typically maintains this valuation.

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B. Group Valuation (Group View)

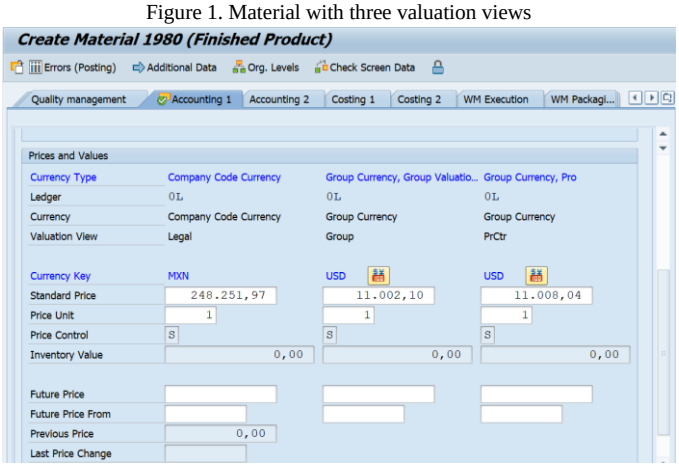
1) Used for consolidated financial reporting at the group (corporate) level.
2) Reports intercompany profits to provide a clearer view of group performance.

C. Profit Center Valuation (Profit Center View)

1) Used in organizations that view sub entities as profit centers.
2) Supports internal reporting by showing transfers between profit centers at transfer prices.
3) Useful for management accounting and performance analysis.

While the Material Ledger supports up to three valuation views, only legal valuation is mandatory. Group and profit center valuations are optional and can be activated based on business requirements. An example of a material with all three valuation views active is shown in Figure 1.

Figure 1. Material with three valuation views



IV. CONFIGURATION – CURRENCIES & CO VERSIONS

In ECC, configuring currency types requires multiple transactions across different modules. With S/4HANA, SAP introduced FINSC_LEDGER—a centralized and streamlined configuration tool that unifies the currency settings across Finance (FI), Controlling (CO), and Material Ledger (ML). This integration simplifies setup and ensures consistent currency handling across financial applications and aligns with universal journal architecture.

A. Finance Currency Setup

SAP provides the following currency types for configuring parallel currencies and valuations in FINSC_LEDGER.

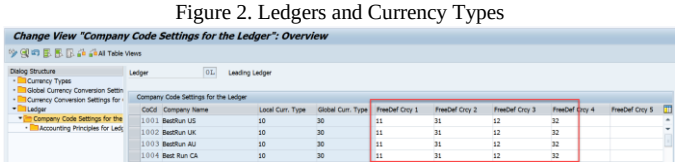
Table 1. Currency Types for Parallel Valuations

Currency Type	Description	Valuation View
10	Company Code Currency	Legal Valuation
30	Group Currency	Legal Valuation
11	Company Code Currency, Group Valuation	Group Valuation
31	Group Currency, Group Valuation	Group Valuation
12	Company Code Currency, Profit Center Valuation	Profit Center Valuation
32	Group Currency, Profit Center Valuation	Profit Center Valuation

While SAP allows the option to define one ledger per valuation (single valuation ledger) or to include all valuations within a single ledger (multi-valuation ledger), the latter is generally preferred as it significantly reduces data volume. The currency types mentioned above are configured in FINSC_LEDGER for each combination of ledger and company code.

As mentioned earlier, activating all three valuations is not mandatory. If an organization requires group valuation but does not need profit center valuation, they can simply assign currency types 10, 30, 11, and 31 to the ledger and company codes. Below is an example of assignment of currency types to company codes and leading ledger 0L.

Figure 2. Ledgers and Currency Types



B. Controlling Currency Set up

Once the above setup in Financial Accounting (FI) is completed, a similar configuration is required in the Controlling (CO) module. Execute transaction 8KEM to maintain the currency and valuation profile, which defines the valuation approaches to be used in accounting.

Figure 3. Currency and Valuation Profile

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Once the currency and valuation profile is defined, it needs to be assigned to the controlling area which enables the use of valuation approaches in company codes that are assigned to that controlling area. Execute transaction 8KEQ and assign the currency and valuation profile to controlling area.

Figure 4. Assignment of C+V profile to Controlling Area

The assignment of the currency and valuation profile triggers a validation between the valuation approaches and currencies defined here and those maintained in FINSC_LEDGER. The assignment can only be saved and completed if both configurations are aligned.

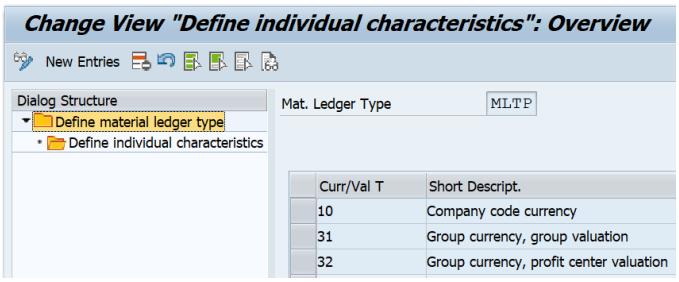
An additional activation step must be performed using transaction 8KEP. However, this step should only be executed after the Material Ledger currency types have been defined and activated. This is because the system verifies whether the valuation approaches specified in the currency and valuation profile are consistent with the configurations in the individual applications—FI and ML.

C. Material Ledger Currency Set up

In the Finance and Controlling configurations, we defined six currency types (10, 30, 11, 31, 12, and 32) along with three valuation approaches: Legal, Group, and Profit Center valuations. The next step is to specify the three currency types that will be used for maintaining inventory valuation prices.

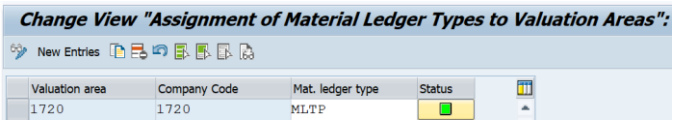
Execute transaction OMX2 and create a new Material Ledger type. Then, double-click on 'Define Individual Characteristics.' By default, currency type 10 will be listed, as it is mandatory. Click on 'New Entries' to add currency types 31 and 32.

Figure 5. Define Material Ledger Type



After completing the definition, execute transaction OMX3 to assign the Material Ledger type to the relevant valuation areas or plants.

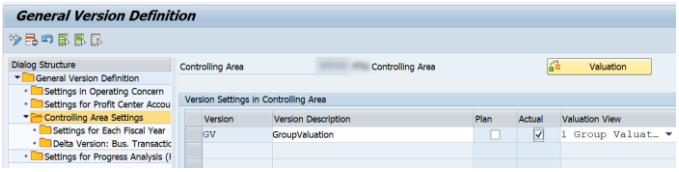
Figure 6. Assignment of ML Types to Valuation Areas



D. Define Versions for Valuation methods

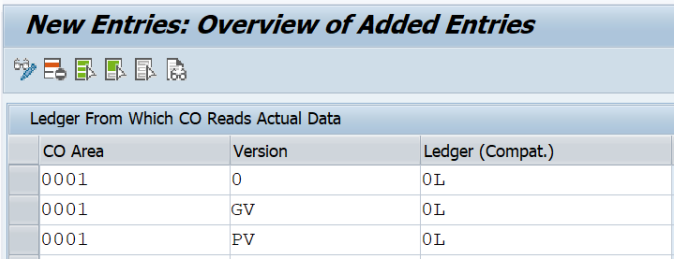
If legal valuation is the only valuation in use, the default CO version '000' will represent it. However, if additional valuations are required, separate CO versions must be defined to represent each valuation approach in Controlling. Execute transaction OKEQ to define CO versions for the additional valuation approaches.

Figure 7. Definition of CO Versions



Assign the created versions to the appropriate ledgers. If a single ledger is used for multiple valuations, all actual versions must be assigned to the leading ledger 0L. If separate ledgers are used for each valuation approach, each version should be assigned to its corresponding ledger.

Figure 8. Assignment of CO Versions to Ledger

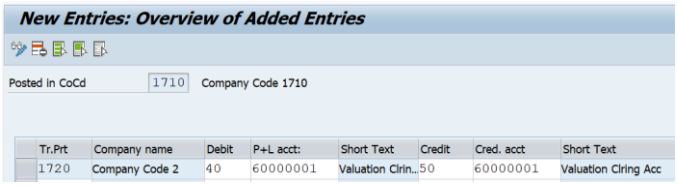


E. Define Valuation Clearing Account

Execute transaction 8KEN – Define Group Valuation Clearing Account – to assign a G/L account for capturing valuation differences that arise from business transactions between group companies.

Payables and receivables are posted only using legal valuation, as it reflects the actual payment amount. The assigned G/L account is used to record intercompany profit adjustments separately for each company code and partner company, based on the differences between legal and group valuations.

Figure 9. Define Valuation Clearing Account



A similar process is used to maintain clearing accounts for profit center valuation. Additional configurations in the Product Costing and Sales modules are required to enable postings to the clearing account from purchase and sales transactions.

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V. EXAMPLE FOR GROUP VALUATION

A U.S. entity sells a product to a Canadian (CA) entity. For simplicity, both entities use USD as their company code currency. The transaction details are as follows:

1) 10 units of Product A are produced in the U.S.
2) Standard cost per unit: $10
3) Markup per unit: $1
4) 10 units of Product A are sold to the CA entity.
5) Transfer price per unit: $11

Transactions in Legal Valuation:
All transactions are recorded with the affiliate entity designated as the Trading Partner (TP), thereby establishing the intercompany relationship.

US entity ships the product to Canada entity:

Dr. Cost of Goods Sold (TP CA)	$100
Cr. Inventory A/C	$100-

US entity issues an intercompany invoice to Canada entity

Dr. Intercompany AR (TP CA)	$110
Cr. Intercompany Revenue A/C (TP CA)	$110-

Canadian entity records an intercompany invoice payable to the US entity

Dr. GR/IR Clearing A/C	$110
Cr. Intercompany AP (TP US)	$110-

Canadian entity receives the product into its stock

Dr. Inventory A/C	$110
Cr. GR/IR Clearing A/C	$110-

Transactions in Group Valuation:
Group valuation records inventory at manufacturing cost, with any difference from the purchase price posted to a valuation clearing account.

US entity ships the product to Canada entity:

Dr. Cost of Goods Sold (TP CA)	$100
Cr. Inventory A/C	$100-

US entity issues an intercompany invoice to Canada entity

Dr. Intercompany AR (TP CA)	$110
Cr. Intercompany Revenue A/C (TP CA)	$100-
Cr. Valuation Clearing A/C	$10-

Canadian entity records an intercompany invoice payable to the US entity

Dr. GR/IR Clearing A/C	$100
Dr. Valuation Clearing A/C	$10
Cr. Intercompany AP (TP US)	$110-

Canadian entity receives the product into its stock

Dr. Inventory A/C	$100
Cr. GR/IR Clearing A/C	$100-

From a group or corporate perspective, inventory is valued at the manufacturing cost, effectively eliminating profit in inventory. Transaction markups are posted to valuation clearing accounts in both the purchasing and selling entities, resulting in a net zero impact and thereby eliminating intercompany profits.

CONCLUSION

The Material Ledger in SAP S/4HANA serves as a critical component for advanced inventory valuation, multi-currency reporting, and actual costing capabilities. Its integration with financial and controlling modules provides enhanced transparency, accuracy, and auditability in product costing and inventory management. While the solution offers substantial benefits, such as improved profitability analysis and compliance with local and global accounting standards, it requires thoughtful planning and configuration due to its irreversible nature once activated. Organizations should invest in a thorough evaluation of business requirements and align configuration decisions accordingly to fully leverage the strategic advantages of the Material Ledger in S/4HANA.

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