PeopleSoft®

EnterpriseOne JDE5 Advanced Stock Valuation PeopleBook

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EnterpriseOne JDE5
Advanced Stock Valuation PeopleBook
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Overview

Stock Valuation System Overview

Stock valuation determines the current value of a company's stock. Stock is also referred to as inventory. Stock value is based on the total cost of the stock owned by a company at a specific time. The value of stock can vary, depending on the different methods used to calculate the total cost and the method used to value the stock.

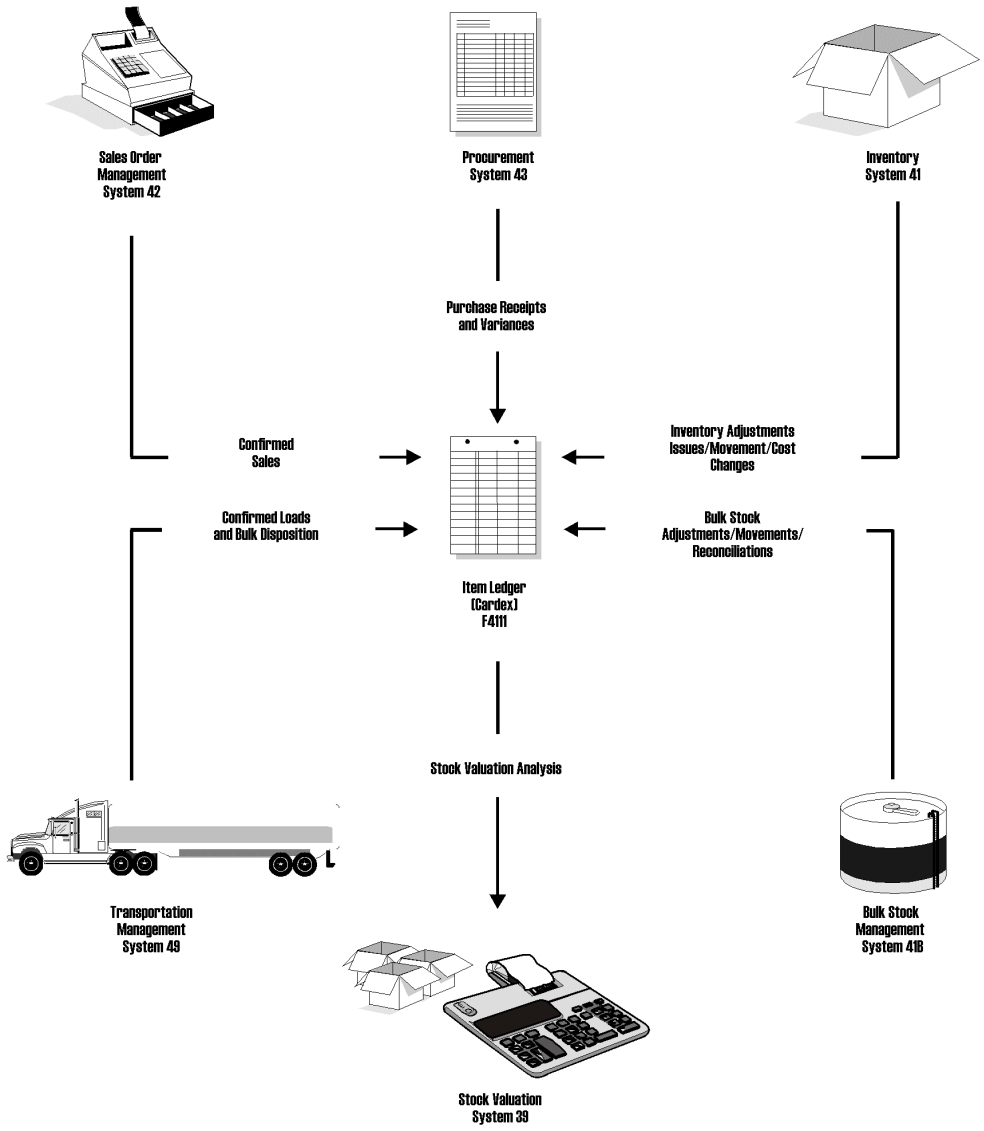
System Integration

The Stock Valuation system integrates with the following systems:

Procurement	This system retrieves item costs based on the purchasing costing method that is defined for each item. When you receive a voucher for the item, the system updates the general ledger.
Inventory Management	This system stores item information that all of the other systems can use.
Bulk Stock Management	This system controls the storage, measurement, and movement of dynamic bulk inventory. This system lets you complete transactions that move bulk inventory. In addition, it accurately calculates product gains and losses for each bulk stock transaction.
Sales Order Management	This system retrieves item prices and costs from the Inventory Management system for sales orders. The system updates the general ledger and creates accounts receivable entries to record inventory, cost of goods sold, revenue, and tax transactions for use in cash receipts processing.
Distribution Contracts Management	This system allows you to manage contracts with business partners. You can accurately accommodate loans, borrows, and exchanges, and ensure that the stock involved is valued correctly.
Transportation Management	This system confirms the release of stock from your inventory and records the amount of stock in transit, thereby accurately reflecting the actual stock to be valued at the end of a period.

The systems that integrate with stock valuation store all inventory activity in a central table known as the Cardex, or Item Ledger (F4111). The Cardex is the central repository of all inventory and cost movements. Programs from other systems that handle inventory create records in this table whenever inventory and cost are affected. The Stock Valuation system uses inventory information from the Cardex to ensure that the correct inventory is valued.

The following diagram identifies the programs that affect inventory balances and write entries to the Cardex:



System Flow

Stock Valuation uses the Cardex as the base for its processing. The system extracts the inventory activities from the Cardex by document number, type, and item. Based on the valuation methods, the system then determines the various balances and updates the valuation files. When you post the valuation, the system updates the general ledger and the valuation period table (F39061).

The following process flow summarizes the tasks performed by the system:

From the Item Ledger (F4111)	The system retrieves records by specific document number, document type, and item for a given date range.
From the Item Pool Valuation Master table (F3904)	The system retrieves the item or pool valuation method and unit of measure.
From the Valuation Method Master (F3905)	The system retrieves attributes of the valuation method.
From the Valuation Period table (F39061)	The system retrieves the closing balance and other necessary information from the prior period's record.
Period Build report (R39120)	This report: • Updates current information to Valuation Period Detail. • Builds layers in detail or summary, based on the valuation method, to the Valuation Layers table (F39062). • Accumulates totals by document type to Valuation Document Summary (F3906). • Writes and updates current information to Period Additional Quantity (F39063).
From the Company G/L Update Method Master (F39042)	The system retrieves the valuation method that is used to update the Account Ledger (F0911).
From Valuation Layers (F39062)	The system updates layer information and rolls up layers at year end.
General Ledger Post report (R09801)	You run the G/L Post report to update the G/L from journal entries.
Valuation G/L Update report (R39130)	This report: • Updates the general ledger based on the valuation method defined. • Updates the Valuation Period table (F39061) as posted.

Business Considerations

J.D. Edwards integration provides the flexibility needed to accommodate the many stock valuation methods throughout the distribution industries. Additional features support unique considerations of energy and chemical businesses and the demands placed on companies that must meet the requirements of many national and local regulatory agencies.

Stock valuation is a vital component of all distribution and manufacturing industries. It provides the information that you need for reporting purposes and to evaluate profit margins.

You calculate stock value on a periodic schedule - generally monthly, quarterly, and yearly. Business and government requirements determine when a company completes the reporting for the following reasons:

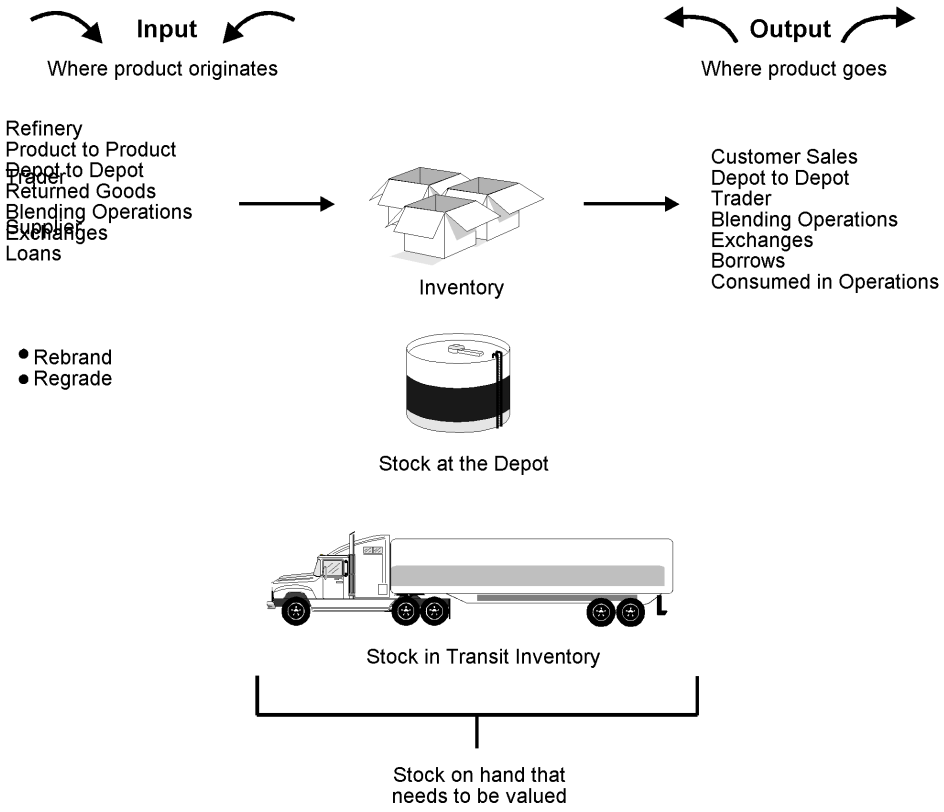
- Measure and manage stock levels and related cash flow
- Comply with the accounting standards that require companies to provide a true and fair value of the company's financial performance, and capital used

Stock valuation reporting is necessary for corporate, management, and statutory purposes. Corporate reporting analyzes the value of the company's stock and the cost of the stock that was sold (Cost of Goods Sold). Management reporting verifies that your company's storage and handling methods comply with the laws enforced by various governmental organizations.

Identifying Inventory

To value your stock, you must be able to identify the items in your inventory. Possession of legal title of inventory is a fundamental criterion for determining whether items should be reflected in the inventory of a seller or a buyer. However, possession of title does not necessarily coincide with actual physical possession of the goods. For example, title to goods that are in the possession of a common carrier and in transit from the seller to the buyer should remain in the inventory of the seller until delivered. The integration of the various systems ensures that you can identify your entire inventory.

The following diagram illustrates how product enters your inventory and some of the ways that you can deplete your inventory.



Many companies consolidate items into groups of similar items for stock valuation purposes. This process is called "pooling" or "product consolidation." When you pool items, you can apply a single purchase price and associated costs to all items in that pool.

Whether each item is valued separately or as a pool varies from industry to industry. The Stock Valuation system allows you to value by individual items, pools, or both.

Many companies maintain contracts with other companies to store bulk product. Therefore, bulk stock might be commingled and belong to more than one owner. The Stock Valuation system allows you to exclude commingled stock from the valuation.

Identifying Costs

You generally post inventory at an amount that reflects the price paid plus all costs incurred to bring the items to the location and to make them salable.

In some distribution industries, especially energy and chemical businesses, the actual purchase cost from a supplier might not be known at the time that the items are received into your inventory or only become known after you issue a voucher for payment.

J.D. Edwards allows you to update, or "recost" these open receipts and paid vouchers, which ensures that the value of your stock is represented by the actual cost.

Choosing Stock Valuation Methods

Determining which method is used to assign inventory costs to the Cost of Goods Sold (COGS) account in the income statement is a major management decision. Inventory items in a company's possession and available for sale throughout a period must acquire a period-end status of either "sold" or "on hand." If the items have been sold, you must reflect the costs assigned to those goods on the period's income statement. If the items remain unsold, you must be able to determine which portion of the cost of goods available for sale is to be assigned to the income statement, and which portion is to be assigned to the balance sheet.

Inventory items physically move out of the business when they are sold. Similarly the costs assigned to those items must move from the balance sheet to the income statement, where they are no longer reflected as an available resource, but as an operating expense for that period.

The Stock Valuation system provides the following valuation methods for all items in your inventory:

- First In/First Out (FIFO)
- Last In/First Out (LIFO)
- Weighted Average Cost
- Replacement/Current Cost

In this documentation, we refer to these methods as stock valuation methods to differentiate between the cost of an item and its current value. "Cost" refers to the cost of an item so that you can determine its selling value. Valuation determines the value of any item that is currently in your inventory for reporting and financial purposes.

Dual Currency

Businesses operating in an inflationary market need to be able to maintain a set of books in two currencies: the local currency and a stable currency, commonly U.S. dollars. The Stock Valuation system allows a business to value inventory based on a valuation method, such as LIFO, FIFO, and replacement or current cost. With Dual Currency, a second ledger type allows a business to adjust its inventory in both the domestic and the stable currency.

Tables and Descriptions

The following list identifies the primary stock valuation tables and their contents:

Item Pool Valuation Master (F3904)	Contains information for all valuation methods, including the following: • Item number or pool • Valuation method • User identification and update information
Valuation Category Master (F39041)	Contains information for valuation methods, including the following: • Unit of measure • G/L class

Company G/L Update Method Master (F39042)	Contains information for valuation methods, including the following: • G/L update method • Default Branch Plant
Valuation Method Master (F3905)	Contains information for all valuation methods that you define for your company. See *Defining Valuation Methods* for more information about defining names and attributes for your valuation and auxiliary methods.
Item Pool Valuation Cost Master (F3908)	Maintains the replacement cost of the items and pools.
G/L Adjustment Table (F3910)	Shows the adjustments made to the G/L table.
Valuation Period Table (F39061)	Contains all of the stock valuation information for the period, including the following: • Opening quantities and amounts • Period incoming quantities and amounts • Period outgoing quantities and amounts • Closing quantities and amounts • Inventory and COGS adjustment • LIFO adjustment and adjustment cost • General ledger classification • Posted and closed information • User identification and update information
Valuation Layers (F39062)	Contains all of the information for the historical layers for all stock valuation methods that you define for your company, including: • Receipt information • Current quantity, amount, and allocations • Last allocation amount, quantity, and date • User identification and update information
Period Additional Quantities (F39063)	Contains the valuation information for those methods that you defined to include not-in-stock inventory, in-transit inventory, or loan and borrow accommodations.
Valuation Document Summary (F39064)	Contains the cost information summarized by document type.

Menu Overview

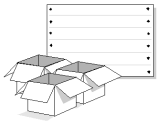
The following diagram identifies the commonly used menus for the J.D. Edwards Stock Valuation system:

Stock Valuation (G39)

Daily Operations

S Stock Valuation Updates (G3930)

S Stock Valuation Setup (G3940)



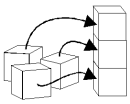
Stock Valuation Reports

S Stock Valuation Updates (G3930)

S Stock Valuation Setup (G3940)

Stock Valuation Updates

S Stock Valuation Inquiries (G3910)



Stock Valuation Setup

S Stock Valuation Updates (G3930)

Periodic

Stock Valuation Processing

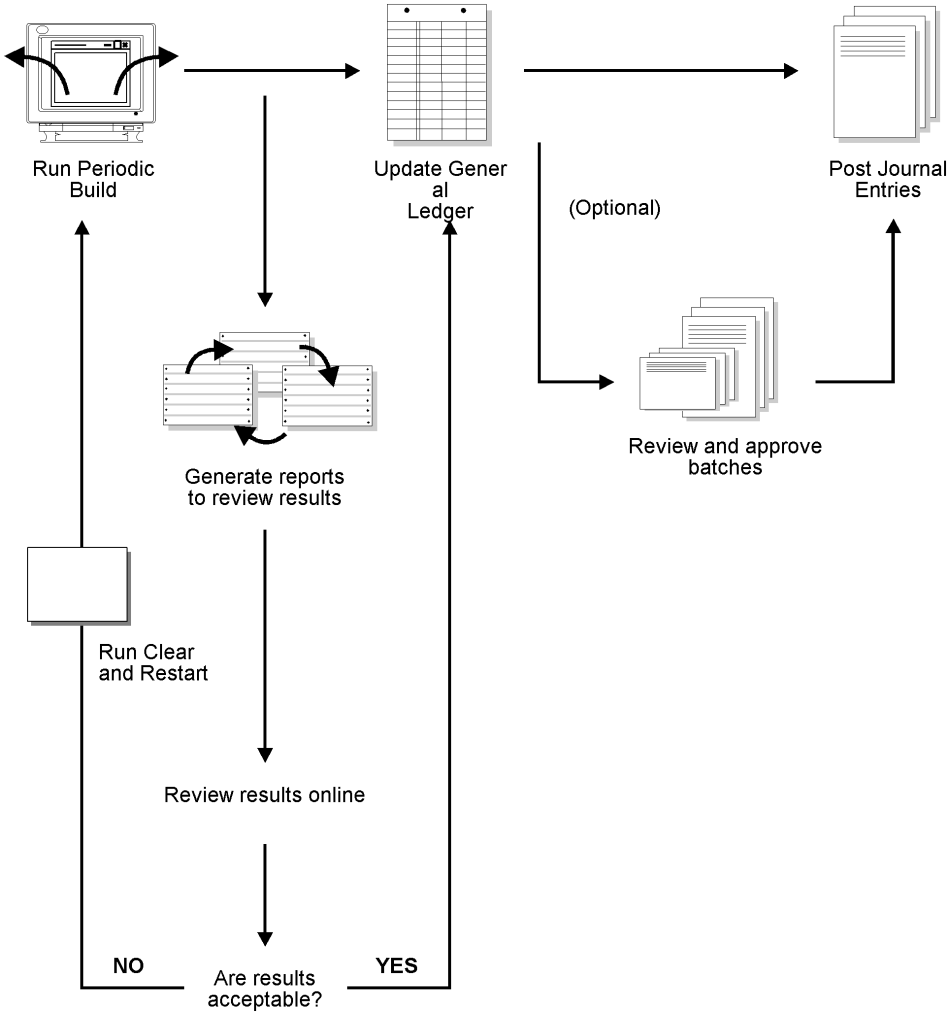
The central function of stock valuation is to establish the cost of your ending inventory based on the period's activity and the prior periods' layers. The accuracy of this value relies on information from other systems.

The systems that integrate with Stock Valuation store all inventory activity in a central table known as the Cardex (Item Ledger). The Stock Valuation system:

- Extracts the period's activity from this table
- Builds historical layers based on the activity
- Stores the information in a transaction table

Stock valuation provides vital information for reporting and profitability. It is important that all stock is valued with the correct costs. Therefore, the Stock Valuation system provides you with opportunities to review and analyze the results of the extraction before you update the general ledger. You can review and approve the valuation before you actually post it. With dual currency, you can value stock based on a stable currency in addition to the domestic currency.

The following diagram illustrates the information flow for stock valuation:



Understanding Sources of Stock Valuation Information

The Stock Valuation system integrates with other systems to accurately reflect the cost of your inventory. Understanding how these systems work together helps you determine how each system affects the stock valuation results.

Updating Actual Costs

You do not always know the price of the inventory when you purchase it. Typically, you enter an average price or average formula price when you receive the inventory. Later, you update the system information with the actual price or formula when it is known. This process is also called "recosting."

Procurement System

Landed costs are costs in excess of the purchase price of an item. You assign each item a landed cost or landed cost rule. You need this information to accurately reflect the value of your stock.

You enter the cost of an item during purchase order entry. If you do not enter a different cost or adjust the cost at any other point, the system retrieves this cost to determine the cost of an item.

When you receive an invoice for purchased items, use the voucher matching programs to match invoices, either in detail (sales line by sales line), or in summary (total of all sales lines to the total amount owed to the supplier). At this point, you can change the cost of an item if it is different from what the system retrieves. You can also revise paid vouchers by using the Summary Voucher Matching program. The voucher matching programs do the following:

- Update the general ledger accounts for any variances
- Keep the general ledger and inventory tables in balance
- Update the Item Cost table (F4105) with the last-in cost
- Write records to the Average Cost Work table (F41051) to be extracted later by the batch update program

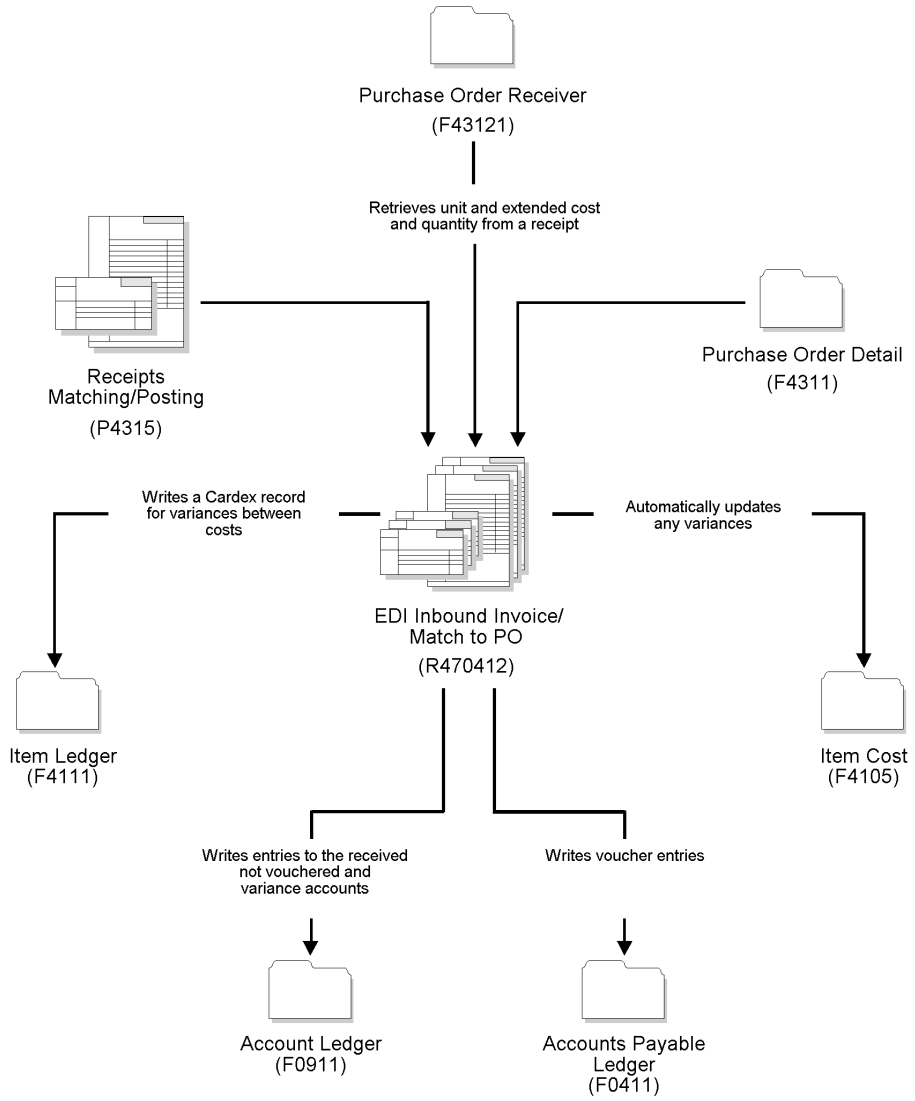
You must run the EDI Inbound Invoice/Match to PO program (R470412) to process any variances between the invoice and landed costs.

See Also

- *Setting Up Landed Costs* in the *Procurement Guide*
- *Creating Vouchers* in the *Procurement Guide*

Recosting Process

The following diagram illustrates how the subsystem integrates with other systems for the recosting process:



Loans, Borrows, and Exchanges

Loans, borrows, and exchanges are agreements made with business partners to facilitate smooth operations when one partner has low inventory of one or more items. You define the terms of these agreements in the Agreement Management programs and assign a unique number to each agreement. To fulfill the terms of the agreements, you use the sales order entry programs or purchase order entry programs and assign the unique agreement number to the appropriate document.

Loans, borrows, and exchanges might cause physical inventory to be transferred. A loan to another company can be shipped out of the depot of the loaning company directly to a customer. The borrowing company might never take physical possession of the product.

Storage, transportation, and handling charges might be part of an agreement that can add to the cost of an item, and increase the valuation for borrowed inventory.

The following steps outline the process to loan product to a partner:

1. You enter a sales order to record the loan.
2. The system retrieves the item cost from the Item Cost table (F4105) and assigns the selling price based on the sales costing method defined in the Inventory Management system.
3. Generally, you reduce inventory during the load confirmation process when you actually remove the item from its location in your inventory. Because this process reduces inventory, the system writes a record to the Cardex using the item and cost information from the sales order.
4. The Sales Update program updates the general ledger accounts for the inventory reduction.

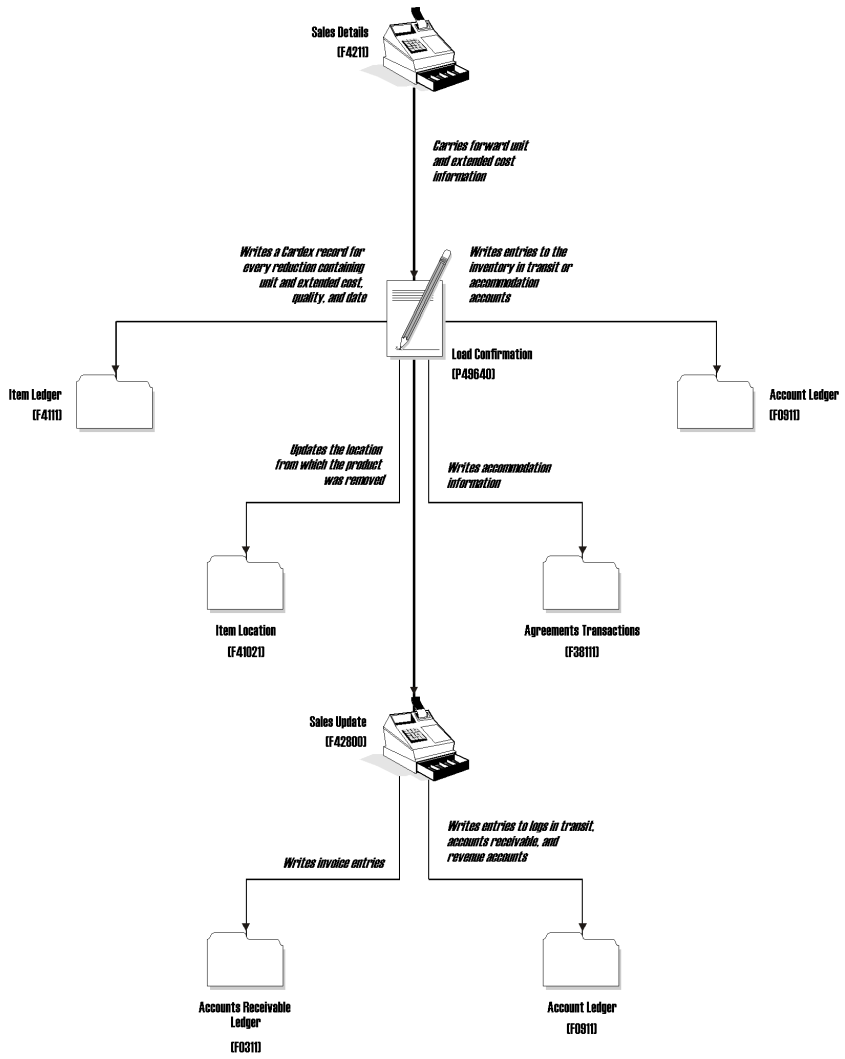
When you loan product to another company, the system reduces the on-hand inventory quantity. Because you anticipate the borrowing company to return the loan and you still own the inventory, you will want to include this quantity in your valuation. Conversely, if you borrow product, then you anticipate returning the quantity to the other company. Therefore, even though the borrowing transactions actually increase your inventory quantity, you do not want to include them in your valuation. A flag to include accommodations in the Agreement Management system allows you to capture the net value, or accommodations, from loans and borrows.

See Also

- *Working with Detail Information* in the *Sales Order Management Guide* for entering a sales order
- *Defining Agreement Relationships* in the *Agreement Management Guide*
- *Setting Up Branch Sales Markups* in the *Sales Order Management Guide*

Loan Process

To process a borrow or an exchange, you usually use a purchase order or a sale out of a foreign depot.



Transfers

When you enter a transfer order, you create both a sales order and a purchase order so that you can move items from one branch/plant within your company to another branch/plant. Additional costs are generally part of a transfer order. Because transfers have a different document type, these additional costs can be included in the price and processed through the stock valuation build.

See Also

- *Entering Order Header Information* in the *Procurement Guide*
- *Entering Order Detail Information* in the *Procurement Guide*

Stock in Transit

When you value stock at the end of each period, you need to ensure that you accurately reflect all of the stock that is in your inventory. When you define each of the valuation

methods that you use, you can choose to include stock in transit. Stock in transit is still owned by your company and needs to be included as part of your inventory.

Unless you excluded them when you defined the valuation method, items that have completed the load confirmation process but for which delivery has not been confirmed are automatically processed as part of the stock valuation.

See Also

- *Recording Intra-Depot Stock Movements* in the *Bulk Stock Management Guide*
- *Defining Valuation Methods*
- *Valuation Calculations*

Understanding Dual Currency

Businesses operating in an inflationary market need to be able to maintain a set of books in two currencies: the local currency and a stable currency, commonly U.S. dollars. The Stock Valuation system allows a business to value inventory based on a valuation method, such as LIFO or FIFO. With dual currency in Inventory, a second ledger type (XA) allows a business to adjust its inventory in both the domestic currency and the stable currency.

Dual currency in Stock Valuation works with multi-currency accounting, which allows you to do business in multiple currencies and follow the reporting and accounting requirements of the corresponding countries. You must set up multi-currency in order to use dual currency in Stock Valuation.

Note

Itemizing at the conversion rate will result in a different total than if you add up all of your transactions and then multiply by the conversion rate.

Dual Currency Accounts

The system maintains dual currency for valuation layers by creating an additional ledger for the stable currency, using the current exchange rate to calculate the amount. The system writes a record for each currency in the Stock Valuation tables. For example, when data is extracted from the Cardex, two records are written: one containing the domestic currency amounts, and one containing the stable currency amounts.

See Also

- *About Multi-Currency Setup* and *Setting Up Multi-Currency* in the *General Accounting Guide*
- *Assigning Valuation Methods* for information about setting up dual currency in inventory

Determining the Value of Stock

You can run the stock valuation process as many times as you like during each accounting period. During processing, the system builds the valuation for all assigned methods for each item and pool. When the build is complete, you can print reports to verify the completeness and accuracy of the company's stock value before you post it for the period. You can also

review the valuation built for all auxiliary valuation methods that you have assigned to each item and pool.

Before You Begin

- Verify that the programs that integrate with stock valuation are installed and set up.

See Also

- *Understanding Sources of Stock Valuation Information*

Working with Period Build

You use Valuation Period Build to build the Stock Valuation period activity tables for calculating the value of stock. Most users of the Stock Valuation system use two versions of Valuation Period Build to accomplish separate results. You can use a different version to rerun the build if you discover inaccurate information or omissions in the first build that you run. If the system encounters any errors, it sends a message to the message center or includes a message on a report.

For dual currency, the program creates additional records for the stable currency for every layer at the domestic currency. If dual currency is active and the Cardex transaction is a reversal, the Period Build uses the transaction date of the reversal to calculate the exchange rate.

The following table describes the two versions of Valuation Period Build:

Valuation Period Build	This version selects any records for the current period that were not previously processed.
Period Build - Clear and Restart	This version clears the stock valuation tables for the period and reprocesses the entire period.

Before You Begin

- Verify that each item or pool has an assigned valuation method. See *Assigning Valuation Methods.*
- Verify that two versions of Valuation Period Build are set up. See *Creating a Batch Version* in the *OneWorld Foundation Guide*.

  During period build, if there is an accumulation for the year, the program starts at the beginning of the year and allocates the accumulated quantity forward throughout the layer. If there is a depletion for the year, the program starts at the end of the layer previous to the current year and subtracts the depleted amount backward throughout the layer.

  The program uses the allocations to calculate the adjustment amounts for LIFO accumulation/depletion.

Running the Valuation Period Build

From the Stock Valuation Updates menu (G3930), choose Stock Valuation Period Build.

The Stock Valuation Period Build program (R39120) extracts the transactions by document type for specific date ranges to build the valuation tables.

Use this version to extract all records since the end of the previous period and post them to the general ledger. If you approve of the data, this is the only version that you need to run.

Processing Options for Stock Valuation Period Build (R39120)

Running Clear and Restart Period Build

From the Stock Valuation Updates menu (G3930), choose Clear and Restart Period Build.

Use the Clear and Restart Period Build (R39120) program to correct errors, such as omitted documents or incorrect entries. This version completely clears the valuation table and runs the entire extraction again. The system does not clear any previous valuations that have been posted to the general ledger.

Processing Options for Clear and Restart Period Build (R39120)

Generating Reports

You can run the following four reports to generate stock valuation information:

- *Unit Cost Period Report*
- *Stock Valuation Summary Report*
- *Stock Valuation Detail Report*
- *G/L Update Summary Report*

Unit Cost Period Report

From the Stock Valuation Reports menu (G3920), choose Unit Cost Period Report.

After you run Stock Valuation Period Build, you can generate a report to verify the accuracy and completeness of your valuation. The Unit Cost Period Report provides the average cost of each item or pool for selected periods, based on valuation method. You can specify in a processing option whether to display domestic or dual currency.

Processing Options for Unit Cost Period Report

Stock Valuation Summary Report

From the Stock Valuation Reports menu (G3920), choose Stock Valuation Summary Report.

Use this report to display a summary of stock valuation information by valuation method for each item and pool.

Processing Options for Stock Valuation Summary Report

Stock Valuation Detail Report

From the Stock Valuation Reports menu (G3920), choose Stock Valuation Detail Report.

Use this report to display FIFO, LIFO, Weighted Average Cost or Replacement Cost valuation methods in detail by item and pool.

For each item and pool, this report shows the openings, incomings, outgoings, and closings for the year to date or for the current period. This report also displays the G/L Update methods.

Processing Options: Stock Valuation Detail Report (R39400)

General Ledger Update Summary Report

From the Stock Valuation Reports menu (G3920), choose General Ledger Update Summary Report.

Use this report to display a summary of the stock valuation information that will be updated to the general ledger.

Processing Options for G/L Update Summary Report

G/L Update Sum
Dual Currency Amount

Blank = No Dual Currency amount

Reviewing Results

After you run any Stock Valuation Period Build version, you can access the valuation information on several different forms. You can use these forms to research any problems with the build before you run another version or accept the results of the valuation. You can use these forms to review different aspects of the valuation continuously throughout the period until you post the next period's valuation.

With most of these review options, you can review item or pool information by a specific valuation method. The system can only display valuation information using one of the methods that is assigned to an item on the Item/Pool Valuation Maintenance form.

Note

If you defined a valuation method to include in-transit inventory or loan and borrow accommodations, the system includes these amounts in the valuation. You can use Additional Quantities to review this information on separate detail lines from the Valuation Period Review and Stock Valuation Review programs.

See Also

- *Assigning Valuation Methods*
- *Defining Valuation Methods*

Working with Stock Valuation

Use Stock Valuation Review to review a summary of the valuation for any item or pool, and a specific valuation method. You can choose between domestic and dual currency modes.

► To work with stock valuation

From the Daily Operations menu (G3910), choose Stock Valuation Review.

1. On Work With Stock Valuation, complete the following field:
    - Company
2. Complete the following optional fields and click Find:
    - Valuation Method
    - Item Number
    - Item Pool
    - Business Unit
    - Current Period / Year

Reviewing Item or Pool Quantities

Use Valuation Period Review to review the opening, incoming, outgoing, and period ending values of any item or pool for a specific valuation method. You can choose between domestic and stable currency modes when reviewing specific valuation methods.

► To review item or pool quantities

From the Daily Operations menu (G3910), choose Valuation Period Review.

1. On Work With Valuation Period Review, complete the following fields:
    - Company
    - Valuation Method
    - Period/Year
2. Complete one of the following fields:
    - Item Number
    - Item Pool

    While reviewing item or pool quantities, you can access the Period Additional Quantities form to review stock status, accommodations, and in-transit quantities.
3. If the valuation method is allocated within all branch/plants, complete the following field and click Find:
    - Business Unit

Reviewing Historical Layers

Layers are receipts of product that you enter into the system. Use this option to review the historical layers for your ending inventory. You can choose between domestic and dual currency modes.

You can identify and review the layers in one of two different formats. The system displays the information in either detail or summary format, depending on how you define the valuation method, as described below:

- If you define the valuation method to use detail mode, each receipt is a layer.
- If you define the valuation method to use summary mode, each period is a layer and the prior years' layers are rolled up at year-end into one layer.

See Also

- *Defining Valuation Methods*
- *Valuation Calculations*

► To review historical layers

From the Daily Operations menu (G3910), choose Valuation Layers Review.

1. On Work With Valuation Layers, complete the following fields:
    - Company
    - Valuation Method
2. Complete one of the following fields:
    - Item Number
    - Item Pool
3. If the valuation method is allocated within all branch/plants, complete the following field:
    - Business Unit
4. To view the depleted layers, click the following option and then click Find:
    - Layer Depleted

Reviewing Methods

Use Valuation Method Comparison to compare the valuation differences between two different methods. You can choose between domestic and stable currency modes.

► To review methods

From the Daily Operations menu (G3910), choose Valuation Method Comparison.

1. On Work With Valuation Method Comparison, complete one of the following fields:

- Item Number
- Item Pool

2. Complete the following fields and click Find:
    - Period/Year
    - Company
    - Business Unit
    - Valuation Method
    - Valuation Method

Reviewing by Document Type

Use Document Summary Review to review a summary of transactions by document type. Use this program to resolve problems that might have been caused by missing or inaccurate document type information.

You can choose specific transaction types, such as incoming, outgoing, or both. If you review transactions by a specific item or pool, the system also displays totals by quantity and amount. In addition, you can toggle between domestic and dual currency modes.

► To review by document type

From the Daily Operations menu (G3910), choose Document Summary Review.

1. On Work With Document Summary Review, complete the following fields:
    - Company
    - Period / Year
2. Complete one of the following optional fields:
    - Item Number
    - Item Pool
3. Complete the following optional fields and click Find:
    - Business Unit
    - Transaction Type

Reviewing G/L Adjustments

You can view stock valuation adjustments to the general ledger with the General Ledger Adjustment Inquiry program. You can choose between domestic and dual currency modes.

► To review G/L adjustments

From the Daily Operations menu (G3910), choose General Ledger Adjustment Inquiry.

1. On Work With G/L Adjustment Inquiry, complete the following field:
    - Company
2. To choose a pool or item, complete one of the following optional fields:
    - Item Number
    - Item Pool
3. To choose a specific G/L date, complete the following field:
    - G/L Date
4. Complete the following optional field and click Find:
    - Adjustment Type

Reviewing Unit Cost Inquiry

You can use this program to view the average cost for current and prior periods, based on valuation method.

► **To review unit cost inquiry**

From the Daily Operations menu (G3910), choose Unit Cost Inquiry.

1. On Work With Unit Cost Period Inquiry, complete the following field:
    - Company
2. Complete one of the following optional fields and click Find:
    - Item Number
    - Item Pool
    - Business Unit

    If you click the Dual Currency option, Dual Currency is displayed along with Domestic values.

Processing Options for Unit Cost Inquiry

Unit Cost
Cost for Closing Inventory.

Blank = Cost for Incoming Transactions

Running the Stock Valuation G/L Update

From the Stock Valuation Updates menu (G3930), choose Stock Valuation G/L Update.

Run the Valuation G/L Update program after you review the data from the Period Build program. The Valuation G/L Update program updates the general ledger for the valuation methods that are defined as general ledger update methods. The program updates the general ledger based on one valuation method for each item number or item pool.

The Period Build program calculates the amounts to be updated. The G/L Update simply performs the update after you have reviewed the data. Additionally, records for the next period are built for the Valuation Period (F39061) and Period Additional Quantities tables (F39063). These records contain the opening balance for the next period. For dual currency, the program writes a record to the general ledger for the stable currency.

You can run proof and final versions of this program. When you run the proof version, the system does not update the general ledger. After you review the proof version, you run the final version to update the general ledger.

Before you update the general ledger, you can review and approve batches produced by the system. After you approve the general ledger updates, you can post them to the account ledger. Posting completes the valuation process and posts the actual stock value for the period end.

Note

The G/L Update program writes accumulations and depletions to separate accounts. If the offset amount for the LIFO accumulation/depletion amount is positive, the program writes a journal entry to the Asset for LIFO AAI. If the offset is negative, the update writes a journal entry to the Liability for LIFO AAI.

See Also

- *Reviewing Journal Entries* in the *General Accounting Guide* for information on reviewing and approving batches before posting
- *Approving Batches of Journal Entries for Posting* in the *General Accounting Guide* for information on reviewing and approving batches before posting
- *Posting Journal Entries* in the *General Accounting Guide* for information on posting journal entry batches and verifying journal entry posts

Note
The G/L Update program writes accumulations and depletions to separate accounts. If the offset amount for the LIFO accumulation/depletion amount is positive, the program writes a journal entry to the Asset for LIFO AAI. If the offset is negative, the update writes a journal entry to the Liability for LIFO AAI.

Processing Options for Stock Valuation G/L Update (R39130)

Default
Update/Proof Mode

Blank = Proof Mode

Process
1. G/L Date

Blank = Current Date
2. Document Type.

Blank = Use 'JE'
3. Domestic Ledger Type.

Blank = Use 'AA'
4. Dual Currency Ledger Type.

Blank = Use 'XA'
5. Summarize entries

Blank = Detail entries
6. Enter the version ID

Blank = Use 'ZJDE0001'
7. Roll up FIFO layers

Blank = No roll up
8. Do Not Create G/L entries.

Blank = G/L entries are created in update mode
1 = G/L entries are NOT created when run in update mode
Setup
1. By Pass Date Edit

Blank = Normal Date Editing
1 = By Pass Date Editing - to be used for inital setup only.

What You Should Know About Processing Options

Year-end processing (7)	For LIFO valuations, the system always rolls up all layers at the end of the year into a single layer for the opening balance for the next year. If you want the FIFO valuations to roll up into one layer, enter 1 in this option. Otherwise, the system does not roll up the FIFO valuations into one layer.

Setup

Stock Valuation Setup

Before you can use the Stock Valuation system, you must complete certain tasks to define information that the system uses during processing. You can customize much of this information to meet the business needs of your company.

What Are the System Setup Requirements?

User defined codes	User defined codes define customized codes, such as document types and pools, that are appropriate for your business needs.
Valuation methods	Valuation methods define the attributes for all of the valuation methods that you want to use to value your stock.
Pools and items	Pools identify all of the items associated with an item pool and assign the valuation methods that you use for each item and pool.
Company selection	You must set up the companies to use when you extract the valuation by company.
Automatic accounting instructions	Automatic accounting instructions define the rules for the chart of accounts and establish how the system creates automatic entries.

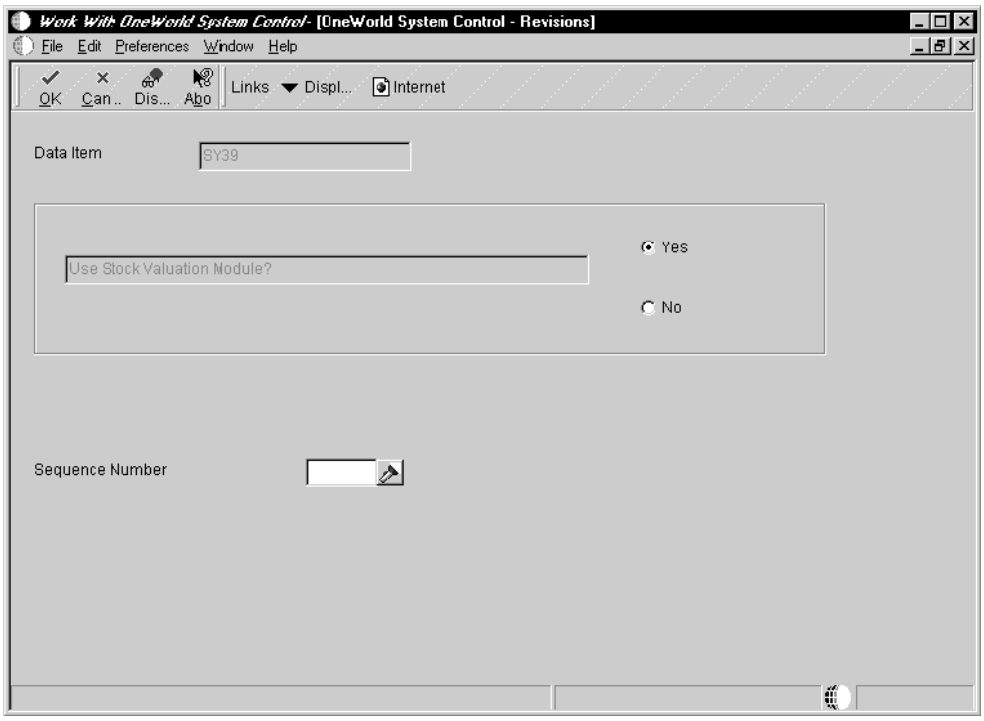
Activating Stock Valuation

Before you can use Stock Valuation with other systems, you must activate the Stock Valuation system using OneWorld System Control.

► To activate Stock Valuation

From the Stock Valuation Setup menu (G3940), choose Activate Stock Valuation.

1. On Work With OneWorld System Control, choose the row containing the data item SY39, and click Select.



2. On OneWorld System Control - Revisions, click the following option, and then click OK.
   - Yes

Activating Dual Currency

As part of working with different currencies, you need to be able to convert foreign currencies to domestic currencies, revalue currencies, and restate the amount into one common currency rate. For dual currency to work in the Stock Valuation system, you need to verify or set the correct currency code.

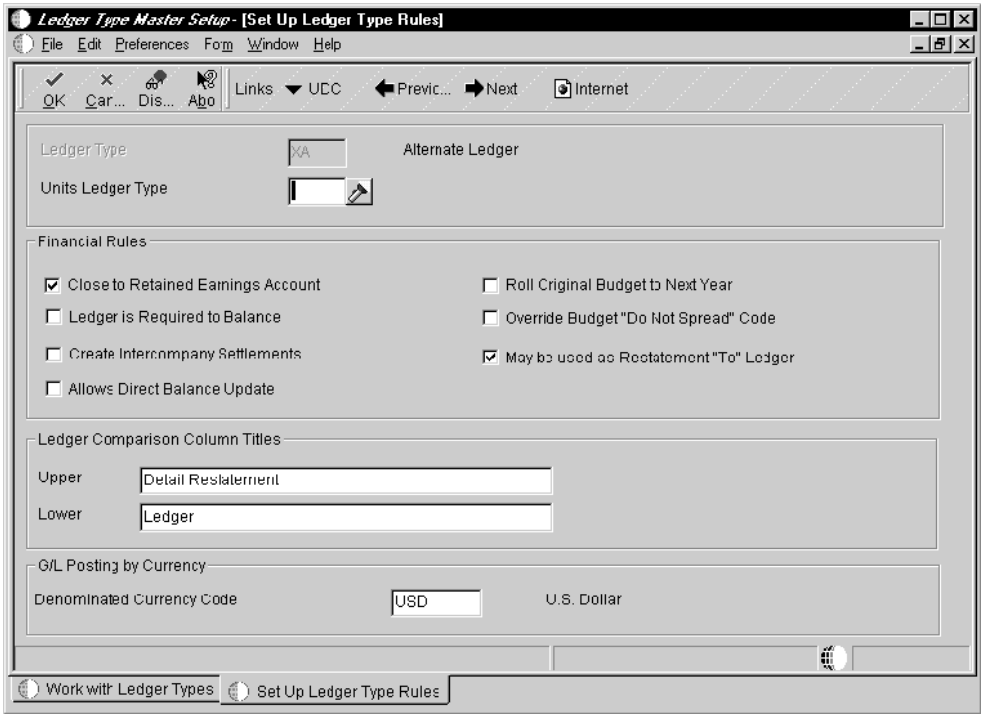
Before You Begin

- ❑ Verify that multi-currency is set up. See *Activating Multi-Currency* in the *General Accounting Guide* for information about multi-currency setup.

► To activate dual currency

From the General Accounting System Setup menu (G0941), choose Ledger Type Master Setup.

1. On Work with Ledger Types, choose the record for the XA ledger type.
2. Verify the correct code for the following field:
   - Currency Code
3. To change the currency code for XA, click Select.



4. On Setup Ledger Type Rules, complete the following field and click OK:
    - Denominated Currency Code

Setting Up User Defined Codes

You can define most standard information in user defined codes (UDCs). Generally, you define these codes for your business purposes. Many of these codes are set up by J.D. Edwards and are included when you install your system. When a UDC is referred to as hard-coded, you should not change it. Programming has been defined to work with hard-coded UDCs. If you change the UDC, the programming will not work correctly.

Each system has its own UDC types. Stock Valuation is system 39. It also integrates with other systems, such as the Inventory Management system. UDCs are referenced by the system number and type. Therefore, 39/OD indicates that OD (Outgoing Doc Types) is a UDC type for the Stock Valuation system.

The following table lists the UDCs associated with stock valuation:

Valuation Type (39/VA)	These hard-coded UDCs include valuation types such as LIFO, FIFO, Weighted Average Cost, and Replacement/Current Cost.
Allocation by Branch or Company (39/WT)	These hard-coded UDCs include options for defining valuation methods by either branch or company.

Item Category Code O5 (41/05)	These codes include all pool codes that you use to group items for valuation purposes.

Setup Considerations

Document type	You can classify document types as incoming, outgoing, or both. Document types classified as "both" indicate that this type of document can represent a transaction that is either bringing stock into inventory or taking stock out of inventory. Bulk stock movements that use "from" and "to" transactions are examples of transactions that use a document type of both.

See Also

- *UDCs, UDC Types, and Category Codes* in the *OneWorld Foundation Guide* for more information about adding or changing UDC values

Defining Valuation Methods

You must define the name and attributes for your primary valuation method and each of your auxiliary methods. You need to consider all of your company's valuation requirements before you can use Stock Valuation. These definitions tell the system how to value the stock, what to include in the valuation, and how to display and report the results.

The following descriptions provide an overview of the stock valuation methods available with J.D. Edwards systems:

First In/First Out (FIFO)	This method assumes that the first inventory items purchased or manufactured are the first items sold. With FIFO, the cost of the most recently acquired items are the costs associated with the ending balance.
Last In/First Out (LIFO)	This method assumes that the last inventory items purchased or manufactured are the first items sold. The system assigns the most recent inventory costs to the current period's cost of goods sold, leaving the oldest costs in the balance sheet account. LIFO accounting requires an understanding of inventory layers and inventory liquidation. If you receive or increase inventory from one period end to the next, a new LIFO layer is created in the system. If you have a net decrease in inventory from one period end to the next, no new layer is added to the system. However, if you have a net decrease in inventory and no new layer is added, the prior period's layer is liquidated or reduced by the amount of the decrease.
Weighted Average Cost	This method calculates the inventory on a weighted average of all the purchases.

Replacement/Current Cost	This method reflects the current value of inventory for a given period. In effect, it is the cost of replacing the inventory for a specific period. You can specify the cost that will be used during the valuation, instead of using a calculated cost.

It is not unusual for a company to need more than one method for valuating stock. For example, local governments might require a different method for financial reporting than the method that you use within the company. Tax authorities might require a different method than that used for profitability reports within a company.

With the J.D. Edwards Stock Valuation system, you can choose one primary method of stock valuation per company to update the general ledger for standardized accounting and reporting. You can also assign auxiliary methods to use for comparison or other reporting purposes.

By choosing one of the four valuation methods on Valuation Method Master Revisions, you can customize both Unit Cost and Negative Inventory.

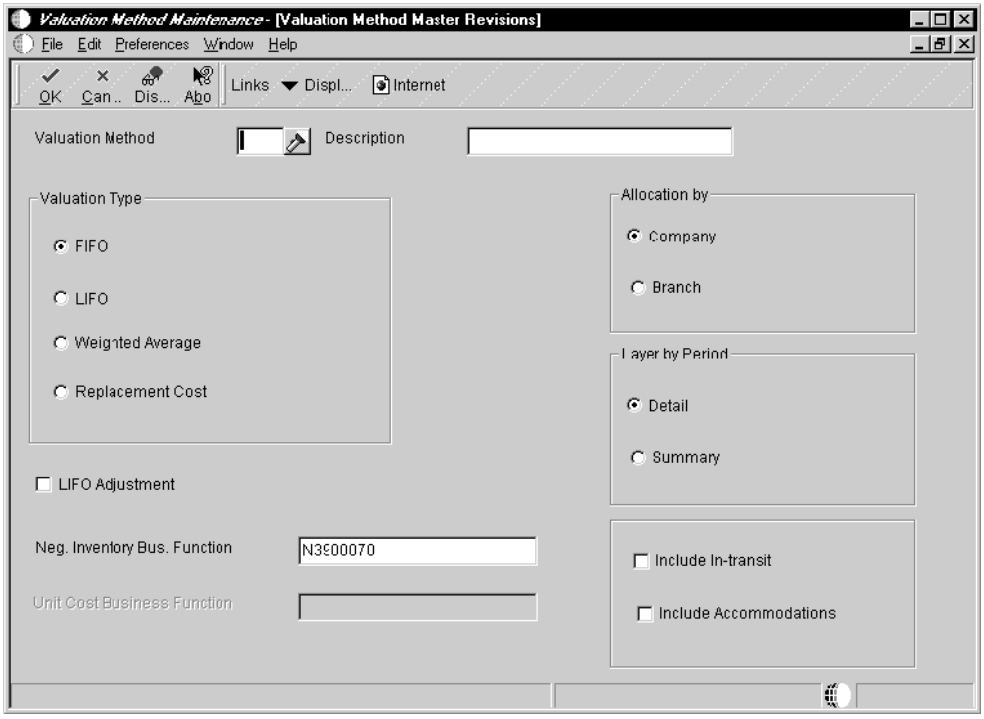
See Also

- *Valuation Calculations* for examples of sample data illustrating how the Stock Valuation system calculates the stock value using FIFO, LIFO, Weighted Average Cost, and Replacement Cost methods

► To define valuation methods

From the Stock Valuation Setup menu (G3940), choose Valuation Method Maintenance.

1. On Work With Valuation Method Master, click Add.



2. On Valuation Method Master Revisions, complete the following fields:
    - Valuation Method
    - Description
    - Neg. Inventory Bus. Function
3. Under the Valuation Type heading, click one of the following options:
    - FIFO
    - LIFO
    - Weighted Average
    - Replacement Cost
4. If the valuation method that you selected is LIFO, click the following:
    - LIFO Adjustment
5. If the valuation method that you selected is Weighted Average, complete the following field:
    - Unit Cost Business Function
6. Under the Allocation by heading, click one of the following:
    - Company
    - Branch
7. Under the Layer by Period heading, click one of the following:
    - Detail
    - Summary

    If the valuation type you choose is Weighted Average or Replacement Cost, these fields will be grayed out.
8. Click either of the following options and click OK:
    - Include In-transit
    - Include Accommodations

Working with Pools and Items

The Stock Valuation system can compute the value of stock at the item level or the pool level. If you want to value stock at the item level, the system calculates the cost and value of each item. To value stock at the pool level, group items of similar products and relatively similar purchase prices, using the following guidelines:

- If you define the pool's valuation method to use a summary layer, the system applies a single purchase price to all items in the pool for a period.

- If you define the pool's valuation method to provide detailed layers, the system uses each purchase as a layer to determine the pool's value.

You can value part of your stock at the item level and part of your stock in pools. The primary method of valuation (the method that the system uses to update the general ledger) must be the same for all items and pools within a company.

Assigning Pools

You assign pools only for items that you want to value at the pool level. If you want to value an item only at the individual item level, do not assign a pool to that item. If you are assigning pool codes to items, you must enter the pool code at the branch/plant level for each item that you want to include in a pool.

Before You Begin

- ❑ Set up user defined codes for pools. See *Setting Up User Defined Codes*.
- ❑ Set up an item during item setup. See *Entering Item Master Information* in the *Inventory Management Guide.*

Setup Considerations

Kit items are priced at the master item (kit) level, but costs are set up at the component level. The system maintains inventory for each component item of the kit, not the master kit number. Therefore, the master kit item has no stock valuation.

See Also

- ❑ *Entering Item Master Records for Kits* in the *Inventory Management Guide*

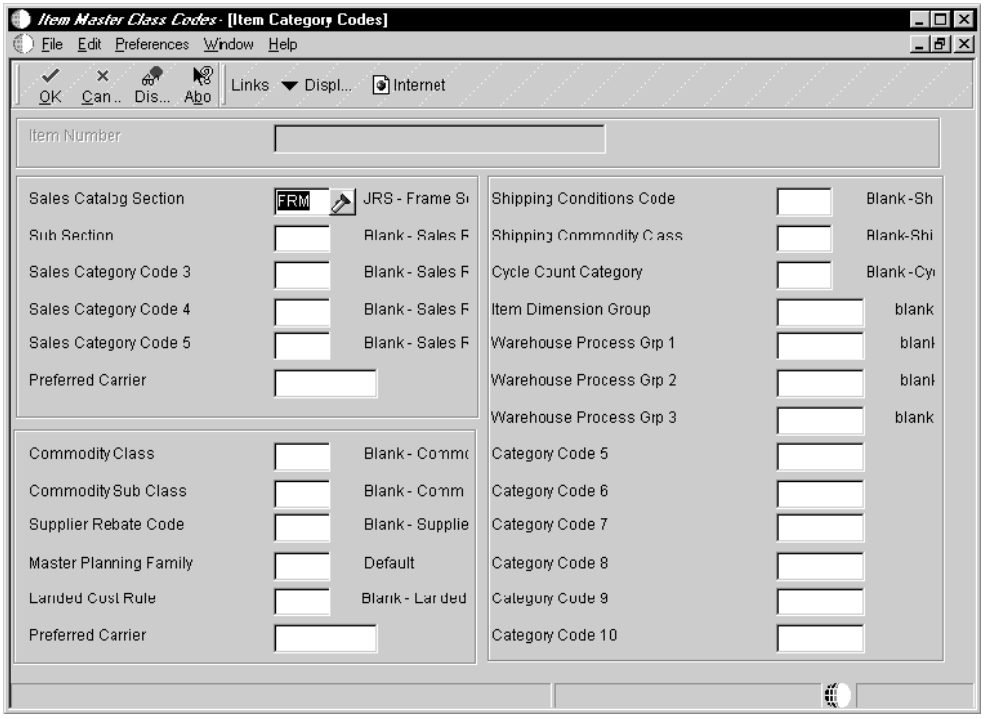
Assigning Default Pools for New Items

When you first set up a new item, you must assign a pool code if you want that item included in a pool for stock valuation purposes. The system automatically enters the pool code that you enter on Item Category Codes onto the Branch/Plant class codes form.

► To assign default pools for new items

From the Stock Valuation Setup menu (G3940), choose Item Master Class Codes.

1. On Work With Item Master Browse, complete the following field and click Find:
   - Item Number
2. Choose the row for which you want to assign default pools, and then choose Category Codes from the Row menu.



3. On Item Category Codes, verify or change the following field so that it is part of a pool:

    - Item Pool Code

Assigning Branch/Plant Pools for Existing Items

If you are assigning pool codes to items that you set up previously, you must enter the pool code at the branch/plant level for each item that you want to include in a pool.

Note

The Stock Valuation system uses only the information designated at the branch/plant level. It is not necessary to change the information on the Item Master Class Code form if you previously set up this item.

► To assign branch/plant pools for existing items

From the Stock Valuation Setup menu (G3940), choose Branch Plant Class Codes.

1. On Work With Item Branch, complete the following field and click Find:

    - Item Number

2. Choose the row for which you want to assign branch/plant pools, and then choose Category Codes from the Row menu.

3. On Item Branch Class Codes, verify that the information imported from Item Category Codes is correct.

Assigning Valuation Methods

You must assign a valuation method to each item and pool that you want valued. The system uses this information to calculate the value of your stock. If you want to update the general ledger, you must assign only one method as the general ledger update for all items and pools. The valuation method that you use to update the general ledger is often called the primary method.

You can assign any number of auxiliary methods. The system uses the auxiliary methods to track the value of stock for comparison or reporting purposes, but does not post the auxiliary results to the general ledger.

When you add an item or pool with Item/Pool Valuation Maintenance, the system verifies that it does not yet exist in this table. The system does not allow you to make duplicate entries for the same item or pool.

If you are using dual currency, you can specify for each valuation method within a company and item/pool whether to enable dual currency.

Before You Begin

- Define the valuation methods. See *Defining Valuation Methods.*
- For dual currency, set up multi-currency. See *Setting Up Multi-Currency* in the *General Accounting Guide*.

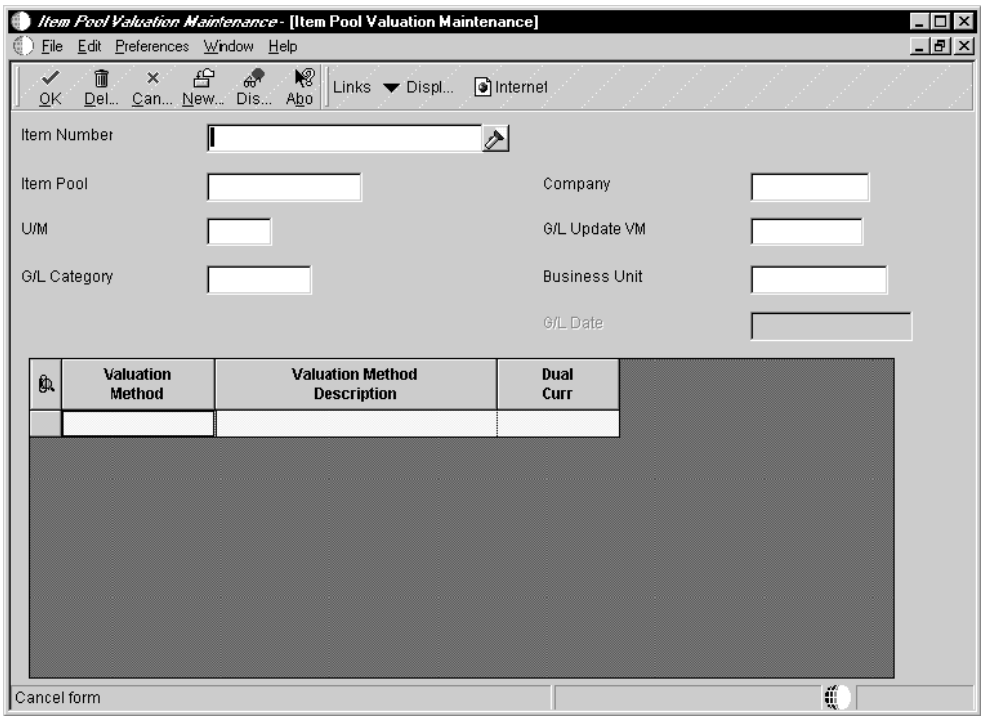
See Also

- *Understanding Dual Currency*

► To assign valuation methods

From the Stock Valuation Setup menu (G3940), choose Item Pool Valuation Maintenance.

1. On Work With Item Pool Valuation Maintenance, click Add.



2. On Item Pool Valuation Maintenance, complete one of the following fields:
    - Item Number
    - Item Pool
3. Complete the following fields:
    - Company
    - U/M
    - G/L Category
    - Business Unit
4. To specify the valuation method that you want the system to use to update the general ledger, complete the following field:
    - G/L Update VM
5. On a separate line for each, enter the primary and all of the auxiliary valuation methods that you want to use for this number or pool in the following field:
    - Valuation Method
6. If you use dual currency, complete the following field:
    - Dual Curr
7. Click OK.

Assigning Unit Cost

Instead of using a calculated cost, you can specify a cost for each item and pool that you want to value stock using the replacement/current cost method. The system uses this information to calculate the value of your stock.

Use this program to maintain the replacement cost of the items and pools as well as the specified effective dates. If multi-currency is active for the company, you can choose to store the values in domestic or dual currency.

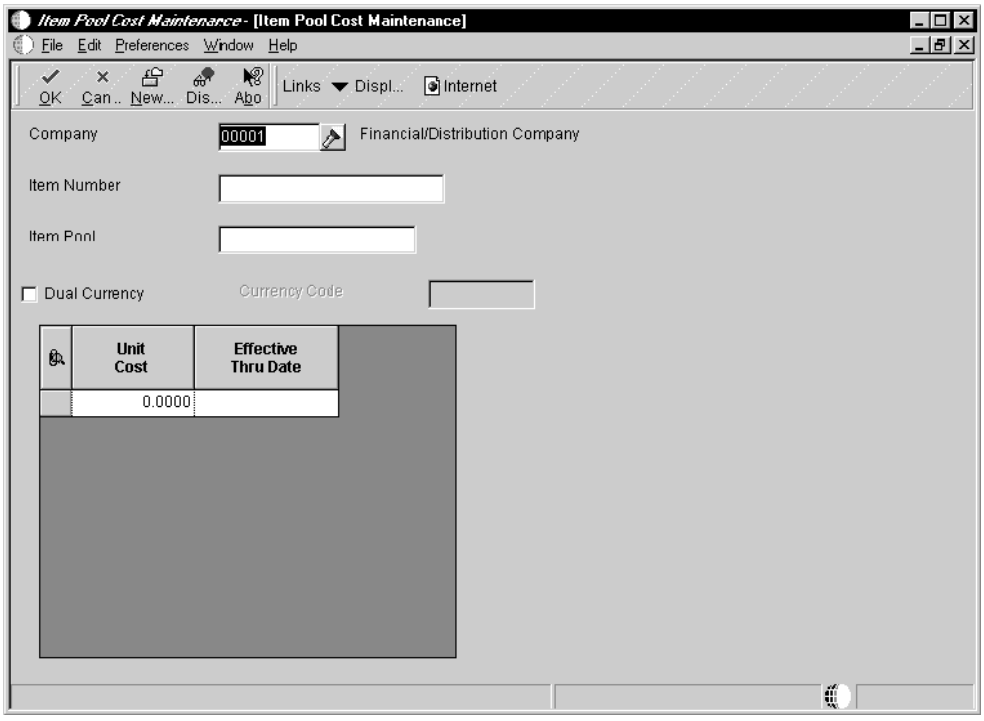
Before You Begin

- Define the valuation methods. See *Defining Valuation Methods.*

► To assign unit cost

From the Stock Valuation Setup menu (G3940), choose Item Pool Cost Maintenance.

1. On Work With Item Pool Cost, complete the following field:
    - Company
2. To enter values for a stable currency, click the following option:
    - Dual Currency
3. Click Add.



4. On Item Pool Cost Maintenance, complete one of the following optional fields:
    - Item Number

- Item Pool

5. Complete the following fields in the detail area and click OK:
    - Unit Cost
    - Effective Thru Date

Setting Up Automatic Accounting Instructions

Automatic Accounting Instructions (AAIs) tell the system how to create general ledger entries for programs that generate automatic journal entries. AAIs are the user-defined link between program functions, your chart of accounts, and financial reporting. AAIs direct transactions to the appropriate general ledger accounts.

The system already has AAIs in place. You need to ensure that these AAIs are appropriate for your business needs. You can revise existing AAIs and set up additional AAIs as needed to accommodate growth and change in your business functions and financial reporting. Follow the same setup steps to create a new AAI or to revise an existing AAI.

For distribution systems, you must create AAIs for each unique combination of company, transaction, document type, and general ledger class that you will use. Each AAI identifies a specific general ledger account consisting of a business unit, an object, and a subsidiary. When the system processes a transaction, it creates accounting entries.

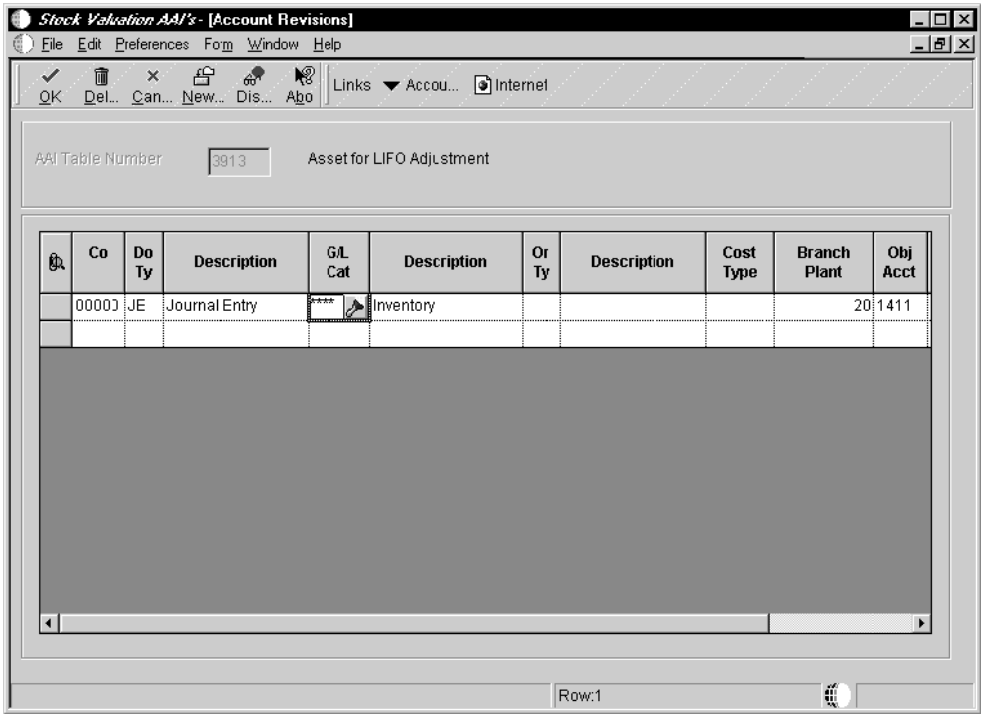
When setting up each AAI item, verify that there is a default for company 00000. For each company requiring specific instructions, verify that there is a business unit or object account.

You can attach explanatory messages to any AAI. Choose the memo function and enter your message. When you attach a message, a "See Memo" message appears next to the AAI.

► To set up automatic accounting instructions

From the Stock Valuation Setup menu (G3940), choose Stock Valuation AAIs.

1. On Work With AAIs, choose an AAI and click Select.



2. On Account Revisions, verify that Company 00000 has four asterisks in the following field:
    - G/L Cat
3. Complete one or more of the following fields and click OK:
    - Co
    - Do Ty
    - Description
    - G/L Cat
    - Description
    - Obj Acct
    - Sub

Extracting Stock Valuation Records

From the Stock Valuation Updates menu (G3930), choose Stock Valuation Extraction.

Use the Stock Valuation Extraction report to retrieve data from the following files:

- Cardex (F4111)
- Agreement Ledger (F38111)

- In-transit Ledger (F49631)

With the data from the files listed above, Stock Valuation Extraction populates these files:

- Period Detail Work (F39120W)
- Additional Quantity Work (F39121W)

You can also use this report to automatically update the Stock Valuation files, rather than turning on the Stock Valuation triggers.

Businesses first starting Stock Valuation must run Stock Valuation Extraction to gather information from the item transaction files.

Purging Stock Valuation Records

From the Stock Valuation Updates menu (G3930), choose Valuation File Purge.

After Stock Valuation is complete for the selected periods, use Valuation File Purge to delete last year's records from the following tables:

- Valuation Period (F39061)
- Period Additional Quantity (F39063)
- Valuation Document Summary (F39064)

You can run this purge in final or proof mode. You can also print a report and write the purged data to historical files.

Appendices

Valuation Calculations

This appendix contains important information that is used for FIFO and LIFO calculations. This appendix includes the following information:

- Formulas and examples used for calculating FIFO
- Formulas and examples used for calculating LIFO
- Terminology used in LIFO calculations
- Formulas used in LIFO calculations

First In/First Out (FIFO) Calculations

The FIFO costing method assumes that the first inventory items purchased are the first ones sold. This method results in an ending inventory balance based on the costs associated with the most recent purchases. The allocated ending inventory and value become the opening inventory for the next period.

The following example demonstrates the FIFO principle, using the first five and last months of a fiscal year. For simplicity, this example assumes that the company made no transactions from June through November.

The example does not include the other factors that can affect the cost of the inventory, such as freight, exchange rate differences, and loans and borrows.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
January Opening Inventory		500	1.00	500.00		
Fuel A	01/05	500	2.00	1000.00	100	200.00
Fuel B	01/09	300	2.50	750.00	300	750.00
Fuel C	01/25	600	1.75	1050.00	600	1050.00
January Purchases		1400	2.00	2800.00		
January Sales		900			**Period Ending**	
Total Closing Inventory		1000	2.00	2000.00	**January 31**	
Cost of Goods Sold				1300.00		

The opening inventory quantity and price for Pool 1 for the month of January is the closing inventory from December of the previous year. In January, the company purchased a total of 1400 units for 2800.00. The company sold 900 units.

The system uses the following formula to calculate the closing inventory units:

Opening inventory + purchases - sales = closing inventory

In determining the closing inventory value using FIFO, the system allocates the closing inventory quantity to the most recently purchased quantities. Because this costing method specifies that inventory that is purchased first is sold first, the system calculates the closing inventory as follows:

Purchases	Price	Date	Closing Allocations	Closing Value
500	1.00	Opening		
500	2.00	01/05	100	200.00
300	2.50	01/09	300	750.00
600	1.75	01/25	600	1050.00
Total Closing Inventory Value			2000.00	

After the closing inventory is properly allocated, the system calculates the closing inventory value by multiplying the closing allocations by the respective purchase price, and then summing:

Closing inventory value = sum (closing allocations * purchase price)

Closing inventory value (January) = (600 * 1.75) + (300 * 2.50) + (100 * 2.00) = 2000.00

After the system determines the closing inventory, it then calculates the cost of the goods sold (COGS) by using the following formula:

Opening inventory value + purchases - closing inventory value = COGS

The system calculates the cost of the closing inventory per unit as follows:

Closing inventory value / closing inventory quantity = closing inventory value per unit

The January closing inventory becomes the February opening inventory. Figures for February through May follow the same calculation formulas as illustrated in the following tables:

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
February Opening Inventory		1000	2.00	2000.00	500	1000.00
Fuel A	02/08	700	2.50	1750.00	700	1750.00
Fuel B	02/17	800	1.75	1400.00	800	1400.00
February Purchases		1500	2.10	3150.00		
February Sales		500			**Period Ending**	
Total Closing Inventory		2000	2.08	1450.00	**February 28**	
Cost of Goods Sold				1000.00		

The closing inventory quantity allocation is as follows:

Purchases	Unit Cost	Date	Closing Allocations	Closing Value
1000	2.00	Opening	500	1000.00
700	2.50	02/08	700	1750.00
800	1.75	02/17	800	1400.00
Total Closing Inventory Value			4150.00	

March

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
March Opening Inventory		2000	2.08	4150.00		
Fuel A	03/10	200	1.50	300.00		
Fuel B	03/20	500	1.25	625.00	200	250.00
March Purchases		700	1.32	925.00		
March Sales		2500			**Period Ending**	
Total Closing Inventory		200	1.25	250.00	**March 31**	
Cost of Goods Sold				4825.00		

April

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
April Opening Inventory		200	1.25	2.50.00		
Fuel A	04/11	1200	1.35	1620.00	400	540.00
Fuel B	04/15	1100	1.50	1650.00	1100	1650.00
April Purchases		2300	1.42	3270.00		
April Sales		1000			**Period Ending**	
Total Closing Inventory		1500	1.46	2190.00	**April 30**	
Cost of Goods Sold				1330.00		

May

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
May Opening Inventory		1500	1.46	2190.00	1000	1460.00
Fuel A	05/13	600	1.63	975.00	600	975.00
Fuel B	05/24	500	1.35	675.00	500	675.00
May Purchases		1100	1.50	1650.00		
May Sales		500			**Period Ending**	
Total Closing Inventory		2100	1.48	3110.00	**May 31**	
Cost of Goods Sold				730.00		

December

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
December Opening Inventory		2100	1.48	3110.00	100	148.10
Fuel A	12/15	1200	1.35	1620.00	1200	1620.00
Fuel B	12/16	1500	1.50	2250.00	1500	2250.00
December Purchases		2700	1.43	3870.00		
December Sales		2000			**Period Ending**	
Total Closing Inventory		2800	1.44	4018.10		

Cost of Goods Sold				2961.90	**December 31**

Closing inventory:

Purchases	Price	Date	Closing Allocations	Closing Value
2100	1.48	Opening	100	148.10
1200	1.35	12/15	1200	1620.00
1500	1.50	12/16	1500	2250.00
Total Closing Inventory Value			4018.10	

The system calculates the following end-of-year values as follows:

Closing inventory value = (100 * 1.48) + (1200 * 1.35) + (1500 * 1.50) = 4018.10

Closing inventory cost per unit = 4018.10 / 2,800 = 1.44

The system calculates the COGS for December as follows:

COGS (December) = 3110.00 + 3870.00 - 4018.10 = 2961.90

Using these calculations, the opening inventory values for January are:

Inventory Quantity	2800 units
Unit Price	1.44
Inventory Value	4018.10

Last In/First Out (LIFO) Calculations

The LIFO costing method assumes that the last inventory items purchased are the first ones sold. This costing method determines the stock value and cost of goods sold based on the sale of the newest stock first. That is, the inventory that has been in stock the shortest amount of time is sold first. This method results in an ending inventory balance based on the costs associated with the oldest inventory. This method also requires that the system records historical costs for all years with stock remaining for that year.

The LIFO costing method values inventory by using the following unique processes:

- The LIFO method values inventory based on the activity that occurred on a year-to-date basis instead of a rolling inventory balance that is carried forward. To facilitate this type of processing, when the system applies this method for each period, it reverses the prior period's entries, which makes the new entries the current year-to-date values. This reversal is done for all periods except for the last period of the year.

The reversals for every period also keep the opening inventory constant until the end of the year. Thus, because the prior period's entries are reversed, the opening inventory is always the same regardless of what transpired in the prior period.

- The system stores the total purchase quantity, amount, and average price for each period of the year. The stored information allows the system to allocate the closing inventory, starting with the current period and allocating to prior periods.

  The LIFO example presented later in this appendix further illustrates this process.

- Because the LIFO method's purpose is to reflect the inventory value accumulation or depletion at the end of the year, the entries that are logged at the end of each period need to be adjusted to remove the effect of any accumulation or depletion. This adjustment is called a "LIFO adjustment." You must do a LIFO adjustment for all periods except the last period of the year. The system records the LIFO adjustment against the income statement and balance sheet accounts. See the Accumulation/Depletion matrix for instructions on when to edit or debit the appropriate accounts.
- You might not always know the price of an item when you receive it. Because a quantity without a price can cause a large fluctuation in the average price, you can enter and use an override price for each period.

  In the LIFO calculation example that follows, the tables for May and December illustrate price overrides.

Terminology and Formulas Used in LIFO Calculations

The following tables show the terminology and formulas used in LIFO calculations:

Abbreviation	Definition
ABS	Absolute value of
Accum	Accumulation
COGS	Cost of goods sold
CPUR	Current period average cost
DEPLT	Depletion
FPUR	First average cost (average allocated cost)
INVL	Inventory value
INVQ	Inventory quantity
PTD	Period to date
PURQ	Purchase quantity
PURV	Purchase value

QTY	Quantity
SALQ	Sales quantity
YTD	Year-to-date

Term	Formula
Opening inventory quantity	Sum of quantity accumulations of all existing layers
Opening inventory value	Sum of value accumulations of all existing layers
Period purchase price average	((Sum of PURV) / (Sum of PURQ))
Accumulation/Depletion	YTD PURQ - YTD SALQ
Total closing INVQ	Opening INVQ + YTD PURQ - YTD SALQ
Closing INVQ allocations	Accumulations: QTY = (accumulation - Jan PURQ) If QTY > 0, then QTY - (QTY - Feb PURQ) Depletions: QTY = (depletion - prior Year1) If QTY > 0, then QTY = (QTY - Prior Year2)
Closing inventory value	Opening INVL + total allocation value
Cost of goods sold	Opening INVL + total YTD PURV - closing inventory value
Material balance	Opening INVQ + total YTD PURQ - closing INVQ - YTD SALQ
Average accumulation price	Total allocation value / total allocation quantity
Accumulation or depletion adjusted price	Average accumulation price - PTD average price
Accumulation or depletion amount	Accumulation or depletion price * ABS (accumulation or depletion)

Accumulation Depletion Matrix for Credit or Debit

Accumulation	Balance Sheet • If FPUR < CPUR, then debit • If FPUR > CPUR, then credit Income Statement • If FPUR < CPUR, then credit • If FPUR > CPUR, then debit
Depletion	Balance Sheet • If FPUR < CPUR, then credit • If FPUR > CPUR, then debit Income Statement • If FPUR < CPUR, then debit • If FPUR > CPUR, then credit

The following example demonstrates the LIFO principle using the first five months and the last month of a fiscal year. For simplicity, the example assumes that the company made no transactions from June through November.

The example reflects only the effect of the purchase price on the cost of inventory. It does not show other factors that can affect the cost of the inventory, such as freight, exchange rate differences, loans, and borrows.

The example presents three layers of accumulation prior to the current year (2000). The opening balance for the year is the sum of the accumulations for the prior layers.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00		
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00	500	1000.00
Fuel A	01/05	500	2.00	1000.00		
Fuel B	01/09	300	2.50	750.00		
Fuel C	01/25	600	1.75	1050.00		
January Sales		900				
Accumulation or Depletion		500	2.00	1000.00		

Period Ending

January 31, 2000

Total Closing Inventory	147,500	171,800.00
Cost of Goods Sold		1,800.00
Material Balance	0	
LIFO Accumulation/Depletion Cost		0.00

General Ledger Entries

Accumulation

New Entries:	
Inventory (Balance Sheet)	171,800.00
Closing Inventory (Income Statement)	<171,800.00>
LIFO Accumulation or Depletion Adjustment (Balance Sheet)	0.00
LIFO Accumulation or Depletion Adjustment (Income Statement)	0.00

Closing Inventory Balance

1987	70,000	1.00	70,000.00
1992	35,000	1.50	52,500.00
1998	42,000	1.15	48,300.00

2000	500	2.00	1000.00	
Total	147,500		171,800.00	

During January, the company purchased a total of 1400 units for 2,800.00. It sold 900 units. The system uses the following formula to determine the closing inventory for a specified period:

Opening inventory + purchases - sales = closing inventory units

The system uses the following formula to calculate the accumulation or depletion from the beginning of the year:

Closing inventory - opening inventory = accumulation or depletion

The LIFO method requires that the closing inventory quantity be allocated to the correct purchase quantities and dates. The system allocates the closing inventory as follows:

Layers	Purchases	Unit Cost	Closing Allocations	Closing Value
1987	70,000	1.00	70,000	70,000.00
1992	35,000	1.50	35,000	52,500.00
1998	42,000	1.15	42,000	48,300.00
January 2000	1400	2.00	500	1000.00
Total Closing Inventory Value				171,800.00

After the closing inventory is properly allocated, the system multiplies the closing allocations by the respective purchase price and adds them together to calculate the closing inventory value as follows:

(Closing allocation * unit cost) + closing value = closing inventory value

After the closing inventory value has been determined, the system calculates the Cost Of Goods Sold using the following formula:

Opening inventory value + purchases - closing inventory value = Cost of Goods Sold

The system calculates the average cost using the following formula:

Total purchase amount / total purchase quantity = average cost

The system uses the following formula to calculate the LIFO adjustment:

Average price of the accumulation or depletion - current period's average price = LIFO adjustment

(1000.00 / 500) - (2800.00 / 1400) = (0.00)

Therefore, the LIFO adjustment is the accumulation or depletion (500) * the accumulation or depletion cost (0.00).

In February, you reverse the January period ending entries before you make the February entries.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00		
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00	1400	2800.00
Feb. Purchase Average		1500	2.10	3150.00	100	210.00
Fuel A	02/08	700	2.50	1750.00		
Fuel B	02/17	800	1.75	1400.00		
January Sales		900			**Period Ending**	
February Sales		500			**February 28, 2000**	
Accumulation or Depletion		1500	2.01	3010.00		
Total Closing Inventory		148,500		173,810.00		
Cost of Goods				2,940.00		
Material Balance		0			**Accumulation**	
LIFO Accumulation/Depletion Cost			0.09			
General Ledger Entries						
Prior Period Reversal:						
Inventory (Balance Sheet)				<171,800.00>		
Closing Inventory (Income Statement)				171,800.00		
LIFO Accumulation or Depletion Adjustment (Balance Sheet)				0.00		
LIFO Accumulation or Depletion Adjustment (Income Statement)				0.00		
New Entries:						

Inventory (Balance Sheet)			173,810.00
Closing Inventory (Income Statement)			<173,810.00>
LIFO Accumulation or Depletion Adjustment (Balance Sheet)			140.00
LIFO Accumulation or Depletion Adjustment (Income Statement)			<140.00>
Closing Inventory Balance			
1985	70,000	1.00	70,000.00
1990	35,000	1.50	52,500.00
1996	42,000	1.15	48,300.00
1998	1500	2.01	3010.00
Total	148,500		173,810.00

For the following table, the system uses the same formulas and makes the calculations based on the February transactions.

During February, the company purchased a total of 1500 units for 3150.00. The company sold 500 units. The system uses the following formula to determine the closing inventory:

Opening inventory + purchases - sales = closing inventory

The accumulation or depletion from the beginning of the year is as follows:

Closing inventory (148,500) - opening inventory (147,000) = 1500

The system allocates the closing inventory as follows:

Layers	Purchases	Unit Cost	Closing Allocations	Closing Value
1987	70,000	1.00	70,000	70,000.00
1992	35,000	1.50	35,000	52,500.00
1998	42,000	1.15	42,000	48,300.00
Jan. 2000	1400	2.00	1400	2800.00
Feb. 2000	1500	2.10	100	210.00
Total Closing Inventory				173,810.00

The system calculates the February Cost of Goods Sold:

Opening inventory value + purchases - closing inventory value = Cost of Goods Sold

The system calculates the February average cost as follows:

Total purchase amount / purchase quantity = average cost

The system calculates the LIFO adjustment as follows:

Average cost of the accumulation or depletion - current period's average cost = LIFO adjustment

Accumulation or Depletion * accumulation or depletion average cost = LIFO accumulation or depletion adjustment

See the Accumulation or Depletion matrix for information about how to credit or debit accumulation or depletion to make the income statement and balance sheet entries for the LIFO adjustment.

In March, you reverse the February period ending entries before you make the March entries.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00	<300>	<345.00>
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00		
Feb. Purchase Average		1500	2.10	3150.00	**Period Ending**	
March Purchase Average		700	1.32	925.00	**March 31, 2000**	
Fuel B	03/10	200	1.50	300.00		
Fuel C	03/20	500	1.25	625.00		
January Sales		900				
February Sales		500				
March Sales		2500				
Accumulation or Depletion		<300>	1.15	<345.00>		
Total Closing Inventory		146,700		170,455.00		
Cost of Goods Sold				7,220.00		

Material Balance	0			**Depletion**
LIFO Accumulation/Depletion Cost		<0.17>		
General Ledger Entries				
Prior Period Reversal:				
Inventory (Balance Sheet)			<173,810.00>	
Closing Inventory (Income Statement)			173,810.00	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)			<140.00>	
LIFO Accumulation or Depletion Adjustment (Income Statement)			140.00	
New Entries:				
Inventory (Balance Sheet)			170,455.00	
Closing Inventory (Income Statement)			<170,455.00>	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)			<51.43>	
LIFO Accumulation or Depletion Adjustment (Income Statement)			51.43	
Closing Inventory Balance				
1985	70,000	1.00	70,000.00	
1990	35,000	1.50	52,500.00	
1996	41,700	1.15	47,955.00	
Total	146,700		170,455.00	

The system uses the same formulas and makes the calculations based on the March transactions.

During March, the company purchased a total of 700 units for 925.00. The company sold 2500 units. The system uses the following formula to determine the closing inventory:

Opening inventory + purchases - sales = closing inventory

The accumulation or depletion from the beginning of the year is:

Closing inventory (146,700) - opening inventory (147,000) = <300>

The system allocates the closing inventory as follows:

Layers	Purchases	Unit Cost	Closing Allocations	Closing Value
1987	70,000	1.00	70,000	70,000.00
1992	35,000	1.50	35,000	52,500.00
1998	42,000	1.15	42,000 - 300	47,955.00
Jan 2000	1400	2.00		
Feb 2000	1500	2.10		
March 2000	700	1.32		
Total Closing Inventory Value				170,455.00

The system calculates the March Cost of Goods Sold as follows:

Opening inventory value + purchases - closing inventory value = Cost of Goods Sold

The system calculates the March average cost as follows:

Total purchase amount / total purchase quantity = average cost

The system calculates the LIFO adjustment as follows:

Average cost of the accumulation or depletion - current period's average cost = accumulation or depletion cost

Accumulation or depletion * accumulation/depletion cost = LIFO accumulation or depletion adjustment

See the Accumulation or Depletion matrix for information about how to credit or debit accumulation or depletion to make the income statement and balance sheet entries for the LIFO adjustment.

The depletion in March reduced the inventory of a prior layer. April's opening balance will be the same as all of the other months, due to the fact that the prior period entries are reversed.

The remaining months use the same calculations. In December, the last period in the year, no LIFO adjustment entries are made to the accounts.

Two different tables are presented for December:

- The first December example has a closing inventory as an accumulation. This creates a LIFO layer for 2000.
- The second December example has a depletion. The depletion is removed from the prior layer's quantity (1998). No new layer is created.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00		
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00	1000	2000.00
Feb. Purchase Average		1500	2.10	3150.00		
March Purchase Average		700	1.32	925.00		
April Purchase Average		2300	1.42	3270.00		
Fuel C	04/11	1200	1.35	1620.00		
Fuel A	04/15	1100	1.50	1650.00		
January Sales		900				
February Sales		500				
March Sales		2500				
April Sales		1000				
Accumulation or Depletion		1000	2.00	2000.00		

Period Ending

April 30, 2000

Total Closing Inventory	148,000	172,800.00	
Cost of Goods Sold		8,145.00	
Material Balance	0		
LIFO Accumulation/Depletion Cost	0.58		
General Ledger Entries			
Prior Period Reversal:			
Inventory (Balance Sheet)		<170,455.00>	**Accumulation**
Closing Inventory (Income Statement)		170,455.00	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)		51.43	

LIFO Accumulation or Depletion Adjustment (Income Statement) <51.43>				
New Entries:				
Inventory (Balance Sheet) 172,800.00				
Closing Inventory (Income Statement) <172,800.00>				
LIFO Accumulation or Depletion Adjustment (Balance Sheet) <578.26>				
LIFO Accumulation or Depletion Adjustment (Income Statement) 578.26				
Closing Inventory Balance				
1985	70,000	1.00	70,000.00	
1990	35,000	1.50	52,500.00	
1996	42,000	1.15	48,300.00	
1998	1000	2.00	2000.00	
Total	148,000		172,800.00	

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00		
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00	1000	2000.00
Feb. Purchase Average		1500	2.10	3150.00		
March Purchase Average		700	1.32	925.00		
April Purchase Average		2300	1.42	3270.00		
May Purchase Average		500	3.30	1650.00		
Fuel C	05/13	*****	*****	975.00		
Fuel A	05/25	500	1.35	675.00		

January Sales		900			**Period Ending** **May 31, 2000**
February Sales		500			
March Sales		2500			
April Sales		1000			
May Sales		500			
Accumulation or Depletion		1000	2.00	2000.00	
Total Closing Inventory		148,000		172,800.00	
Cost of Goods Sold				9,795.00	
Material Balance		0			
LIFO Accumulation/Depletion Cost			<1.30>		
General Ledger Entries					
Prior Period Reversal:					
Inventory (Balance Sheet)				<172,800.00>	
Closing Inventory (Income Statement)				172,800.00	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)				578.26	**Accumulation**
LIFO Accumulation or Depletion Adjustment (Income Statement				<578.26>	
New Entries:					
Inventory (Balance Sheet)				172,800.00	
Closing Inventory (Income Statement)				<172,800.00>	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)				1300.00	
LIFO Accumulation or Depletion Adjustment (Income Statement)				<1300.00>	
Closing Inventory Balance					
1985		70,000	1.00	70,000.00	
1990		35,000	1.50	52,500.00	
1996		42,000	1.15	48,300.00	

1998	1000	2.00	2000.00	
Total	148,000		172,800.00	

*****Transactions were entered with extended price and did not include quantity and unit price.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00		
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00	1400	2800.00
Feb. Purchase Average		1500	2.10	3150.00	1500	3150.00
March Purchase Average		700	1.32	925.00	700	925.00
April Purchase Average		2300	1.42	3270.00	200	284.35
May Purchase Average #		1100	1.50	1650.00		
Dec. Purchase Average		2700	1.14	3075.00		
Fuel C	12/15	1200	1.00	1200.00		
Fuel B	12/16	1500	1.25	1875.00		
January Sales		900				
February Sales		500				
March Sales		2500				

April Sales		1000			**Period Ending**
May Sales		500			**December 31, 2000**
December Sales		500			
Accumulation or Depletion		3800	1.88	7159.35	
Total Closing Inventory		150,800		177,959.35	
Cost of Goods Sold				7,710.65	
Material Balance		0			
General Ledger Entries					
Prior Period Reversal:					
Inventory (Balance Sheet)				<172,800.00>	
Closing Inventory (Income Statement)				172,800.00	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)				<1300.00>	
LIFO Accumulation or Depletion Adjustment (Income Statement)				1300.00	
New Entries:					
Inventory (Balance Sheet)				177,959.35	
Closing Inventory (Income Statement)				<177,959.35>	
Closing Inventory Balance					
1985		70,000	1.00	70,000.00	**Accumulation**
1990		35,000	1.50	52,500.00	
1996		42,000	1.15	48,300.00	
1998		3800	1.88	7159.35	

Total	150,800		177,959.35	

Purchase average overridden with corrected quantity and unit price for previous month.

Product	Date	Quantity	Unit Cost	Value	Allocation	Value
	1987	70,000	1.00	70,000.00		
	1992	35,000	1.50	52,500.00		
	1998	42,000	1.15	48,300.00	<700>	<805.00>
Opening Inventory	2000	147,000		170,800.00		
Jan. Purchase Average		1400	2.00	2800.00		
Feb. Purchase Average		1500	2.10	3150.00		
March Purchase Average		700	1.32	925.00		
April Purchase Average		2300	1.42	3270.00		
May Purchase Average #		1100	1.50	1650.00		
Dec. Purchase Average		2700	1.14	3075.00		
Fuel C	12/15	1200	1.00	1200.00		

Fuel B	12/16	1500	1.25	1875.00	**Period Ending**
January Sales		900			**December 31, 2000**
February Sales		500			
March Sales		2500			
April Sales		1000			
May Sales		500			
December Sales		5000			
Accumulation or Depletion		<700>	1.15	<805.00>	
Total Closing Inventory		146,300		169,995.00	
Cost of Goods Sold				15,675.00	
Material Balance		0			
General Ledger Entries					
Prior Period Reversal:					
Inventory (Balance Sheet)				<172,800.00>	
Closing Inventory (Income Statement)				172,800.00	
LIFO Accumulation or Depletion Adjustment (Balance Sheet)				<1300.00>	
LIFO Accumulation or Depletion Adjustment (Income Statement)				1300.00	**Depletion**
New Entries:					
Inventory (Balance Sheet)				169,995.00	
Closing Inventory (Income Statement)				<169,995.00>	
Closing Inventory Balance					
1985		70,000	1.00	70,000.00	
1990		35,000	1.50	52,500.00	
1996		41,300	1.15	47,495.00	

Total	146,300		169,995.00	

Purchase average overridden with corrected quantity and unit price for previous month.

Weighted Average Cost Calculations

The Weighted Average Cost method calculates the inventory value based on a cost that is a weighted average of the purchases for a given period. The given period can also be a year-to-date range that includes all purchases from the beginning of the year.

The following example only reflects the effect of the purchase price on the cost of inventory. It does not show the other factors that can affect the cost of the inventory, such as freight, exchange rate differences, loans, and borrows.

Product	**Date**	**Quantity**	**Unit Cost**	**Value**
January Opening Inventory		500	1.20	600.00
Fuel A	01/05	500	2.00	1000.00
Fuel B	01/09	300	2.50	750.00
Fuel C	01/25	600	1.75	1050.00
January Purchases		1400	2.00	2800.00
January Sales		900		
Total Closing Inventory		1000	1.79	1789.47
Cost of Goods Sold			1610.53	

The opening inventory quantity, cost, and value are the closing figures from December of the previous year. In the month of January, the company purchased a total of 1400 units for 2800.00 USD. The company sold 900 units.

The system uses the following formula to calculate the closing inventory for January:

Opening inventory + purchases - sales = total closing inventory

The system calculates the closing inventory value using the following formula:

Closing inventory value = (closing inventory units * weighted average cost)

The system calculates the weighted average cost with the following formula:

> ((opening inventory value + total purchases value) / (opening inventory units + total purchase units)) = Weighted average cost
>
> ((600.00 + 2800.00) / (500 + 1400)) = 1.79
>
> Because the weighted average cost for January is 1.79, the closing inventory value is:
>
> 1000 * 1.79 = 1789.47

After the system determines the closing inventory value, it then calculates the Cost of Goods Sold using the following formula:

> Opening inventory value + purchases - closing inventory value = Cost of Goods Sold

This closing inventory value, along with the weighted average price of 1.79, will be the opening value for the next period, February.

Product	Date	Quantity	Unit Cost	Value
February Opening Inventory		1000	1.79	1789.47
Fuel A	02/08	700	2.50	1750.00
Fuel B	02/18	800	1.75	1400.00
February Purchases		1500	2.10	3150.00
February Sales		500		
Total Closing Inventory		2000	1.98	3951.58
Cost of Goods Sold			987.89	

The system performs the same calculations for the remaining months of the fiscal year.

The month of December follows the same principles, and the closing inventory becomes the opening inventory for the next year.