Costing

SYSPRO 8

Reference Guide

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SYSPRO

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Exploring

Where it fits in?

Costing determines the unit cost and total value of stock items in your inventory.

Distribution costing is affected by transactions that are done in the ***Inventory Control*** module. Inventory movements (recorded within the **Inventory Movements** program), such as receipts, cost changes and cost modifications cause the unit cost and total value of stock items to change. The new unit cost and total value are calculated according to the costing method specified at the **COSTING METHOD** setup option (*Setup Options* > *Configuration* > *Distribution* > *Inventory*).

Costs are calculated to 5 decimal places.

Features

SYSPRO includes a number of cost-related features:

- You can select from a number of costing methods.
- Costing methods can be defined by company or by warehouse.
- Actual costing can be applied to lot traceable and batch serialized items.
- Rather than change the cost of inventory items individually, you can change a group of them at one time using the **Cost Change** function of the **Inventory Price-Cost Percentage Change** program. This function mainly applies when the **COSTING METHOD** is defined as **Standard**.
- If the **COSTING METHOD** setup option is defined as **Average**, **Last Cost**, **FIFO**, or **LIFO**, you can flag items on the inventory journal report that have a cost change greater than a percentage amount. The percentage amount can be defined at the **ACCEPTABLE COST VARIANCE PERCENTAGE** setup option.
- Negative quantities can be included in the valuation of your inventory if enabling the **NEGATIVE QUANTITY INCLUDED IN VALUATION** setup option.
- You can cost inventory based on a unit of measure that differs from that in which you measure the quantities.
- You can apply a cost multiplier to the cost of items received to allow for additional costs incurred in shipping the item from your supplier or factory.
- You can use a landed cost tracking system to apply the additional costs incurred when shipping an item from your supplier to your warehouse.
- You can apply overheads to an item upon receipt using the Activity Based Costing system.

Navigation

The programs related to this feature are accessed from the **Program List** of the SYSPRO menu:

- *Program List > Inventory*

Terminology

Cost

This indicates the current unit cost of a stocked item (calculated according to the costing method assigned to the warehouse).

Starting

Prerequisites

To use this feature, the following module(s) must be installed according to the terms of your software license agreement:

- Inventory Control

To use this feature, the following setup option(s) must be enabled/defined:

Inventory Configuration

Setup Options > *Configuration* > *Distribution* > *Inventory*

- Costing method
- Actual costing
- Acceptable cost percentage variance
- FIFO valuation
- Multiple bins

Inventory Preferences

Setup Options > *Preferences* > *Distribution* > *Inventory*

- Negative quantity included in valuation
- Do not calculate average cost
- Actual costing

Inventory History

Setup Options > *History* > *Distribution* > *Inventory*

- FIFO buckets
- Days to retain zero quantity buckets

Deploying

1. Use the **Setup Options** program to define your valuation method, costing method, allow stock on hand to go negative, set up an acceptable cost variance percentage, update last cost if standard costing is in use, allow the inventory cost to be held in a unit of measure other than stocked and to include non-merchandise costs in the last cost.
2. Setting up valuations:
   a. Enable the **FIFO VALUATION** setup option if you value your inventory on a *first in first out* basis or you want to use Actual Costing.

   > You can maintain a FIFO valuation of your on hand inventory while using another costing method to cost your inventory transactions. The reason for this is that the FIFO costs are determined by a series of buckets, whereas the other costing methods (LIFO excluded) are maintained within one field on the item's inventory warehouse record.

   b. Enable the **MULTIPLE BINS** setup option if your company uses multiple bins.

   > Problems could arise if the **MULTIPLE BINS** setup option is changed after the system is up-and-running, particularly if sales orders or lot numbers already exist on file.
   >
   > If you activate the **MULTIPLE BINS** setup option at any time after the system has been running without it, you must run the **Balance** function of the **Inventory Period End** program to create a new bin with the quantity on hand stored in it.

Change of Costing Method

The following points need to be considered before you change the costing method in one or more warehouses:

- Ensure that your GL Integration is correctly defined. This should already be the case if you are currently running SYSPRO successfully using the existing costing method (General Ledger Integration).
- Make a note of the exact date and time on which the change is made. Your auditors will probably require this information.
- On changing the costing method, nothing is posted.
- The way in which the unit cost of items will be handled after the change is affected.
- You may want to post all outstanding transactions for the warehouse before making the change. This is not necessary from a systems point of view, but may be necessary from an accounting / auditing point of view.

- Changes to the unit cost can only be made using the **Cost Changes** function of the **Inventory Movements** program or by using the **Transfer BOM Costs to Warehouse Costs** program.

Security

You can secure this feature by implementing a range of controls against the affected programs. Although not all these controls are applicable to each feature, they include the following:

- You restrict operator access to *activities* within a program using the **Operator Maintenance** program.
- You can restrict operator access to the *fields* within a program (configured using the **Operator Maintenance** program).
- You can restrict operator access to *functions* within a program using passwords (configured using the **Password Definition** program). When defined, the password must be entered before you can access the function.
- You can restrict access to the eSignature *transactions* within a program at operator, group, role or company level (configured using the **Electronic Signature Configuration Setup** program). Electronic Signatures provide security access, transaction logging and event triggering that gives you greater control over your system changes.
- You can restrict operator access to *programs* by assigning them to groups and applying access control against the group (configured using the **Operator Groups** program).
- You can restrict operator access to *programs* by assigning them to roles and applying access control against the role (configured using the **Role Management** program).

Restrictions and Limits

- The following restrictions apply when the **ACTUAL COSTING** setup option is enabled (*Setup Options* > *Preferences* > *Distribution* > *Inventory*):
  - To use Actual costing, the **FIFO VALUATION** must be enabled, which has the following implications:
    - Stock on hand cannot be allowed to go negative in any warehouse, except for items defined as floorstock and stocked in the floorstock warehouse.
    - Inventory costs cannot be held in a unit of measure other than stocked.
  - If you want to enable actual costing for batch serialized items, then you must record batch serial numbers at the time of receipt. The option to capture serials at the time of shipping is disabled.
  - Actual costing cannot be applied to manually serialized items.

- Actual costing cannot be applied to individual lot traceable or batch serialized items. It is applied to all lot traceable items and/or all batch serialized items in Inventory.
- To apply actual costing for Lot traceable items, your lot numbering method cannot be automatic.

Using

Costing methods in Inventory Movements

This section explains Inventory Movements according to each costing method.

The **Inventory Movements** program forms the core of the ***Inventory Control*** system. You use it to change costs, make adjustments to stock, record receipts, cost modifications, backflushing and warehouse transfers.

In some of the functions you can enable the system to select the applicable FIFO/LIFO bins, or you can manually select a single FIFO/LIFO bin to adjust. When this choice is available, the **Adjust specific FIFO/LIFO bin** prompt is displayed in the function.

Average Cost

Average Costing averages out the unit cost of an item that is received into stock. This is calculated as the average between the new cost of the item and the existing cost of the item held on file.

- The average cost is not recalculated when you post to a previous period. This could cause an imbalance between the sub-module and its corresponding control account(s) in the General Ledger. The **Posting to a Previous Period** section below includes an example.
- Your selection at the **DO NOT CALCULATE AVERAGE COST** setup option affects the average cost when processing negative receipts using the **Inventory Movements**, **Purchase Order Receipts** or **Job Receipts** programs.

Receipts

- The Receipt cost is used to calculate the value of stock being received.
- If multiple bins are used, you can assign multiple bin locations to a stock code. A maximum of 50 locations can be entered for each transaction.
- A receipt results in a cost change for the stock item, except if a negative on hand existed before or after the receipt, in which case the receipt cost replaces the old cost.
- Positive receipt:
  - The unit cost of an item is recalculated each time you receive the item into stock.
  - The total cost of the item in the warehouse is added to the total cost of the quantity of the item received.
  - The new total cost of the inventory is divided by the new total quantity on hand.

- Negative receipt:
  - This decreases the quantity on hand and is normally used to reverse a previous receipt transaction.
  - If you are processing a negative receipt, you can enter only one bin location per transaction.

    New cost formula for receipts:

    ((Quantity on hand x Unit cost) + (Entered quantity x New cost)) / New Quantity on hand

    > **FOR EXAMPLE:**
    >
    > Assume you have 100 items on hand with an average per unit cost of 10.00. Assume you received 50 items at 9.00 per unit. You use the receipt function to receive the new items into stock. The calculation and result would be as follows:
    >
    > ((100 x 10) + (50 x 90)) / 150 = 9.67 per unit

Adjustments

- An Adjustment is done when a batch of stock was receipted previously with the wrong quantity, which means that the quantity and price of that batch needs to be adjusted to correct the mistake.
- A positive adjustment increases the quantity of an item on hand, while a negative adjustment decreases the quantity of the item on hand. This function does not affect the unit cost of the item.
- New cost for adjustments:

  (((QOH - ENT) x Unit cost) + (ENT x New cost)) / QOH

  The quantity on hand (QOH) less the entered quantity (ENT) is multiplied by the current inventory unit cost (UNIT COST). This cost is added to the result of multiplying the entered quantity by the unit cost that the items should originally have been recorded at. You now have the correct total cost of the item in inventory. The last step is to divide the total cost by the quantity on hand to calculate the new unit cost of the item.

  > **FOR EXAMPLE:**
  >
  > For example: assume that you have 100 items on hand with an average per unit cost of 10.00. Assume that in the past you received 50 items at 9.00 per unit when the actual cost was 8.00 per unit. You use the adjustment function to record the correction. The calculation and result would be as follows:
  >
  > (((100 -50) x 10) + (50 x 8)) / 100 = 9

Cost Changes

- The cost change function replaces the existing unit cost of the item with the new unit cost.
- You enter a new cost based on the unit cost or total cost of stock on hand.
- The system defaults the New cost field to the existing average cost.
- You have the option to update the last cost with the new cost entered.
- Calculation:
  - A journal entry is generated that reflects the difference between the old and new unit cost prices.

    Quantity on hand x (New cost - Average cost)
  - The new Average Cost entered replaces the existing average cost if you selected to change the Unit cost.
  - If you selected **Cost basis - Total**, then the system divides the new total cost with the quantity on hand to calculate the new Average unit cost.

Cost Modifications

- This function is used to adjust a specific quantity of items (e.g. to change the cost of a batch of items received into stock where the cost was incorrectly entered).
- The unit cost always changes when a cost modification is done.
- This function is not available when Average costing is used in combination with FIFO Valuation.
- The quantity entered may not exceed the available quantity on hand.
- Calculation:
  - A journal entry is generated that reflects the difference between the old and new unit cost prices for a specific quantity.

    Quantity on hand x (New cost - Existing average cost) = Difference
  - The new Average Cost is then calculated with the formula:

    ((Quantity on hand x unit cost) + Difference) / Quantity on hand

    > **FOR EXAMPLE:**
    >
    > Assume that you have 50 items on hand with an average per unit cost of 15.00. Assume that in the past you received 10 items at 10.00 per unit when the actual cost was 12.00 per unit. You use the cost modification function to record the correction. The calculation and result would be as follows:
    >
    > Difference: 10 x (12 - 10) = 20
    >
    > ((50 x 15) + 20) / 50 = 15.40

Backflushing

- You use the Backflushing function to record the receipt of a manufactured item into stock without using a Work in Progress job.
- The system explodes the item into the different parts and labor costs and generates issues for each part item and labor cost.
- The receipt of the manufactured item results in a cost change if the total issues and labor results in a unit cost that differs from the existing unit cost.
- Select the **All** option to process all levels in the bill of material. If the system encounters sufficient quantity of an item to proceed with the manufacturing, it reduces stock by the required amount according to the bill of material structure.
- Calculation:
  - Issues are generated for each part item, as well as labor costs. Each issue multiplies the quantity required for the job with the existing average cost.
  - The sum of all issues, including additional costs specified, becomes the new unit price of the completed item.
  - A receipt is generated for the completed item, which you entered in the Backflushing function.

    ((Quantity on hand x Unit cost) + (Entered quantity x Issue total)) / New Quantity on hand

    The existing average cost (Unit cost) is multiplied by the Quantity on hand. The entered quantity of the completed item to be receipted is multiplied with the sum of all the issues and expense costs (Issue total). The sum of the two calculations is then divided by the new quantity on hand to determine the new average cost.

Warehouse Transfers

- The warehouse that transfers stock out generates issues, similar to the expense issue function.
- The receiving warehouse receipts the items into stock at the value of the issue.
- If there is a difference in the unit cost between the received items and the existing average cost in the receiving warehouse, a cost change is done, as in the case of a normal receipt.

Bin Transfers

- This function is only available if multiple bins are implemented.
- Stock items are transferred from one bin to another and this does not affect the average cost.

Physical Count

- A physical count can result in a cost change if a difference between the quantity counted and quantity on hand is found.
- The new average cost is calculated in the same way as an adjustment.

Expense Issues

- You use the **Expense Issues** function to record the issue of items from inventory for miscellaneous purposes. The quantity entered is subtracted from the quantity on hand and costed at the current inventory cost.
- Expense issues do not result in a change in the average cost.
- The quantity entered is multiplied by the average cost.

Posting to a Previous Period

The average cost of an item is not recalculated when you post a transaction into a previous period. This could cause an imbalance between the sub-ledger module in which the transaction was posted and its corresponding control account(s) in the General Ledger.

FOR EXAMPLE:

- Period 3/2010

  You have a quantity of 2 for a stock item, at an average cost of 100.

  At Month end, the total value in the General Ledger control account for Inventory and the Inventory Valuation is 200.00 (i.e. 2 x 100)

- Period 4/2010

  You purchase a quantity of 2 of this item at a cost of 127.

  The General Ledger control account for Inventory is debited with 254 (i.e. 2 x 127)

  The new average cost is calculated as: 200 + 254 = 454/ 4. The new average cost is therefore 113.50

  The total value of inventory is now 113.50 x 4 = 454, both in Inventory and in the General Ledger.

  In this period, you generate an invoice for a quantity of 2 into the previous period (3/2010).

  The invoice is generated at the cost of 100 x 2 = 200 (which was the cost in the prior period). Note that this would have been the cost if the invoice had been posted in period 3/2010, before you performed the month-end.

  The Inventory Valuation for the prior period is 200 - 200 = 0 for Period 3/2010.

  The Inventory control account in the General Ledger is credited with 200.00

- Your system is now, however, in period 4/2010 and the Average Cost is R113.50. The average cost is not recalculated after the sale.

  The current Inventory value is R113.50 x 2 = R227.00

  The General Ledger Inventory control account for the current period 4/2010, is R454 - R200 = R254, but as the cost was averaged when new stock was purchased, the current cost of the inventory is still R113.50 x 2 = R 227. This created a difference of R254 - R227 = R27.

Standard Cost

When you use standard costing the unit cost of an item is not affected by a receipt. The only way you can change the standard cost of an item is by using the cost change function, updating inventory costs after a cost implosion, or using the Inventory Cost function of the Price/cost percentage change program.

Receipts

- The system does not display this prompt in the Inventory Movements receipt function if you are using standard costing.
- If you are retaining the last cost you have to enter the cost of the items received at their unit cost.
- Positive receipt:
  - You are not prompted for the cost of the item received unless you have set the Update last cost if standard costing is in use on (Options) in the Inventory Setup. In this case, the receipt is only used to update the last cost amount and has no effect on the standard cost.
  - If you are receipting stock against a job and flagging the job as complete, and the Automatically clear WIP variances valued less than is not zero (WIP Setup), variances less than the value (positive or negative) entered in the installation option is automatically cleared and the value is posted to the general ledger code defined in the Ledger code for automatically cleared variance field (WIP Setup).
  - If the variance is a positive value, the debit entry is posted to the ledger code for automatically cleared variances and the credit entry is posted to the WIP ledger control account entered against the job header. If the variance is a negative value, the debit entry is posted to the WIP ledger control account entered against the job header and the credit entry is posted to the ledger code for automatically cleared variances.
- Negative receipt
  - This decreases the quantity on hand and is normally used to reverse a previous receipt transaction.

Adjustments

- A positive adjustment increases the quantity of an item on hand, while a negative adjustment decreases the quantity of the item on hand. This function does not affect the unit cost of the item.
- Calculation:

  Adjustment Quantity x Standard Cost

Cost Changes

- You enter a new cost based on the unit cost or total cost of stock on hand. The system defaults the New cost field to the existing standard cost.
- You have the option to update the last cost with the new cost entered. A journal is generated that reflects the difference between the old and new unit cost prices.
- Calculation:
  - A journal entry is generated that reflects the difference between the old and new unit cost prices.

    Quantity on Hand x (New Cost - Standard Cost).
  - The new Standard Cost replaces the old unit price.
- If you are using standard costing with FIFO valuation, and you apply the change to a FIFO bucket only, then you are not changing your actual cost against the warehouse, but the cost against the individual FIFO bucket. As it would therefore be incorrect to change the standard cost at this point, because the standard cost applies to all quantities, the cost journal does not reflect the change. The FIFO journal does, however, reflect the change.

Cost Modifications

This function is not available.

Backflushing

- You use the Backflushing function to record the receipt of a manufactured item into stock without using a Work in Progress job.
- The system explodes the item into the different parts and labor costs and generates issues for each part item and labor cost.
- The receipt of the manufactured item can result in a cost variance.
- Calculation:
  - Issues are generated for each part item, as well as labor costs. Materials issued are valued at the standard cost of each item.
  - A receipt is generated for the completed item, which you entered in the Backflushing function. The value of the item is calculated at the standard cost for the manufactured item.
  - The sum of all issues, including additional costs specified, is compared to the standard cost of the manufactured item. If there is a difference in the price, a variance is posted to the WIP variance account.

Warehouse Transfers

- The warehouse that transfers stock out generates issues, similar to the expense issue function.
- The receiving warehouse receipts the items into stock at the value of the issue.
- If there is a difference in the unit cost between the received items and the standard cost in the receiving warehouse, a variance is generated and written to the Warehouse Variance Account of the receiving warehouse.

Bin Transfers

- This function is only available if multiple bins are implemented.
- Stock items are transferred from one bin to another and this does not affect the standard cost.

Physical Count

- This has no effect on the standard cost.
- Any difference between the counted stock and stock on hand is valued at the existing standard cost.

Expense Issues

- You use the **Expense Issues** function to record the issue of items from inventory for miscellaneous purposes. The quantity entered is subtracted from the quantity on hand and costed at the current inventory cost.
- Expense issues do not result in a change in the standard cost.
- The quantity entered is multiplied by the standard cost.

Last Cost

Last Cost costing means that whatever cost is entered in a transaction replaces the current unit cost. You value your total inventory according to the last cost that was entered for an item when it was received into stock. When you receive an item, the total quantity on hand, including the quantity received, is costed at the cost you entered.

> **FOR EXAMPLE:**
>
> You have 10 items on hand at 1.00 each. You receipt 10 items into stock at 1.10 each. The resulting cost change multiplies 20 items with the last cost entered, which is 1.10 per item, and gives you a new total cost of 22.00 and a unit cost of 1.10 per item.

Receipts

- A Receipt generates an automatic cost change if the Receipt cost entered differs from the existing Last Cost.
- The Receipt cost defaults to the existing last cost.
- Positive receipt:
  - Whenever Receipt cost is entered and it differs from the existing last cost for that stock item, the cost entered replaces the current unit cost and the total quantity on hand is costed at the cost entered at the Receipt cost prompt.
  - Inventory is valued at the last cost entered for a receipt of the item into stock. The total quantity of the item on hand is costed at this amount.
- Negative receipt:
  - This decreases the quantity on hand and is normally used to reverse a previous receipt transaction.

Adjustments

- A positive adjustment increases the quantity of an item on hand, while a negative adjustment decreases the quantity of the item on hand.
- Inventory is valued at the last cost on record at the time of the adjustment.
- Calculation:

  Adjustment Quantity x Last Cost

  Total quantity on hand x new cost entered = new inventory cost.

Cost Changes

- You enter a new cost based on the unit cost or total cost of stock on hand.
- The system defaults the New cost field with the existing last cost. You have the option to update the last cost with the new cost entered.

- A journal is generated that reflects the difference between the old and new unit cost prices.
- Calculation:
  - A journal entry is generated that reflects the difference between the old and new unit cost prices.

    Qty on Hand x (New Cost - Last Cost).
  - The new Last Cost replaces the previous unit cost.

Cost Modifications

- This function is used to adjust a specific quantity of items (e.g. to change the cost of a batch of items received into stock where the cost was incorrectly entered).

  

  No cost change is done. However, a cost change is generated in a receipt if the receipt cost differed from the existing unit cost (typically when a cost was incorrectly entered). A cost modification does not correct this cost change. A cost change transaction can correct this and should be considered if necessary.
- You would normally use this function when you want to adjust the cost of a specific number of items that were received into stock.
- This function is not available when Last cost is used in combination with FIFO Valuation.

  FOR EXAMPLE:

  You have 10 items on hand at 1.00 each. You receipt 10 items into stock at 1.10 each. The resulting cost change multiplies 20 items with the last cost entered, which is 1.10 per item, and gives you a new total cost of 22.00 and a unit cost of 1.10 per item.

Backflushing

- You use the Backflushing function to record the receipt of a manufactured item into stock without using a Work in Progress job.
- The system explodes the item into the different parts and labor costs and generate issues for each part item and labor cost.
- The receipt of the manufactured item can result in a cost change.
- Calculation:
  - Issues are generated for each part item, as well as labor costs. Each issue multiplies the quantity required for the job with the last cost entered.
  - The sum of all issues, including additional costs specified, becomes the new unit price of the completed item.

- A receipt is generated for the completed item, which you entered in the Backflushing function. This results in a cost change if the new unit cost differs from the existing last cost of the item. The new quantity on hand is multiplied by the last cost entered for the manufactured item.

Warehouse Transfers

- The warehouse that transfers stock out generates issues, similar to the expense issue function.
- The receiving warehouse receipts the items into stock at the value of the issue.
- If there is a difference in the unit cost between the received items and the last cost in the receiving warehouse, a cost change is done, as in the case of a normal receipt.

Bin Transfers

- This function is disabled when Last cost costing is used, unless multiple bins are implemented.
- This function does not affect the unit cost of inventory items.

Physical Counts

- This function does not affect the unit cost of inventory items.
- The total cost of the inventory is recalculated since the quantity on hand changed. The result is written to the Physical Count G/L Integration file and not the Adjustment G/L Integration file that the Stock Take System uses.
- This function is not available when the **MULTIPLE BINS** setup option is enabled.

Expense Issues

- This function does not affect the unit cost of inventory items.

FIFO Cost

The FIFO (first in, first out) system is a method of keeping track of the value of stock. Each time a receipt into stock is made, that entry is stored in a separate bucket within the computer system.

- Each bucket holds the quantity entered and the cost at which it was received. In addition, the date of the last receipt and issue/sale is maintained, and can be enquired upon within the Inventory Query program or printed out using the Inventory Valuation report.
- When a sale or an issue is made, stock is taken from the oldest bucket located. If there is insufficient stock in that bucket, then stock is taken from the next available bucket and so on. SYSPRO does not have any concept of 'date' when creating a new bucket. The date of last receipt is not used when looking at a bucket for depletion; it is strictly based on the number of the bucket created, and the depletion is done in that sequence.
- When a valuation of stock is prepared, the stock in the oldest bucket is multiplied by the cost held within that bucket to give the bucket's value. The value of all buckets on hand is thus calculated and accumulated to give the total value for that warehouse's stock code.
- The Last cost field (when using FIFO costing) is equal to the cost of the last FIFO bucket.
- The Unit cost is equal to the average unit cost of the items.

> **FOR EXAMPLE:**
>
> In a single warehouse you have an item with the following quantities and unit costs in three different buckets:
>
> FIFO bucket 1 quantity 1 cost 200
>
> FIFO bucket 2 quantity 1 cost 300
>
> FIFO bucket 3 quantity 1 cost 100
>
> The Last cost entered would be 100 and the **Unit cost** would be 200 ((200 + 300 + 100)/3).

Receipts

- Positive Receipt
  - A positive receipt into stock always creates a new bucket.
  - You have to enter a value in the Receipt cost field, because the system does not default to an existing cost.
  - The value of stock in the bucket is calculated by multiplying the quantity in the bucket with the unit cost of the bucket.

- Negative Receipt
  - This decreases the quantity on hand and is normally used to reverse a previous receipt transaction.
  - If you allow the system to select the bucket, then the stock is decreased from the oldest bucket first.
  - The system has no knowledge of the bucket(s) into which stock was originally received and therefore assumes the quantity is included in the oldest bucket.
  - You can select a specific bucket for the transaction.

Adjustments

- A positive adjustment increases the quantity of items on hand.
- You have the option of allowing the system to select the FIFO buckets to adjust, or selecting a single bucket yourself.
- If the system selects the bucket, the adjustment quantity entered is added to the last or latest bucket if it is a positive adjustment, or to the first or oldest bucket if it is a negative adjustment.
- The unit cost of that bucket is adjusted to equal the price entered and the total value of the bucket is recalculated.

Cost Changes

- You enter a new cost based on the unit cost or total cost of stock on hand.
- The system defaults the New cost field.
- You have the option to update the last cost with the new cost entered.
- You can select a specific bucket to change, or the system selects the first or oldest bucket.

Cost Modifications

- This function is not available when using FIFO costing.

Backflushing

- The part items that are used to create the manufactured item are all issued from the oldest or first bucket.
- The manufactured item is placed in a new bucket and the entered price becomes the unit price of that bucket.

Warehouse Transfers

- The system decreases the stock of the issuing warehouse from the oldest or first bucket upwards when a transfer is done, keeping a record of the number of buckets that were used.

- In the receiving warehouse the same number of buckets are then created with the received stock items and unit prices.
- When transferring stock from a non-FIFO costing warehouse into a FIFO costing warehouse and FIFO valuation is in use, the cost against the sending warehouse is used as the receipt cost.

Physical Counts

- This function works like an adjustment. You cannot select specific buckets to adjust.
- The system starts at the latest or last bucket and if the quantity entered exceeds the quantity on hand in the bucket, it overflows into the next bucket.
- Since the unit cost of each bucket may differ, the system calculates the value of the latest bucket with the unit price for that bucket, then calculates the new value for the bucket older than the latest bucket according to the second bucket's unit price and the adds the two totals together for the physical count value.

Expense Issues

- The quantity entered is issued from the oldest or first bucket and the value of the issue is equal to the unit price of that bucket.
- If the entered quantity exceeded the quantity on hand in the oldest bucket, SYSPRO uses the next bucket in line.
- Since the two buckets can have different unit costs, the value of each bucket's issue is calculated separately and then added together.

LIFO Cost

In the LIFO costing method, all stock receipts create a new LIFO bucket and all issues/sales are made from the latest bucket held on file. The latest bucket is decremented first when making a sale. If LIFO costing is installed, negative stock, multiple buckets and costing in another unit of measure other than stocking is not be permitted.

Each time a receipt into stock is made, the entry is stored in a separate bucket or bucket.

Each bucket holds the quantity entered and the cost at which it was received. In addition, the date of the last receipt and issue/sale is maintained, and can be viewed with the Inventory Query program, or printed on the Inventory Valuation report.

When a sale or an issue is made, stock is taken from the latest bucket located. If there was not enough stock in that bucket then stock is taken from the previous bucket going backwards.

When a valuation of stock is prepared, the stock in the oldest bucket is multiplied by the cost held within that bucket to give the bucket's value. The value of all buckets on hand is thus calculated and accumulated to give the total value for that warehouse stock code.

Receipts

- Positive receipt
  - A positive receipt into stock always creates a new bucket.
  - You have to enter a value in the Receipt cost field, because SYSPRO does not default to an existing cost.
- Negative receipt
  - This decreases the quantity on hand and is normally used to reverse a previous receipt transaction.
  - If you allow SYSPRO to select the bucket, then the stock is decreased from the latest bucket.
  - SYSPRO has no knowledge of the bucket(s) into which stock was originally received and therefore assumes the quantity is included in the latest bucket. You have the option to select a bucket for the transaction.

Adjustments

- A positive adjustment increases the quantity of items on hand.
- You have the option of allowing SYSPRO to select the LIFO buckets to adjust, or selecting a single bucket yourself.
- If SYSPRO selects the bucket, the adjustment quantity entered is added to the first or oldest bucket if it is a positive adjustment, or to the last or latest bucket if it is a negative adjustment.
- The unit cost of that bucket is adjusted to equal the price entered and the total value of the bucket is recalculated.

Cost Changes

- You enter a new cost based on the unit cost or total cost of stock on hand.
- SYSPRO defaults the New cost field.
- You have the option to update the last cost with the new cost entered.
- You can select a specific bucket to change, or SYSPRO selects the last or latest bucket.

Cost Modifications

- This function is used to adjust a specific quantity of items (e.g. to change the cost of a batch of items received into stock where the cost was incorrectly entered).
- You normally use this function when you want to adjust the cost of a specific number of items that were received into stock.
- You select a bucket that must be modified.

Backflushing

- The part items that are used to create the manufactured item are all issued from the latest or last bucket.
- The manufactured item is placed in a new bucket and the entered price becomes the unit price of that bucket.

Warehouse Transfers

- SYSPRO decreases the stock of the issuing warehouse from the latest or last bucket downwards when a transfer is done, keeping a record of the number of buckets that were used.
- In the receiving warehouse the same number of buckets are then created with the received stock items and unit prices.

Bin Transfers

- This function is disabled when LIFO costing is used.

Physical Counts

- This function works like an adjustment. You cannot select specific buckets to adjust.
- SYSPRO starts at the oldest or first bucket and if the quantity entered exceeds the quantity on hand in the bucket, it overflows into the next bucket.
- Since the unit cost of each bucket may differ, SYSPRO calculates the value of the oldest bucket with the unit price for that bucket, then calculates the new value for the bucket newer than the latest bucket according to the second bucket's unit price and the adds the two totals together for the physical count value.

Expense Issues

- The quantity entered is issued from the latest or last bucket and the value of the issue is equal to the unit price of that bucket.
- If the entered quantity exceeded the quantity on hand in the oldest bucket then the system uses the next bucket in line.
- Since the two buckets can have different unit costs, the value of each bucket's issue is calculated separately and then added together.

Sales, Stock Take and Inventory Valuation Costing

Sales order entries and the Inventory valuation function do not change the unit cost of stock items. However, there are some features that are enabled or disabled, depending on the costing method in use.

Stock take and the Inventory Cost function in the **Inventory Price-Cost Percentage Change** program can change the unit cost of stock items. The calculation of the new unit price and total value of stock depends on the costing method in use.

A sales order entry does not change the unit cost of an item and therefore does not cause a cost change or revaluation of stock to occur.

The following rules are applied to Credit notes processed in the **Sales Order Entry** Sales Order Entry program when using FIFO costing, but not Actual Costing:

- If you have no stock and you process a credit note, then a new FIFO bucket is created using the last cost.
- The latest FIFO bucket cost is used if the credit note is not linked to an invoice.
- If the credit note is linked to an invoice, then the invoice cost is used (if this was captured). If the invoice cost was captured, then there is a `C` in the `PrtOnInv` field and the cost on the reprint record is used for the credit. Therefore, if the credit note is created from an original invoice (not just linked), then a new FIFO bucket is created using the cost from the reprint. If no invoice cost was captured, then the first FIFO bucket with a cost against it will be used and the quantity is receipted into that bucket.

When you use the **Dispatch Note Maintenance** program to cancel a dispatch note and you are using FIFO costing, a new FIFO bucket is created at the cost held against the dispatch note.

A stock take results in positive or negative adjustments to be made to the appropriate stock item. It functions on the same principle as an **Adjustment** transaction posted in the **Inventory Movements** program. The calculation of the stock take depends on the costing method in use.

If FIFO Costing is installed, then the cost and percentage values in the **Stock Take Variance** report are based on the last cost of the selected stock items.

You use the **Inventory Valuation** program to print a report indicating the value of stock held in each warehouse and, optionally, in each bin location. This value can be based on the current, last, or FIFO cost. This report forms the 'Trial Balance' of the ***Inventory Control*** module and supports the inventory control accounts in the ledger.

The **Inventory Journal Report**, **Inventory Period End** and **Inventory Query** programs do not change the unit cost of stock items. However, certain functions are enabled or disabled, depending on the costing method in use.

Manufacturing Costing

The way in which an item is manufactured determines the unit cost of the item. Labor and materials used make up the total cost, which in turn determines the unit cost of an item. In some programs the costing method that was specified in the Inventory Setup program can cause a cost change. This not only changes the value of stock on hand, but changes the unit cost of the item.

Each warehouse has its own unit costs for stock items. Stock movements affect the inventory of a specific warehouse only.

Bill of Materials Costing

The cost of a manufactured item consists of the materials costs plus the labor costs. Labor rates that are set up in a Bill Of Materials are used when Backflushing is done in the Inventory module. These rates are merely estimates of the actual labor.

Some functions are used with specific costing methods.

- Transfer Cost from BOM to warehouse

  This function is used only when Standard costing is used (Inventory Setup).

  The total cost of materials in a BOM is used to update the existing standard cost to equal the BOM total cost.

Work in Progress Costing - Job Issues

You use the Job Issues function to record the issue of items from inventory for a specific job. The quantity entered is subtracted from the quantity on hand and costed at the current inventory cost. The unit cost differs from one warehouse to another.

The materials of a kit issue and a specific issue is costed in the same manner.

When you do a kit issue you can specify labor costs. These labor costs are added to the material costs to determine the total cost of a job. The total cost can be divided by the quantity to make, which gives the unit price of the manufactured item.

Labor is calculated as the hours worked multiplied by the work center rate and reflects the actual hours worked per job.

- **Standard Cost**

  A Specific Issue is done just like an Expense Issue in the Inventory Movements program. The quantity entered is subtracted from the quantity on hand and costed at the current inventory cost. This does not change the existing standard cost and does not result in a cost change. The quantity entered is multiplied by the existing standard cost.

- **Last Cost**

  A Specific Issue is done just like an Expense Issue in the Inventory Movements program. The quantity entered is subtracted from the quantity on hand and costed at the current inventory cost. This does not change the existing last cost and does not result in a cost change. The quantity entered is multiplied by the existing last cost.

- **Average Cost**

  A Specific Issue is done just like an Expense Issue in theInventory Movements program. The quantity entered is subtracted from the quantity on hand and costed at the current inventory cost. This does not change the existing average cost and does not result in a cost change. The quantity entered is multiplied by the existing average cost.

- **FIFO Cost**

  The quantity entered is issued from the oldest or first bin and the value of the issue is equal to the unit price of that bin. If the entered quantity exceeded the quantity on hand in the oldest bin, the system uses the next bin in line. Since the two bins can have different unit costs, the value of each bin's issue is calculated separately and then added together.

- **LIFO Cost**

  The quantity entered is issued from the latest or last bin and the value of the issue is equal to the unit price of that bin. If the entered quantity exceeded the quantity on hand in the oldest bin, the system uses the next bin in line. Since the two bins can have different unit costs, the value of each bin's issue is calculated separately and then added together.

Work in Progress Costing - Job Receipts

The WIP value in a receipt includes material costs plus labor that was posted to a job in the Labor Posting program.

- **Standard Cost**

  You are not prompted for the cost of the item received, unless you have selected the option Update last cost if using standard costing (Inventory Setup>). In this case, the receipt amount is only used to update the last cost amount and has no effect on the standard cost. The Cost basis does not result in a cost change.

- **Last Cost**

  The Cost basis of a receipt determines the unit cost of an item.

  - The Current Cost should be the same as the existing last cost.
  - The Actual cost is the total value of the job in WIP, divided by the total quantity of the job. The result is multiplied by the quantity of the receipt. If the actual cost differs from the existing last cost, a cost change is done.
  - Manual Cost generates a cost change if the entered cost is not equal to the existing last cost.

- The WIP Value is equivalent to the total outstanding cost of the Job, divided by the quantity of the receipt. This generates a cost change.
- Calculation of cost change for last cost:

  The new unit cost replaces the existing last cost. A journal is generated that reflects the difference between the old and new last cost by multiplying the quantity on hand with the difference between the new cost and the existing cost.

  ((Quantity on hand x unit cost) + (Entered quantity x New cost)) / New quantity on hand

- **Average Cost**

  The Cost basis has no effect on the unit cost of the item, which means that no cost change is generated. The Average Cost, however, is recalculated if the receipt cost differs from the existing average cost.

  The Cost basis of a receipt determines the unit cost of an item.

  - The Current Cost should be the same as the existing average cost.
  - The Actual cost is the total value of the job in WIP, divided by the total quantity of the job. The result is multiplied by the quantity of the receipt.

    (Total value of job / Total quantity) x Quantity of receipt

  - Manual Cost generates a new average cost if the entered cost differs from the existing average cost.
  - The WIP Value is equivalent to the total outstanding cost of the Job, divided by the quantity of the receipt.

- **FIFO Cost**

  The Cost basis of a receipt determines the unit cost of an item.

  - The Actual cost is the total value of the job in WIP, divided by the total quantity of the job. The result is multiplied by the quantity of the receipt.

    (Total value of job / Total quantity) x Quantity of receipt

  - Manual Cost is the default Cost basis.
  - The WIP Value is equivalent to the total outstanding cost of the Job, divided by the quantity of the receipt.

- **LIFO Cost**

  The Cost basis of a receipt determines the unit cost of an item.

  - The Actual cost is the total value of the job in WIP, divided by the total quantity of the job. The result is multiplied by the quantity of the receipt.

    (Total value of job / Total quantity) x Quantity of receipt

- Manual Cost is the default Cost basis.
- The WIP Value is equivalent to the total outstanding cost of the Job, divided by the quantity of the receipt.

WIP costing with Sub Jobs and Master Jobs

- Expected costs for multi-level jobs and standard costing are calculated as follows when the cost to transfer from the Bill of Materials to the job is Inventory:
  - The calculated expected subassembly costs are calculated from the Inventory warehouse costs of the components and operation costs.
  - These expected costs are rolled up to the top level parent, including the expected cost and the components and operations of the sub assemblies that are part of the standard muti-level BOM.

  Therefore, if a BOM is changed, whether at the top level or the sub-assembly level, the BOM cost implosion should be run and the Inventory warehouse cost updated. This is particularly true when your costs fluctuates continuously. Alternatively, a costing method other than Standard should be used.

Calculation of work in progress costs when processing sub job's under master job's in WIP reports.

When sub jobs are listed under the master in WIP reports (such as the WIP Variance report), the totals against the master job do not equal the sum of the values against the sub jobs. The main reason for this is that expected material and labor costs against a sub job are actually part of the expected MATERIAL costs for the master job. The following examples illustrate this:

Multi level jobs with material only on bottom job.

Example 1: Multi level jobs with material only on bottom job

You have the following Bill of Material structure:

- MULTI-TOP
  - MULTI-FIRST (Qty Per = 1)
    - MULTI-SECOND (Qty per = 1)
      - MULTI-COMP (Component - Qty per = 1) The cost of MULTI-COMP component = 12.00

You create a job for 1 X MULTI-TOP and select to create sub jobs.

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	12.00			12.00		12.00	100
620	IEGF Int: 619 first level job	0.00	12.00			12.00		12.00	100
621	IEGF Sub: 620 second level job	0.00	12.00			12.00		12.00	100
Master job totals		0.00	12.00			12.00		12.00	100

The expected costs for all levels are 12.00 and the master job total is NOT an accumulation of these values. This is because the expected material costs are rolled up from the bottom level sub job all the way up to the master job.

Example 2 - Multi level jobs with material AND labor only on bottom job

You add an operation to the second level item (MULIT-SECOND) to the above Bill of Material structure:

You have the following Bill of Material structure:

- MULTI-TOP
  - MULTI-FIRST (Qty Per = 1)
    - MULTI-SECOND (Qty per = 1)
      - MULTI-COMP (Component - Qty per = 1) Cost of MULTI-COMP component = 12.00
        - MULTI-OP (Operation - quantity = 1) Cost of MULTI-OP operation = 57.00

You create a job for 1 X MULTI-TOP and select to create sub jobs.

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	69.00			69.00		69.00	100
620	IEGF Int: 619 first level job	0.00	69.00			69.00		69.00	100
621	IEGF Sub: 620 second level job	57.00	12.00			69.00		69.00	100
Master job totals		57.00	12.00			69.00		69.00	100

- The expected cost for the operation against the bottom job is listed as Expected labor, BUT against the interim and top level jobs this is added to the material cost (remember the TOTAL cost of the sub job is taken through as material cost – in the same manner as if you receipted the item into stock and then issued it separately to the job).

- To produce meaningful information in the labor and material columns in the master job totals, the material and labor costs display 12.00 and 57.00 respectively.

Example 3 - Multi level jobs with material AND labor only on bottom job and labor on the interim job

You add an operation to the first level item (MULTI-FIRST) to the above Bill of Material structure:

You have the following Bill of Material structure:

- MULTI-TOP
  - MULTI-FIRST (Qty Per = 1)
    - MULTI-OP1(Operation - QTY = 1) Cost of MULTI-OP1 operation = 114.00
  - MULTI-SECOND (Qty per = 1)
    - MULTI-COMP (Component - Qty per = 1) Cost of MULTI-COMP component = 12.00
    - MULTI-OP2 (Operation - QTY = 1) Cost of MULTI-OP2 operation = 57.00

You create a job for 1 X MULTI-TOP and select to create sub jobs.

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	183.00			183.00		183.00	100
620	IEGF Int: 619 first level job	114.00	69.00			183.00		183.00	100
621	IEGF Sub: 620 second level job	57.00	12.00			69.00		69.00	100
Master job totals		171.00	12.00			183.00		183.00	100

- The material cost against the master job is now 183.00 which is the sum of the material from the bottom job plus the labor from the bottom and interim job.
- The job totals show the totals broken down as 171.00 for labor and 12.00 for material.

Example 4 - Multi level jobs with material AND labor on both the bottom job and the interim job

You add an bought out component to the first level item (MULTI-FIRST) to the above Bill of Material structure:

You have the following Bill of Material structure:

- MULTI-TOP
  - MULTI-FIRST (Qty Per = 1)
    - MULTI-OP1 (Operation - QTY = 1) Cost of MULTI-OP1 operation = 114.00
    - MULTI-COMP2 (Bought out Component - Qty = 1) Cost of MULTI-COMP2 component = 24.00
  - MULTI-SECOND (Qty per = 1)
    - MULTI-COMP (Component - Qty per = 1) Cost of MULTI-COMP component = 12.00
    - MULTI-OP2 (Operation - QTY = 1) Cost of MULTI-OP2 operation = 57.00

You create a job for 1 X MULTI-TOP and select to create sub jobs.

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	207.00			207.00		207.00	100
620	IEGF Int: 619 first level job	114.00	93.00			207.00		207.00	100
621	IEGF Sub: 620 second level job	57.00	12.00			69.00		69.00	100
Master job totals		171.00	36.00			207.00		207.00	100

- The material costs on the master job itself equal 207.00 with labor of 0.00. However, in the master job totals the breakdown is different, with labor of 171.00 (for the operations against the first and second level job) and the material of 36.00 (for the material against the first and second job).
- The first level job has a material cost of 93.00 which is made up of the bought out allocation (24.00) plus the cost of the bottom level job (69.00).

Example 5 - Material and labor issues to bottom level job

You now issue the material and labor to the bottom level MULTI-SECOND.

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	207.00			207.00		207.00	100
620	IEGF Int: 619 first level job	114.00	93.00			207.00		207.00	100
621	IEGF Sub: 620 second level job	57.00	12.00	57.00	12.00	69.00	69.00	0.00	0
Master job totals		171.00	36.00	57.00	12.00	207.00	69.00	138.00	66.67

At this point the only actual cost is against the bottom level job so these are easy to see and monitor.

The variance is calculated as 138.00 / 207.00 * 100 = 66.67

Partial receipt of bottom level job (i.e. issue to first level job)

Using the above example, you now receipted in half of the second level job. This equates to a material issue against the first level job, but in reality you have not issued any more value to the job structure.

The total value of the issue is half of the labor and material for the second level job = 69.00 / 2 = 34.50

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	207.00			207.00		207.00	100
620	IEGF Int: 619 first level job	114.00	93.00		34.50	207.00	34.50	172.50	83.33
621	IEGF Sub: 620 second level job	57.00	12.00	57.00	12.00	69.00	69.00	0.00	0
Master job totals		171.00	36.00	57.00	12.00	207.00	69.00	138.00	66.67

- The material cost against the first level job is $ 34.50. This is the sum of material and labor entered when I receipted in the 0.5 from the second level job.
- The material cost for the master job totals is however still $ 12.00, as that is the only material that has been issued to the job structure up to this point (together with the labor cost of $ 57.00).

Issue of materials and labor to the first level job

You now issue the component and labor against the first level job.

From the BOM Structure:

- MULTI-FIRST (Qty Per = 1)
  - MULTI-OP1 (Operation - QTY = 1) Cost of MULTI-OP1 operation = 114.00
  - MULTI-OP2 (Operation - QTY = 1) Cost of MULTI-OP2 operation = 24.00

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	207.00			207.00		207.00	100
620	IEGF Int: 619 first level job	114.00	93.00	114.00	58.50	207.00	172.50	34.50	16.67
621	IEGF Sub: 620 second level job	57.00	12.00	57.00	12.00	69.00	69.00	0.00	0.00
Master job totals		171.00	36.00	171.00	36.00	207.00	207.00	0.00	0.00.

The values for the first level job (620) are:

- 114.00 for labor which is the actual cost of the operation against this job
- 58.50 for materials which is made of 24.00 (the bought out component for this job) plus 34.50 from the bottom job (621) which was issued before

The actual costs for the Master job totals are calculated as:

- Labor = 57.00 from the second level job plus 114.00 from the first level job = 171.00
- Material = 12.00 from the second level job plus 24.00 from the first level job = 36.00

Looking at the MASTER job totals you will notice that they are all in effect complete as you have now issued all the components and labor that the job structure requires.

From this point on it is merely a case of receipting in the sub jobs and issuing these quantities to the relevant master job (i.e. 0.5 against the second level job)

Partial receipt of first level job (i.e. issue to master job)

You now receipt in half of the first level job, which in effect is an issue to the master job itself.

Currently, the first level job consists of labor of 114.00 and material of 93.00. You issue half of this, so you issue 57.00 labor and 46.50 material = 103.50 to the master job.

Generating the **Job Variance** report produces the following values:

Job	Description	Expected cost labor	Expected cost material	Cost to date labor	Cost to date material	Total expected costs	Total actual cost	Cost variance	% variance
619	IEGF <master> top level item	0.00	207.00		103.50	207.00	103.50	103.50	50.00
620	IEGF Int: 619 first level job	114.00	93.00	114.00	58.50	207.00	172.50	34.50	16.67
621	IEGF Sub: 620 second level job	57.00	12.00	57.00	12.00	69.00	69.00	0.00	0.00
Master job totals		171.00	36.00	171.00	36.00	207.00	207.00	0.00	0.00

- The costs to date of the material from the master job equals $103.50, but because it is merely a case of 'transferring' the value from the sub job to the master it has NO affect on the master job totals.
- Only if you issued another component to the master job would the actual master job cost change.

Additional Information

When you generate the **WIP Valuation** report and select to list sub jobs under master jobs, the program calculates the net total costs for expected and actual costs posted to the structure of jobs. The totals against each job itself display the expected and actual costs as if the job was to be taken in isolation and not as part of a job structure. The master job totals (and the report totals) when the report is printed in this way, are the costs for all the materials and labor being posted into Work in Progress. It is important to note that when you do not print

sub jobs under master jobs, the report totals are a simple addition of the costs printed against individual jobs and no attempt is made to try and net these costs off.

Actual Costing

Actual costing enables you to track your manufacturing costs with greater accuracy, especially if you experience extreme fluctuations in raw material costs over a period of time.

Actual costing is also known as 'item' or 'batch specific' costing and can be defined for lot traceable and batch serialized items in SYSPRO.

The FIFO valuation architecture is used to track and process costs. Actual costing processes buckets at stock code, warehouse and lot/serial level as opposed to FIFO costing which processes buckets at stock code, warehouse level only.

- Actual costing overrides any other costing method defined at either company or warehouse level and applies to all lot traceable and batch serialized items in Inventory.
- Actual costing is applied in every program in Inventory, Sales, Purchase Orders and Work in Progress that depletes or adds to a FIFO bucket.

Implementation

- Enable the **ACTUAL COSTING** setup option in the **Setup Options** program (*Setup Options* > *Preferences* > *Distribution* > *Inventory*).
- Configure the **DAYS TO RETAIN ZERO QUANTITY BUCKETS** setup option for **FIFO BUCKETS** in the **Setup Options** program (*Setup Options* > *History* > *Distribution* > *Inventory*).

When the **ACTUAL COSTING** setup option is initially enabled for lot traceable or batch serialized items, a conversion process is automatically run to convert your existing data for lot traceable and/or batch serialized items (depending on your selections) into the required format for actual costing. Refer to Processing sequence for details of the conversion process.

Once the conversion is complete, a review screen is displayed, enabling you to review and optionally re-distribute the quantities in the FIFO buckets created by the conversion.

Processing

When you process a receipt for a lot traceable or batch serialized item, a FIFO bucket is automatically created by the system. FIFO buckets are numbered from 000 upwards. Revision/release details for ECC controlled items (Stock Codes) are also stored against each FIFO bucket.

When you issue lot traceable or batch serialized items:

- You can indicate that lots and/or serials must be automatically depleted when processing multiple issues for the same lot/serial (Inventory Setup). The buckets are then depleted in bucket sequence, starting at the lowest bucket number.

- Alternatively, you can use the **Actual Cost Allocation** program to deplete buckets manually when processing multiple issues for the same lot/serial.

This only applies to issues in ***Work in Progress*** and ***Inventory Control***.

Because Actual costing uses FIFO valuation, two journals are created for each transaction as follows:

- A standard journal which reflects the standard cost according to the costing method defined against the warehouse or company.
- A FIFO journal which reflects the actual cost. This is the cost used to update the General Ledger.

- To view details of actual costs used in Inventory movements and on lot or serial transactions, you must enable the option: Record inventory movements (Inventory Setup).
- If you do not enable this option, then the unit cost displayed is the warehouse cost based on the costing method applied to that warehouse (Warehouses) - i.e. the standard journal cost, not the FIFO journal cost.

When using actual costing, each FIFO bucket contains the serial/lot number that was used when the FIFO bucket was created. An index of the FIFO buckets by lot or serial is kept and transactions processed against a serial/lot specify the bucket used.

You can only deplete a bucket that belongs to the serial or lot. If there are multiple FIFO buckets belonging to the same serial or lot, then you can indicate which bucket to use when processing an adjustment to the serial (**Actual Cost Allocation** program).

When a FIFO bucket is created for an ECC controlled item and ECC is at revision or release level, then the revision and/or release numbers are written to the FIFO bucket in addition to the serial/lot number, stock code and warehouse.

To balance your Inventory to your General Ledger control accounts, you need to process the **Inventory Valuation** report based on **FIFO**.

Inventory Movements

- **Adjustments**

  You are prompted to indicate the FIFO bucket to adjust. If you select to adjust a specific bucket, then you indicate the bucket you want to adjust.

  If you do not select to adjust a specific bucket, then the system adjusts the highest bucket for a positive adjustment and the lowest bucket for a negative adjustment.

  You can run the Balance function of the Inventory Period End program and select the option: Recalc. actual cost original receipt qty to recalculate the actual cost bucket original receipt quantities.

- **Cost Changes**

  You are prompted to indicate the bucket you want to adjust.

- **Expense issues**

  When processing a positive expense issue, you are prompted to indicate the bucket to issue from if you did not select to automatically deplete lots and/or serials. If you are automatically depleting lots/serials, then the buckets are auto depleted in a FIFO (First In First Out) manner.

  When processing a negative issue for a lot, you are prompted to indicate the FIFO bucket to use. Only buckets that belong to the selected lot can be used. The receipt back into stock cannot exceed the original quantity received for that bucket.

  When processing a negative issue for a serial, you are prompted to indicate the FIFO bucket to use. Only buckets that belong to the select serial can be used. The receipt back into stock cannot exceed the original quantity received for that bucket.

- **Immediate Transfers**

  These are a combination of transfers out and transfers in.

- **Receipts**

  Positive receipts create a new FIFO bucket for the lot/serial.

  For negative receipts, the negative quantity receipted plus the quantity available on the FIFO bucket cannot exceed the original quantity received. If you select a specific FIFO bucket for the transaction, then it must be the FIFO bucket used when the original quantity was receipted in.

- **Transfers Out**

  Cost buckets for a transfer out of a warehouse are always auto depleted in a FIFO (First In First Out) manner.

- **Transfers In**

  The FIFO cost buckets are created for the target warehouse from the buckets transferred out. For each transfer, a new cost bucket is always created for the transfer in, because a typical warehouse to warehouse transfer means a new quantity and cost of an item is received, which has to be generated against a new bucket.

  The same serial number must be used for the transfer out and the transfer in.

- **Backflushing**

  When backflushing, a new FIFO bucket is created for the lot/serial receipt of the parent item. When issuing components, you are prompted to indicate the bucket to issue from if you did not select to automatically deplete lots and/or serials. If you are automatically depleting lots/serials, then the buckets are auto depleted in a FIFO (First In First Out) manner.

Sales Orders

Cost buckets used in Sales Orders are always auto-depleted at the time the invoice or dispatch note is generated.

A credit note attached to an invoice or a reversal of a dispatch note will automatically find the buckets used for the original transaction and process the reversal to those buckets.

Work in Progress

- **Job Issues**

  Negative allocations in Job Issues are treated as receipts and create a new cost bucket.

  When reversing a positive allocation in Job Issues, only the actual cost buckets used in the positive issue can be reversed.

- **Job Receipts**

  When processing a negative job receipt, the negative quantity receipted plus the quantity available on the FIFO bucket cannot exceed the original quantity received. In addition, the FIFO bucket used for the original receipt must be used.

  When using actual costing, you select the Cost basis - Actual cost in the Job Receipts program, materials and operations not issued are calculated into the actual cost using the expected cost. The Allocations alert caption indicates whether outstanding materials or operations exist for the job.

  You cannot do a WIP Job Receipt reversal once you have transferred the original quantity from one warehouse to another, and then back to the original warehouse.

  > **FOR EXAMPLE:**
  >
  > You do a job receipt into warehouse FG. You transfer the stock to warehouse E. You realize that the job needs to be reversed, so you transfer the stock back to warehouse FG and try to do a negative job receipt. Because you are using actual costing, you cannot do this, as the quantity is now in a new FIFO bucket (and not in the original FIFO bucket anymore).

  The FIFO Bucket first needs to be adjusted from the current FIFO Bucket into the original FIFO Bucket in order to reverse the Job receipt. Use the Adjustment function of the Inventory Movements program to adjust the bucket.

Purchase Orders

A positive receipt creates a new FIFO bucket for the serial/lot.

When processing a negative receipt, the negative quantity receipted plus the quantity available on the FIFO bucket cannot exceed the original quantity received.

Cost Variances - Purchase Orders

When entering and receiving Purchase Orders for stock codes, variances may be created in the InvJournalDet table, when **average costing** is in use.

Variances can be more prevalent where very small unit costs and large quantities are received and can occur even when the Purchase order entry cost is the same as the Purchase order receipt cost.

Note that costs are calculated to 5 decimal places.

> **FOR EXAMPLE:**
>
> In Inventory, you currently have a quantity of 5 000 at an average cost of 0.099 each. Total Inventory value = 495.
>
> You raise a Purchase order for a quantity of 10 000 at a unit cost of 0.085. Total Purchase order value = 850.
>
> You now receipt in the Purchase order and the following formula is used to determine the new average cost:
>
> [(Quantity on hand x Unit cost) + (Receipt quantity x New cost)] / New Quantity on hand
>
> Therefore: New average cost is = [(5 000 x 0.099) + (10 000 x 0.085)] / (5 000 + 10 000) = (495 + 850) / 15 000 = 0.08967
>
> New calculated total Inventory value after receipt is 1345.05 (i.e. quantity of 15 000 at a unit cost of 0.08967)
>
> However, the total Inventory value before receipt plus the total Purchase order value is (495 + 850) = 1345.00
>
> The Variance posted to the Inventory Warehouse Variance General Ledger account is therefore (1345.05 - 1345.00) = 0.05

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