Traverse
Global

Average Costing COGS Adjustments

A Look at Average Cost COGS Adjustments

OSAS
Open Systems Adaptable Solutions
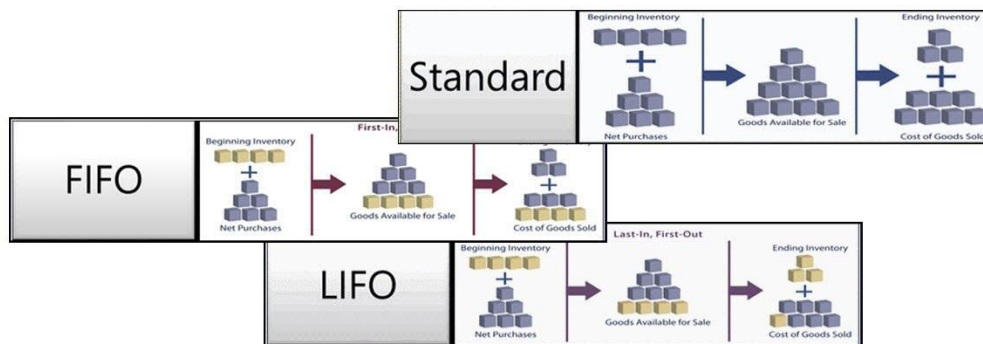
This document describes the intended features and technology for Traverse v11.2 as of October, 2020. Features and technology are subject to change and there is no guarantee that any particular feature or technology described in this presentation will be present in this or subsequent versions of Traverse.

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Contents

Introduction

Inventory valuation is the cost associated with your inventory at the end of your reporting period. The valuation affects the cost of the goods you sell, as well as the amount of your profit. There are multiple ways to calculate the value of your inventory. Some costing methods are straight-forward and based solely on the price you paid for the inventory item when you purchased it. Other costing methods depend on a calculation of the costs of inventory items, and can be affected by various transactions involving inventory items. This article explains how Traverse utilizes the perpetual weighted average costing method, and how it can affect the cost of goods sold (COGS).

Average Cost

The average costing method is characterized by the cost of any new inventory purchased being rolled into the cost of existing inventory to derive a new average cost. When a purchase order (PO) invoice for inventory items is entered, the average cost of inventory items is recalculated. If you receive an item at one cost, and you are later invoiced for that item at a different cost, the average cost for that item may change depending on the previous on-hand quantity and the difference in cost.

Typically, the average cost of an item is only updated when a transaction increases inventory quantities, such as a purchase. All transactions that increase inventory quantity will affect average cost, including zero-cost transactions.

If the inventory valuation and the inventory cost balance are different, a COGS adjustment may be necessary to reconcile the difference. Posting the transaction will post all unposted COGS adjustments from the same application.

Optionally, the COGS Adjustments function on the Inventory Periodic Processing menu allows you to calculate and post all unposted COGS adjustments in IN history on demand if you are using the average costing method.

The inventory update process will generate a COGS adjustment if:

- A transaction that increases inventory quantity is edited/deleted
- A new PO Invoice/MP Complete Assembly is added when Quantity On Hand is equal to or less than 0
- A new PO Invoice/MP Complete Assembly is added when Quantity On Hand is greater than 0 and invoiced/completed quantity is greater than Quantity On Hand

Terms

- **Quantity on Hand**: The quantity of items currently in inventory.
- **Invoice Quantity**: The quantity of items included on the PO invoice. The invoice quantity is always greater than zero.
- **Receipt Unit Cost**: The cost of an item when it is received into inventory.
- **Invoice Unit Cost**: The cost of an item on the PO invoice. This is the amount you pay to your vendor for the item.
- **Total Cost Change**: The difference between the beginning average cost of the item and the average cost of the item at the time the invoice is posted.
- **COGS Adjustment**: When there is a difference between the cost of an item when received and the cost of the item on the associated invoice, the Cost Of Goods Sold (COGS) adjustment reconciles the difference in the item's cost.

Inventory Average Cost Adjustments

All transactions that increase inventory quantity will affect average cost, including zero-cost transactions. The way the function affects the average cost depends on how the action affects inventory. You can see more details about the processes Traverse uses to calculate the New Average Cost in the diagrams on the following pages.

NOTES:

> ➢ All quantities are in the base unit of measure. All unit costs are for the base unit of measure.
> ➢ The average cost is updated using the same formula even if the IN costing method is not 'Average'.
> ➢ Sales do not affect average cost.
> ➢ When you set the costing method business rule to 'Average Cost', the COGS Adjustments function will appear on the IN Periodic Processing menu.

Figure 1

The Effects of Inventory Transactions on the Perpetual Weighted **Average Cost** of an Item

NOTE: Sales have no effect on the Average Cost, only the On Hand quantity

KEY:

Trns Qty = Transaction Quantity
Trns Unit Cost = Transaction Unit Cost
Qty OH = (Updated) Quantity On Hand
Avg Cost = NEW Average Cost
Prev Qty OH = Previous (Current) Quantity On Hand
Prev Avg Cost = Previous (Current) Average Cost

Wrkg Qty = Working Quantity
INVal = Inventory Valuation = Qty OH * Avg Cost
INBal = Inventory Balance = Previous INBal + (Trns Qty * Trns Unit Cost)
COGS Adj = COGS Adjustment
COGS Adj = INBal - INVal

```
┌──────────┐
│ Receipts │
└──────────┘

   ◇ Prev Qty OH > 0 ◇ ──No──▶ ◇ Prev Qty OH + Trns Qty > 0 ◇ ──No──▶ [ New Avg Cost = Prev Avg Cost (no change) ]
          │                              │
         Yes                            Yes
          │                              └──▶ [ New Avg Cost = Trns Unit Cost ]
          │
          └──▶ [ New Avg Cost = ((Trns Unit Cost * Trns Qty) + (Prev Avg Cost * Prev Qty OH)) / (Trns Qty + Prev Qty OH) ]
```

Figure 2

Invoice where invoice cost is different from receipt cost (a cost change from receipt to invoice)

Trns Qty > Prev Qty OH
- Yes → **Wrkg Qty** = Prev Qty OH
- No → **Wrkg Qty** = Trns Qty

Prev Qty OH > 0
- No → **New Avg Cost** = Prev Avg Cost (no change)
- Yes →

Wrkg Qty * (Invoice Unit Cost – Receipt Unit Cost) <> 0
- No → **New Avg Cost** = Prev Avg Cost (no change)
- Yes → **New Avg Cost** = ((Wrkg Qty * (Invoice Unit Cost – Receipt Unit Cost)) + (Prev Avg Cost * Prev Qty OH)) / (Prev Qty OH)
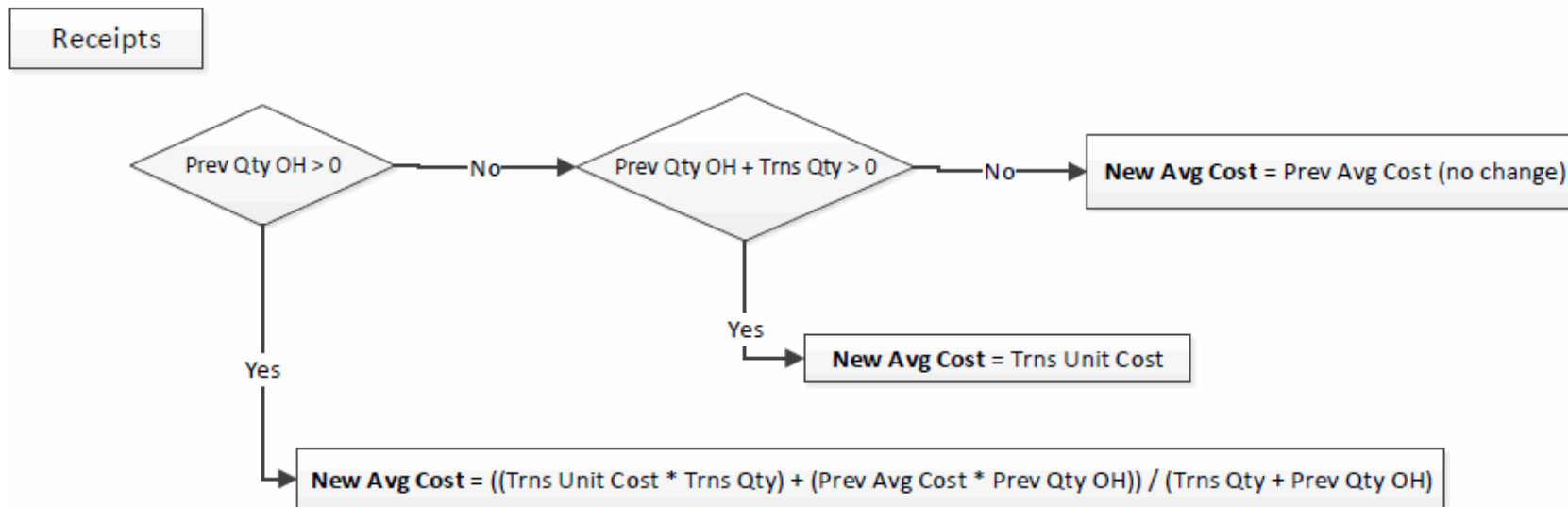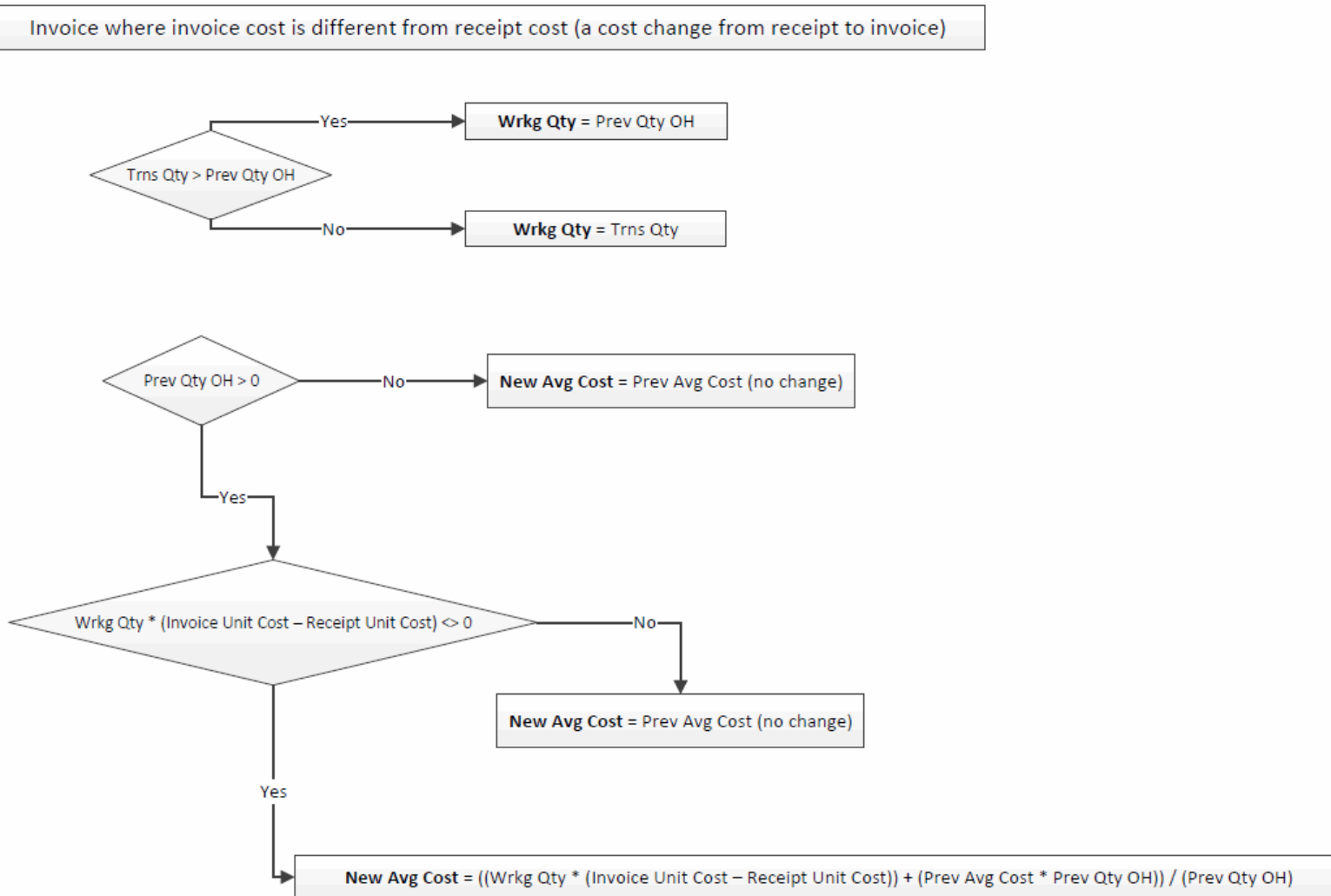
NOTE: When purchase type transaction is edited after the average cost has ready been calculated, new average cost is calculated based on the new quantity and cost, and any other purchases or increases that may have been recorded since the original entry. If sales activity have already occurred within that time period, COGS adjustments would be generated to balance inventory valuation against GL.

Sample Transactions

This table shows examples of transactions and the associated calculated values. These examples follow the flowcharts in Figure 1 and Figure 2.

No	Transaction	Qty	Unit Cost	Ext Cost	Qty On Hand	Avg Cost	Valuation	Inventory Balance	COGS Adjustment	Previous Qty On Hand	Previous Avg Cost	Working Qty
1	AP	10.0000	10.0000	100.00	10.0000	10.0000	100.00	100.0000	0.0000	0.0000	0.0000	
2	AP	10.0000	12.0000	120.00	20.0000	11.0000	220.00	220.0000	0.0000	10.0000	10.0000	
3	AR (Sale)	15.0000	11.0000	-165.00	5.0000	11.0000	55.00	55.0000	0.0000	20.0000	11.0000	
4	AP	10.0000	13.0000	130.00	15.0000	12.3333	185.00	185.0000	0.0000	5.0000	11.0000	
5	AR (Sale)	30.0000	12.3333	-370.00	- 15.0000	12.3333	-185.00	-185.0000	0.0000	15.0000	12.3333	
6	AP	10.0000	13.0000	130.00	-5.0000	12.3333	-61.67	-55.0000	6.6667	-15.0000	12.3333	
7	AP	10.0000	13.0000	130.00	5.0000	13.0000	65.00	75.0000	10.0000	-5.0000	12.3333	
8	PO Rcpt 1	5.0000	11.0000	55.00	10.0000	12.0000	120.00	130.0000	10.0000	5.0000	13.0000	
9	PO Invc 1	5.0000	12.0000	60.00	10.0000	12.5000	125.00	135.0000	10.0000	10.0000	12.0000	5.0000
10	PO Rcpt 2	10.0000	13.5000	135.00	20.0000	13.0000	260.00	270.0000	10.0000	10.0000	12.5000	
11	AR (Sale)	15.0000	13.0000	-195.00	5.0000	13.0000	65.00	75.0000	10.0000	20.0000	13.0000	
12	PO Invc 2	10.0000	14.0000	140.00	5.0000	13.5000	67.50	80.0000	12.5000	5.0000	13.0000	5.0000
13	PO Rcpt 3	5.0000	12.5000	62.50	10.0000	13.0000	130.00	142.5000	12.5000	5.0000	13.5000	
14	AR (Sale)	10.0000	13.0000	-130.00	0.0000	13.0000	0.00	12.5000	12.5000	10.0000	13.0000	
15	PO Invc 3	5.0000	12.0000	60.00	0.0000	13.0000	0.00	10.0000	10.0000	0.0000	13.0000	0.0000
16	AP	10.0000	11.0000	110.00	10.0000	11.0000	110.00	120.0000	10.0000	0.0000	13.0000	