

BWH News Letter

Volume 5 Number 2

The Serialized Warehouse

The Big Picture ...

The basic impact of serialization is that the warehouse inventory no longer must be considered "fungible". Fungible is a term used in finance to identify assets that are indistinguishable. Currency is normally considered fungible because one dollar bill is worth the same as all the others. Today, warehouse containers are only distinguished by their Global Trade Identification Number. In the serialized warehouse each container also has a unique serial number

Too much serialization can hurt productivity. There are certain advantages to a fungible inventory that allows warehouse personnel to grab the most convenient container. On the other hand, serialization allows attaching specific manufacturing details (e.g. lot numbers) and handling instructions to containers. Special handling instructions can identify investment buys, weekly ad quantities, customer requests, or regular turn quantities.

In the serialized warehouse, RF voice directed operations replace internal labeling procedures because instructions can be associated with specific containers. This can also work for outbound containers destined for serialized customers.

Serialized Receiving

The Advance Ship Notice contains the serial numbers and manufacturing lots of arriving pallets and containers. The warehouse open order system contains various order quantities and reasons for the order.

The warehouse receiving process either captures or assigns serial numbers to arriving containers. An interim approach may minimize manual labeling of high volume items by assigning serial numbers to pallets or layers.

Serialized Put-Away

The put away process uses open order instructions to direct receipt quantities to storage

areas. Containers ordered for direct to store shipment can be routed to the outbound shipping docks. Containers for next week's sales program can be routed to full pallet pick areas.

Product rotation rules can be enforced by using the manufacturer's production lot data. Recalled merchandise is easily located and cold-chain requirements can be enforced.

To minimize letdown and travel times, warehouse selecting areas can be specialized for slow, regular, and fast movers. The put-away routines choose the appropriate storage area for reserve merchandise and capture serial numbers of containers.

Serialized Screening

Screening is the computer process that allocates available inventory to store orders and rounds order quantities for efficient selection. Screening can use serial numbers to preserve inventory for special purposes. Warehouses serving multiple banners can preserve inventory for each banner's sales program. This prevents the first banner to order from cannibalizing another banner's inventory. This makes it possible to guarantee all banners they will get their pre-ordered inventory.

Serialized Letdowns

Multiple reserve and selection areas may be assigned based on expected movement. Rotation requirements of items in far away storage locations can be enforced.

Items that are on sale may be given special storage areas for the sale period.

Full pallet selection can be done directly from loading area or reserve storage.

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Serialized Selection

The serialized warehouse should be a “pick to belt” operation with outbound sortation. Outbound loads can be sequenced to meet the destination’s requirements and deliveries can be merged to best utilize transport capacity. Pick to belt also addresses the slow vs fast mover issue because slow moving items can be stored in high density selecting areas that minimize travel time. Fast moving items can be stored right in the loading area for full pallet selection.

The repack area can use serialized containers to replenish the flow racks. Serial numbers assigned to totes can be used to merge them with the rest of the outbound load.

The number of outbound loads that can be processed simultaneously impacts the “density requirements” of the selection area. The more orders that are processed simultaneously, the more likely it is that each selecting slot will see activity. It may also be possible to process orders by “banner” to focus on private label.

Selection is still done by quantity unless strict rotation or some other special circumstance requires assigning specific containers to an outbound order. Specific container serial numbers will be captured when the outbound load is staged.

Load Building

The staging of outbound loads must be postponed to the last possible moment. This means a sortation step is required in the outbound loading area. The advantage of this is two fold. It means that each load can be sequenced based on the destination requirements and it means that selection sequence can be optimized to minimize warehouse travel time.

Just as it did for warehouse receipts, serialization allows associating customer receiving instructions with each outbound container. This requires data from store ordering application and allows prioritization and routing of containers on outbound loads. Containers for next week’s sale can be directed

to backroom storage and containers for customer requests can be put in layaway.

Provision must exist for merging pallets, half-pallets, and possibly layers with the rest of the selection units when they get to the loading area.

Eliminating “The Wall”

In some automated warehouse implementations, there is the concept of “The Wall”. The wall is where you put all the misplaced merchandise.

When a misplaced pallet is discovered, it must either be move where it belongs or at least removed from the wrong location until the computer system is corrected. These orphaned pallets are put against “The Wall” until they can be corrected.

If you serialize receiving units, it eliminates the wall because the unique identifier makes it easy to determine exactly where a pallet should have been stored.

Transportation Tracking

Serialization makes multiple stop loads easier to manage. The individual containers are directed to their intended destination. Serial number readers at each destination confirm the intended containers are delivered.

Financial Reporting

The serialized inventory allows more sophisticated financial reporting. Return on inventory bought for investment can be accurately reported based on when those cases are shipped.

How to Get There

What are the steps needed to get from today’s warehouse environment to the serialized warehouse? Use our contact information to get an outline of the steps we recommend for moving to a serialized warehouse.