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Abstract

Guideline scope to develop and deliver a tailored solution that will optimise business processes through the deployment of an enterprise-wide barcode scanning solution throughout the enterprise

Scope overview for  
the implementation of a mobile scanner solution for ePart

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# Overview

The intent of this document is to provide a high-level overview of a tailored verification of all stocking items using a barcode scanning solution integrated with the ePart database. A further intent of this document is to provide a supportive recording framework for the necessary iterative review of requirements that will result in a well refined scope of work from which detailed resource requirements, timelines and costing estimate can be defined.

Specific functionality is required to utilise the supplier barcodes as printed on the packaging rather than the ePart style barcode currently deployed. This will need careful review to ensure that multiple sourcing supplier codes map correctly to the ePart base number.

The solution consideration intent should be to follow ***best practice*** methodologies and proposes that a fully web-based deployment methodology be followed with ***mobility platform deployment*** readiness.

This document is produced with a current understanding of requirement and will indicate some options that will need to be considered and appropriately documented as “considered and found to have merit” or “considered and to have less merit” with the positive / negative elements defined for completeness and future reference.

Most of the document content will be presented in a short / cryptic format and per review expanded on as the solution opportunities and scope “exposed” for further exploration.

# Background

There are several operational sub-processes where barcode integration must be considered and is depicted in the following diagram, providing a high-level view that is expanded on later:

**Diagram 2.1 provides a high-level view of where barcoding could be effectively deployed**

Each of these sectors will have much to gain should a barcode scanning model be deployed.

Careful and detailed analysis is required to ascertain the real benefits such a model implementation would yield. In the analysis, investment to procure and implement such a solution must be calculated

Both tangible and in-tangible aspects must be brought into the benefits model i.e. operational accuracy, optimisation of staff, reliability of picker to pick face finding the expected product though to customer satisfaction.

The following operational sectors are reviewed in more detail to gain common understanding of what is expected against which the solution will be engineered.

# Scanning operations by sector activity

## Receiving

It has often been operationally speculated that using the manufacturers barcode(s) should offer cost saving and increase productivity.

Benefits:

* Savings on label stationary, printer maintenance, inking ribbons
* Human resources are optimised – no labels to be placed on the parts received.
* Goods flow from receiving to binning occurs faster and more accurately.
  + This has a direct influence of staffing costs
  + Sales should see new stock sooner
* Carton barcodes (bulk pack) can be translated to item barcode
* If serialisation is considered, the supplier serial number can be incorporated at receiving time and at pick / packing time

Cautionary:

* The current system relies on the number of labels printed to reconcile what was received vs delivery note / supplier invoice
* Real-time maintenance is required to ensure that supplier barcode(s) are linked to the ePart base number.
* Outer carton barcode from suppliers will be different from the item barcode. However, ePart must be enhanced to translate carton labels to item labels and be aware that i.e. the carton contains 10 of an item although the barcode is scanned once.

## Binning

The current binning process requires a binning job to created and one or more items plus quantities added to the job.

In the proposed barcode operational model, it should remain the same. However, the warehouse clerk will have the binning job uploaded into the mobile scanner for real-time verification at the time the goods are place into the bin location.

Human function will be to follow the on-screen scanner instructions as to which bin location to bin which items.

After reviewing the process may change to the user rather selecting the bin to action next.

At the pick face, the operator will be instructed to scan the bin location followed by 1 or more product barcode scans with capturing of quantities per each item verification.

The moment the process at the bin is completed successfully, the items binned are made available to sales to sell on. This factor will have a very positive customer (and salesperson experiences)

Any scanning activities are transmitted to the server in real time.

Variances are contained i.e. difference between binning job request to actual binned. This will be escalated to supervisor level for correction.

A binning job can be “closed” only of all tasks are completed.

Per binning job with SOME binning items completed with some items not completed; stock items without variances will be released the rest not until corrected.

## Cycle counting / wall to wall

Cycle counts and wall to wall assertion become more efficient as the bin and product contained in the bin are scanned and the quantity captured and uploaded to the server immediately.

With cycle counts this is very important as items are counted, transactions are uploaded in real-time, allowing for cycle-counts to be done during production time.

The current cycle-count model remains as is. Items that qualify for a cycle-count are uploaded to one or more mobile scanner devices, instructing the user to move a specific bin location and to conduct the requisite item counts.

Picking exceptions also filter into the cycle count model, as is the case currently.

Wall to wall counts can be positively enhanced by eliminating paper-based count sheets. During review of required functionality, the physical walking scanning counting process will be finalised for development work.

It is proposed that the wall to wall count process should follow closely the paper based counting process.

## Picking

The picking dashboard from which picking jobs are generated remains as is.

The difference in operation is that paper is eliminated and the data that would normally be printed is uploaded to mobile scanners for picking staff to follow the scanner display.

Each item to be picked process:

* Move to bin location
* Scan item barcode
* Count number of items picked
* Post the activity to server (Button on scanner display)
* Variance – too little items in bin.

User request alternate bin with stock on hand from scanner via the server in real-time allowing the picker to complete the item picked task.

Should the picker / supervisor identify an alternate bin location, the functionality is to allow the pick to occur in the alternate bin as identified. The item is inserted into the stock check process to fix the anomalies

* The mobile device must allow for the current functionality to place pick jobs on hold and to un-hold when needed
* Consideration must be given to swap picking jobs from one device to another. This would be needed especially when a specific device should fail.

## Customer returns

Using the supplier barcode on the packaging material, will assist the receiving process efficiency in the following manner:

* Scan the barcode on the invoice against which the return is made.
* Scan each item and capture the quantity
* Variances such as wrong item code against scanned invoice will raise an error
* Over counts of returned good per the invoice for the item and quantity sold will raise an error

An opportunity exists for the returned item barcode to be compared to the sold barcode. If these differ, it might be that the product may nor have been bought from Engineparts.

## Post picking verification and despatch

With reference to a previous document prepared for this part of the process, it is felt that it would be useful to review the ***ScopeScanCheck v2*** before formalising this operational sector

# Investment schedule

The investment schedule is deferred until the proposed solution is finalised