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software (WMS) interfacing

White Paper

OneOffice Series

*OneOffice Logistics
Options*

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OneOffice Overview

OneOffice will suit most businesses that buy, sell and repair products.

OneOffice modules can encapsulate the entire business requirements from Boardroom to warehouse

OneOffice is a highly functional ERP system targeted at companies in the Distribution, Wholesale, Sale & Repair, Import and Export markets. Customers of OneOffice come from many industry groups such as Computer, Electronic, Plumbing, Oil, Houseware, Electrical, Fasteners, Chemical, Health, Automotive and many others.

OneOffice offers all the functionality required by a company via a series of modules.

Financial: Advanced GL, debtors, creditors, assets, debtor management, bank & tax, contract costing, project costing

Sales & Marketing: Telesales, sales, CRM, forecasting, order analysis, rebates, loans, returns

Distribution & Logistics: Purchase planning, purchasing, landed cost management, inventory control, warehouse management, bonded warehouse, returns management, carriers, goods in transit

Service: Contract management, spare parts, call management, engineers diary, planned maintenance

Manufacturing: Manufacture to order, batch manufacturing

Collaboration: All data formats inbound and outbound (including EDI & XML), E-Commerce, Web Portal

Intelligence: Workspace, real time alerts, context driven information, dashboards, business intelligence module

This document focuses on warehouse management and the logistics options offered by OneOffice.

Warehouse Design

Warehouse design driven by product and supply chain partners

OneOffice has many options from complex to simple

Warehouse design is driven largely by the customer and supplier requirements and the physical product. Every industry and every company has its own idiosyncrasies as they aim to deliver a differentiated service to their customers.

To support the multitude of requirements, OneOffice delivers a wide range of warehouse receiving, storage and picking options. In short, the aim is to deliver a “standard” software package that allows our customers to deliver a superior level of service.

The various options of warehouse design that are supported by OneOffice are covered below. This is an overview only and gives indicative functionality. Logistics centre design requires detailed understanding which this document is not aimed to supply.

Product Data

Products may be batch traceable, serialised, assembled, disassembled and configured.

There are a multitude of product requirements that OneOffice supports. Products may be made traceable through batch traceability, serialisation both as a group or independently. Products can be assembled to order, assembled to stock, disassembled, configured and repaired. They may have size, weight, colour, packaging and other physical attributes and may have pictures and information recorded against them. Products may be set to expire after a certain time and all product has aging information held against it. Every stock and cost movement is visible to defined users.

Fixed Position

Each product has a defined location

A fixed position warehouse layout is the most common. Each product has a defined location and all stock is put into this location. Where more product arrives and there is no space, a manual

Overflows are handled manually

system is used to manage the overflow.

A warehouse ABC system may be used to profile products based on their pick frequency and therefore indicate suitable binning zones.

Picking slips can be printed in product, location or other order to support a faster picking speed.

As all product is kept in one place, picking and receipting errors are usually found during stock taking.

Random Position

Warehouse design driven by product and supply chain partners

OneOffice has many options from complex to simple

Define requirements

A random or variable position warehouse is usually used where true fifo picking is more vital or product is batch traceable or serialised. Each fresh receipt is placed into any empty bin of a suitable size and zone based on their picking profile, so removing any manual tracking or being greater than bin size. Receipts can also be split into multiple bins if required.

Picking sends the operator to the oldest product / bin first, then to the next oldest etc. The picking can still be put in bin order to ensure that the operator works in the most effective order.

Errors are identified as soon as a bin is emptied, meaning that the stock count is usually more reliable.

Picking Methods

Pick documents may be consolidated in one of many methods.

Pick document order is highly configurable.

Picking may be set as a bulk pick, where multiple orders are consolidated per product or location onto one pick document. As the items are packed, this is then deconsolidated per order line. Alternately picks may be consolidated to a pick document per customer / delivery address or have a separate pick document per order.

Each warehouse may operate differently and multiple methods are supported within one warehouse. Furthermore a warehouse may be set into a series of zones for zonal picking.

Pick document order is largely configurable.

Virtual paperless picking and electronic picking are supported and covered further in this document.

Pick Face / Replenishment

Pickers take small volumes from a lean pick face

Replenishment refills the pick face when required.

In this model, picking is run from a pick face or fast pick area. The remainder of stock (bulk stock) may be stored in either one or two areas. OneOffice supports storage of bulk in separate pallet and boxed zones (3 phase) or all in on bulk zone (2 phase).

Picking will look at the requirements of the pick and optionally send the picker to the boxed zone and pick face, just boxed zone or just pick face depending on the quantity / multiple required.

The pick face and boxed zones may be replenished "real time" or on a batch basis (for overnight or interval replenishment). Real time replenishment is placed on the pick / job queue (see below) ahead of any jobs that they relate to. These jobs cannot be processed until the replenishment is completed successfully.

Pick Walk

System "leads" operator through a sequence of picks.

Confirmation of pick accuracy at each pick stop.

Pick walk allows the operator to select a picking job (may be one order, one customer or a batch of orders) and process them through a defined cycle of picks. This requires a real time relationship with the system via a hand held terminal, trolley or the like. The system "walks" them through the pick cycle and they confirm product and quantity at each bin to ensure picking accuracy. Batches, serial numbers etc. may also be confirmed if these are in use. Labels and delivery paperwork are delivered as

	appropriate to the picks.
<p>Advanced Pick Walk</p> <p><i>The pick walk is streamlined to manage "fringe" operations such as missing stock, labelling, quarantining etc.</i></p>	<p>Extensions have been made to the standard pick walk to enhance the process flow for more real time operation. Labels may be printed during the pick walk as well as before and after. If there is a product shortfall in the location, alternative locations of the product can be added to the walk while quarantining the affected bin (and optionally correcting the stock via an adjustment). Picking can be confirmed by using the batch reference rather than the product code. Advanced pick walk is aimed at further streamlining the pick walk operation through enhanced interaction with portable terminals and printers.</p>
<p>Pick & Job Queuing</p> <p><i>Warehouse work can be placed in an electronic queue where all jobs are visible to staff in the company.</i></p> <p><i>Work can be reordered, prioritised and combined in this queue.</i></p> <p><i>Sales can see the actual status of a job – queued, picking, QA or confirmed.</i></p>	<p>The system can print picking or delivery notes immediately or send them to a picking queue. Operators can then pull items from the queue in a predetermined sequence (order, customer, backorders, picking group or similar). This allows the company to see the amount of work outstanding in the warehouse and whether a particular order is in pick at that time. An order that has been picked and confirmed is removed from the queue.</p> <p>The queue can be extended to be a warehouse job queue, containing most elements of warehouse operation; inter-warehouse transfer requisitions, stock takes, replenishments are some of the processes available to process via the queue.</p> <p>Jobs on the queue can be allocated "on the fly" or preset to go to a specific stores person or group of stores people. Paperwork and labels can be printed at different times in the picking cycle.</p>
<p>Quality Assurance</p> <p><i>Orders can be sent to QA on a random, fixed or predetermined basis.</i></p>	<p>At the end of a pick, a job may be sent for mandatory quality assurance. This can be set to be a random selection, specifically for one customer or all picks. The operator must confirm that quality assurance has been completed. Quality assurance checking may also be switched off if not required.</p>
<p>Despatch Systems</p> <p><i>Despatch Confirmation in one phase or two.</i></p> <p><i>Multiple delivery charging options.</i></p> <p><i>Carrier consignment details update each order.</i></p>	<p>Despatch confirmation may be completed in one or two phases. The first phase is to show that picking of goods is completed and packed. The second allows the operator to update carrier and delivery charges, and allow for delivery consolidation of multiple orders for one customer. Delivery charging may be fixed charges, by weight, by matrix, by carrier / service level etc. Carrier consignment details may be created by the system, scanned in from carrier labels or electronically updated from the carriers' system.</p>
<p>Delivery Details</p> <p><i>Manifests available in multiple configurations.</i></p> <p><i>Carrier consignment updated from carrier's systems.</i></p>	<p>Manifests may be created for each carrier / carrier service and any subsets of this. Carrier consignment details and carrier delivery details may be updated back to the software electronically updated from the carriers' system. Consignment details are dynamically available to order enquiry screens.</p>
<p>Transit Time</p> <p><i>Each carrier service can have a delivery transit time.</i></p> <p><i>The delivery transit time is taken into account by the picking programme..</i></p>	<p>Where shipments may be time constrained, the system is able to pick ahead of the required delivery date. For instance, if an order is to be delivered from Melbourne to Perth, the operator will have selected the carrier and service required (road, air etc.). This carrier and service matrix may have a transit time included with it (say 3 days for road service). When the picking programme is run, any items using this service that are due for delivery in the next three days will be sent for picking.</p>
<p>Receipt & Put-Away</p> <p><i>The landed cost module enters all product data and the</i></p>	<p>Receiving of goods may be processed in multiple ways.</p> <p>If using the Landed Cost Module, the costing and entering of</p>

<p>warehouse can quickly confirm physical receipt.</p> <p>Receiving may be done from paperwork, barcodes or boxes as required. Multiple search facilities are available.</p> <p>Goods may be received directly into their picking bins or moved via a put-away zone.</p>	<p>goods will have been completed prior to goods receipt. Therefore the receipt is a matter of comparing the expected quantities with those processed on shipping documents. This may be done real time on a terminal or by checking against a report with a single entry “accept shipment” processing at the end.</p> <p>Receiving may also be done directly from the suppliers documents / boxes and barcodes where these are available. Receipts may be processed real time by entering order or product details, then confirming the quantities and printing labels where required.</p> <p>Items may be received into their final location directly (and be immediately available for sale) or put into a “put-away” zone / trolley / bin / area. Where they are in put-away, they are visible to sales but not able to be sold or picked until confirmed as put away.</p>
<p>Cross Docking</p> <p>Where goods are received that need to be picked immediately, they can be identified and put into a cross dock area for immediate picking.</p>	<p>Goods are often received in warehouses that need to go out immediately. Putting those goods into their picking locations, only to be picking them again creates an unnecessary workload. OneOffice can identify these goods during picking and tell the operator to put them directly into a cross dock zone. The pick can be done instantaneously or separately to allow consolidation of order items. It can go via the pick queue or bypass it. This system can significantly speed warehouse throughput and improve customer service.</p>
<p>Stock Taking</p> <p>Comprehensive stock take options available.</p>	<p>Stock taking supports structured and random stock checks. An entire warehouse, range of locations, selected locations or randomly selected stock take may be undertaken. Stock takes may “freeze” picking or not and may be sent to the pick / job queue (see prior item in this document). Stock checks may be blind or not. Check tickets may be printed. A separate operation manages counting and count consolidation. Variance reports show actual versus system stock prior to updating.</p>
<p>Labelling</p> <p>Comprehensive labelling options are available for receipt, despatch and warehouse labelling.</p>	<p>Items may be labelled on receipt and despatch. Despatch labels support customer product codes as well as in house codes. Advanced supply chain functions allow the label to have customer location and bin codes incorporated in them for enhanced customer receiving.</p> <p>Carrier consignment labels may be printed using one of several algorithms.</p> <p>Warehouse labelling is available for labelling zones, bins, locations etc.</p>
<p>Documentation</p> <p>OneOffice supports extremely flexible document management with print, email, fax and archiving options.</p>	<p>Paperwork may be printed or suppressed as required. The system can operate in a largely paperless mode or delivering paperwork as required. The Media Server operation means that logos, barcodes, layouts and data formats are all extremely flexible. Paperwork can be printed, faxed, emailed and archived as finished documents.</p>
<p>Mobile Devices</p> <p>OneOffice supports wireless mobile devices of most types.</p>	<p>OneOffice supports multiple types of wireless mobile devices. While there may be a degree of screen painting or scripting required for a specific device, the job queue, pick walk and similar functionality has all been designed to support wireless devices.</p>
<p>Conveyor Interfaces</p> <p>OneOffice can manage a PLC directly and control conveyor picking.</p>	<p>Experience with WMS interfaces (see below) has allowed for directly interfacing to a PLC interface for conveyor management. Picks for a particular order are sent down a conveyor with the PLC instructed to stop it at the first zone that requires a pick. When picked, it passes on to the next zone and again is stopped for the</p>

WMS Interfaces

Two structured warehouse interfaces supported.

Process interfaces for ad-hoc programmes.

next pick. Once the last pick is done, it is sent to the end of the conveyor for packing or consolidation with non conveyor picks.

OneOffice has been interfaced successfully with several warehouse management systems. There are two structured WMS interfaces that operate in a “real time” mode with the system allowing full warehouse management by a separate system.

Alternately there are multiple “single process” interfaces that allow warehouse activities to update the system via scripts for ad-hoc programmers.