QAD Midwest User Group

QAD Automation Solutions

Effective Material Handling, Effective Enterprise, Effective User

Adam Kacala March 22^{nt} 2016









Agenda

- Solution Overview
- Practical Applications
- Value Proposition
- Summary
- Q&A



Business Challenges Solved

Business Driver	Customer Pain	Industries
Error proofing business process	Need real-time transaction validation and notify/stop user from processing transaction in case of error	All
Paperless task instructions	Eliminate slate, lost and hard to manage printed task lists	All
Alignment of systems to material flow	Need ability to configure transaction flow to business needs	All
Automation	Need intuitive, easy to use system, with users completing activities in least amount of time	All
Regulatory and industry compliance	Need ability to comply with regulatory and industry track & trace compliance, and ability to track root cause of issues	All



Solution



Data Collection Framework



Label Printing



Packaged
Material
Handling
(Serialization)

3 New Solutions Combined



Serialization and Packaged Inventory

Item Serialization

A Unique Identification Number of Sellable Unit













Packaged Inventory

Inventory packaged using unique Package ID















Configurable Inventory View

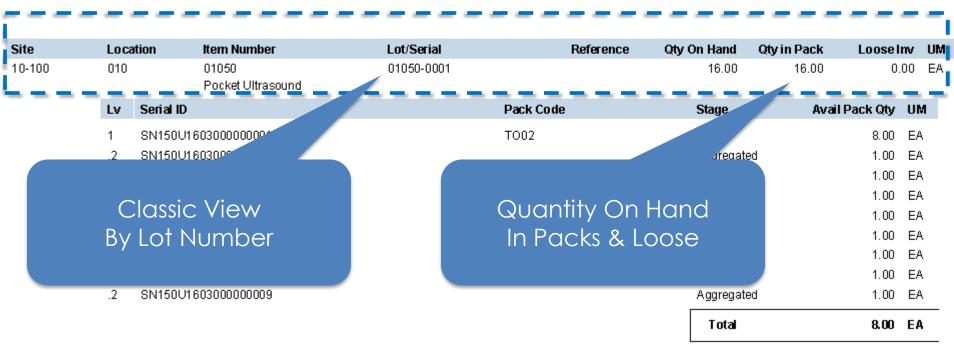


Serialized Inventory Report

10USA USD

Page 1 / 3 3/3/2016

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Configurable Inventory View



Serialized Inventory Report

10USA USD

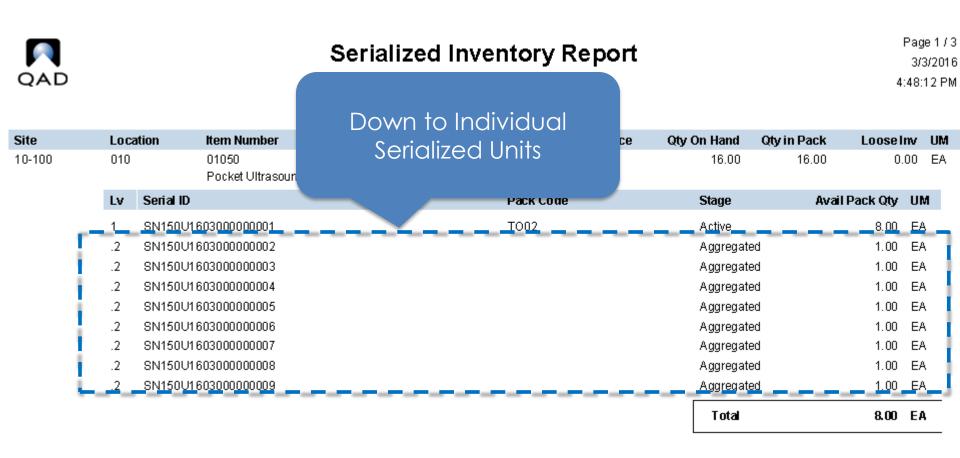
Page 1 / 3 3/3/2016

4:48:12 PM

Site	Loca	ation	Item Number	Lot/Serial	Referenc	e Qty	On Hand	Qty in Pack	k Loosel	nv UM	i
10-100 010			01050 Pocket Ultrasound	01050-0001			16.00	16.00) 0	.00 EA	
	Lv	Serial ID			Pack Code		Stage	A	vail Pack Qty	UM	
	1	SN150U1	603000000001		TO02		Active		8.00	EΑ	ı
	.2	SN150U1	3030000000002				Aggregate	ed	1.00	EΑ	1
	.2	SN150U1	303000000003				Aggregate	ed	1.00	EΑ	
	.2	.2 SN150U1603000000004					Aggregated			EΑ	
	.2 SN150U1603000000		803000000005		Aggregated			1.00	EA		
	.2	SN150U1	803000000006				Aggregate	ed	1.00	EΑ	
	.2	SN150U1	303000000007				Aggregate	ed	1.00	EA	
	.2	SN150U1	803000000008	Drill Down to D	Details of		Aggregate	ed	1.00	EA	
.2 SN150U160		303000000009	Packagi	ng		Aggregate	ed	1.00	EA		
							Total		8.00	EA	



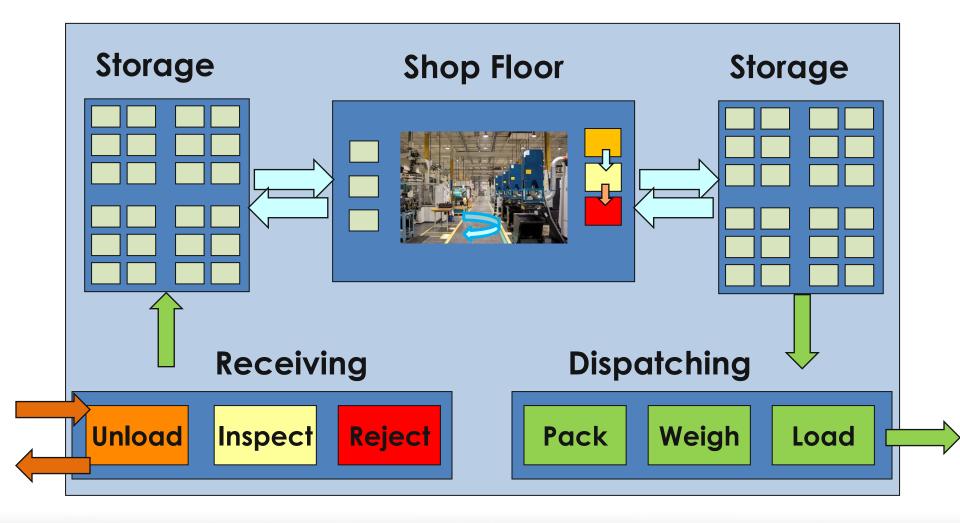
Configurable Inventory View





Session 1 – General product Overview

Inventory Transactions





Key Benefits

Serialization, Packaged Inventory & Attributes

Configurability (by process area, by transaction, item)

Integrated Label Printing

Choice of Inventory Tracking by lot / by serial ID

Issues Resolution, Track & Trace

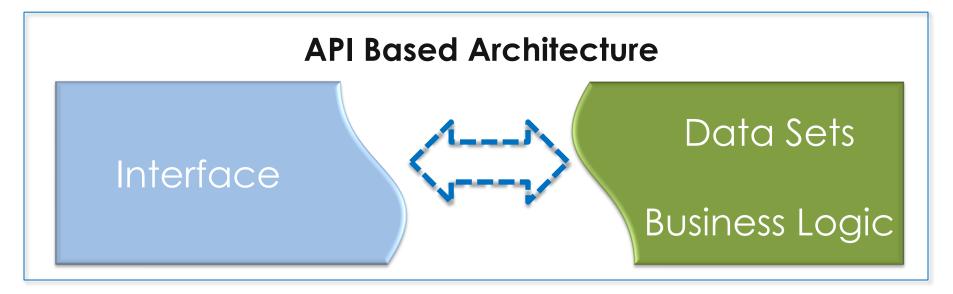
Bill of Packaging (by site, item, trans. type, address)

Industry & Regulatory Compliance

Error Proofing (LP inventory automated by DC)

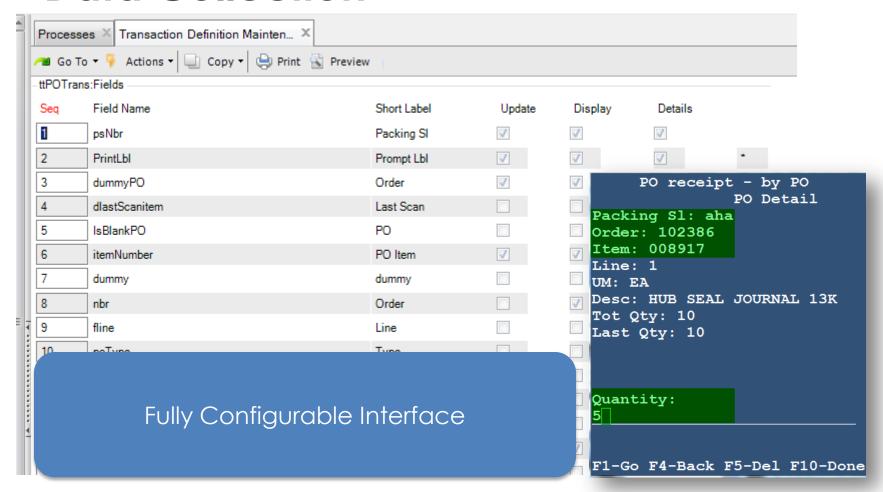
Item Attributes



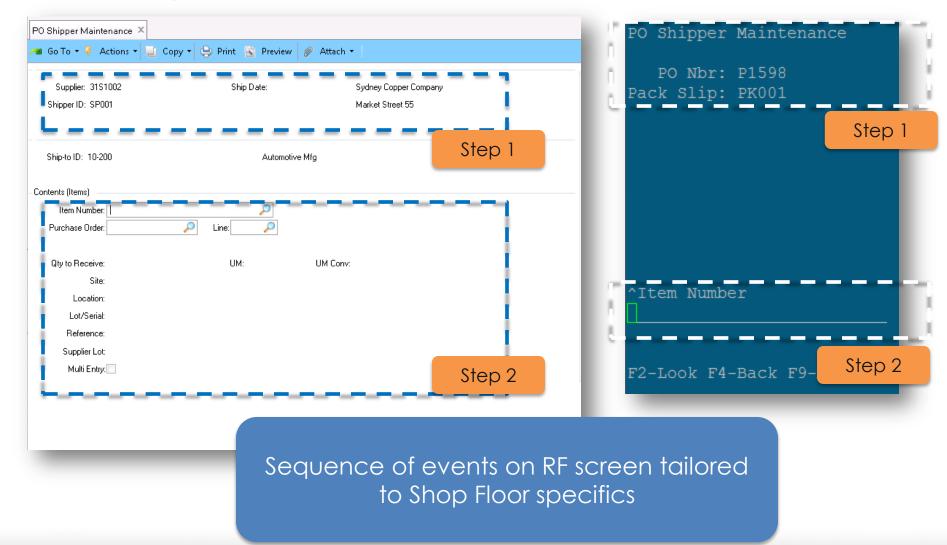


- Configurability (no customizations!!)
- System tailored to the Shop Floor Business Process
- Ease of configuration changes and upgrades
- Maintainability (training for QAD Customers)



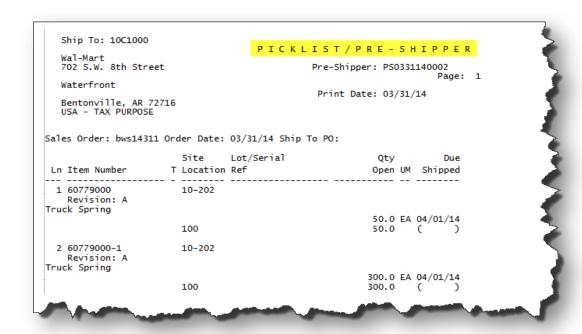








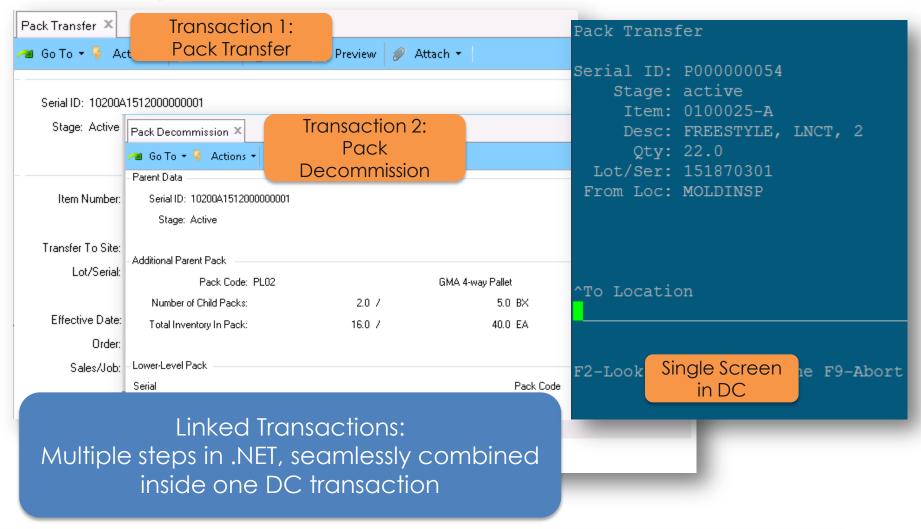
Data Collection



Paperless Instructions









Key Benefits

QAD Data Collection

Fully configurable interface (including .NET)

Data validation on API and transaction level

Linked Transactions

Decoding of all types of barcodes (2d, QR, GS1 ...)

Static & dynamic default values

Integrated label printing

Paperless instructions

IT Manageable toolset



Label Printing Services



(01) 10072534123451 (10) 12340223ABC

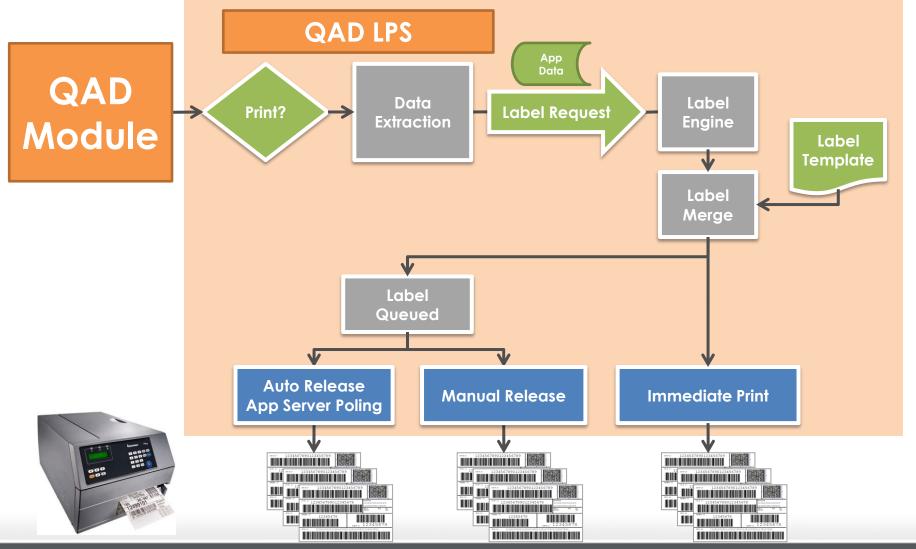


Label Printing Services





Label Printing Services





Key Benefits

QAD Label Printing Services

Integrates with QAD and non-QAD modules

Works with print servers and prints direct to printers

Advanced format routing capabilities

True label reprint (track & trace)

Advanced printer routing capabilities

Printer and label monitoring dashboard

Advanced label pooling capabilities

Handles all types of barcodes (2d, QR, GS1 ...)



Practical Applications

The following pages present examples of DC transactions from QAD Automation Solutions customer projects.

This presentation is focused only on selected implementation examples. There are over 130 "flavors" of transactions (plus EAM) available in the AS Library.



Engagement Model

Reusability & Continuous Improvement Transaction and Label Library **Assessment** Transaction Pre-**Business Process** Label Workshop Training Implementation Workshop selection Walkthrough Transaction and Label Library



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

PO Receipt by Qty: Simple PO Receipt by Lot

- 1. Enter/Scan PO#
- 2. Enter/Scan Packing Slip #
- 3. Enter/Scan Item #
- 4. Enter Lot #
- 5. Enter Supplier Lot# (optional)
- 6. Receiving location default from Item Mstr
- 7. Confirm (no label print)

```
PO Receipt by Lot
PO Detail
Order: P2767
Pack Slip: P123
Item: 0700015-a
Line: 1
UM: EA
Desc: NDL 28G - FREESTYLE

Lot/Ser:

F4-Back F10-Done F9-Abort
```



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

PO Receipt by Pack: Step 1 Create PO Shipper

- 1. Enter/Scan PO#
- 2. Enter/Scan Packing Slip #
- 3. Enter/Scan Item #
- 4. Enter Qty received
- 5. Enter location (defaults from Item Mstr)
- 6. Enter Lot #
- 7. Enter Supplier Lot# (optional)
- 8. Confirm and print labels
- Number and type of labels driven by BOP (Bill Of Packaging) and QTY received

```
PO Shipper Maintenance
   PO Nbr: P2767
Pack Slip: P123
 Item Nbr: 0700015-a
     Desc: NDL 28G - FREESTY
     Line: 1, UM:EA
Item Label Oty
                  0.0
F4-Back F9-Abort
```



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

PO Receipt by Pack: Step 2 PO Shipper Unload

- 1. Scan the License Plate #
- Enter Quantity on Pallet (full and partial pallets)
- 3. Confirm receipt complete

```
Pending PO Shipper Unload
                 PO Det
       PO: P2767
  Shipper: P1234
  Tot Qty: 0.00
       LP: P000001539
     Item: 0700015-a
 Location: a2
      Lot: LOT01
 Supplier: 13000100
Qty:
        100.0
F4-Back F10-Done F9-Abort
```



Practical Applications

Receiving

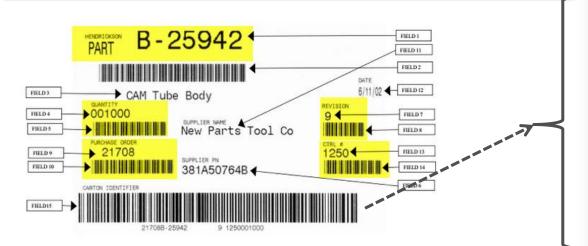
Transfer Put-Away

Production

Inventory

Shipping

PO Receipt: Receipt using QR/Long Barcode



DC Transaction will decode the barcode and populate all data elements automatically

PO receipt - by PO PO Detail

Packing S: 16106900

Order: PRC60315 Item: 64817

Line: 2 UM: EA

Desc: Plastic Isolator (Iss)

Quantity:

0.0

F4-Back F5-Done F10-Abort



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Inventory Transfer: "Smart" Inventory Transfer

- 1. Scan/Enter target location
- 2. Depending on target location type transaction will:
- 3. Scan LP #

Execute a simple transfer

or

Transfer inventory and decommission pallet (if target location is a production line)

```
Pack Transfer
Serial ID: P000000054
    Stage: active
     Item: 0100025-A
     Desc: FREESTYLE, LNC
      Oty: 22.0
 From Loc: MOLDINSP
   To Loc: CELL00
Confirm:
F4-Back F10-Done F9-Abort
```



Practical Applications

Receiving

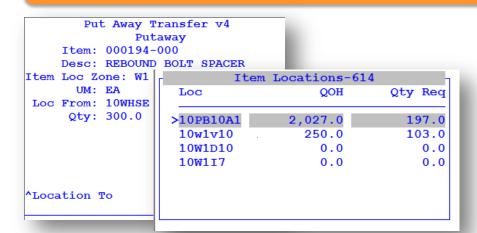
Transfer Put-Away

Production

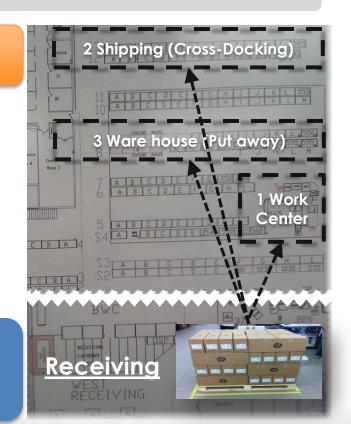
Inventory

Shipping

Inventory Transfer: Directed Put-Away



System will direct Material Handler to a particular zone or to work center or shipping dock if there are material requirements





Practical Applications

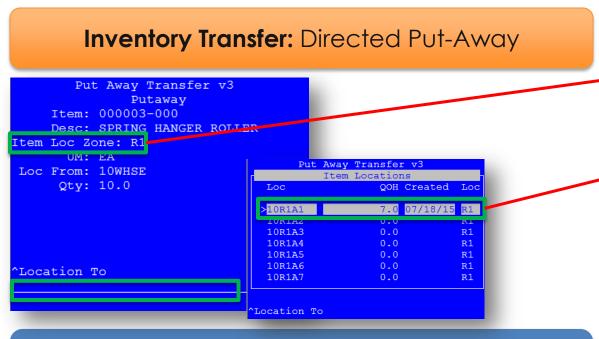
Receiving

Transfer Put-Away

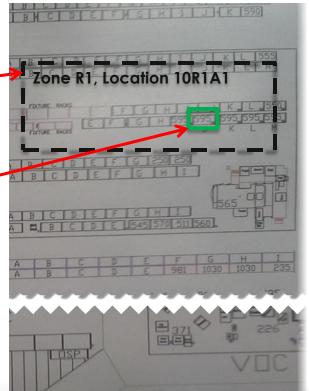
Production

Inventory

Shipping

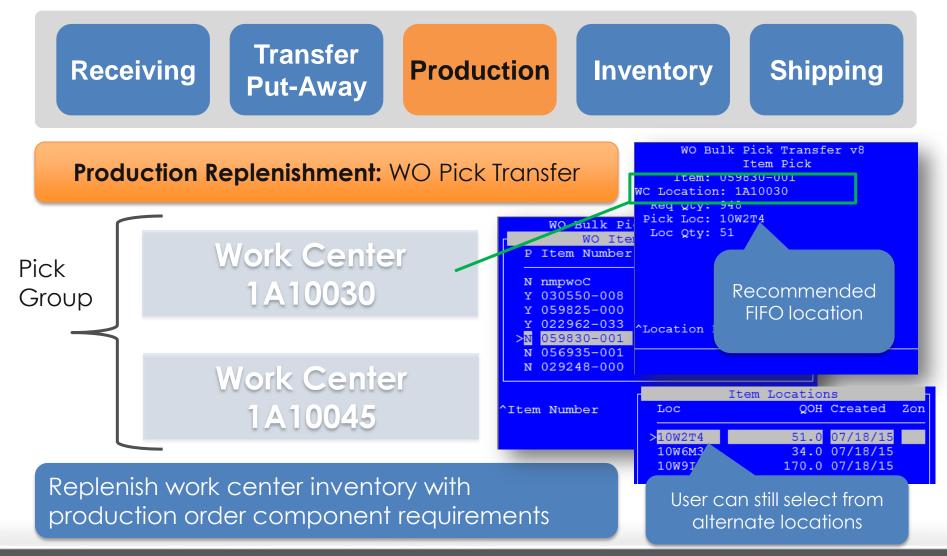


Within a Zone, system will display QTY on hand so Material Handler can optimize space usage





Practical Applications





Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Simple WO receipt: one step process

- 1. Enter WO number
- 2. Enter Employee
- 3. Enter quantity processed
- 4. Confirm
- 5. No label print

```
Rework WO Receipt
        WO Receipt
    WO ID: 82167
     Item: 0700015-a
 Qty Ord: 100,000.00
 Oty Open: 99,864.00
Quantity Processed
F4-Back F10-Done F9-Abort
```



Practical Applications

Receiving

Transfer Put-Away

Production

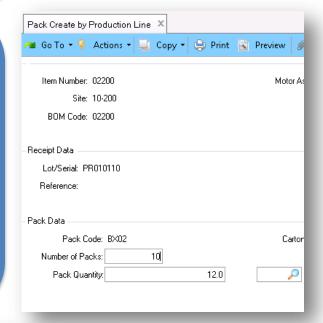
Inventory

Shipping

Repetitive Backflush:

Step 1 Book Serial IDs, Print Labels

- 1. Enter Item, Site, Production Line
- 2. System will print labels for manufactured item based on Bill of Packaging
- 3. System will reserve serial numbers of packages and items





Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Repetitive Backflush:

Step 2 report backflush by LP#

- Enter Employee, Production line, Item
- 2. Scan LP numbers DC transaction will stay in the loop, operator can scan next LP number without leaving transaction

```
Adv Rep Bkf Mold
 Employee: 12A
Prod Line: CELL01
 Item Nbr: 0100025-A
     Desc: FREESTYLE, LNC
^Pack Serial ID
F2-Look F4-Back F10-Done F9
```



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

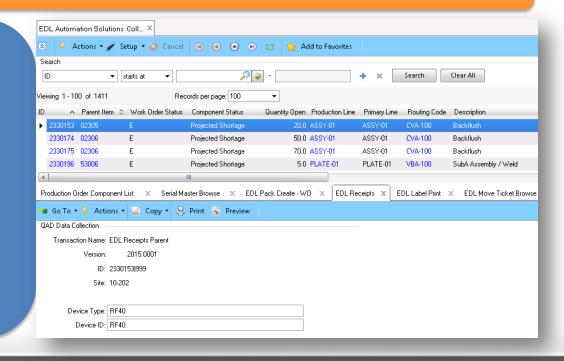
Shipping

EDL – Electronic Dispatch List (bolt-on)

Central console for manufacturing operations:

- -3 process flows integrated
- -15 integrated transactions
- -DC transactions in .NET
- -Label printing
- -Production reporting
- -Component requirements
- -Serialized functions

Everything on one screen!





Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Pack Management

Multiple DC transactions implemented:

- -Pack build
- -Pack remove
- -Pack Qty remove
- -Pack Qty build
- -Pallet to pallet transfer
- -Pack transfer
- -Pack decommission
- -Inquiries
- -others

Pack Transfer

Serial ID: P000000055

Stage: active

Item: 0100025-A

Desc: FREESTYLE, LNC

Qty: 23.0

Lot/Ser: 151870401 From Loc: MOLDINSP

^To Location

F2-Look F4-Back F10-Done F

FY-Look F4-Back F10-Done



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Inventory

Multiple DC transactions implemented:

- -Inventory status change
- -Inventory transfers
- -Scrap
- -Unplanned issues
- -Unplanned receipts
- -Cycle count
- -Cycle recount
- -Tag count entry
- -Tag recount entry

"Smart" transactions (by Pack or by Quantity)

Loc Status Change

Location: A10

Item Nbr: 1100031-A

Desc: CareFine 6mm x

Lot/Ser: 5B608 QOH: 324.0

Exp Date: <mark>0</mark>1/31/2020

F4-Back F10-Done F9-Abort F2-Look F4-Back F10-Done

F2-Look F4-Back F10-Done



Practical Applications

Receiving

Transfer Put-Away

Production

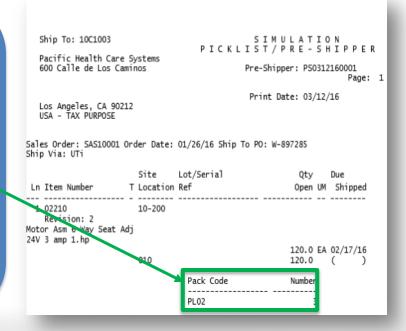
Inventory

Shipping

Shipping scenario 1: Step1 create pre-shipper

Create Pre-Shipper (7.9.1)

System will display information about number of pallets required based on "Bill of Packaging" for a given item, site and ship-to"





Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Shipping scenario 1: Step2 Pick for shipping

Variant 1: lean environment - pick direct from Production Line

-Scan LP#

-Select pre-shipper from the lookup

-Transfer to staging area

Variant 2: pick from the warehouse

- Scan/Enter pre-shipper number
- System will direct Material Handler to warehouse location where the item is being stored

Pre-Shipper Pick - LP

Serial Pre-Ship: PS0312160001

Customer: Pacific Health Care Systems

Item: 02210 Order: SAS10001

Line: 1
Req Pick: 64.0
From Loc: WTS
Gross Wt: 320.00

[^]MP License Plate <mark>1</mark>0200A1512000000001



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Shipping scenario 1: Step3 partial and mixed

Pre-Shipper Pack-Item

Transaction allows to add to or remove item from the pallet

(can be executed as a stand alone transaction or integrated with a "pick" transaction)

Pre-Shipper Pack - Item

Child Serial Pre-Ship: PS0312160001

Mp LicP: 10200B1512000000001

Item: 02210 Order: SAS10001

Line: 1
Req Pick: 48.0
Location: 010

ReScn Item



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

Truck Load

Shipping scenario 1: Step 4, 5 & 6 - create shipper, labels, truck load

Pre-Shipper Convert To Shipper

PreShip ID: PS0312160001

Ship To: 10C1003

Cust Name: Pacific Health Care Systems

Pend Pick: yes

Confirm <mark>Y</mark>es Shipper Labels
Shipper Print

Ship-From: 10-200

Shipper: SH0312160001 Lbl Group: shpMpReprint

Print Label YES Shipper: SH0307160002

Customer: 10C1000 Name: Wal-Mart

Pallets: 1 Loaded: 1

Serial ID

4) Convert pre-shipper to a shipper

5) Print labels

6) Truck Load



Practical Applications

Receiving

Transfer Put-Away

Production

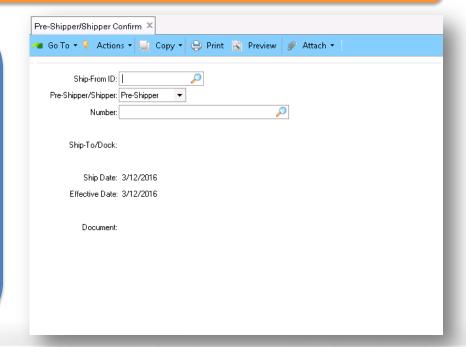
Inventory

Shipping

Shipping scenario 1: Step 7 Shipper confirm

Confirm the Shipper

Print shipping paperwork





Practical Applications

Receiving

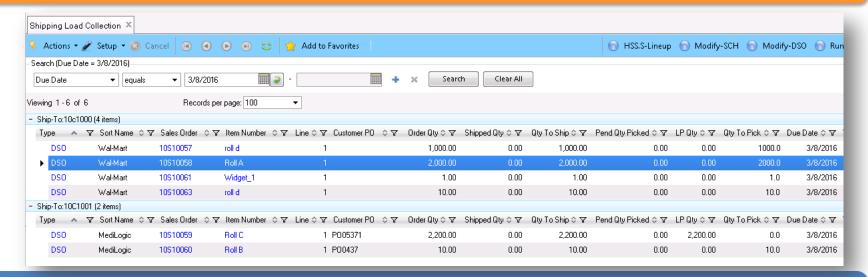
Transfer Put-Away

Production

Inventory

Shipping

Shipping Load Collection (Bolt-On)



Displays orders to ship, open quantities, shipped quantities, quantities to be picked, pending picking, being picked and to be packed



Practical Applications

Receiving

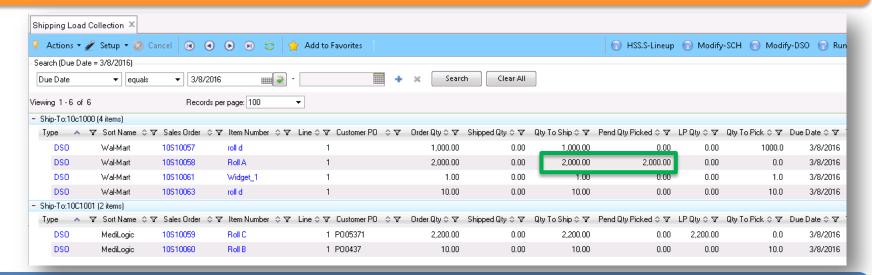
Transfer Put-Away

Production

Inventory

Shipping

Shipping Load Collection (Bolt-On)



Example: after picklist run: Pending Qty Picked has increased. License Plate Qty equals: item still needs to be put on Pallet



Practical Applications

Receiving

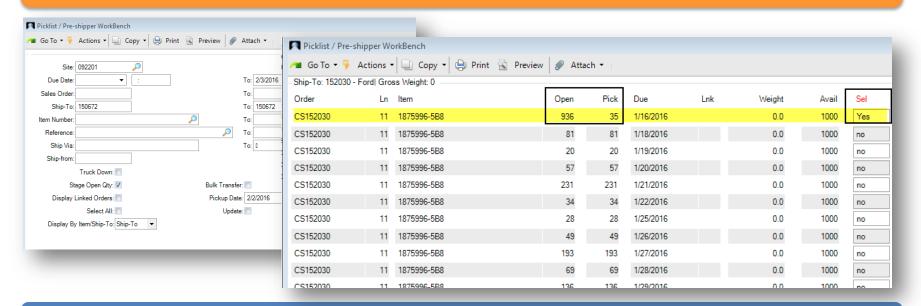
Transfer Put-Away

Production

Inventory

Shipping

Picklist/Pre-Shipper Workbench (Bolt-On)



Allows to select for picking one item across multiple orders



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

SO Bulk Transfer 1/3 (Bolt-On)



Pull/Stage single item for multiple SO

Package/label to specifying customer order

Return unused items using a put-away rules





Packing Bay



Practical Applications

Receiving

Transfer Put-Away

Production

Inventory

Shipping

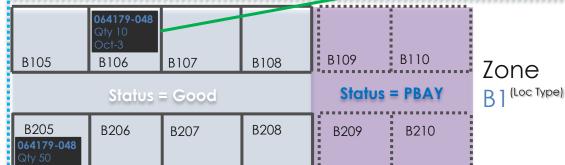
SO Bulk Transfer 2/3 (Bolt-On)



Pull/Stage single item for multiple SO

Package/label to specifying customer order

Return unused items using a put-away rules



SO Bulk Pick Transfer v8
Item Pick

Pick Zone: B1

Item: 048648-074

Desc: COMAIR FRAME MTG. KIT

Req Qty2: 1 Pick Loc: b106 Pick Avail: 1

^Location From

Packing Bay



Practical Applications

Receiving

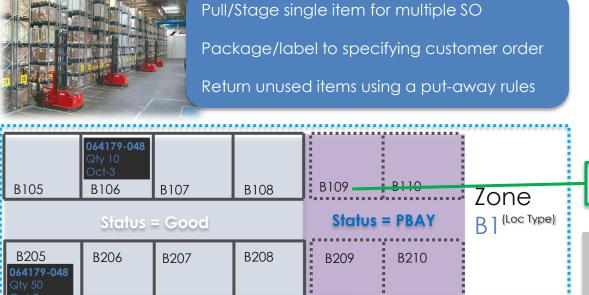
Transfer Put-Away

Production

Inventory

Shipping

SO Bulk Transfer 3/3 (Bolt-On)



SO Bulk Pick Transfer v8
Item Pick

Pick Zone: B1
Item: 048648-074
Desc: COMAIR FRAME MTG. KIT

Req Qty2: 1
Pick Loc: b106

Pick Avail: 1
Loc From: b106
Picked: 5

Packing Bay



Summary of Benefits

QAD Automation Solutions

Configurable Screens & API

Organized Data Structure (no overuse of gen-codes)

Linked Transactions

Customer Training / IT Manageable

Extended Label Options

Easier Upgrades

Integration with Serialization & EAM

Different UI Types



Summary of Benefits

Why QAD

Strategic QAD Direction

Direct Access to R&D

Diversity of Experience (not only Data Collection)

Direct Access to Support

Single Partner

True Global Presence

Consistent Implementation Methodology (EOB)

Transaction Library



Solution Summary

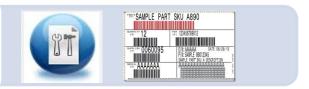
Data
Collection
Toolset



Transaction Processing



Label Printing



Serialization & License Plating



Extends



- Core product solution
- Tool set to build transactions using library components
- Configured barcode scan, fields, transaction flow, validation
- Integrated error handling/validation / record locking management
- Core ERP security/ access
- Data driven framework integrated with DC/QAD Core
- Point of print control
- User friendly label format/ printer routing and monitoring
- DC transactions built using new packaging, license plating, serialization transactions
- Extends capabilities of core ERP
- Data Collection for EAM transactions



For More Information

- Adam Kacala Business Development Manager
 - ayk@qad.com
 - +1 901-786-2294
- Brent Shooltz Product Manager
 - <u>bws@qad.com</u>
 - **-** +1 616-285-6617
- Astrid Rommens Director Automation Solutions Practice
 - aqr@qad.com
 - +1 630-329-5414 / +31 653649106



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