Omni Channel Fulfillment System Design

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**W&H SYSTEMS**

50 YEARS 1964 2014

Omni Channel Retailing

"Omni-Channel Retailing is the evolution of multi-channel retailing, but is concentrated more on a seamless approach to the consumer experience through all available shopping channels, i.e. mobile internet devices, computers, bricks-and-mortar, television, radio, direct mail, catalog and so on."
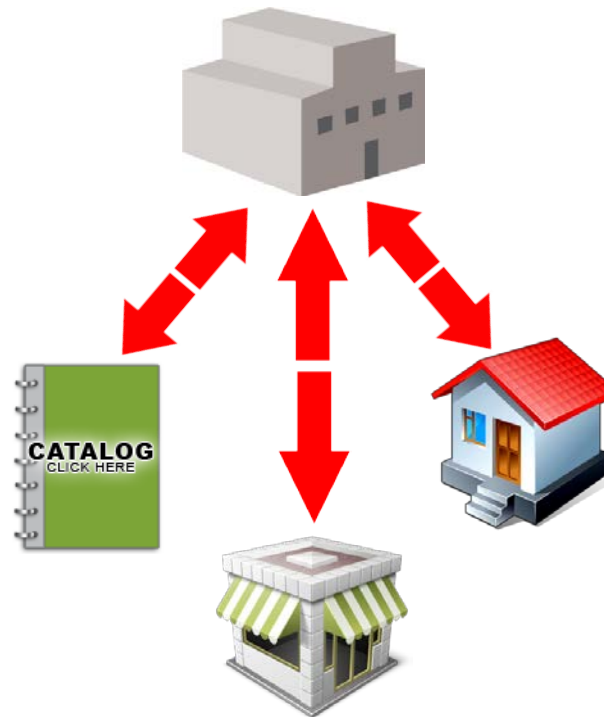
Retail Supply Chain Evolution
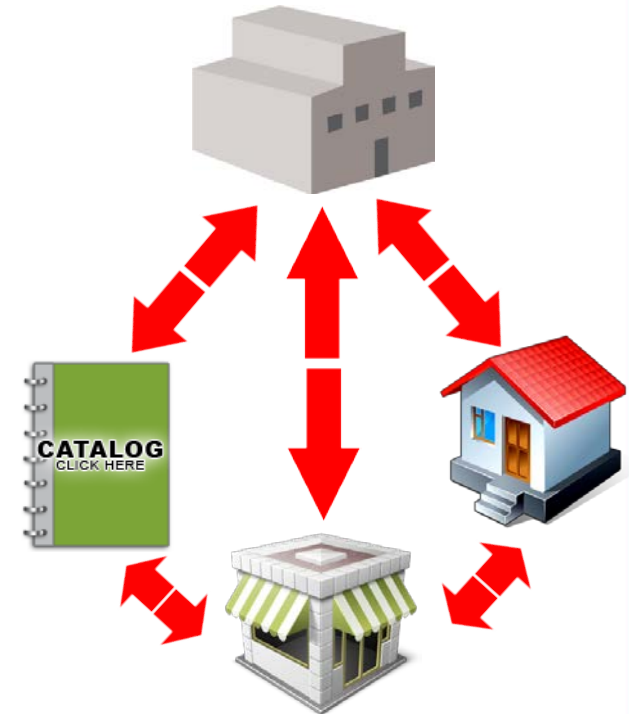
1970's-1990's

Retail Distribution
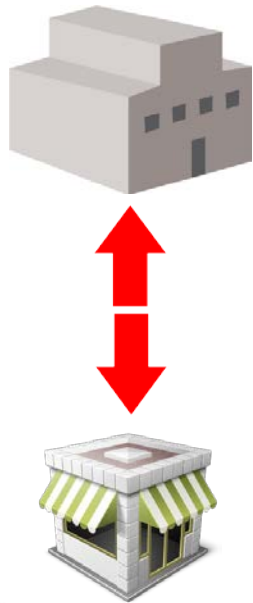
1990's- 2010
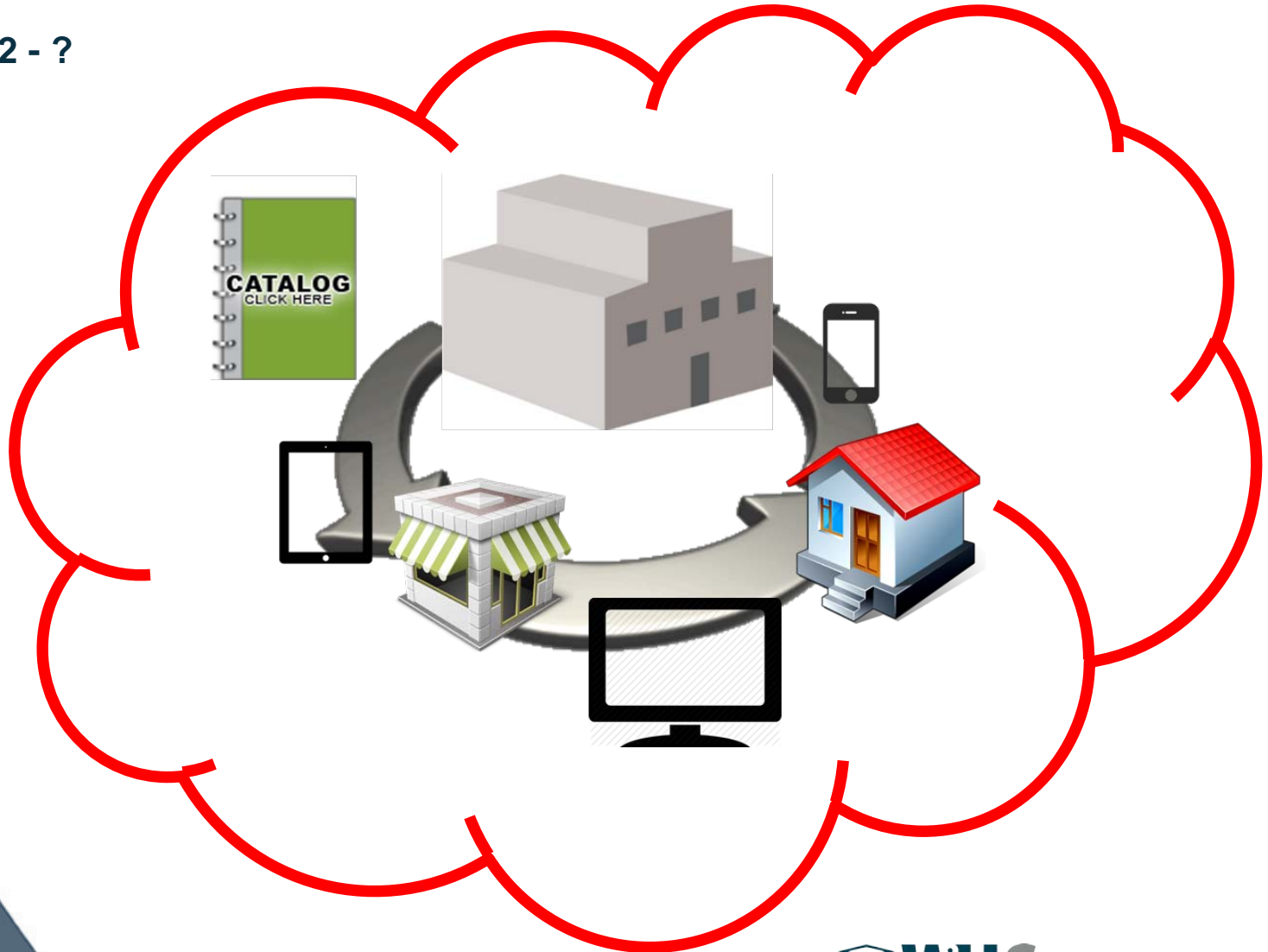
Multi-Channel Distribution

2010- 2012

Cross Channel Distribution
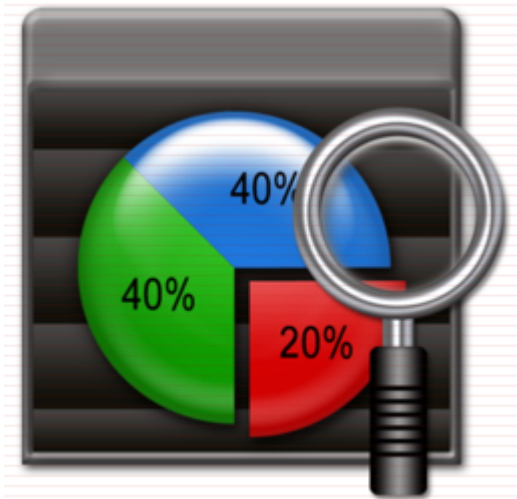
Retail Supply Chain Evolution

2012 - ?

OMNI CHANNEL IMPACTS ON RETAIL DISTRIBUTION

Omni Channel Impacts on Retail Distribution

Pick any type of order from one inventory and ship it through any channel

- Order Types
  - Retail
  - Consumer
  - Wholesale
- Shipping Channels
  - Retail (TL, LTL, and Parcel)
  - Consumer (Parcel)
  - Wholesale (TL, LTL, or customer's carrier)

Omni Channel Impacts on Retail Distribution

Order Types

Retail
- o Low – Medium no. of orders
- o Medium – High no. of lines/order
- o Low – Medium no. of units/line

Consumer
- o Medium – High no. of orders
- o Low no. of lines/order
- o Low no. of units/line

Wholesale
- o Low – Medium no. of orders
- o High no. of lines/order
- o High no. of units/line

Shipping Channels

Retail
- • Parcel
- • LTL
- • Truck load

Consumer
- • Parcel

Wholesale
- • LTL
- • Truck load
- • Pick up

Dimensional Weight: Size Matters

Ground Shipment
20 lb Parcel
Louisville to Philadelphia

Dimensional weight calculator

Select Units
- ⦿ in/lb (OR)
- ○ cm/kg

Enter Dimensions
length x width x height
(Longest dimension is the Length)
24 x 18 x 13 in

This package can be shipped with
FedEx International Priority®.**
FedEx International Economy®.**

Customers: Ship it now
New Customers: Open an Account

Enter Actual Weight
15 lb (Required for comparison)

Dimensional Weight
= 41.0 lb

reset | Calculate Dim Weight

The Dimensional Weight (L x W x H / 139) is greater than the Actual Weight of the package and will be used for rates calculations.

$27.58

Ground Shipment
20 lb Parcel
Louisville to Philadelphia

Dimensional weight calculator

Select Units
- ⦿ in/lb (OR)
- ○ cm/kg

Enter Dimensions
length x width x height
(Longest dimension is the Length)
23 x 17 x 12 in

This package can be shipped with
FedEx International Priority®.**
FedEx International Economy®.**

Customers: Ship it now
New Customers: Open an Account

Enter Actual Weight
20 lb (Required for comparison)

Dimensional Weight
= 34.0 lb

reset | Calculate Dim Weight

The Dimensional Weight (L x W x H / 139) is greater than the Actual Weight of the package and will be used for rates calculations.

$18.67

A reduction of 1 linear inch = $8.91 savings

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DESIGN CONSIDERATIONS

Analysis: Channels Served

Wholesale

- "Bulk" product to reseller's distribution center
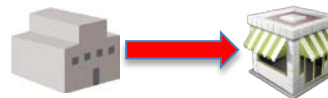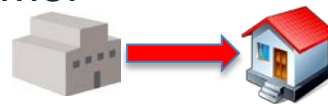- Direct Store Delivery Consolidation (DSDC)

Retail

- 1 order = 1 store
- DSDC

Direct to Consumer (DTC)

- DTC to your customer
  - Dock to door
  - Door to store
- DTC drop ship

Analysis: Volumes & Profiles

Service levels

- By channel

Volumes

- SKU's
  - Quantity and velocity by SKU
    - Dimensional info is critical!!!
  - Inventory levels
- Orders
  - By channel
  - Average and peak
    - Month
    - Day

Order Profiles

- By channel
  - Lines per order
  - Units per order
  - SKU commonality
  - Family/Unique SKU groups
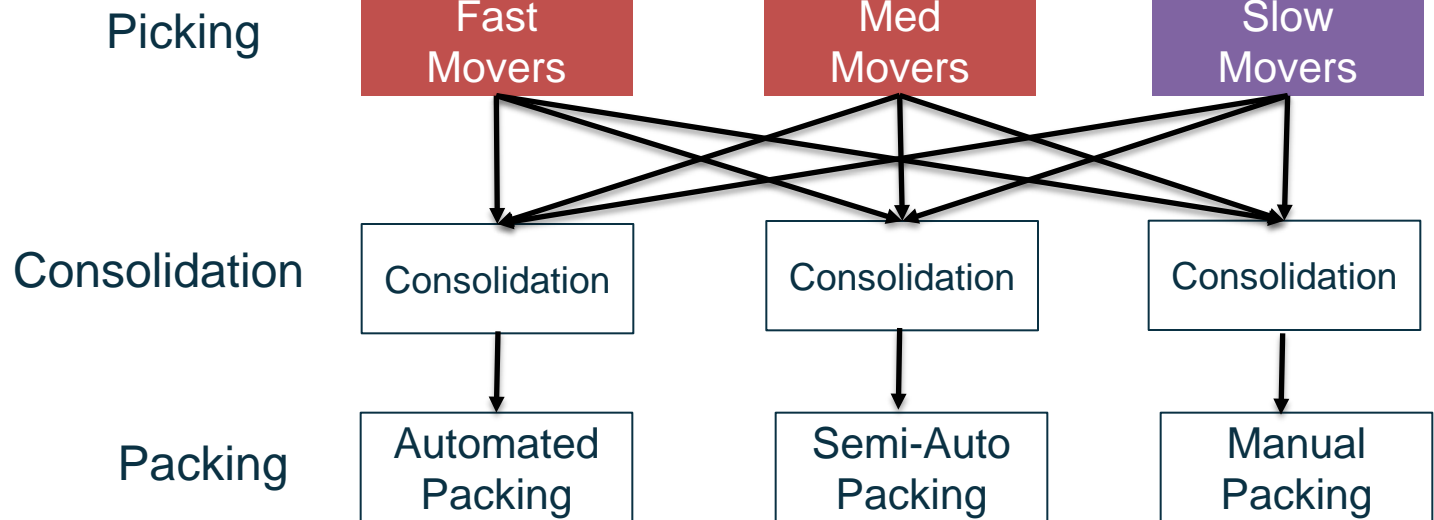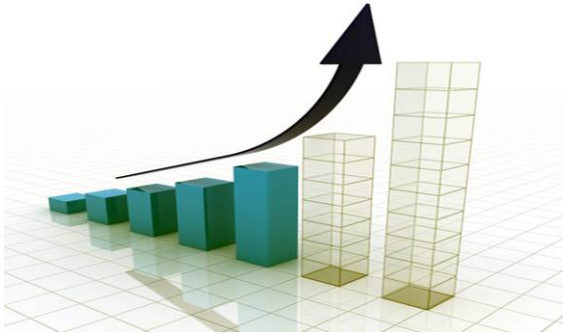- 12 months of order data
  - Line item detail

FULFILLMENT DESIGN OPTIONS

The Order Fulfillment Engine

- One Fulfillment Engine
- Pre-engineered modules focused on Omni Channel distribution
- Flexible integration with client Host and order fulfillment technologies
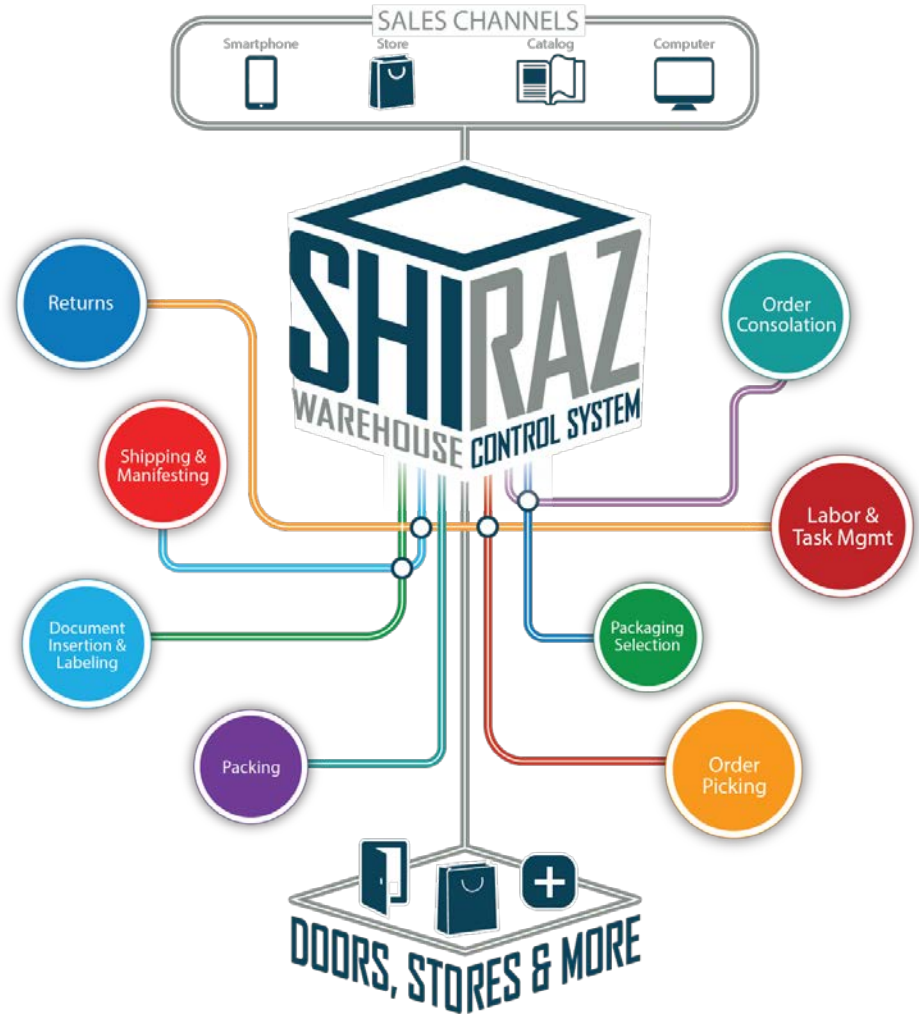
SHIRAZ® Fulfillment Concept

Picking	Fast Movers	Med Movers	Slow Movers
Consolidation	Consolidation	Consolidation	Consolidation
Packing	Automated Packing	Semi-Auto Packing	Manual Packing

Decision Matrix

Shiraz	Classic	Blue	Performance
Items Per Day Items Per Year	8,000 2,000,000	24,000 6,000,000	100,000 250,000,000
Order Consolidation Modules	Manual	Primary: Unit sorter Secondary: Manual	Primary: Unit sorter Secondary: Manual

Functional Areas

Storage & Picking
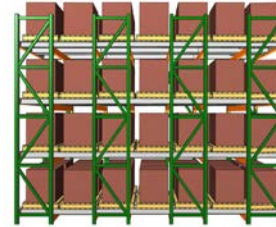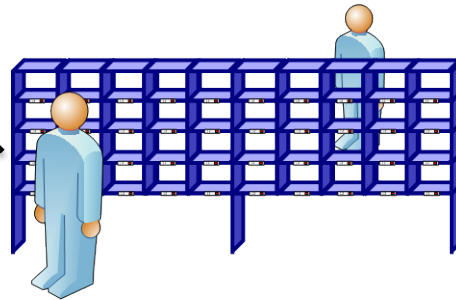
Consolidation
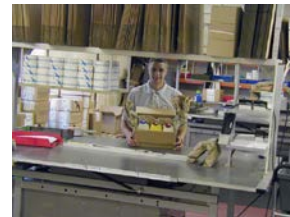
Packing

Shipping

SHIRAZ® Classic

Classic

Storage & Picking

Batch Picking
12-500 Orders Per Cart
300-800 Units Per Hour
2000 Orders Per Day

Consolidation

Manual Consolidation
30' (10m) – 50' (15m)wide
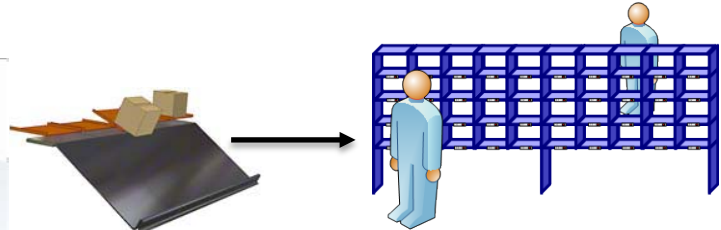50 – 100 locations
300-800 Items Per Hour
2000 Orders Per Day

Packing

Shipping

Manual Packing
30 – 100 Orders Per Hour/Station
20 Stations ~2,000 order Orders Per Day

SHIRAZ® Blue

Picking
- Batch Picking for Piece Pick
- Full Case
- Carts or Conveyor

Storage & Picking

Consolidation

Packing

Shipping

Unit Sorter with manual consolidation at chutes
- 100 - 400 sorter chutes
- 4 Orders Per Chute
- 6000-20000 Units Per Hour

Semi-Auto Packing
- 300-700 Orders Per Hour

Automated Packing
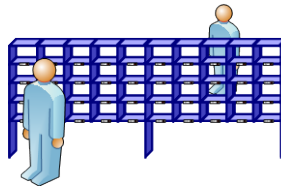- Up to 1,080 Orders Per Hour

SHIRAZ® Performance

Storage & Picking

Consolidation

Packing

Shipping

Picking
- Piece Picking ~300 Lines Per Hour/Person
- Case Picking 150-250 Cases Per hour/Person

Unit Sorter & Consolidation
- 10,000 – 12,000 Units Per Hour
- 300 - 800 Sorter Chutes
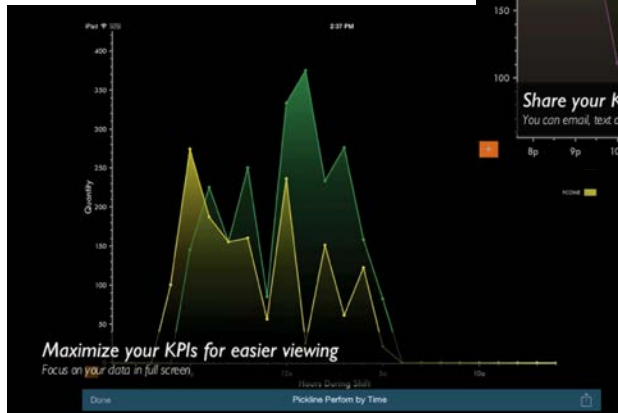- 40 – 100 Orders Per Consolidation Wall

Packing
Semi-Auto Packing
- 300-700 Orders Per Hour

Automated Packing
- Up to 1,080 Orders Per Hour
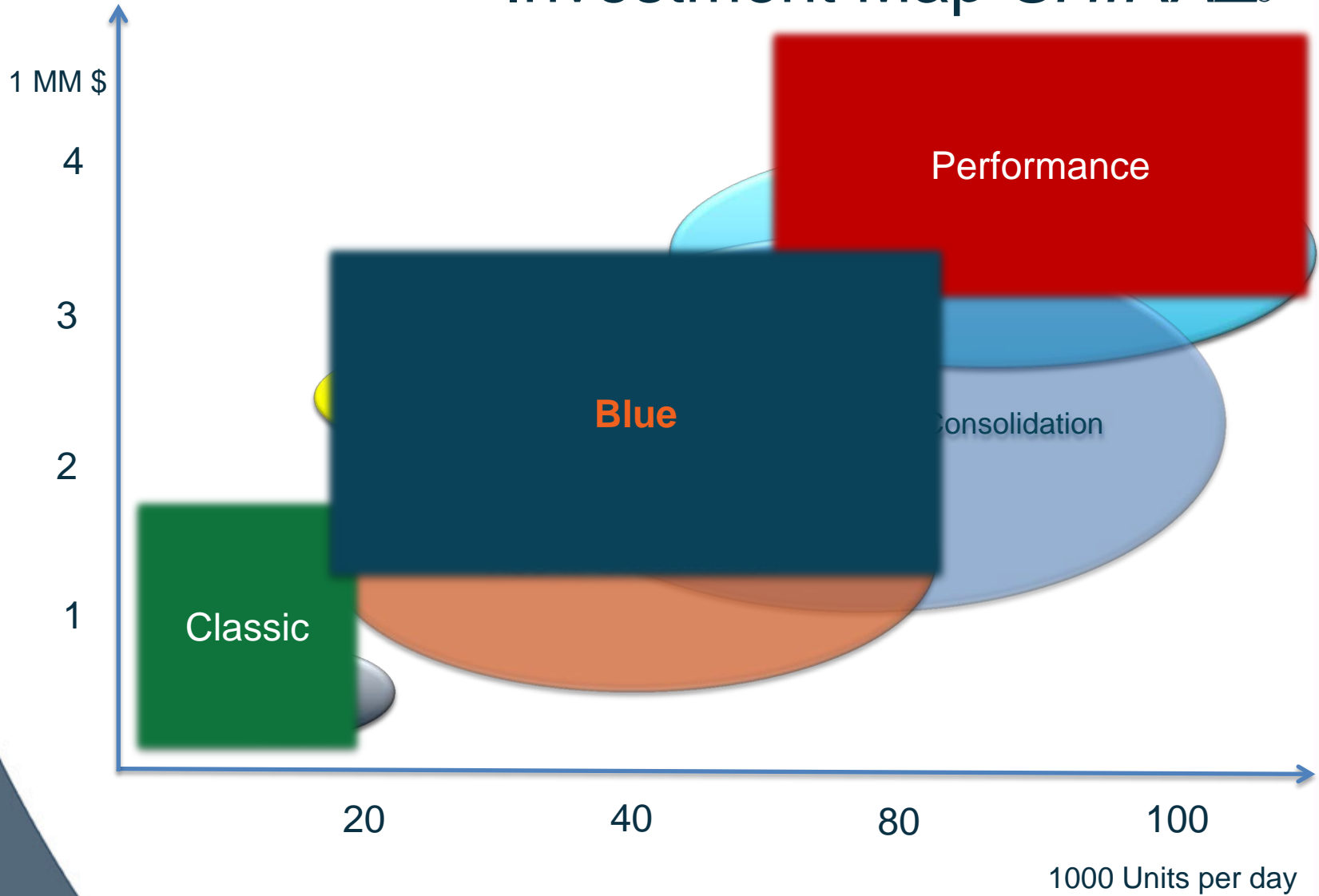
SHIRAZ Software Visibility

Share your KPI data with others
You can email, text or print

Maximize your KPIs for easier viewing
Focus on your data in full screen.

Run your existing WCS reports
Run individual reports or create your own favorites

Investment Map *SHIRAZ*®

1 MM $

- 4
- 3
- 2
- 1

Performance

Consolidation

Blue

Classic

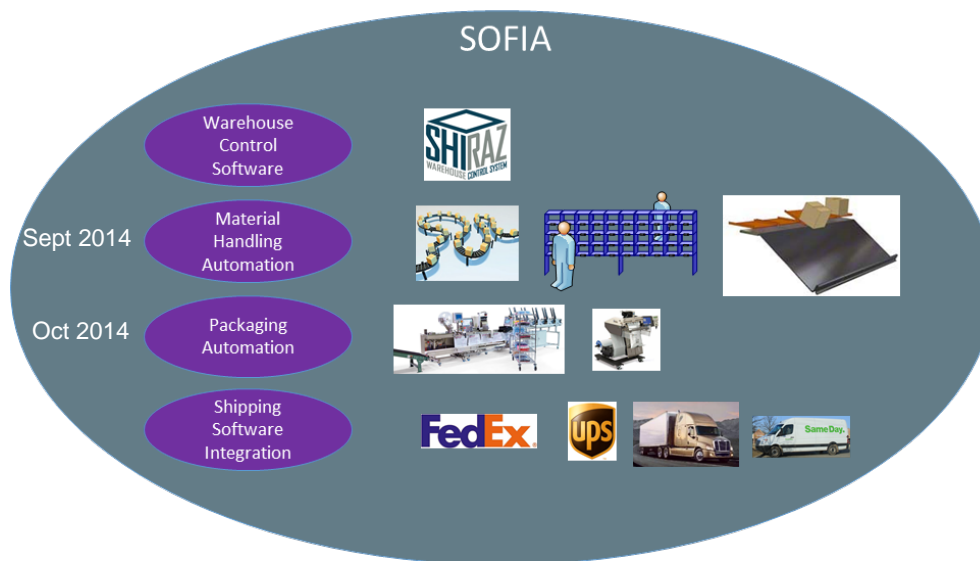20 40 80 100

1000 Units per day

Follow Up Events

September 2014

- SOFIA Order Fulfillment: Omni channel orders fast & efficiently

October 2014

- SOFIA Packaging Integration: Save time, labor, and materials

Questions

W&H SYSTEMS

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