CANTEX Automated Data Collection

Session ID#: 101470

CANTEX, Inc. is a manufacturer of PVC pipe and fittings for the power industry. We are running JD Edwards E1 8.12 on the IBM i with Advanced Warehousing, Manufacturing, and Distribution modules. We have 60 Intermec CK3X and 12 CV30 barcode devices.

Prepared by

Name: Toney Fidler

Title: Director of IT

Company: CANTEX, Inc.

CANTEX®

20TH ANNIVERSARY

Quest

COLLABORATE. INNOVATE. CELEBRATE.

N/A

Welcome and Please:

- **Silence Audible Devices**
- **Note Fire Exits**
- **Partake of Refreshments**
- **Note Quest Staffers (green shirts)**
- **Complete Feedback Form**
- **Ask Questions**

Administrative Notes

JD Edwards

INFOCUS

A JD Edwards Deep-dive Event

#JDEINFOCUS

Toney Fidler - Bio

Received a BA from Tarleton State University in Stephenville TX.

I spent 15 years with NV Philips beginning in 1977 beginning as a computer operator on an IBM System 3. Worked in Mineral Wells TX, Milwaukee WI and West Palm Beach FL during my time with Philips. Did a lot of programming during those years, ending up the last few years working on an ASI MRPII installs as a systems analyst. Since 1992 I have been with CANTEX, Inc. originally in Mineral Wells TX and now headquartered in Fort Worth TX. Currently serving as the director of MIS since 1993.

Married 31 years with 3 grown children. Hobbies include playing guitar and trumpet.

JD Edwards
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A JD Edwards Deep-dive Event

CANTEX, Inc.

- JDE E1 since 2001, 8.12 since 2009
- CANTEX business model
  - 100% Electrical & Communication

- Markets served
  - Electrical Distribution
  - Power Utilities
  - Telcom
  - Retail
  - OEM

- Product offering
  - PVC conduit, utility duct, telephone duct
    - Trade sizes
      - Schedule 40 – 1 ½" through 8"
      - Schedule 80 – 1 ½" through 6"
      - EB/DB – 2" through 6"

CANTEX, Inc. - Bio

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Agenda

- Wireless Infrastructure
- Multi-Element Barcodes for Manufacturing
- Transaction Scripting
  - Inquiries
  - Manufacturing Super-Backflush
  - Put Away
  - Transfers
  - Sales Order Picking Advanced Warehousing Accessories
  - Sales Order Picking Advanced Warehousing Pipe
  - Ship Confirm by Shipment
  - Ship Confirm by Load number
  - Cycle Counting
  - UPS WorldShip
  - Miscellaneous Scripts
- Customer Specific Labels (True Value, Lowes, etc…)
- Return on Investment
- Intermec Smartsystems
- Scanned vs. Fat Finger
- Error Messages vs. Number of Transactions
- Reconciliation (F41021) Inventory On-Hand vs. (F4602) Advanced Warehousing Details

CANTEX Automated Data Collection

JD Edwards

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A JD Edwards Deep-dive Event

Wireless Infrastructure

- Redundant Juniper WLC880 Controllers managing 60 Juniper WLA532E Access Points

  - Mineral Wells – 21, Aurora – 9, Auburndale -13, Kingman – 17

- Coverage

  - Auburndale DC – 155,000 sq ft

  - Auburndale Warehouse 2 – 12,000 sq ft

  - Auburndale Plant – 311,000 sq ft which includes extrusion, fabrication, and outside storage

  - Aurora – 540,000 sq ft including plant and outside storage

  - Kingman - 900,000 sq ft which includes DC, extrusion, fabrication, and outside storage

  - Mineral Wells - 1,000,000 sq ft which includes DC, 3 manufacturing facilities, 3 storage warehouses (Injection Molding, Extrusion Raw Materials), and outside storage

CANTEX – Wireless Infrastructure

JD Edwards
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A JD Edwards Deep-dive Event

Multi-Element Barcode

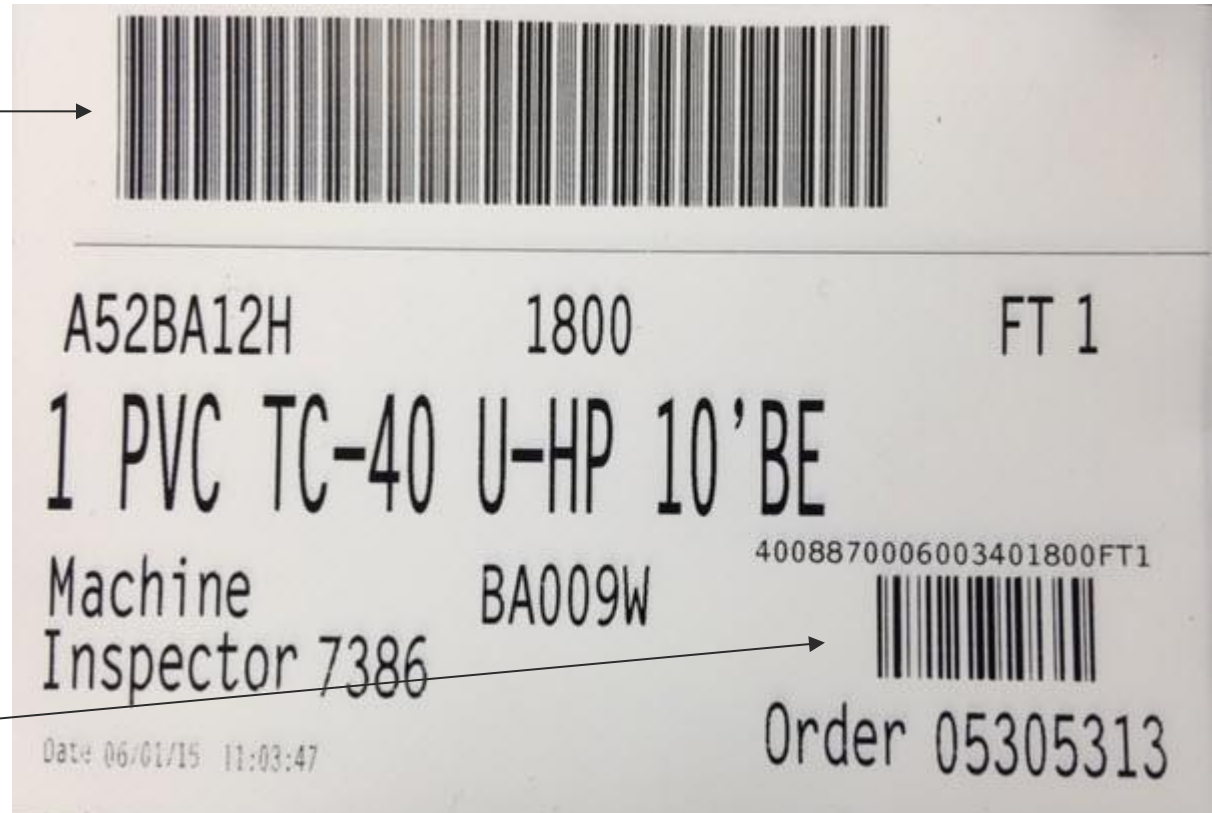1-14 Item/UPC number

15-19 Quantity

20-21 Unit of Measure

22-22 Shift

Work Order number

- The Multi-Element Barcode streamlines Down-line transactions.
- Label can be produced from many different places (Manufacturing Operations, Manufacturing, Shop Floor execution, Warehouse).
- Utilize TLAshford 3rd party software for all labeling.

CANTEX - Multi-Element Barcode

JD Edwards
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A JD Edwards Deep-dive Event

Inventory Available Inquiries By Item / UPC number
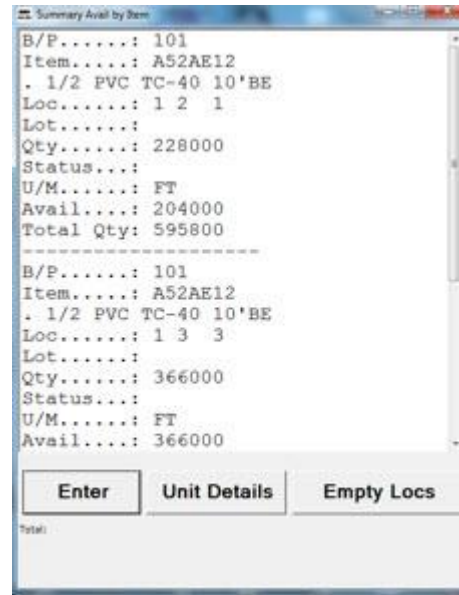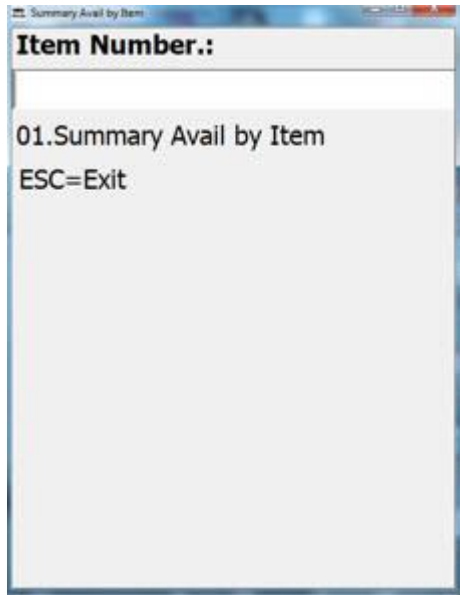
- Scan/Enter Item number / UPC number.
- When Item number is prompted for any Cross Reference (F4104) type can be utilized.
- This Script can be utilized from any other scripted function.

CANTEX – Script Inquiries

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Inventory Available Inquiries By Inventory Location
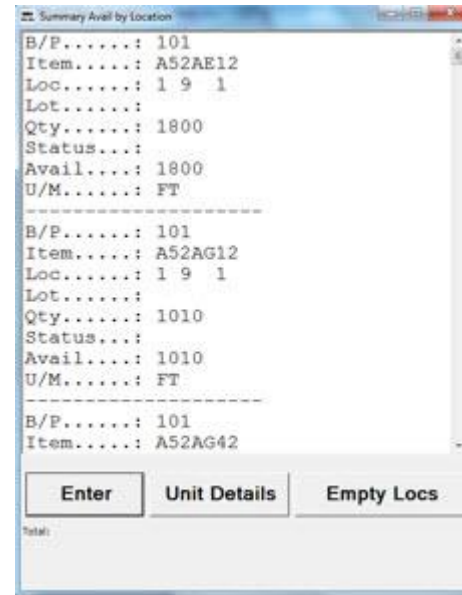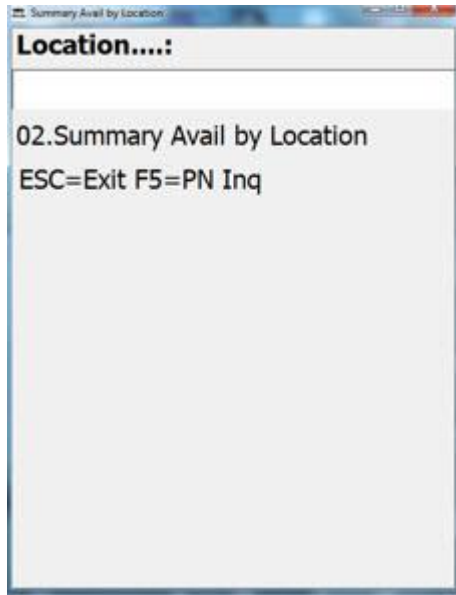
- Scan/Enter Inventory Location.
- This Script can be utilized from any other scripted function.
- Note: Lot number is not utilized else we would have Lot Available Inquiry.

CANTEX – Script Inquiries

Work Order Super-Backflush (Last Operation)

Order Number
5214147
50.Finish Goods Pipe
ESC=Exit

Long Bar Code
A52AE12   06000FT1
50.Finish Goods Pipe
ESC=Exit F1=Prior

Actual Weight
1038
50.Finish Goods Pipe
ESC=Exit F1=Prior

Location To
R
50.Finish Goods Pipe
ESC=Exit F1=Prior

Transaction Accepted

Cardex is:SC05214147

- Scan Work Order number.

- Scan Long Bar Code.

- Enter Actual Weight (Pipe Only). Consumption of BOM Resin's is based on Actual Weights. Weight is Defaulted using Theoretical Weight.

- Enter Location To. Defaulted to Advanced Warehouse Rules. At some Facilities Inventory goes to Hold and awaits Quality Release.

- Transaction is Accepted with Item Ledger Document Type & Number.

CANTEX – Script Manufacturing

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Put-Away (2 Different Scripts)
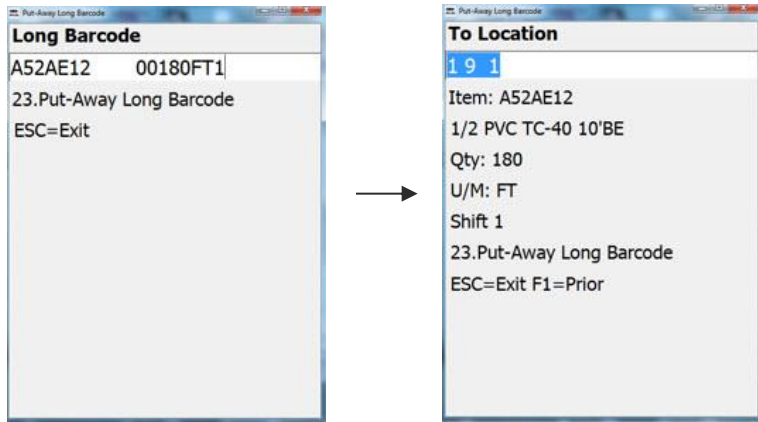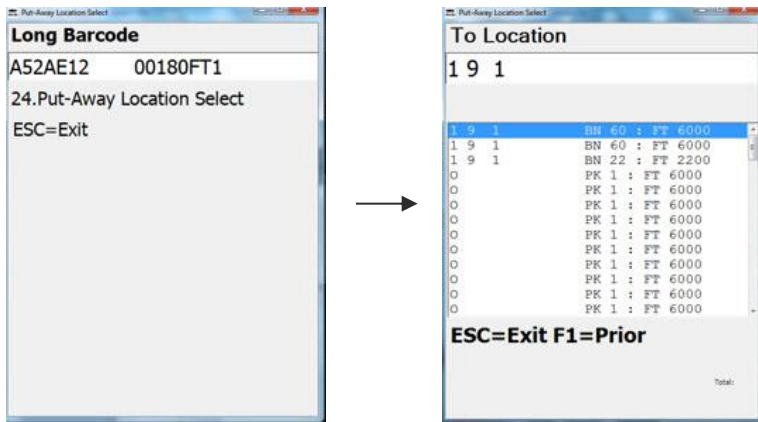
- Scan Long Bar Code.

- Enter Location To. Defaults from the earliest Advanced Warehouse Request for the Item.

- Transaction is Accepted with Item Ledger Document Type & Number.

------ or ------

- Scan Long Bar Code.

- Display & Select from a List of Inventory Locations from the Open AW Request. List is displayed in sequence from earliest to latest request.

- Transaction is Accepted with Item Ledger Document Type & Number.

CANTEX – Script Put Away

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event
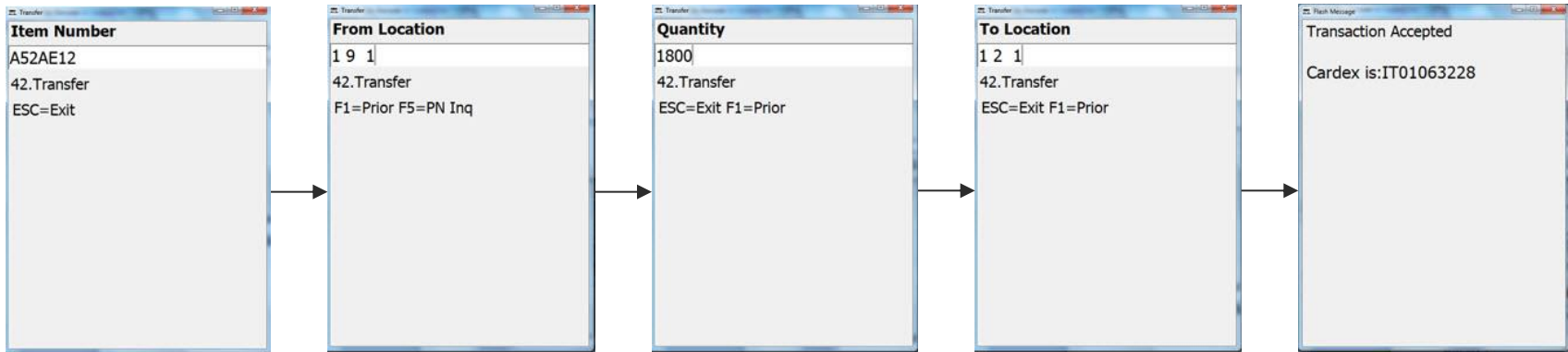
Transfers

- Scan Long Bar Code or Item / UPC Item number.

- Scan the From Location.

- Enter the Quantity to Transfer.

- Scan the To Location.

- Transaction is Accepted with Item Ledger Document Type & Number.

Note: The Inventory Transaction for Transfer's has been tied to the Advanced Warehousing tables, causing real time updates to the Advanced Warehousing Table (F4602). License Plating is not being used at CANTEX.

CANTEX – Script Transfers

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Picking (Advanced Warehousing) Accessories

Shipment number
2430371
36.Pick Accessories
ESC=Exit

Pallet Id:
58600100
Shipment #:02430371
ESC=Exit

From Location
1 1 10
Pallet Id:58600100
Order:02419797-003.000
Item:A52BA12
1 PVC TC-40 10'BE
Location:1 1 10
Open Qty:2. PK
36.Pick Accessories
F2=Search F3=Next F4=Previous
F5=Finish Pallet

Item number
A52BA12
Pallet Id:58600100
Order:02419797-003.000
Item:A52BA12
1 PVC TC-40 10'BE
Location:1 1 10
Open Qty:2. PK
36.Pick Accessories
ESC=Exit F1=Prior

Quantity
2
Pallet Id:58600100
Order:02419797-003.000
Item:A52BA
1 PVC TC-4
Location:1
Open Qty:2
36.Pick Acc
ESC=Exit F

Transaction Accepted
Cardex is:SA02419797

Scan/Enter Item Number:
A52CA12
2 PVC TC-40 10'BE
1 1 9
Qty: 1   PK
Line.....: 1
=====================
A52AE12
1/2 PVC TC-40 10'BE
1 2 1
Qty: 4   PK
Line.....: 2
=====================
Totals:
ESC=Exit
Total:

Scale Weight
78.0
Shipment #:02430371
Pallet Id: 58600100
ESC=Exit

F2=Search: Displays all open lines to be selected and processed.

F5=Finish Pallet: The Pallet is Weighed and creates a mini packing list for the Pallet.

- Scan Shipment number from Picking Document.

- Scan the Pallet Id. The Pallet Id Labels printed in advance.

- From Location is Defaulted and MUST be scanned and validated.

- Item Number is Defaulted and MUST be scanned and validated.

- The Quantity is Defaulted and Warning Message if changed.

- Transaction is Accepted with Item Ledger Document Type & Number.

CANTEX – Script Picking Access.

Picking (Advanced Warehousing) Pipe
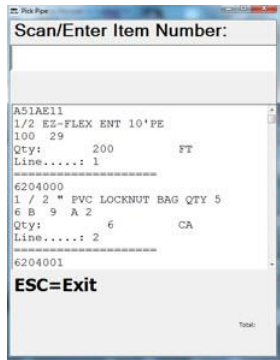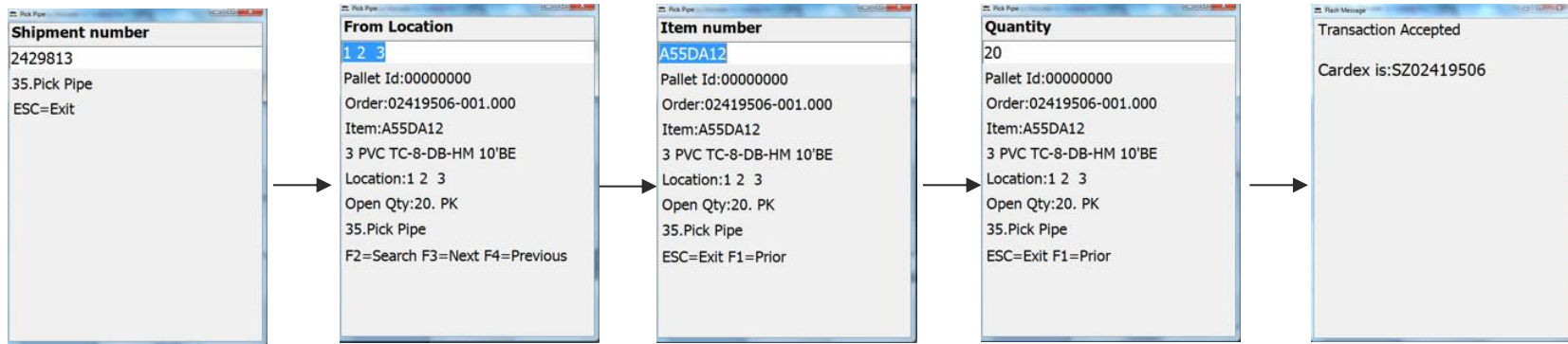
- Scan Shipment number from Picking Document.

- From Location is Defaulted and MUST be scanned and validated.

- Item Number is Defaulted and MUST be scanned and validated.

- The Quantity is Defaulted and Warning Message if changed.

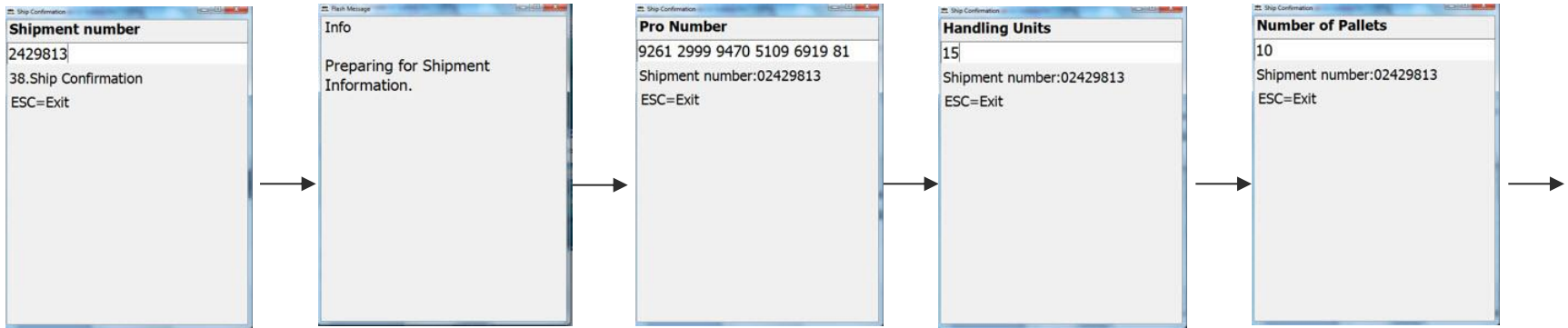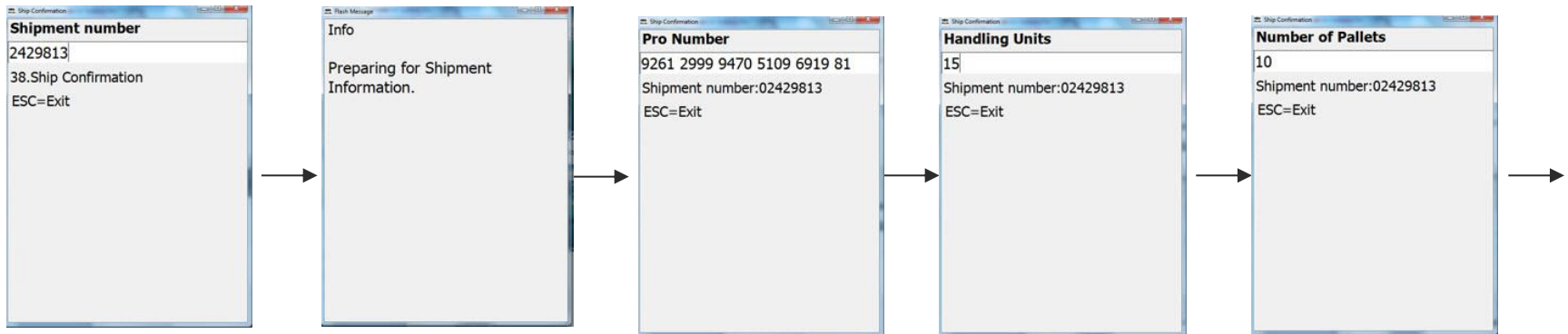- Transaction is Accepted with Item Ledger Document Type & Number.

F2=Search: Displays all open lines to be selected and processed.

CANTEX – Script Picking Pipe

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Ship Confirmation by Shipment

Ship Confirmation
Shipment number
2429813
38.Ship Confirmation
ESC=Exit

Flash Message
Info

Preparing for Shipment
Information.

Ship Confirmation
Pro Number
9261 2999 9470 5109 6919 81
Shipment number:02429813
ESC=Exit

Ship Confirmation
Handling Units
15
Shipment number:02429813
ESC=Exit

Ship Confirmation
Number of Pallets
10
Shipment number:02429813
ESC=Exit

Ship Confirmation
Number of Containers
15
Shipment number:02429813
Pallet Number:12365421
ESC=Exit

- Scan Shipment number from Picking Document.

- If EDI/Retail Customer then continue, and ask the following questions.

- Scan the Pro Number.

- Enter the number of Handling Units.

- Enter the number of Pallets.

- Enter the number of Containers for Each Pallet.

- Packing List, Shipping Labels, and Customer Specific Labels are printed.

CANTEX – Script Ship Confirm

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Ship Confirmation by Load

- Scan Shipment number from Picking Document.

- If EDI/Retail Customer then continue, and ask the following questions.

- Scan the Pro Number.

- Enter the number of Handling Units.

- Enter the number of Pallets.

- Enter the number of Containers for Each Pallet.

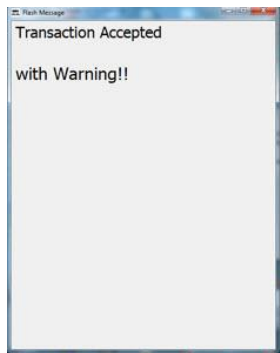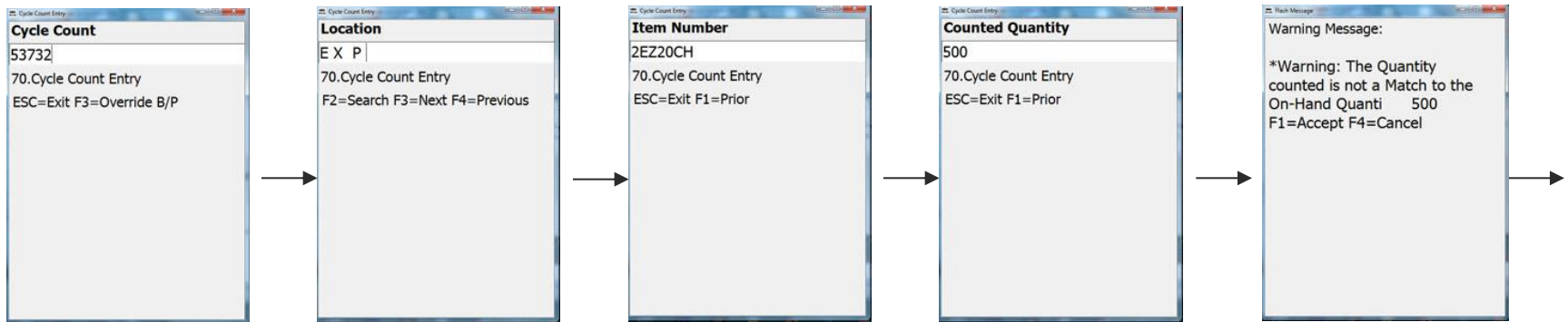- Packing List, Shipping Labels, and Customer Specific Labels are printed.

CANTEX – Script Ship Confirm by Load

Cycle Counting

Cycle Count	Location	Item Number	Counted Quantity	Warning Message:
53732	E X P	2EZ20CH	500	*Warning: The Quantity counted is not a Match to the On-Hand Quanti 500
70.Cycle Count Entry	70.Cycle Count Entry	70.Cycle Count Entry	70.Cycle Count Entry	F1=Accept F4=Cancel
ESC=Exit F3=Override B/P	F2=Search F3=Next F4=Previous	ESC=Exit F1=Prior	ESC=Exit F1=Prior	

Transaction Accepted
with Warning!!

- Scan Cycle Count Batch number from Cycle Count Sheet

- Scan the Inventory Location.

- Scan the Item / UPC number.

- Enter the Counted Quantity

- If Count Qty does not Match or (Tolerance -/+) the Perpetual Quantity then display warning.

- Display the Transaction Accepted message.

Note: Counts (B/P, Item, Location, and Lot) can be added to the Batch with a Warning Message!

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CANTEX – Script Cycle Counting

UPS WorldShip Interface

- CANTEX uses Non-Automated version of the UPS Interface

  - During Picking Warehouse Request create a table with ship to information and order information (Ground, Air, etc…)

  - Utilize the WorldShip ODBC connection into the IBM i.

  - Weigh product using Scales tied to WorldShip and the print UPS Thermal Label.

  - This feeds via ODBC connection back into IBM i.

  - Created procedure that runs every 5 minutes and add the Freight and Tracking number back into JD Edwards Transportation module. Must Reverse out if WorldShip Voids the Shipment.

    — F4217 Shipment Reference Numbers with Tracking number

    — F49721 Quote Detail with Freight Amount

    — F4945 Shipment Charges with Freight Amount

  Note: WcBc also has capability to auto XML from Picking/Packing and back into JD Edwards.

  Note: If not running Transportation module, then WcBc can feed into the F4211 as New Line Item.

CANTEX – WorldShip Interface

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Miscellaneous Scripts

- Quality Release: Release the Inventory for Available

- Quality Hold: Holds the Inventory from Available

- Re-Print Customer Specific Labels.

- Re-Print Shipping Labels.

- Re-Print Shipping Tickets.

- Pallet Maintenance: Allow Items on Pick to be moved to a different Pallet Id.

- Pallet Weights: Allow the Weight to be changed on a Pallet.

- Scrap Work Order.

- Print Barcodes for Items, Locations, Work Order.

CANTEX – Scripts Miscellaneous

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Customer Specific Labels

(1) Home Depot

Other Labels Used

Lowes

True Value

Serial Shipping Contain (SSCC), UCC/EAN-128 Labels are typically used.

CANTEX – Scripts Miscellaneous

JD Edwards
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A JD Edwards Deep-dive Event

Return on Investment

- Purchase of WcBc and TL Ashford plus maintenance and implementation services saved $22K in the first 3 years.

  - Year 4+ the annual savings will be $23K per year

  - Actually the savings were considerably more because it doesn't include the cost of upgrading to newest version.

- No need to keep someone in-house trained on the software

- Additional functionality projects are quoted at a flat rate that is fair and low cost

- No Windows server costs

CANTEX – Scripts Miscellaneous

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event
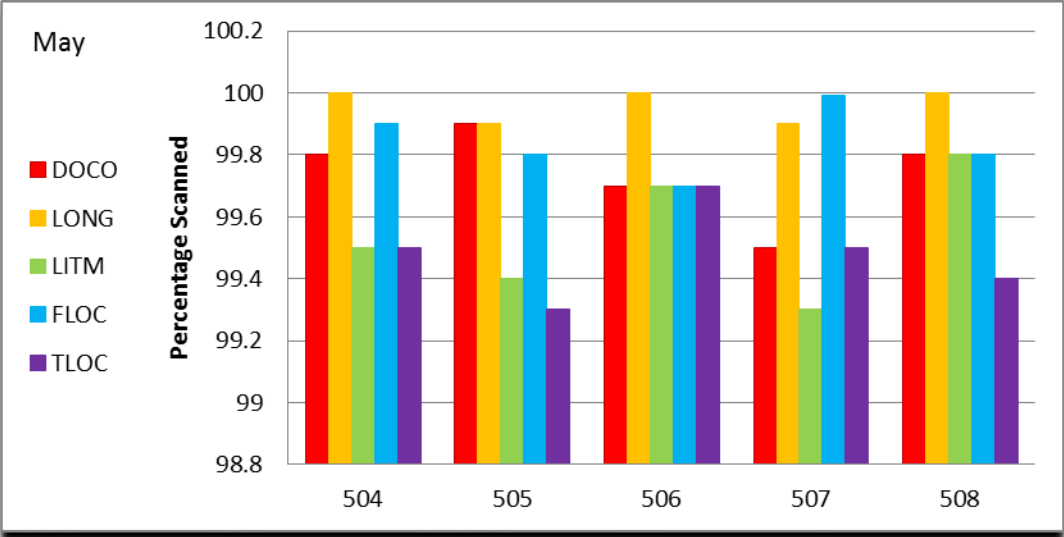
Intermec Smartsystems – Benefits

- Single, easy-to-use portal for hands-free device, provisioning, deployment and management

- Minimizes the effort spent on software upgrades, monitoring and trouble-shooting

- Enabled devices appear on the console, providing real-time visibility to device health status and information

- User-friendly mechanism for one-step or hands-free provisioning of Software Bundles

- Real time break messaging to the handheld device.

- Single step device connection to the network (Wifi/WWAN/Ethernet) and software load from FTP/HTTP site via barcodes generated by ScanNGo

CANTEX – Smartsystems

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event
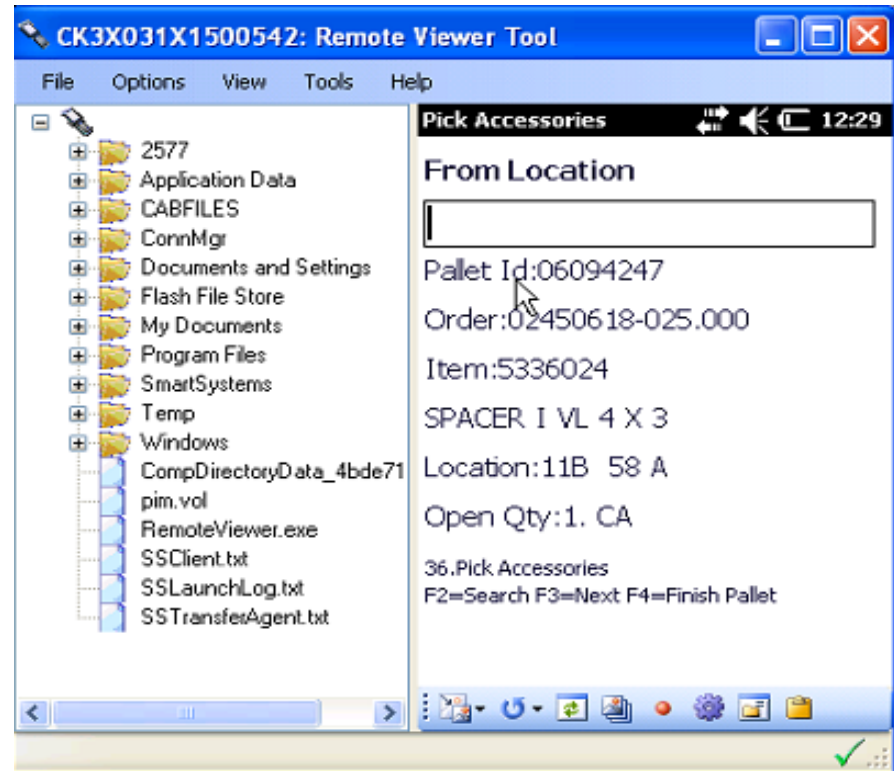
Scanned vs. Fat Finger

User	Transaction	Transaction Date	Transaction Time	Alias	Prompt Description	Scan/Manual	Value
7443	50	20150624	16:14:44	DOCO	Order Number	SCN	5315773
7443	50	20150624	16:14:46	LONG	Long Bar Code	SCN	40088700060089005000FT3
7443	50	20150624	16:14:53	WGT	Actual Weight	MAN	8040000
7443	50	20150624	16:14:54	LOCN	Location To	MAN	R
7443	50	20150624	16:14:59	DOCO	Order Number	SCN	5315802
7443	50	20150624	16:15:01	LONG	Long Bar Code	SCN	30088700060037036000FT3
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					
7443	50	20150624					

CANTEX – Scanned vs. Fat Finger

JD Edwards
INFOCUS
A JD Edwards Deep-dive Event

Error Message vs. Number of Transactions

User	Device	Trans	ERROR Message	Transaction Date	Transaction Time
7116	4538	50	Warning: The Actual Weight is out of Tolerance with Projected Weight.	20150624	0:11:28
7116	4538	50	Warning: The Actual Weight is out of Tolerance with Projected Weight.	20150624	0:13:38
7068	4550	..	Invalid User Profile	20150624	0:14:29
7068	4550	..	Invalid User Profile	20150624	1:07:02
7116	4538	51	Shortage exist for a component.	20150624	1:24:43
7854	4409	51	Shortage exist for a component.		
7854	4409	51	Shortage exist for a component.		
7854	4409	51	Shortage exist for a component.		
7854	4409	51	Shortage exist for a component.		
7854	4409	50	Shortage exist for a component.		
7854	4409	50	Shortage exist for a component.		
7854	4409	50	Shortage exist for a component.		
7854	4409	50	Shortage exist for a component.		
7680	4506	..	Invalid User Profile		
7680	4506	..	Invalid User Profile		
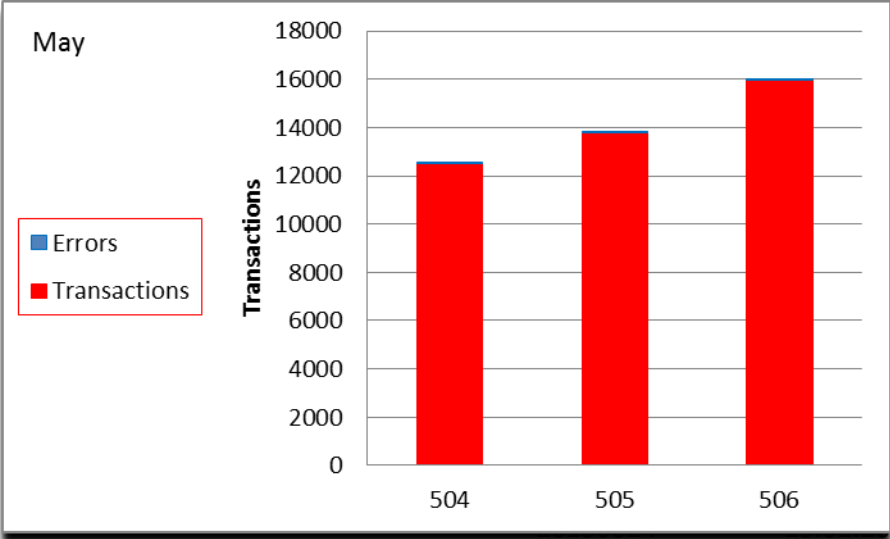
Reconciliation (F41021) Inventory On-Hand vs. (F4602) Advanced Warehousing Details

- During the 12 years we have been running JD Edwards advanced warehousing we noticed issues on the F4602 and the answer was always just run the rebuild and it would resolve.

- With WcBc programming support we created a application that produced a report the ran every 5 minutes on any reconciliation errors. This report was used to determine that the cause was that because warehouse staff would process normal JD Edwards Inventory transactions (IT, IA, IR, etc..). We found that this would update the F41021 Inventory On-Hand but not the F4602 Advanced Warehousing details.

- Our Internal BA could not take away the usage of JD Edwards Inventory Movements, etc…These transactions are deemed critical to Inventory Control.

- With WcBc Programming support we identified the fields in the F4602 that was not being updated. WcBc created a procedure to run every 5 minutes to update these fields. The WcBc procedure runs in less then 2-3 seconds. The following fields needed to be updated in this new procedure.

  - F4602 Updates: RCUB, RWET, QTRO, QTRI, TQTY, CUBE, WEIT, and each of the 5 LEVELS.

  - F41021 Updates: QTRO, QTRI.

CANTEX – Reconciliation

JD Edwards
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A JD Edwards Deep-dive Event