

TMS

Collection Management System - 1997

| | | |
|--|---|---|
|  <p>Objects</p> |  <p>Constituents</p> |  <p>Media</p> |
|  <p>Exhibitions</p> |  <p>Loans</p> |  <p>Shipping</p> |
|  <p>Bibliography</p> |  <p>Events</p> |  <p>Sites</p> |
|  <p>Insurance</p> |  <p>Accounting</p> | |

Tombstone
data

Location
Data
incomplete

No
Bar
Code
functions



In search of....

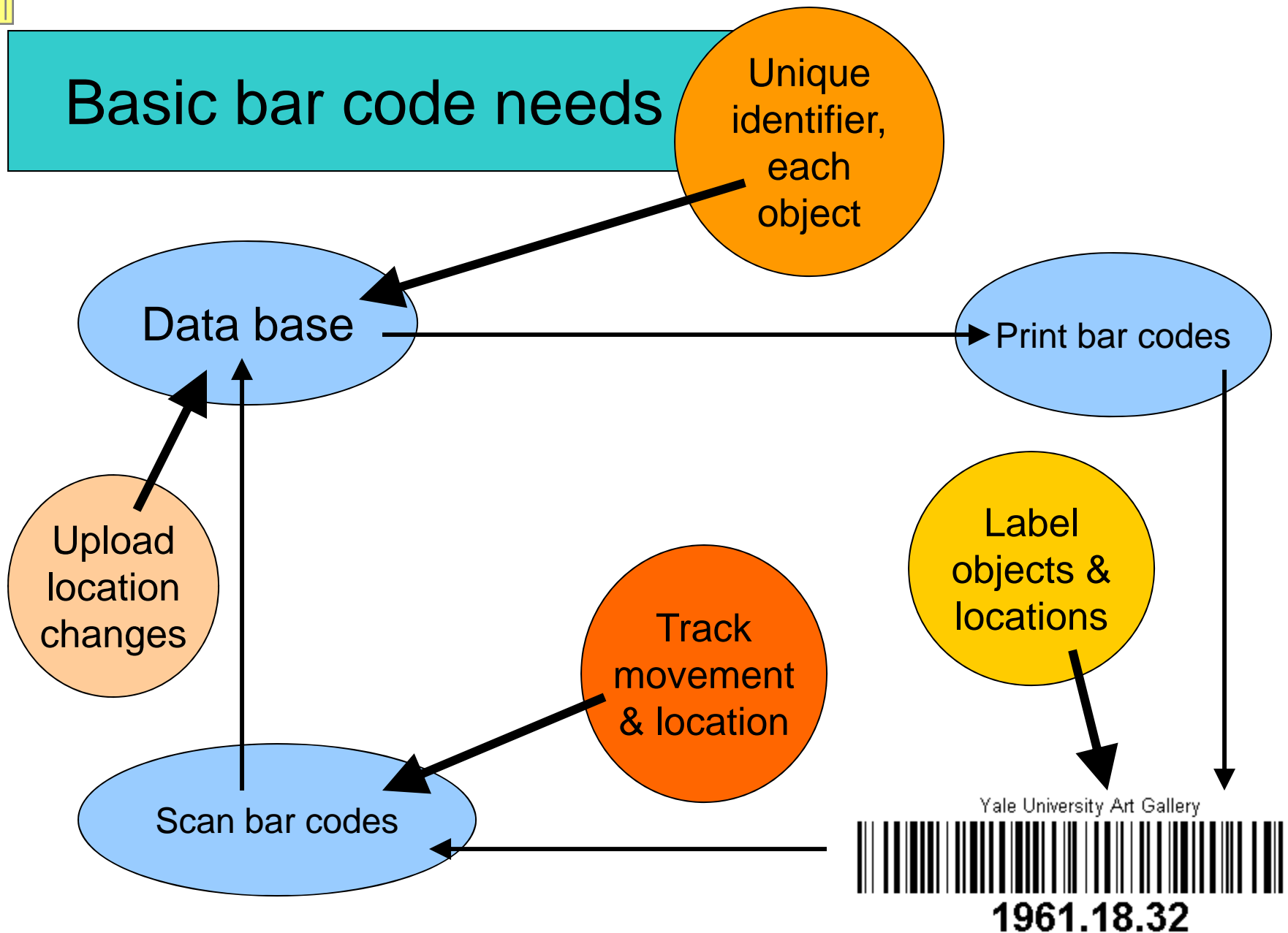
The perfect bar code system

Parallel bar code database...??

- Extensive man-power & funding required
- Object & location bar code fields already in TMS
- Long term – the collection management
 - system will be TMS

Develop
TMS
bar code
Applet..?

Basic bar code needs



Just what is a bar code?

Example Function Calls

dBest Barcode Font Library

| Barcode Style | Field | Barcode Output |
|---|--------------|----------------|
| <input type="checkbox"/> Code 39 | 1111111 | |
| <input type="checkbox"/> Extended Code 39 | Code 39 | |
| <input type="checkbox"/> Interleaved 2/5 | 123456789 | |
| <input type="checkbox"/> Interleaved 2/5 Opt. | 123456789 | |
| <input type="checkbox"/> Code 128 | Code 128ab | |
| <input type="checkbox"/> Code 128 Optional | | |
| <input type="checkbox"/> Postnet | 34253247123 | |
| <input type="checkbox"/> Codabar | 1234567890 | |
| <input type="checkbox"/> Codabar Options | 1234567890 | |
| <input type="checkbox"/> UPC A | 12345678901 | |
| <input type="checkbox"/> UPC E | 123456 | |
| <input type="checkbox"/> EAN 13 | 123456789012 | |
| <input type="checkbox"/> EAN 8 | 1234567 | |

Barcode Table

Print General Sample of this Record

More than just a font

Algorithm

start & stop bits

checksum



Man against the machine

- Object's identity reduced to a bar code
- Dependent on machines to read bar codes
- Bar code must be unique
 - Humans should not be able to alter it
- Reduced identity requires 100% correct scanning (checksum)



Appropriate bar code#

~~1961.18.32~~

Accession#
Bad idea

computer generated unique #s




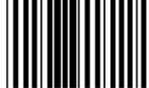







A21AEC99E3D03



Bar code font type – Impacts scanner selection

Code 128 font sizes

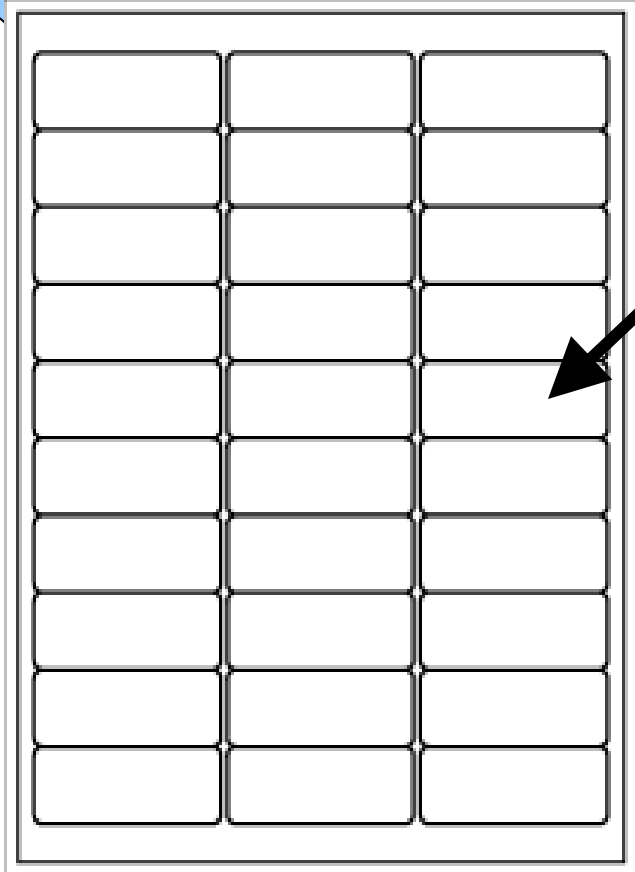
Each font size is Different character set

| | |
|---------------------|---|
| Font style | 1871.3 |
| Code 128AB |  |
| Code 128AB Short |  |
| Code 128AB Short HR |  1 8 7 1 . 3 |
| Code 128AB Tall |  |
| Code 128AB Tall HR |  1 8 7 1 . 3 |
| Code 128C |  |
| Code 128C HR |  162322 16 13 18 |
| Code 128C HR Short |  162322 16 13 18 |
| Code 128C HR Tall |  162322 16 13 18 |
| Code 128C Short |  |
| Code 128C Tall |  |





Printing problems
in paradise



Not
efficient

Bar code
“real world”
printing



BC print
function
rewritten

Bar code printers

Zebra model Z4M
- 203 & 300 dpi



TLP2844
- 203 & 300 dpi



Bulk printing only

Great for
Low volume
workstations



too much
printer
for
pack team
workstations







Object labels

Fonts
large
as possible

- Header
 - Arial 8 normal Yale University Art Gallery
- Body
 - AdvC128c, 20 bar code
- Footer
 - Arial 16 bold object# or container name

Poorly lit
storage areas

Object/
Component
labels

| | B | C |
|----|--|---|
| | Yale University Art Gallery | |
| |  | |
| 3 | MO2002.516 | |
| 5 | Yale University Art Gallery | |
| 6 |  | |
| 7 | MO2002.515 | |
| 9 | Yale University Art Gallery | |
| 10 |  | |
| 11 | MO2002.490 | |
| 13 | Yale University Art Gallery | |
| 14 |  | |
| 15 | 1973.150 | |

Containers

Major TMS problem

Bad
bar code
logic

Can edit TMS container names allowing duplicates

Art
Gallery
move strategy
built around
containers

Shipping & storage efficiency

Warehouse shelving built for containers

Object protection – temporary storage

Solution

Excel spdsht bar code generator

Elfring fonts



| | A | B | C | D |
|----|---|-----------------|-----------------------|----------------------|
| 1 | Container Barcode Label Printing Procedure | | | |
| 2 | A container barcode label is created by typing a container name in to the cell under the Name column. The container name in the adjacent cell. | | | |
| 3 | To print the container name select the cell under the Name | | | |
| 4 | Click File , Print Area , Set Print Area . | | | |
| 5 | Click File Print... | | | |
| 6 | To print the container barcode select the cell under 128AB HR | | | |
| 7 | Click File , Print Area , Set Print Area . | | | |
| 8 | Click File Print... | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | Name | 128AB HR | 128AB Short HR | 128AB Tall HR |
| 14 | etb344 | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |

Designed to match TMS

Print multiple labels





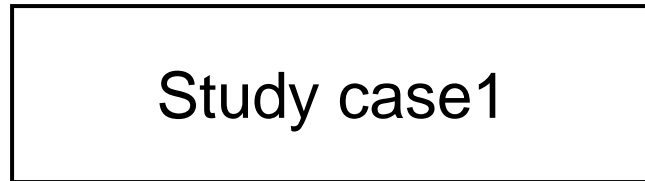
Location labels - New challenge

- Storage locations too large for label
 - Text centered in footer, unreadable

Yale Art Gallery 201 York St 031 Grnd flr west Study case1



- Drop left sections until location fits on label





Location labels - optimized

- Designed location designations to fit on label
- Warehouse name shortened in TMS

LSF = Library Storage Facility

LSF, A, 01L screens for paintings

LSF, EL, 01A container aisles

Location labels

Header

– Arial 8 normal

LSF - Yale University Art Gallery

• Body

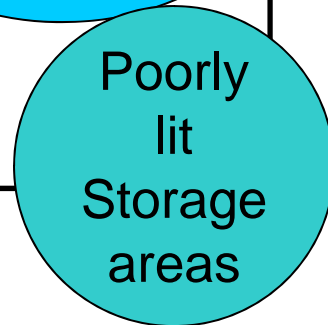
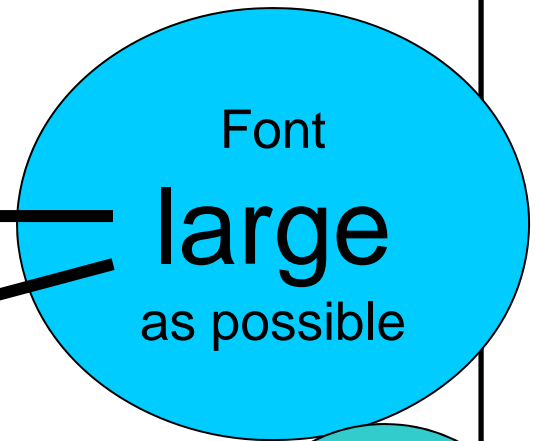
– AdvC128c, 20

bar code

• Footer

– Arial 16 bold

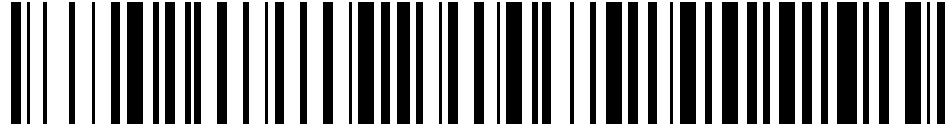
location LSF/FL/01A



B

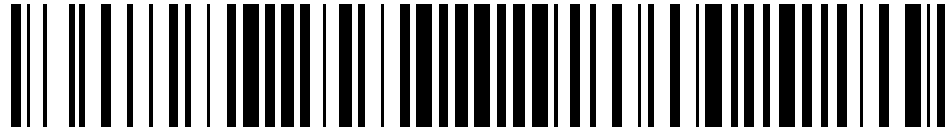
Location labels

LSF - Yale University Art Gallery



LSF/EL/01E

LSF - Yale University Art Gallery



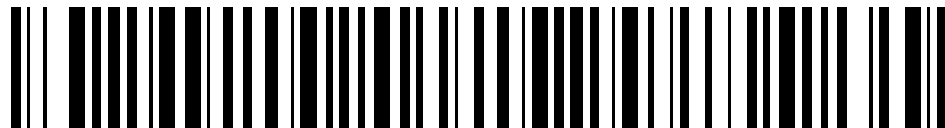
LSF/EL/01P

LSF - Yale University Art Gallery



LSF/HL/01H

LSF - Yale University Art Gallery



LSF/HL/01R

5

6

7

9

10

11

13

14

15

16



Bar code table in TMS

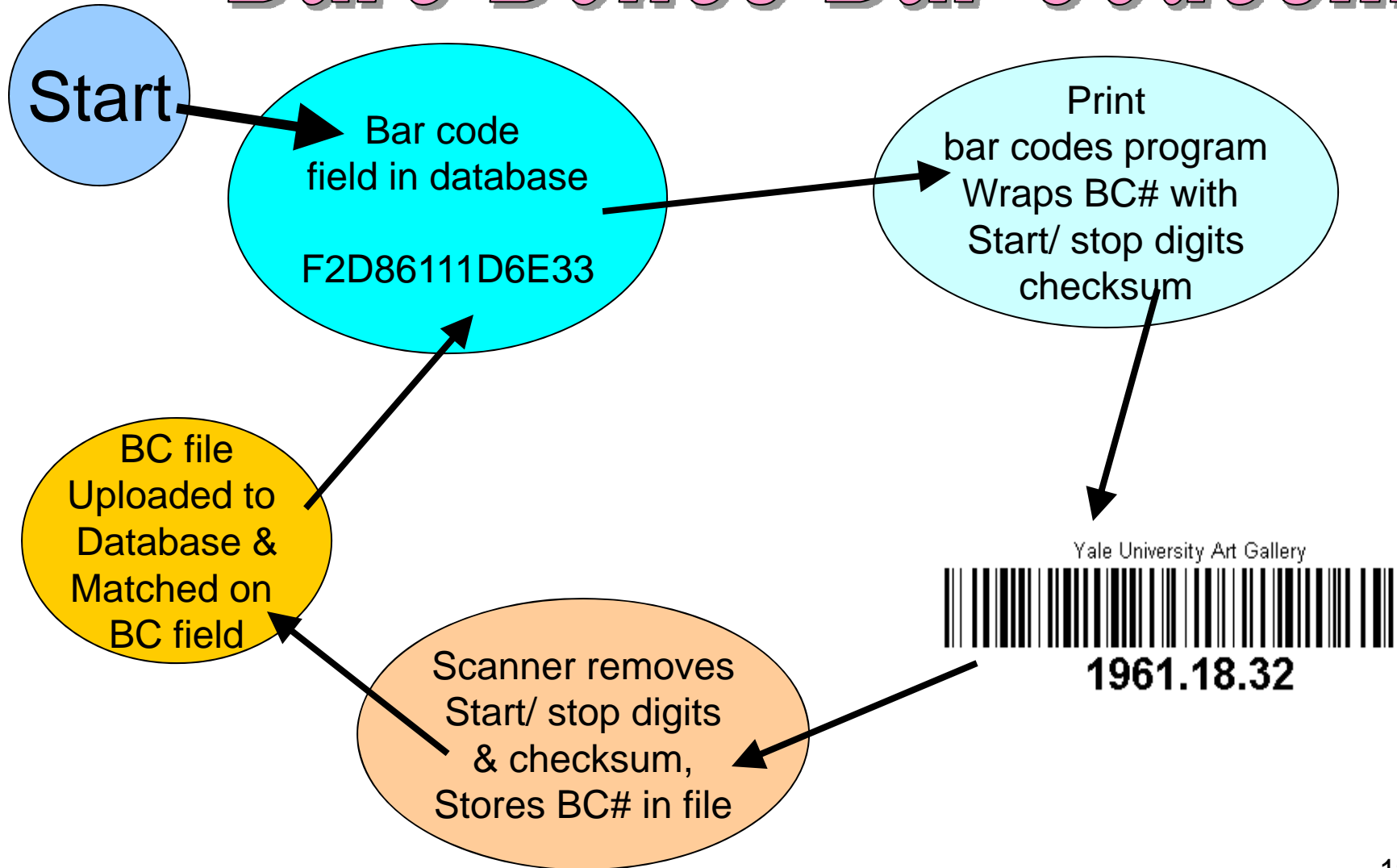
Bar code numbers

Data in Table 'BCLabels' in 'TMS' on 'TMS01'

| LabelID | LabelUUID | TableID | ID | isAchievable | LoginID | EnteredDate | ParentID |
|---------|---------------|---------|----|--------------|---------|-------------------|----------|
| 1 | 650A5B6B41222 | 94 | 1 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 2 | 6A0CA46CAFDD3 | 108 | 1 | 0 | dpars | 10/9/2002 10:42:2 | 1 |
| 3 | 47026FA7DCCF2 | 94 | 2 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 4 | C009412623703 | 108 | 2 | 0 | dpars | 10/9/2002 10:42:2 | 3 |
| 5 | D4A7D64964DF2 | 94 | 3 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 6 | 9B2FD3697A353 | 108 | 3 | 0 | dpars | 10/9/2002 10:42:2 | 5 |
| 7 | 523D0448C47F2 | 94 | 4 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 8 | 339E65B9AD3E3 | 108 | 4 | 0 | dpars | 10/9/2002 10:42:2 | 7 |
| 9 | CA2F7316B81B2 | 94 | 5 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 10 | 5A76A01C99A43 | 108 | 5 | 0 | dpars | 10/9/2002 10:42:2 | 9 |
| 11 | F956745FE02D2 | 94 | 6 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 12 | F2D86111D6E33 | 108 | 6 | 0 | dpars | 10/9/2002 10:42:2 | 11 |
| 13 | 822E673294382 | 94 | 7 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 14 | 8008FB40E7C23 | 108 | 7 | 0 | dpars | 10/9/2002 10:42:2 | 13 |
| 15 | E9F0504D5F8F2 | 94 | 8 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 16 | 3F64A25BE91C3 | 108 | 8 | 0 | dpars | 10/9/2002 10:42:2 | 15 |
| 17 | BF40A7FFA7E92 | 94 | 9 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 18 | E8A95B24E1AE3 | 108 | 9 | 0 | dpars | 10/9/2002 10:42:2 | 17 |
| 19 | A836C35744F82 | 94 | 10 | 0 | dpars | 10/9/2002 10:42:2 | -1 |
| 20 | A21AEC99E3D03 | 108 | 10 | 0 | dpars | 10/9/2002 10:42:2 | 19 |
| * | | | | | | | |

Always
13
characters

Bare Bones Bar Codes...





We can print bar codes, so....

What's
The
next task?

Track object/ container movement from Art Gallery
to warehouse

- Record new object/ container location in
warehouse
- Upload recorded locations to TMS database



Laptop & tethered scanner

Too awkward, Need mobility

Warehouse Shelving 30' tall, container storage

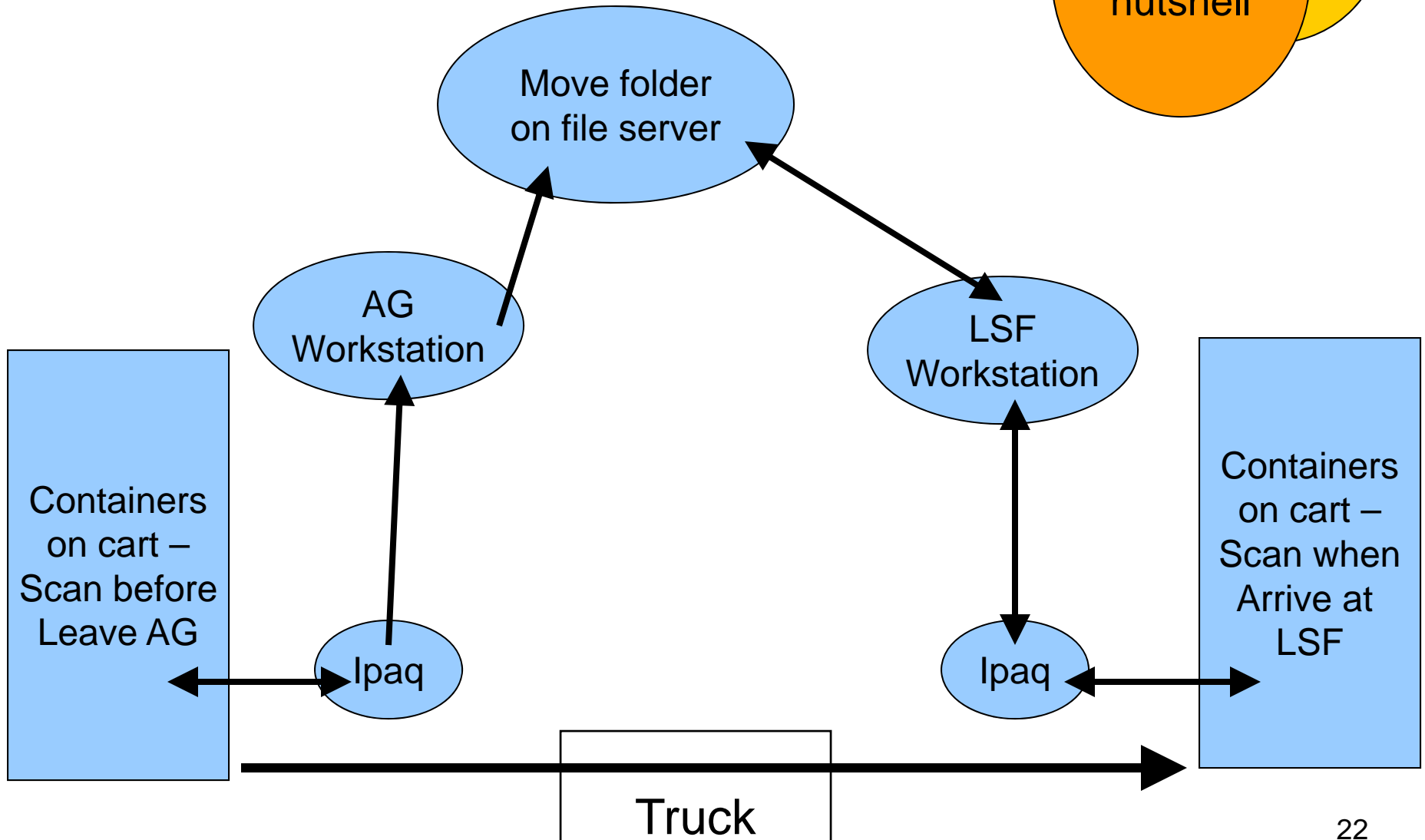
Ipaq & scanner

Excel spdsht



Tracking the inventory – AG to LSF

In a nutshell



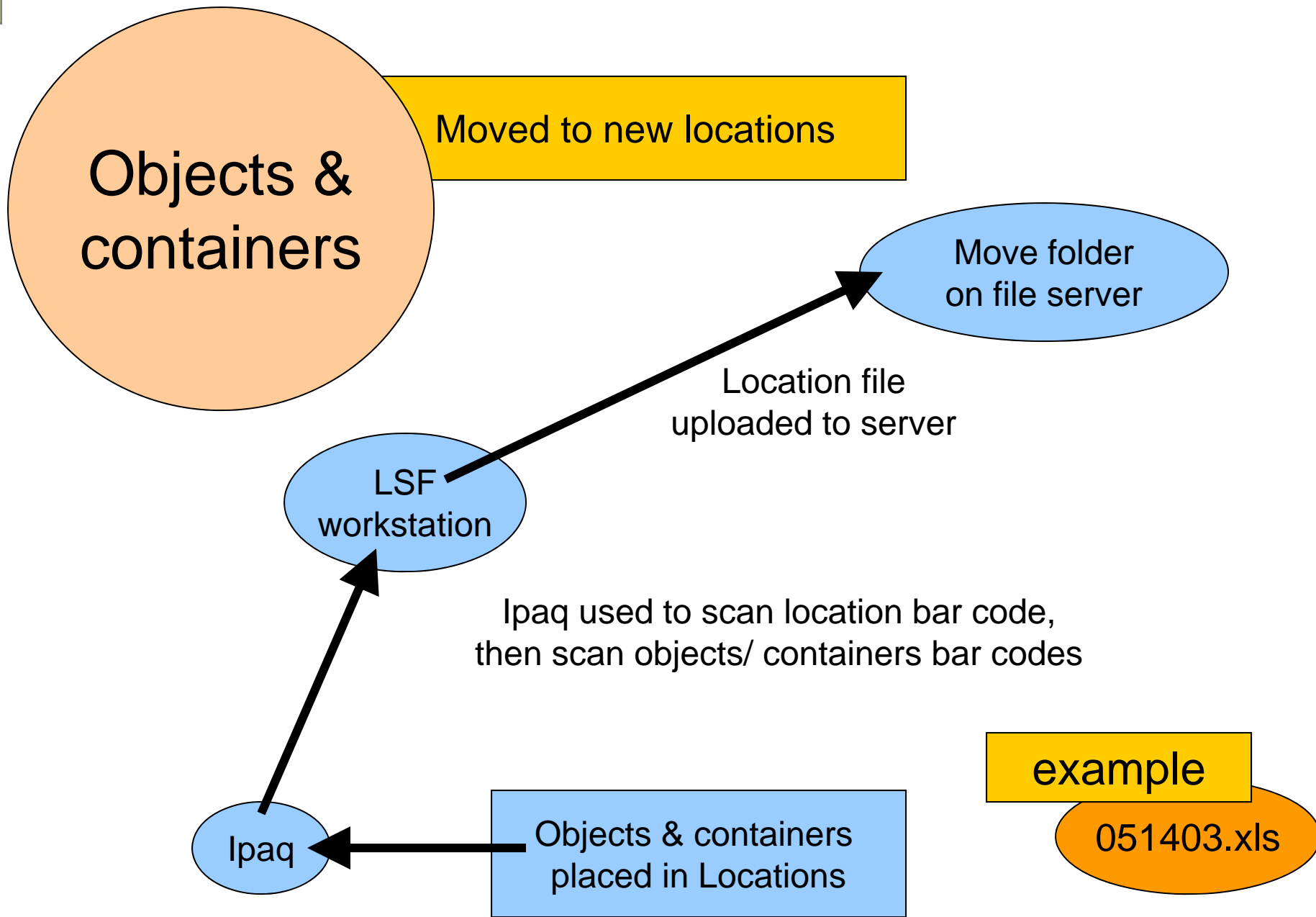
Ipaq spreadsheet scans

Objects

Containers

| | A | B | C | D | E | F |
|----|-------|-------|------|---|---|---|
| 1 | bc300 | bc300 | TRUE | | | |
| 2 | ac949 | ac949 | TRUE | | | |
| 3 | bc292 | bc292 | TRUE | | | |
| 4 | ac956 | ac956 | TRUE | | | |
| 5 | bc293 | bc293 | TRUE | | | |
| 6 | bc297 | bc297 | TRUE | | | |
| 7 | bc296 | bc296 | TRUE | | | |
| 8 | bc294 | bc294 | TRUE | | | |
| 9 | bc295 | bc295 | TRUE | | | |
| 10 | | | TRUE | | | |
| 11 | | | TRUE | | | |
| 12 | | | TRUE | | | |
| 13 | | | TRUE | | | |
| 14 | | | TRUE | | | |
| 15 | | | TRUE | | | |
| 16 | | | TRUE | | | |
| 17 | | | TRUE | | | |
| 18 | | | TRUE | | | |
| 19 | | | TRUE | | | |

| | A | B | C | D | E |
|----|----------------|----------------|------|---|---|
| 1 | EAF6E08799652 | EAF6E08799652 | TRUE | | |
| 2 | 8163823277F62 | 8163823277F62 | TRUE | | |
| 3 | 0608E542387B2 | 0608E542387B2 | TRUE | | |
| 4 | 6836206D78C62 | 6836206D78C62 | TRUE | | |
| 5 | AFB143214C122 | AFB143214C122 | TRUE | | |
| 6 | ED3DACEAE4842 | ED3DACEAE4842 | TRUE | | |
| 7 | EF2E4C84AB702 | EF2E4C84AB702 | TRUE | | |
| 8 | D0F75725022B2 | D0F75725022B2 | TRUE | | |
| 9 | 34EFD399ECC22 | 34EFD399ECC22 | TRUE | | |
| 10 | FC28B1978B012 | FC28B1978B012 | TRUE | | |
| 11 | 81A5BCED9E9072 | 81A5BCED9E9072 | TRUE | | |
| 12 | A7114EEC664E2 | A7114EEC664E2 | TRUE | | |
| 13 | 622DBEDD9E1F2 | 622DBEDD9E1F2 | TRUE | | |
| 14 | 048774DC12EE2 | 048774DC12EE2 | TRUE | | |
| 15 | E3C33923C3DD2 | E3C33923C3DD2 | TRUE | | |
| 16 | | | TRUE | | |
| 17 | | | TRUE | | |
| 18 | | | TRUE | | |
| 19 | | | TRUE | | |
| 20 | | | TRUE | | |
| 21 | | | TRUE | | |
| 22 | | | TRUE | | |



Ipaq location spdshs

Scan locations then
Objects & containers
With Ipaq

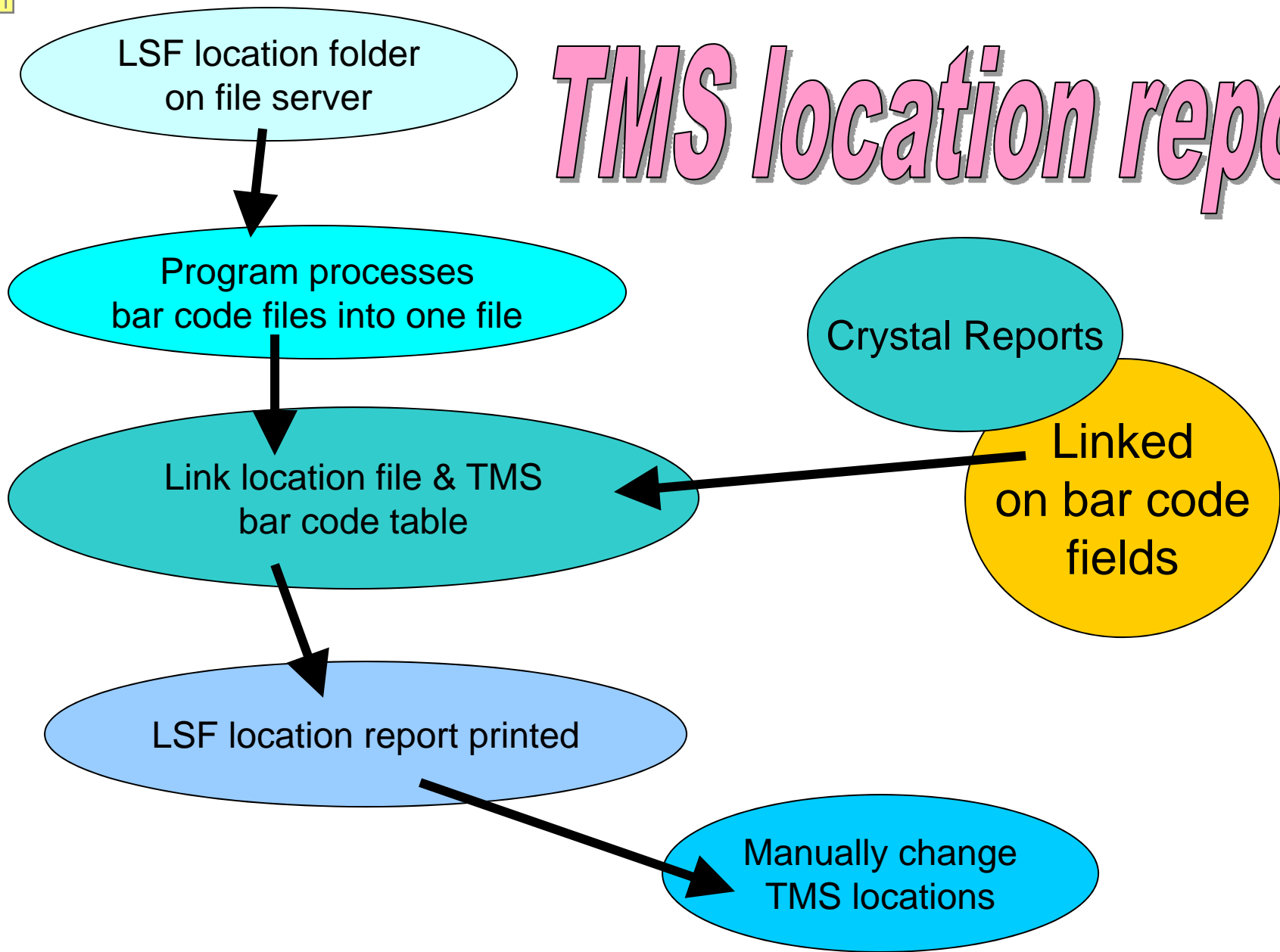
| | A | B | C | D | E | F | G |
|----|---------------|---------------|---------------|--------|--------|--------|--------|
| 3 | C032F79820970 | 1C61E9DD75242 | | | | | |
| 4 | 6E72C0C0B0A70 | fc241 | fc245 | fc244 | ac1179 | ac1167 | ac1126 |
| 5 | 732FFEC3EC2D0 | fc235 | bc401 | ac1169 | | | |
| 6 | 95CC12E9162B0 | ac1180 | | | | | |
| 7 | D07E621EA18F0 | F9D2F0296A632 | | | | | |
| 8 | C032F79820970 | E1C4AD9E1E1F2 | 4D6F44B37A6F2 | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |

Locations

Objects &
containers



TMS location report



Merged

Ipaq spreadsheet scans

| | A | | C | D | E | F | G | H | I | J | K |
|----|---------------|---------------|------------|----|-----|------------|--|---|---|---|---|
| 1 | location | c1 | c2 | c3 | c4 | c5 | c6 | | | | |
| 2 | 0F49C2E5D20E0 | etr139 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 3 | 0F49C2E5D20E0 | etr95 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 4 | 0F49C2E5D20E0 | etr144 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 5 | 0F49C2E5D20E0 | etr88 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 6 | 96BA968C45DA0 | 55B5D9681DC42 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 7 | 96BA968C45DA0 | EF4DB9450C852 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 8 | 42076056C5050 | 85F89568D6082 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 9 | 42076056C5050 | 17BC0B8AAE122 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 10 | 42076056C5050 | 7BE8B2B715852 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 11 | 42076056C5050 | 7CFD62784EB62 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 12 | 48229398C4AF0 | D1F375D17ECD2 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 13 | 48229398C4AF0 | 2F63F9C575912 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 14 | 48229398C4AF0 | 6405ADF183152 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 15 | 42DBFDF661020 | ED2A3D85D5202 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 16 | 42DBFDF661020 | 2D6333797CB02 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 17 | 42DBFDF661020 | 40171AAF07B22 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 18 | 42DBFDF661020 | 96C30B96C5E72 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 19 | CBAD964887370 | ac1157 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 20 | 64CCF42D54D50 | A0C25FFEDFA12 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 21 | 626458C485980 | CC62C0B1865C2 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 22 | 3A4440365B870 | ac1139 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 23 | 3A4440365B870 | ac1137 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 24 | 7667DF06E7520 | BC396 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 25 | 11950A2177200 | BC395 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 26 | 11950A2177200 | fc234 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 27 | C87B5A06F4580 | BC394 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 28 | C87B5A06F4580 | BC386 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 29 | C87B5A06F4580 | BC391 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 30 | C87B5A06F4580 | BC387 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |
| 31 | C87B5A06F4580 | ac1112 | 051903.XLS | 53 | 160 | 05/23/2003 | 051903.XLS, 052003.XLS, 052103.XLS, 052203.XLS | | | | |

TMS location report

Manually
Change
locations
In TMS

Crystal Reports - [BC-label-final1.rpt]

File Edit View Insert Format Database Report Analyzer Window Help

Design Preview

TMS - LSF locations Report sorted and grouped by unique location barcode dcp 2/19/03 ess5.rpt Page 1 of 11

This report is used to link containers and objects with the appropriate LSF location.
Use the TMS location function to manually move the containers and objects listed in this report.
Ipaq shelf location workbooks included in this report = 020303.XLS, 020403.XLS, 020503.XLS, 020603.XLS, 020703.XLS
Ipaq shelf location workbooks join date = 02/20/2003

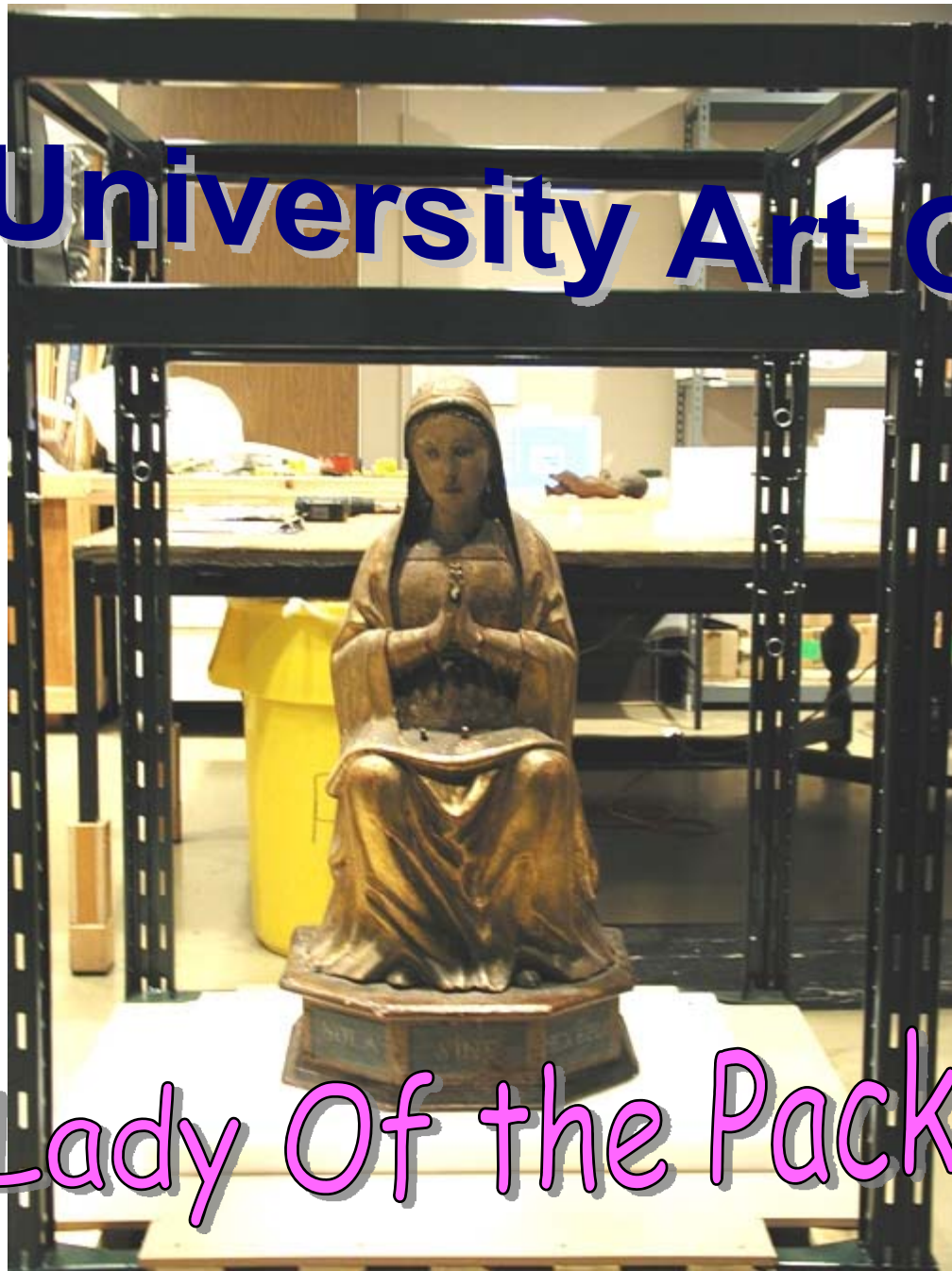
| | | Container or object | Location | Location barcode | Source workbook |
|-----|-----|---------------------|------------|------------------|-----------------|
| 1. | 1. | bc212 | LSF CR 08I | 10AE256C17320 | 020703.XLS |
| 2. | 1. | cc93 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 3. | 2. | cc90 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 4. | 3. | cc91 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 5. | 4. | cc92 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 6. | 5. | cc94 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 7. | 6. | cc95 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 8. | 7. | cc96 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 9. | 8. | cc97 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 10. | 9. | cc99 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 11. | 10. | cc98 | LSF DR 10A | 2222DD0669060 | 020303.XLS |
| 12. | 1. | cc122 | LSF CR 15Q | 26C85DC52AB90 | 020703.XLS |
| 13. | 1. | cc121 | LSF CR 10I | 3633916E49930 | 020703.XLS |
| 14. | 1. | bc216 | LSF CR 06I | 38CE90D64DBC0 | 020703.XLS |
| 15. | 1. | 1943.248 | LSF B 16R | 3B96621DD76A0 | 020303.XLS |
| 16. | 2. | 1871.85 | LSF B 16R | 3B96621DD76A0 | 020303.XLS |
| 17. | 3. | 1943.216 | LSF B 16R | 3B96621DD76A0 | 020303.XLS |

For Help, press F1

Records: 326 100%



Yale University Art Gallery



Our Lady Of the Pack teams



Yale University

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