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# Address Correction – DPV, NCOA\* and Beyond

**MAILCOM 2002  
US 102  
MAY 19, 2002  
ATLANTIC CITY**

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# Why a Complete and Correct Address?

## Minimize Waste

- UAA (Undeliverable As Addressed)
- Attempted not known
- No such address


## Increase Response Rate

## Increase Revenue

## Maximize Postal Discounts

## Increase Merge/Purge Efficiency

# Address Quality Breakout

 **76.4% Correct**

 **23.6% Incorrect**

- **2.4% Moved**
- **4.1% Apartment #**
- **6.0% Directional/Suffix**
- **0.4% RR/Box #**
- **5.9% Street name/House #**
- **4.8% ZIP/City/State**

# Undeliverable As Addressed (UAA)

- ▶ 2.72% of total mail volume
- ▶ 1 out of every 32 First-Class letters
- ▶ 1.5 billion \$ problem for USPS

# CASS, ZIP+4, Address Standardization

- Based on United States Postal Service (USPS) ZIP+4 & City-State files
- Assigns
  - ◆ 5 Digit ZIP
  - ◆ ZIP+4
  - ◆ DPBC & CD
  - ◆ Carrier Route
- Range Based USPS Database
- Is a ZIP+4 coded address deliverable?

# ZIP+4 Example

	<u>Input</u>		<u>Output</u>	
I	925 E 7 St Brooklyn NY 11230		11230-2701	
II	915 E 7 St Brooklyn NY 11230		11230-2756	
III	915 E 7 St Apt 6L Brooklyn NY 11230		11230-2728	
	<u>ZIP+4</u>	<u>Type</u>	<u>Primary</u>	<u>Secondary</u>
A	11230-2701	S	901-943	---
B	11230-2756	H	915-915	---
C	11230-2728	H	915-915	6H – 6P

**QUESTION:** Which of the above addresses, I, II or III are deliverable?

**REALITY:** 915 E 7 St is a high-rise and is the only building on it's side of the street.

# Delivery Sequence File (DSF) – R.I.P. 9-30-2002

- ✓ Clear text file
- ✓ Delivery Point Based vs. Range Based
- ✓ 152 million records as of 3-2002
- ✓ Updated monthly by USPS
- ✓ Mailing List Matching service provided by 6 licensees
- ✓ Processing performed by licensees at licensee site
- ✓ Comprehensive ZIP+4 & DSF footnotes
- ✓ Provides confirmation of delivery point
- ✓ Supports walk sequencing
- ✓ Can determine ZIP+4 when CASS cannot

# DSF Example

*Input: 301 Main St  
Memphis TN 38103*

**ZIP+4 Response(s):**      271-311 N Main St      38103-1621 (s)  
   301-331 S Main St      38103-4205 (s)

**ZIP+4 Standardization:**      301 Main St  
   Memphis TN      38103

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**DSF Candidates:**      301 S Main St      38103-4205 (s)

**DSF Output:**      301 S Main St  
   Memphis TN      38103-4205  
   DPBC = 014  
   CRID = C009

# Delivery Point Validator (DPV)

- ✓ Confirms an address as an actual USPS delivery point
- ✓ Confirms an address as a Commercial Mail Receiving Agency (CMRA)
- ✓ Identifies potentially undeliverable addresses on a mailing list *prior* to a mailing
- ✓ Available as an optional add-in to CASS-certified ZIP+4 Address Matching software
- ✓ <http://ribbs.usps.gov/files/DPV/DPVLIC.TXT>  
Lists DPV Licensed Product providers
- ✓ As of 3-27-2002 three providers approved

# DPV Return Codes

N

Delivery Point NOT validated

Y

Delivery Point validated  
Primary Number valid &  
Secondary Number (when present) valid

S

Valid Primary Number  
Secondary present and is NOT confirmed

D

Valid Primary Number  
Secondary Number missing

# DPV Example

**Input:** 2967 Dunedin  
Germantown TN 38138

**Output:** 2967 Dunedin Cv  
Germantown TN 38138-7010  
DPBC = 676  
CRID = C023  
DPV = N

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**Input:** 2962 Dunedin  
Germantown TN 38138

**Output:** 2962 Dunedin Cv  
Germantown TN 38138-7010  
DPBC = 621  
CRID = C023  
DPV = Y  
CMRA = N

# DPV Functionality

*DPV may match when multiple ZIP+4 response conditions exist due to no input ZIP*

**Input:** 96 Knowlton Ave  
Buffalo NY

**ZIP+4:** 2-98 Knowlton Ave 14218-3106  
2-108 Knowlton Ave 14217-2723

**DPV:** 96 Knowlton Ave  
Buffalo NY 14217-2723  
DPBC = 966  
CRID = C027  
DPV = Y  
CMPA = N

# DPV Functionality

*DPV may attempt to select a record from multiple ZIP+4 candidates when only a change of a suffix or directional component is affected.*

**Input:** 301 Main St  
Memphis TN 38103  
**ZIP+4 Output:** Multiple Response

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**Input:** 301 N Main St  
Memphis TN 38103  
**Output:** 301 N Main St  
Memphis TN 38103-1621  
DPBC = 014  
CRID = C049  
DPV = N

# DPV Functionality

**Input:** 301 S Main St  
Memphis TN 38103

**Output:** 301 S Main St  
Memphis TN 38103-4205  
DPBC = 013  
CRID = C023  
DPV = Y  
CMRA = N

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**DPV Output:** 301 S Main St  
Memphis TN 38103-4205

# DPV Functionality

*DPV may elect to resolve multiple responses when the Input Address is missing or contains invalid suffix words.*

**Input:** 1108 11<sup>th</sup> SE  
Jamestown ND 58401

**ZIP+4:** 1100-1198 11<sup>th</sup> St SE 58401-5835  
1100-1198 11<sup>th</sup> Ave SE 58401-5829

**DPV:** 1108 11<sup>th</sup> St SE  
Jamestown ND 58401-5835  
DPBC = 080  
CRID = C006  
DPV = Y  
CMRA = N

# DPV Functionality

*DPV may elect to confirm a secondary component when the Input Address contains multiple “#” signs but only one confirms.*

**Input:** 2095 Exeter Rd #128 #80  
Germantown TN 38138

**ZIP+4:** 2095 Exeter Rd --- --- 38138-3919  
2095 Exeter Rd 10 90 38138-3919  
2095 Exeter Rd 80 80 38138-3901

**DPV:** #128  
2095 Exeter Rd Ste 80  
Germantown TN 38138-3901

Suite 80 Confirmed  
CMRA Indicator Returned

# DPV Functionality - Summary

- ✓ DPV matching cannot violate pre-existing CASS rules
- ✓ DPV may elect to confirm a secondary component when the input address contains multiple “#” signs, but only one DPV confirms
- ✓ DPV must confirm a secondary component when the input address contains a secondary unit designator and a “#” sign
- ✓ DPV cannot swap secondary values when secondary unit designators are present
- ✓ DPV may match all address elements equal other than the carrier route
- ✓ DPV may match when multiple response conditions exist due to no input ZIP
- ✓ DPV may elect to resolve multiple responses when the input address is missing or contains invalid suffix words
- ✓ DPV may attempt to select a record from multiple candidates when only a change of suffix or directional component is affected

# DSF<sup>2</sup> – DSF's Replacement

- ✓ Secure non-reversible dataset probed with USPS algorithms
- ✓ Mailing File Matching Services provided by non-exclusive USPS licensees
- ✓ Superset of DPV, does DPV and more!
- ✓ Confirms a delivery point
- ✓ Confirms a CMRA
- ✓ Supports walk saturation

*and . . . .*

# DSF<sup>2</sup> – DSF's Replacement

✓ Provides additional address attributes

- Seasonal indicator
- Vacant indicator
- Delivery mode type indicator
- Residential indicator
- Business indicator
- Drop indicator
- Drop count
- LACS indicator
- No-stat indicator
- Throwback indicator

# Early Warning System (EWS)

***“ ... if it ain't broke, don't fix it!”***

*- anonymous, but could be Casey Stangel or Yogi Berra*

**Input:** 17 Hillside Dr  
Ware MA 01082

**ZIP+4:** 17-99 Hillside Ter 01082-9755

**Output:** 17 Hillside Ter  
Ware MA 01082-9755  
DPBC = 175  
CRID = R003

**QUESTION:** *Did the Address Matching Software do the right thing?*

# Early Warning System (EWS)

- ✓ 1.7 million new delivery points are established each year
- ✓ Currency of ZIP+4 products used impact quality of Address-Matching Processes
- ✓ Approximately 6% of all new addresses have the potential to be miscoded between ZIP+4 product update cycles
- ✓ EWS identifies addresses subject to potential miscoding

# Early Warning System (EWS)

**Input:** 17 Hillside  
Ware MA 01082

**ZIP+4:** 17-99 Hillside Ter 01082-9755

**EWS:** 1-99 Hillside Dr

**Output:** 17 Hillside  
Ware MA 01082

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**Input:** 17 Hillside Dr

**ZIP+4:** 17-99 Hillside Ter 01082-9755

**EWS:** 1-99 Hillside Dr 01082

**Output:** 17 Hillside Dr  
Ware MA 01082

# Early Warning System (EWS)

**Input:** 17 Hillside Dr  
Ware MA 01082

**ZIP+4:** 17-99 Hillside Ter 01082-9755  
1-99 Hillside Dr 01082-1234

**EWS:** 1-99 Hillside Dr 01082

**Output:** 17 Hillside Dr  
Ware MA 01082-1234

# Address Element Correction (AEC)

- ✓ On average, mailers cannot determine a ZIP+4 code for approximately 8% of the addresses in their lists
- ✓ AEC uses specialized USPS-developed logic to resolve ambiguous addresses
- ✓ AEC typically corrects about 40% of addresses processed
- ✓ Cost for AEC processing is \$15/1000 addresses

# Address Element Correction (AEC)

*NO ZIP+4 MATCH*

- ✓ Incomplete addresses
- ✓ Street name wrong
- ✓ Missing/incorrect directional
- ✓ Missing/incorrect suffix
- ✓ Incorrect street names
- ✓ Incorrect city names

# Address Element Correction (AEC)

## *What AEC Returns To You*

- ✓ If AEC can correct/add address elements, a correct and standardized address with a correct 5-digit and ZIP+4 is returned
- ✓ Correct carrier route codes
- ✓ Informational footnote codes to identify how addresses were resolved

# Address Element Correction (AEC)

## *Example Resolutions*

### **INPUT ADDRESS**

315 ½ WESTFORCE  
DOVER OH 44622

1440 S SEOYKVEDA BKVD  
LOS ANGELES CA 90025

N 2493 TRIPLE S RD  
CAMPBELLSPORT WI 53010

### **RETURNED ADDRESS**

315 ½ W 4<sup>TH</sup> ST  
DOVER OH 44622-3105

1440 S SEPULVEDA BLVD  
LOS ANGELES CA 90025-3492

N2493 COUNTRY RD SSS  
CAMPBELLSPORT WI 53010-2950

# National Change Of Address (NCOA)

- ✓ Consolidated File containing 113+ million permanent COA records
- ✓ NCOA database contains 4 years of Change-Of-Address information
- ✓ NCOA service provided to mailing industry via 17 licensees
- ✓ Customers submit address list on electronic media

# National Change Of Address (NCOA)

- ✓ Matching logic strictly controlled by USPS
  - ✓ Individual versus family matching
- ✓ Typical match rate is approximately 4%
- ✓ 200 billion address records processed by NCOA licensees in FY 01
- ✓ 8 billion address records updated for Change-Of-Address

# *Thank You ...*

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