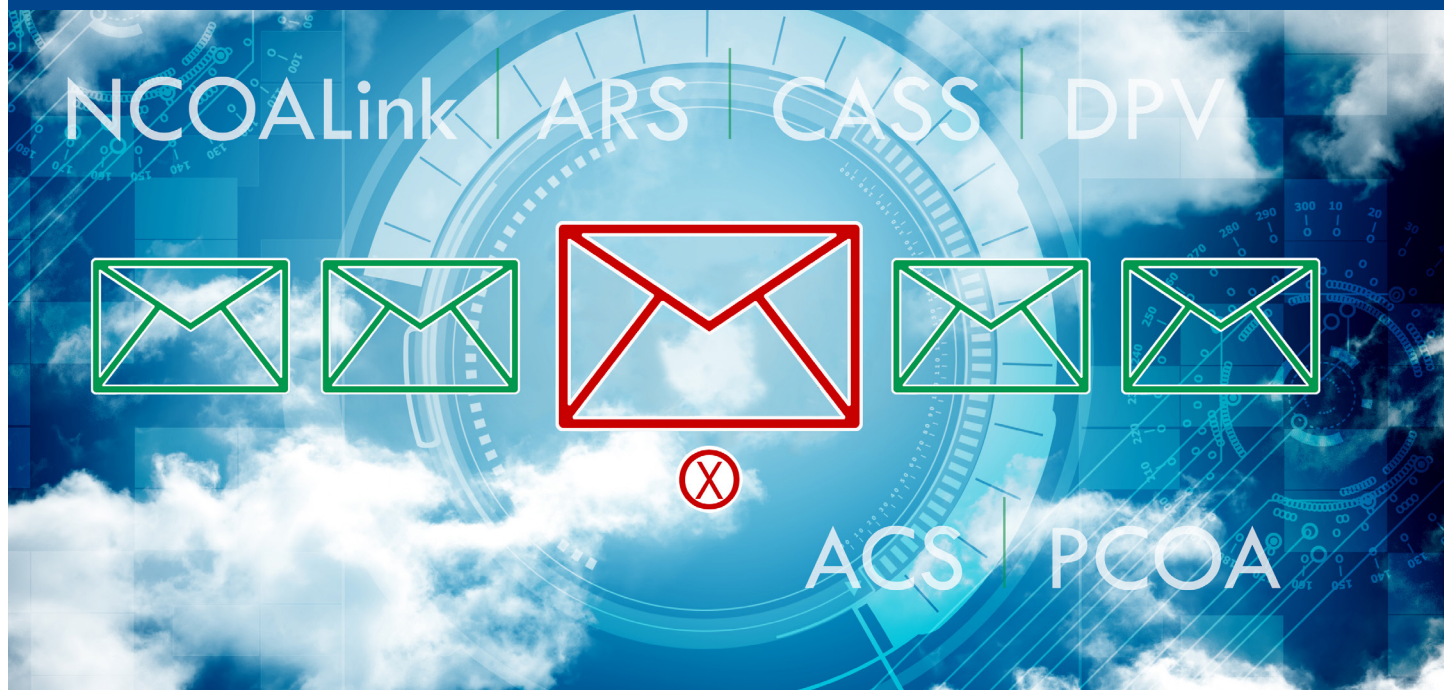


# Leveraging Data Quality Return Codes and Avoiding Undeliverable As Addressed (UAA) Mail



A Technical White Paper by BCC Software



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## An Introduction to Our Author

**Bill Cole** is a **Product Manager** at **BCC Software**, a BlueCrest Company. In his almost 20 years in the industry, he worked with Satori Software and Quadient in a variety of key technical roles coming to BCC Software in 2019. Bill has presented workshops at **BCC Software’s InfoXchange**.

His current focus supports BCC Software Data Quality solutions and **BCC Architect**. Bill is a graduate of DeVry University Seattle and Central Washington University.



## Introduction

Address correction is the process that standardizes and verifies addresses according to the latest USPS® requirements. This process ensures the accuracy of the barcodes, ZIP + 4® Codes, 5-digit ZIP Codes and carrier route information, which can **lower your postage costs**. You can manage your mailings better if you understand how address correction and other data quality services work in BCC Software products. The key is to effectively use the information that is returned to you from these processes i.e. “return codes” to make decisions about your mailings and avoid UAA (Undeliverable as Addressed) mail.

- **Your expertise in using the Address Correction and Data Quality return codes is key to successful mailings and avoiding UAA (Undeliverable as Addressed) mail.**

### Enhancing Mailing Address

Tools you need to improve the quality of the address in your mailing.

#### UTILIZE THE 3C APPROACH



### Why Avoid UAA Mail?

1

Reducing UAA mail improves direct mail response rates.

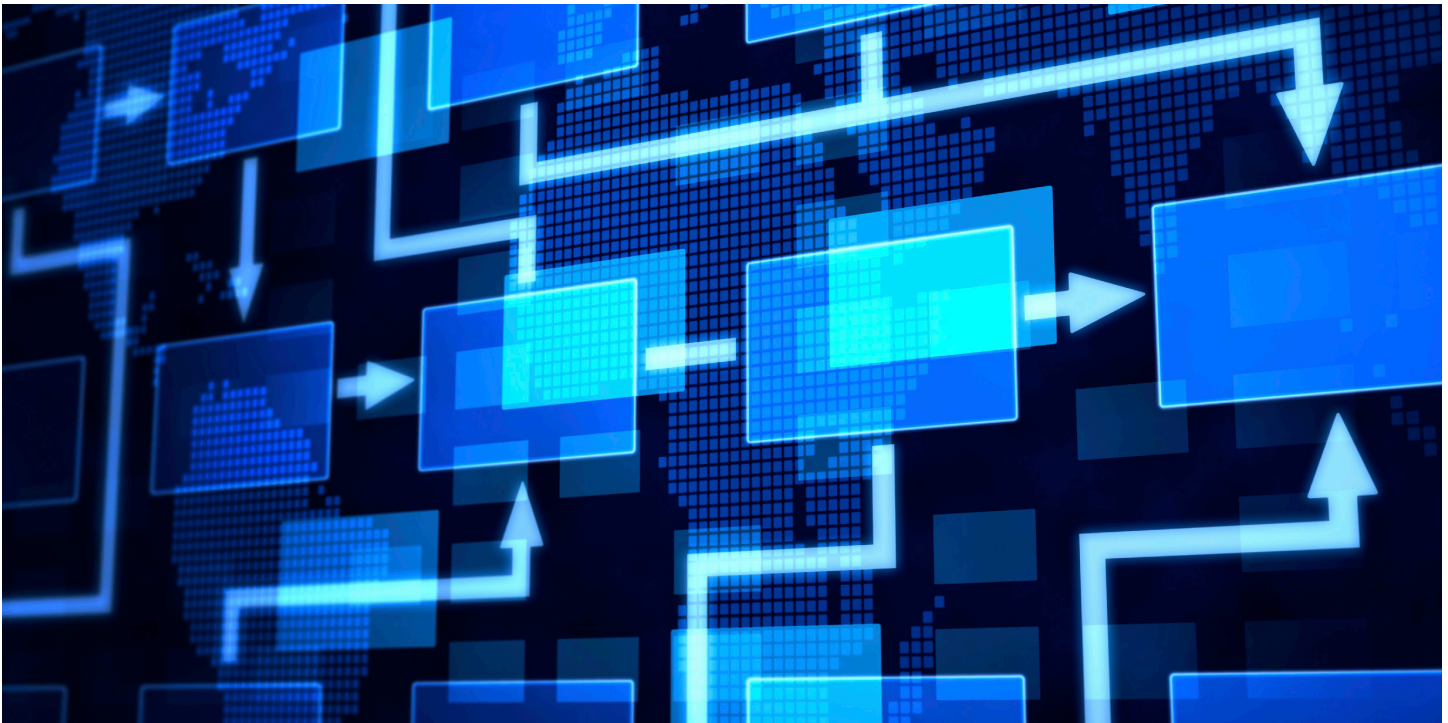
2

Incorrect addresses delay mail delivery and often result in a loss of contact.

3

Doing something about UAA mail avoids wasted postage in an era of rising costs and tighter budgets.





## Section One: CASS™ – Address Parsing and Address Standardization

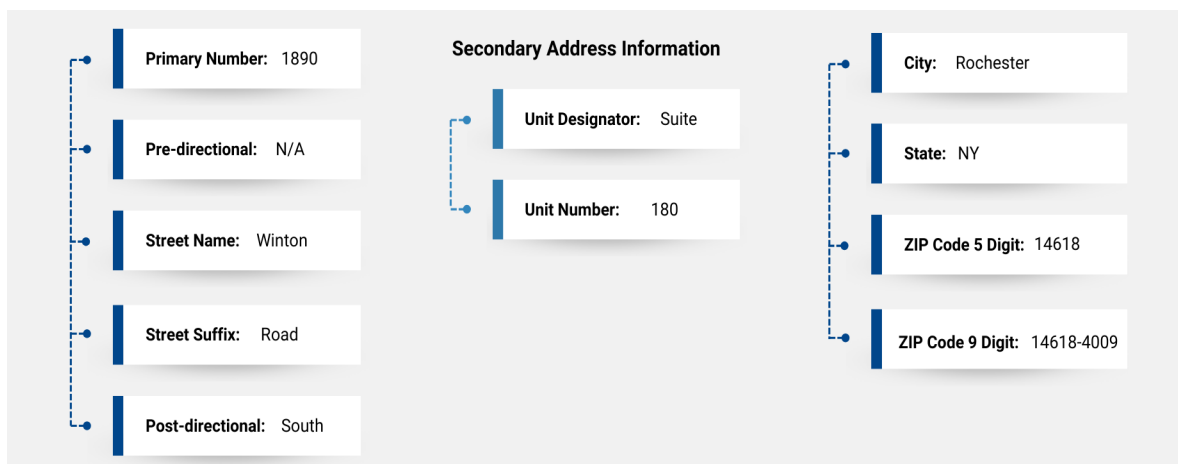


What is it? | How does it work?

### Address Parsing

- CASS™ certification is provided by USPS for software vendors like BCC Software who wish to evaluate the quality of their address matching software.
- The first step that a CASS certified software product or service must take is to identify the elements of your input address so it can both standardize the address according to USPS requirements and match your address to the relevant USPS provided address data.
- Examples of address elements:

**1890 Winton Road South | Suite 180 | Rochester, NY 14618-4009**





- **A common question is, can the parsing engine identify the input secondary information if it only includes the unit number and doesn't provide the unit designator?** In most cases, the answer is yes. For instance, if the unit number is located by itself in a distinct address line or at the end of an address line chances are good that it will be identified even without a provided unit designator. If the USPS address data includes the secondary address and can be used to help match, chances are very good that it will be correctly identified. If secondary address information remains unidentified it is treated as "extra" information and can't be used to ensure delivery. The consequence of this is ultimately the mail may become UAA (undeliverable as addressed mail). It becomes an incomplete address similarly to when an apartment number or suite number is required, but missing.
- For the purposes of this document, we need to keep in mind that **parsing is happening**, and that we can use return codes for CASS processing to determine what may be missing or is not matching to the USPS address data.

## Address Standardization

- CASS™ address standardization will change for instance "Street" to "St" and "East" to "E" based on USPS recommended formatting. BCC Software products use USPS recommended abbreviations, but also allow mailers to control how standardization is applied to an input address.
- More control over how an address is formatted can also be better accomplished after successful address parsing and standardization. For instance, USPS scanning and **sorting machines work best** when the address is formatted in such a way that the address can be read from bottom to top. i.e.
  - Business Name*
  - Secondary Address Line*
  - Primary Delivery Address Line*
  - *City, State, ZIP Code*
- Matching records for duplication search and Move Update (NCOALink) is **improved** after standardization/parsing.
- Using the IMb (Intelligent Mail Barcode) does not remove the importance of having a properly formatted and standardized address. The process of perfecting an address according to USPS addressing standards is an important part of the process of correcting an address.

**Important Note:** Some return codes are different depending on the BCC Software product/service used; some return codes are defined by USPS and are the same between products, although they may be named slightly differently.

## Relevant Return Codes

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

(See Appendix A — Architect Address Correction Error Codes)

- The following codes indicate that address elements were changed to accomplish a match to USPS ZIP+4 data. This generally will happen when address elements are either missing or simply don't match to USPS address data because of misspelling or missing address elements. These return/error codes indicate the CASS address matching and coding software was able to correct the address by adding missing address elements or fixing incorrect address elements.

- 21-30 (Last Line Changes)
- 31-99 (Delivery Address Line Changes)

- The following codes indicate that address elements could not be identified and as a result the address was not matched to USPS ZIP+4 data. Address Correction error/return codes for Architect, Bulk Mailer, Ignite, and Web Services that are > 99 were not matched to USPS ZIP+4 data. They should be treated as unverified addresses that could result in UAA mail.

- 111-120 (Last Line Parsing)
- 211-220 (Last Line Retrieval)
- 311-320 (Address Line Parsing)
- 411-480 (Address Line Retrieval)

- **Mail Manager (All Versions) – Datavolve – Integratec – LENS**

(See Appendix D — Mail Manager ZIP+4 Footnote Codes)

- The following codes indicate that address elements were changed to accomplish a match to USPS ZIP+4 data. This generally will happen when address elements are either missing or simply don't match to USPS address data because of misspelling or missing address elements. CASS address matching/encoding software was able to correct the address by adding missing or fixing incorrect address elements. Or, perhaps by correcting misspellings. Also, there is a code to indicate the delivery address was standardized according to USPS requirements.

- A, B (ZIP Code Corrected, City/State Corrected)
- L (Delivery Address Component Changed)
- M (Street Name Spelling Changed)
- N (Delivery Address Standardized)

(See Appendix E - Mail Manager ZIP+4 Return Codes)

- The following codes indicate that address elements could not be identified, or the identified address elements were invalid/insufficient to make a reliable match to the USPS ZIP+4 address data.

- 10-17 (Invalid Address, City/State/ZIP Code, Insufficient Data)
- 21 (Address Not Found)
- 22 (Multiple Responses, often caused by missing or unidentified address elements)



## Section Two: CASS™ – ZIP+4 Matching/Coding

 What is it? | How does it work?

### ZIP+4 matching/coding is a three-step process

1

Verification that provided primary number matches valid range of numbers in USPS ZIP+4 file.

2

Verification that delivery point is valid because the primary number is listed as deliverable in USPS DPV file.

3

Verification that is secondary information (apartment numbers or suite numbers) is required according to the USPS DPV file, that it is provided in the input address and is listed as deliverable.



Relevant Return Codes

- After address parsing and address standardization, the next step is to determine if the primary number provided in the input address is within a range of existing primary numbers on a particular street in a particular City/State and ZIP Code combination according to USPS ZIP+4 address data.

Example:      Delivery Address Line: 399 York St.  
                    City/State/ZIP Code: Elizabeth, NJ 07206

Parsed Address:

- |   |                       |   |                      |
|---|-----------------------|---|----------------------|
| • | Primary Number: 399   | • | Pre-directional: n/a |
| • | Street Name: York     | • | Street Suffix: St    |
| • | Post-directional: n/a | • | City: Elizabeth      |
| • | State: NJ             | • | ZIP5: 07206          |

See below for an example of how this parsed address in matched to USPS ZIP+4 address data. Using the Address Browser feature in Architect, Bulk Mailer, or the (ZIP+4 search) feature in Mail Manager, if you search for this address, you see the following:

Address Browser

Original Address

399 York St  
Elizabeth NJ 07206

Search Address

City/St/ZIPElizabeth NJ

Find

StreetYork St

Clear

Primary399

Secondary

Result Address

399 York St  
Elizabeth, NJ 07206-1420

Update

Cancel

Pre	Street	Suffix	Post
(All)			
	York	St	

Primary	Unit	Secondary	ZIP+4	Firm	Type
* 1-399 (Odd)			07206-1420		S
2-398 (Even)			07206-1419		S
400-698 (Even)			07201-2041		S
401-799 (Odd)			07201-2035		S
600			07201-2074	Wakefern Food Corp	F
700-798 (Even)			07201-2065		S

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- The address browser lists valid ranges of primary numbers, secondary numbers, and business names if they exist on York St in this City/State/ZIP Code combination.
- This is a direct listing of what should be returned as the ZIP+4 and other relevant USPS data for an input address that matches a valid range.
- However, the address browser cannot display which individual primary and secondary numbers are listed by USPS as deliverable according to the USPS DPV address data. See the section below in this paper called DPV-Delivery Point Validation. Primary Number validation and DPV-Delivery Point Validation. Secondary Number validation for an explanation of the DPV requirement.
- What happens with this address is the first step ZIP+4 matching/coding does to match a valid ZIP+4 range using the primary number provided (399). The next step is DPV (Delivery Point Validation) and unfortunately it fails because the primary number is invalid according to DPV.
- Which numbers are valid can not be indicated in the Address Browser because of USPS licensing limitations.
- The following result codes are returned and can be used to diagnose the problem with the address:

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 491
- CASS Error Code Description: Failed DPV because of invalid primary

(See Appendix B — Architect DPV Footnotes)

- DPVFootnotes: AAM3
- DPVFootnotes Description: AA -Matched to the ZIP+4 file; M3- Primary Number Invalid

(See Appendix C - Architect DPV Enhanced Indicator)

- DPV Enhanced Indicator: N
- DPV Enhanced Indicator Description: The address failed to DPV Confirm. The primary number was missing or was not validated.

- **Mail Manager (All Versions) – Datavolve – Integratec – LENS**

(See Appendix F — Mail Manager DPV Footnotes)

- DPV Footnotes: AAM3
- DPV Footnotes Description: AA -ZIP+4 matched; M3- Primary number was not confirmed

(See Appendix G — Mail Manager Enhanced DPV Code)

- Enhanced DPV Code: N
- Enhanced DPV Code Description: Both primary and secondary (if present) numbers failed to DPV/DSF2 confirm.



## Section Three: DPV (Delivery Point Validation) — Primary Number Validation



### What is it? | How does it work?

- After address parsing, address standardization, and ZIP+4 matching/coding, the next process is to determine if the provided primary number is listed as deliverable according to the USPS provided DPV file.
- If there is a match of the provided input address to a street, rural route, or PO Box and the primary (box) number matches a range of address/box numbers in the USPS provided ZIP+4 file, **an address still can fail to match** because the primary number does not match the USPS provided DPV file.
- In a case where the provided primary number is invalid according to DPV there are two possibilities. 1) the primary number is simply incorrect. 2) the address is new construction and the current DPV data used by the software was created before the new primary address has had a chance to be added. Updating USPS address data as soon as it's available on the BCC Customer portal is always recommended to avoid this problem to the extent possible. In the case of new construction, there is something else that can be checked that can indicate if the address matches the USPS, EWS (Early Warning System). See the **Relevant Return Codes** to the right for what to look for.



- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

The following output fields can be used to check for an EWS match:

- EWS\_CODED is True
- Description: Indicates that this record was flagged by the early warning system as a new address not yet included in the USPS databases.

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 423
- CASS Error Code Description: Matched to a record in the Early Warning System (EWS) file; an exact match will be possible with the next database update.

(See Appendix B — Architect DPV Footnotes)

- DPVFootnotes: AAM3
- DPVFootnotes Description: AA -Matched to the ZIP+4 file; M3- Primary Number invalid.

- **Mail Manager (All Versions) – Datavolve – Integratec – LENS**

The following output fields can be used to check for an EWS match:

(See Appendix D – Mail Manager ZIP+4 Footnote Codes)

- ZIP+4 Footnote Code: Q
- ZIP+4 Footnote Code Description: EWS (Early Warning System) Match. The address matches an address range in the EWS file. The EWS file contains address ranges of new addresses not yet incorporated into the ZIP+4 database.

USE Mail Manager ZIP+4 Encoding Options:

- Set **Activate EWS** option to true.
- Property Description: Activates the EWS (Early Warning System) file when encoding. The EWS file is updated weekly (remote encoding) and provides information on new addresses that have not yet been added to the ZIP+4 database. If an address matches a record in the EWS file, the address is not changed, and the code of “Q” is placed in the ZIP+4 Footnote field.

## Relevant Return Codes

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 491
- CASS Error Code Description: Failed DPV because of invalid primary

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 494
- CASS Error Code Description: Failed DPV because of invalid PO, RR, or HC box number

(See Appendix C — Architect DPV Enhanced Indicator)

- Enhanced DPV Code: N
- Enhanced DPV Code Description: The address failed to DPV confirm. The

primary number was missing or was not validated.

- **Mail Manager (All Versions) – Datavolve – Integratec – LENS**  
(See Appendix G — Mail Manager Enhanced DPV Code)
  - Enhanced DPV Code: N
  - Enhanced DPV Code Description: Both primary and secondary (if present) numbers failed to DPV/DSF2 confirm.
- (See Appendix F – Mail Manager DPV Footnotes)
  - DPV Footnotes: AAM3
  - DPV Footnotes Description: AA -ZIP+4 matched; M3- Primary Number invalid.

Since DPV (Delivery Point Validation) for both primary and secondary numbers is done as a part of ZIP+4 matching/coding it is recommended to use DPV fields to help make the ultimate decision about what is deliverable and what is not.

Recently, USPS after receiving feedback from mailers, asked CASS software vendors to start returning a new field called **Enhanced DPV Code** in Mail Manager (All Versions) – Datavolve – Integratec – LENS and called **DPV Enhanced Indicator** in Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service.

Enhanced DPV Code	Description
R	Address confirmed but assigned to phantom route R777 or R779 and USPS delivery is not provided.
Y	Address was DPV/DSF <sup>2</sup> confirmed for both primary and secondary numbers necessary to determine a valid entry point.
D	Address was DPV/DSF <sup>2</sup> confirmed for the primary number only. Secondary information was missing.
S	Address was DPV confirmed for the primary number only, the Secondary number information was present but not confirmed or a single trailing alpha on a primary number was dropped to make a DPV match, and Secondary information required.
N	Both primary and secondary (if present) number information failed to DPV/DSF <sup>2</sup> confirm.
Blank	The address was not presented to the DPV table because it was missing components needed for the lookup. This usually means the record is not ZIP+4 coded.

DPV Enhanced Indicator	Description
R	Address confirmed but assigned to phantom route R777 or R779 and USPS delivery is not provided.
Y	Address was DPV/DSF <sup>2</sup> confirmed for both primary and secondary numbers necessary to determine a valid entry point.
D	Address was DPV/DSF <sup>2</sup> confirmed for the primary number only. Secondary information was missing.
S	Address was DPV confirmed for the primary number only, the secondary number information was present but not confirmed or a single trailing alpha on a primary number was dropped to make a DPV match, and secondary information required.
X	The DPV database has been locked-out because of a protocol violation.
N	The address failed to DPV confirm. The primary number was missing or was not validated.
Blank	The address was not presented to the DPV table because it was missing components needed for the lookup. This usually means the record is not ZIP+4 coded.

Question: What is DPV is No Stat? — Answer: UAA Mail

(or in layman's terms: Your address is treated by USPS as non-deliverable)

- Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service

DPV Is No Stat	Description
Space	No look up.
1 = Confirmed	Confirmed, see No-Stat Reason Return Codes for details.
0 = Not Confirmed	Not confirmed.

DPV No-Stat Reason Return Codes	Description
No value	No lookup.
01	<b>IDA</b> (Internal Drop Address): These are addresses that do not receive mail delivery directly from the USPS but are delivered to a drop address that services them.
02	<b>CDS</b> (New construction): The delivery is new construction and delivery has not been established or is on a Rural/CDS/HCR where the delivery point is unoccupied for more than 90 days.
03	<b>Collision</b> (Address does not DPV): These addresses do not actually DPV® confirm. In this case, the 'Y' should be set to an 'N' on the DPV® 'A' table and all other table values should be blank.
04	<b>CMZ</b> (College/Military Zone & Other types): These are ZIP + 4 records USPS has incorporated into the data.
05	<b>Regular No-Stat</b> : The address is no longer a possible delivery, the address is on an R777 route, or the PO Box has never been rented, is declared unrentable, or the No-Stat reason is not one of the other reasons.
06	<b>Secondary required</b> : The address has incorrect secondary or missing secondary and secondary information is required.

- Mail Manager (All Versions) – Datavolve – Integratec – LENS

DPV Is No Stat	Description
Space	No look up.
Y = Confirmed	Confirmed, see No-Stat Reason Return Codes for details.
N = Not Confirmed	Not confirmed.

DPV No-Stat Reason Return Codes	Description
No value	No lookup.
01	<b>IDA</b> (Internal Drop Address): These are addresses that do not receive mail delivery directly from the USPS but are delivered to a drop address that services them.
02	<b>CDS</b> (New construction): The delivery is new construction and delivery has not been established or is on a Rural/CDS/HCR where the delivery point is unoccupied for more than 90 days.
03	<b>Collision</b> (Address does not DPV): These addresses do not actually DPV® confirm. In this case, the 'Y' should be set to an 'N' on the DPV® 'A' table and all other table values should be blank.
04	<b>CMZ</b> (College/Military Zone & Other types): These are ZIP + 4 records USPS has incorporated into the data.
05	<b>Regular No-Stat</b> : The address is no longer a possible delivery, the address is on an R777 route, or the PO Box has never been rented, is declared unrentable, or the No-Stat reason is not one of the other reasons.
06	<b>Secondary required</b> : The address has incorrect secondary or missing secondary and secondary information is required.





## Section Four: DPV (Delivery Point Validation) — Secondary Number Validation



What is it? | How does it work?

- After address parsing, address standardization, ZIP+4 matching/coding, and DPV validation of the primary number, the next process is to determine if a secondary number (such as an apartment number or suite number) is present when required and if provided in the input address if it is listed as deliverable according to the USPS provided DPV file.
- If there is a match of the provided input address to a street and the primary number matches a range of address in the USPS provided ZIP+4 file, and the primary number is listed as deliverable using DPV, **an address still can fail to match completely** because secondary information is required and either does not match the USPS provided DPV file or is not present in the input record.
- Missing or invalid secondary information can in some cases be fixed by using Address Resolution/Apartment append service. **See ARS – Address Resolution Service – Apartment Append Service below in this document.**

## Relevant Return Codes

These result codes indicate a problem with DPV and the provided secondary information in the record:

### • Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 492
- CASS Error Code Description: Valid primary, but failed DPV because of invalid secondary

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 493
- CASS Error Code Description: Valid primary, but failed DPV because of missing secondary

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 496
- CASS Error Code Description: Valid primary, but failed DPV because of invalid required secondary

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 92 – returns as a warning if DPV Failure as Error is set to FALSE.
- CASS Error Code Description: Valid primary, but failed DPV because of invalid secondary

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 93 – returns as a warning if DPV Failure as Error is set to FALSE.
- CASS Error Code Description: Valid primary, but failed DPV because of invalid secondary

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 96 – returns as a warning if DPV Failure as Error is set to FALSE.
- CASS Error Code Description: Valid primary, but failed DPV because of invalid required secondary

(See Appendix B — Architect DPV Enhanced Indicator)

- DPV Enhanced Indicator: D
- DPV Enhanced Indicator Description: Address was DPV confirmed for the primary number only. Secondary information was missing.

(See Appendix B — Architect DPV Enhanced Indicator)

- DPV Enhanced Indicator: S
- DPV Enhanced Indicator Description: Address was confirmed for the primary number only, Secondary information was present, but not confirmed or a single trailing alpha on a primary number was dropped to make a DPV match, and secondary information was required.

### • Mail Manager (All Versions) – Datavolve – Integratec – LENS

(See Appendix G — Mail Manager Enhanced DPV Code)

- Enhanced DPV Code: N
- Enhanced DPV Code Description: Both primary and secondary (if present) numbers failed to DPV/DSF2 confirm.

(See Appendix G — Mail Manager Enhanced DPV Code)

- Enhanced DPV Code: S
- Enhanced DPV Code Description: The primary address is valid according to DPV. The secondary number information is present, but invalid, or a single trailing alpha on a primary number was dropped to make a DPV match.



## Section Five: CASS — SuiteLink®



What is it? | How does it work?

- As part of ZIP+4 matching/coding, BCC Software products and services uses SuiteLink as a USPS requirement to improve business addressing information by adding known secondary (suite) information to business addresses.

### Relevant Return Codes

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**  
(See Appendix A — Architect Address Correction Error Codes)
  - CASS Error Code: 10
  - CASS Error Code Description: Secondary information added by SuiteLink.
- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**  
Architect SuiteLink Footnote
  - SuiteLink Footnote: ""
  - SuiteLink Footnote Description: Was not processed by the SuiteLink engine: the address did not qualify for a lookup within the SuiteLink file. Only default high-rise addresses qualify for a SuiteLink lookup.



#### Architect SuiteLink Footnote

- SuiteLink Footnote: A
- SuiteLink Footnote Description: The address was processed, and secondary information was added to the resulting address. Valid SuiteLink information is appended to the delivery address. If there is extraneous, nonvalid, secondary information, it is moved to the end of the delivery address line.

#### Architect SuiteLink Footnote

- SuiteLink Footnote: 00
- SuiteLink Footnote Description: The address was processed through SuiteLink engine but did not result in a successful match: no secondary information was added.

### • Mail Manager (All Versions) – Datavolve – Integratec – LENS

#### SuiteLink Return Codes

- SuiteLink Footnote: ""
- SuiteLink Footnote Description: Was not processed by the SuiteLink engine: the address did not qualify for a lookup within the SuiteLink file. Only default high-rise addresses qualify for a SuiteLink lookup.

#### SuiteLink Return Codes

- SuiteLink Footnote: A
- SuiteLink Footnote Description: The address was processed, and secondary information was added to the resulting address. Valid SuiteLink information is appended to the delivery address. If there is extraneous, nonvalid, secondary information, it is moved to the end of the delivery address line.

#### SuiteLink Return Codes

- SuiteLink Footnote: 00
- SuiteLink Footnote Description: The address was processed through SuiteLink engine but did not result in a successful match: no secondary information was added.



## Section Six: CASS — LACSLink



### What is it? | How does it work?

- As part of ZIP+4 matching/coding, BCC Software products and services use LACSLink as a USPS requirement to update unlocatable addresses such as rural routes with new addresses after a 911 emergency system update.

### Relevant Return Codes

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

(See Appendix A — Architect Address Correction Error Codes)

- CASS Error Code: 9
- CASS Error Code Description: Address revised by LACSLink.

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

Architect LACSLink Footnote

- LACSLink Footnote: ""
- LACSLink Footnote Description: Not processed with LACSLink.

Architect LACSLink Footnote

- LACSLink Footnote: 00
- LACSLink Footnote Description: No match.

Architect LACSLink Footnote

- LACSLink Footnote: 09
- LACSLink Footnote Description: Matched to default high-rise address; address not updated.

Architect LACSLink Footnote

- LACSLink Footnote: 14
- LACSLink Footnote Description: Match failed to build a new address.

Architect LACSLink Footnote

- LACSLink Footnote: 92
- LACSLink Footnote Description: Match secondary dropped from input.

Architect LACSLink Footnote

- LACSLink Footnote: A
- LACSLink Footnote Description: Match success. A new address could be furnished.

• **Mail Manager (All Versions) – Datavolve – Integratec – LENS**

LACSLink Indicator

- LACSLink Indicator: “”
- LACSLink Footnote Description: Not processed with LACSLink.

LACSLink Indicator

- LACSLink Indicator: 00
- LACSLink Footnote Description: No match.

LACSLink Indicator

- LACSLink Indicator: 09
- LACSLink Footnote Description: Matched to default high-rise address; address not updated.

LACSLink Indicator

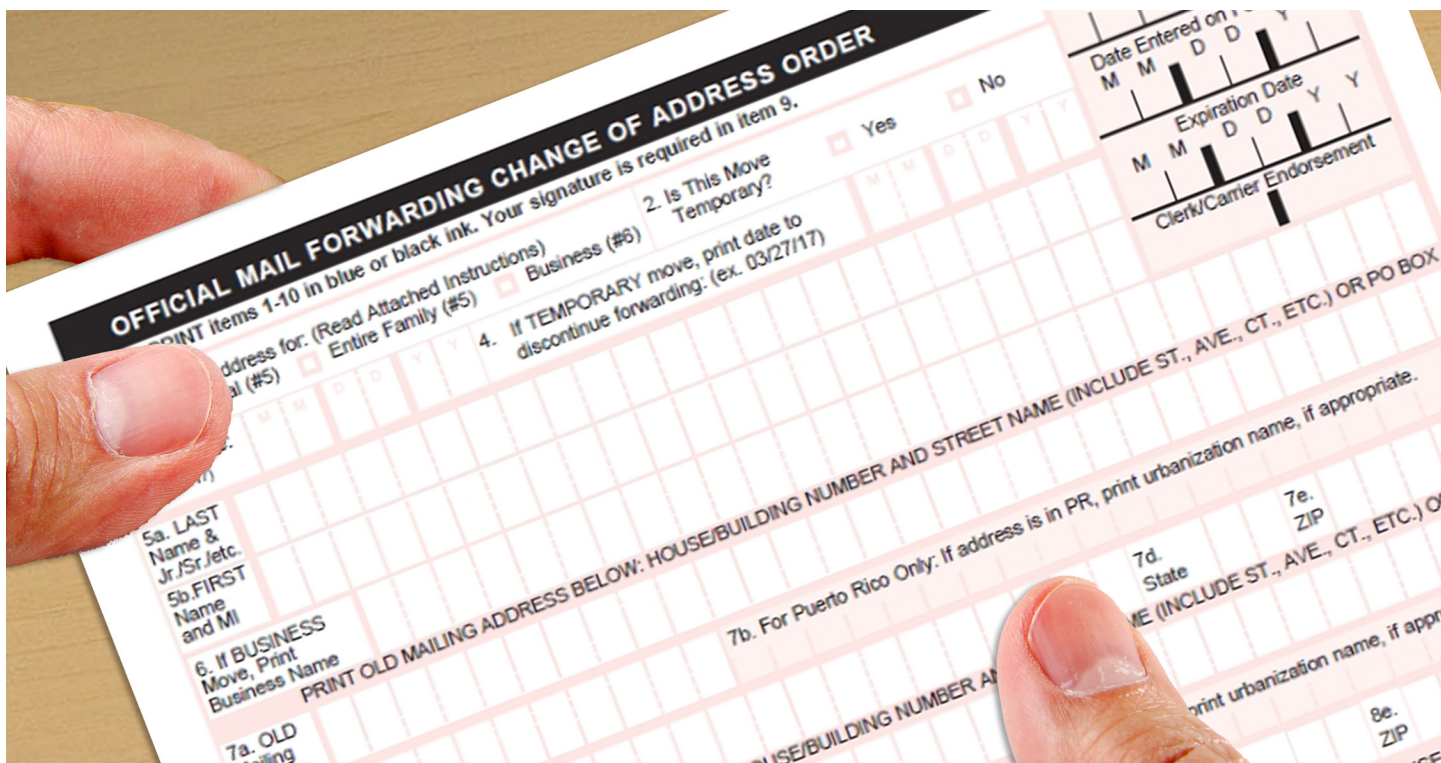
- LACSLink Indicator: 14
- LACSLink Footnote Description: Match failed to build a new address.

LACSLink Indicator

- LACSLink Indicator: 92
- LACSLink Footnote Description: Match secondary dropped from input.

• LACSLink Indicator

- LACSLink Indicator: A
- LACSLink Footnote Description: A new address could be furnished.



## Section Seven: NCOALink® (National Change of Address)



### What is it? | How does it work?

- After address parsing, address standardization, ZIP+4 matching/coding, and DPV validation of the primary number and the secondary number, we now need to examine the addressee of the mail piece to assure that the mail piece gets to the person, family or business intended. USPS provides NCOALink (National Change of Address Linkage System) to meet the USPS Move Update requirement that mailers (with some exceptions) must meet to qualify for presorted or automation price discounts.
- For the purposes of this document, we are focused on the topic of how to use return codes that come back from NCOALink processing and how these can be used to avoid UAA mail.
- NCOALink uses individual names, family names and business name information as provided by the input address to match the USPS managed change of addresses (COA) database that is installed on BCC Software hosted servers. Or, you could have your own NCOALink server if you license the data directly from USPS and use BCC Software Move Server software to process your lists.
- The biggest advantage of using NCOALink, over Address Change Service (ACS™), is that you can update your mailing list before mailing it. With ACS you get the address corrections after mailing either through manual notifications or electronic



notifications back after attempted delivery or processing by the local USPS delivery unit.

- NCOALink comes with two possible licenses, NCOALink FSP (full service, 48 months of data) or NCOALink LSP (limited service, 18 months of data) often combined with ANKLink to flag older COAs up to 48 months.
- When you process your list, you can control how far back you go looking for COAs, and the type of COAs you are looking for, Business only, Individual and Family only etc.
- The key to matching to a COA is the business name, and name information provided by your input record. The NCOALink software will use name parsing to assist in matching. But if the business name and name fields are already parsed you can be more confident that matching will be accurate. For example, if you have the name information all contained in one field and/or multiple names such as John & Mary Smith all in a combined field, the name parsing will have to accurately use the name to make the match to COA. In most cases, it will be able to accurately match the COA record in these situations. But it is something that can be of concern if the format is non-standard such as “Last Name, First Name.”
- Using the NCOALink Footnotes field there are four possible cases that need to be considered when making decisions about which mail pieces you should include in your mailing. What you do with these results will determine your success in avoiding UAA mail. For instance, the bottom three cases may result in UAA mail because a new address cannot be provided by the service.
  - A match was found, and a new address was provided.
  - A match was found, but a new address was not available.
  - A match was found, but the service was unable to provide a new address.
  - An adequate match was not found, so a new address was not provided.

## Relevant Return Codes

- **Architect – Bulk Mailer – Ignite – Infuse Web Services – Architect Web Service**

(See Appendix H — Architect and Mail Manager NCOALink Footnote Codes)

- **Mail Manager (All Versions) – Datavolve – Integratec – LENS**

(See Appendix H — Architect and Mail Manager NCOALink Footnote Codes)

- NCOALink Footnote Code: A, 91, 92
- Description: A match was found, and a new address was provided
- NCOALink Footnote Code: 01, 02, 03
- Description: A match was found but no new address was available
- NCOALink Footnote Code: 05, 14, 19,
- Description: A match was found but the service is unable to provide a new address
- NCOALink Footnote Code: 00, 04, 06, 07, 08, 09, 10, 11, 12, 13, 15, 16, 17, 18, 20, 66
- Description: An adequate match was not found, so a new address was not provided



## Section Eight: PCOA (Proprietary Change of Address)



What is it? | How does it work?

- An optional data service to find the correct and current address for an addressee in cases where you have an old address and NCOALink does not provide the new address is BCC Software's Proprietary Change of Address (PCOA). PCOA, called Enhanced Change of Address (ECO) in Bulk Mailer and Infuse Web Service, uses a master database that contains information about moves from multiple sources like magazine subscriptions, credit card, and utility companies.
- This service is available in Bulk Mailer (Data Services), Mail Manager (Data Marketing Services), Infuse Web Services, and LENS.
- See this link for more information: <https://bccsoftware.com/services/pcoa/>

## Relevant Return Codes

- **Bulk Mailer – Ignite – Infuse Web Services**

(See Appendix I — Infuse Web Services ECOA Footnote table)

- ECOA Return Value: M; I
- ECOA Return Value: Moved with new address; Individual move.

(See Appendix I — Infuse Web Services ECOA Footnote table)

- ECOA Return Value: K; I
- ECOA Return Value: Moved without new address; Individual move.

(See Appendix I — Infuse Web Services ECOA Footnote table)

- ECOA Return Value: X
- ECOA Return Value: No change of address found.

(See Appendix I — Infuse Web Services ECOA Footnote table)

- ECOA Return Value: N
- ECOA Return Value: Provided address is newer, address unchanged.

(See Field — Infuse Web Services ECOADate)

- ECOADate: Date of when the move (change of address) occurred.

- **Mail Manager (All Versions) – LENS**

(See Field — Mail Manager PCOA Move Effective Date)

- PCOA Move Effective Date: Returned in the Data Services return job and included on the PCOA Summary Report.

(See Appendix J — Mail Manager PCOA Confidence Score)

- PCOA Confidence Score: ""
- PCOA Confidence Description: No match
- PCOA Confidence Score: 1
- PCOA Confidence Description: Match - Multi-source contributor
- PCOA Confidence Score: 2
- PCOA Confidence Description: Match – Single source newer than 13 months
- PCOA Confidence Score: 3
- PCOA Confidence Description: Match – Single source 13-24 months
- PCOA Confidence Score: 4
- PCOA Confidence Description: Match – Single source older than 24 months





## Section Nine: ARS (Address Resolution Service) — Apartment Append Service



### What is it? | How does it work?

- An optional data service to reduce undeliverable mail and increase a mail piece delivery rate when the address cannot be corrected and verified by CASS and DPV.
- This service is available in Bulk Mailer (Data Services), Mail Manager (Data Marketing Services), Infuse Web Services, and LENS.
- Bulk Mailer (Data Services) and Infuse Web Services only return the Apartment Append portion of ARS.
- Mail Manager (Data Marketing Services) and LENS can both append missing, incomplete, or incorrect apartment numbers, as well as correct an incorrect or incomplete address.
- Address Resolution Service and the Apartment Append service uses individual name information provided by the input record to update an uncorrected, incomplete, or incorrect address. It uses a proprietary database from sources such as utility companies and other third-party sources to find the name and match it to name information you provide.
- See this link for more information:  
<https://bccsoftware.com/services/address-resolution-service/>

## Relevant Return Codes

- **Bulk Mailer – Ignite – Infuse Web Services**

(See Appendix K — Infuse Web Services Apartment Number Footnote)

- Apartment Number Footnote: A1
- Apartment Number Footnote Description: Secondary address information confirmed as correct.

(See Appendix K — Infuse Web Services Apartment Number Footnote)

- Apartment Number Footnote: A2
- Apartment Number Footnote Description: Secondary address information appended to the address record.

(See Appendix K — Infuse Web Services Apartment Number Footnote)

- Apartment Number Footnote: A3
- Apartment Number Footnote Description: Secondary address information updated.

- **Mail Manager (All Versions) – LENS**

(See Appendix L — Mail Manager Address Resolution Service (ARS) Footnotes)

- ARS Footnote: Y
- ARS Footnote Description: Resolved a non-match to a ZIP+4 match or resolved a default or non-deliverable match to an exact ZIP+4 match.

(See Appendix L — Mail Manager Address Resolution Service (ARS) Footnotes)

- ARS Footnote: X
- ARS Footnote Description: No Address Resolution match.

(See Appendix L — Mail Manager Address Resolution Service (ARS) Footnotes)

- ARS Footnote: >
- ARS Footnote Description: Resolved to a DPV confirmed address.

(See Appendix L — Mail Manager Address Resolution Service (ARS) Footnotes)

- ARS Footnote: R
- ARS Footnote Description: Resolved.

(See Appendix L — Mail Manager Address Resolution Service (ARS) Footnotes)

- ARS Footnote: A
- ARS Footnote Description: Apartment appended.

(See Appendix L — Mail Manager Address Resolution Service (ARS) Footnotes)

- ARS Footnote: S
- ARS Footnote Description: SuiteLink match.





## Section Ten: ACS™ (Address Change Service)

 What is it? | How does it work?

- ACS (Address Change Service) is a post mailing service that allows mailers to receive change-of-address (COA) and other reasons for non-delivery electronically and reduce the number manual (hardcopy) address notifications.

### Relevant Return Codes

- This article on the BCC Software website explains UAA codes, also called “**Nixie**” **codes** and explains the problem that causes the code.
- For more detail about “**Nixie**” **codes**, please follow this link:  
<https://bccsoftware.com/the-meaning-of-nixie-or-uaa-mail-codes/>
- These codes are not returned via BCC Software products and services, but returned directly to you electronically after your mailing is processed by USPS.

**Appendix A: Architect Address Correction Error Codes table (BCC Architect Developer Guide US page 923)**

**Error Codes Table**

The error codes in the following table indicate the results of an attempt to correct an address as stored in the ERROR\_CODE field. Codes 0-99 are considered successful.

VALUE	DESCRIPTION
Corrected 0,7,8	No Changes
0	No significant changes
7	Matched to unique ZIP code; delivery address line not verified
8	Matched to general delivery ZIP code; delivery address line not verified
9,10	LACS <sup>Link</sup> /Suite <sup>Link</sup> Changes
9	Address revised by LACS <sup>Link</sup>
10	Secondary information added by Suite <sup>Link</sup>
11-20	Special Situations
11	Alias match
12	ZIP move match
13	Alternate match
14	Phantom Route
15	Matched after trailing alpha removed from primary
21-30	Last Line Changes
21	City changed
22	City and state changed
23	City and ZIP changed
24	City, state, and ZIP changed
25	ZIP changed
26	ZIP and State changed

27	State changed
31-99	Delivery Address Line Changes
31	Street name and suffix changed
33	Street name and Directional changed
34	Street name, suffix, and directional changed
35	Street name and city changed
36	Street name, city, and state changed
37	Street name, city, and ZIP changed
38	Street name, city, state, and ZIP changed
39	Street name and ZIP changed
40	Street name, ZIP, and state changed
41	Street name and state changed
42	Street name, suffix, and city changed
43	Street name, suffix, city, and state changed
44	Street name, suffix, city, and ZIP changed
45	Street name, suffix city, state, and ZIP changed
46	Street name, suffix, and ZIP changed
47	Street name, suffix, ZIP, and state changed
48	Street name, suffix, and state changed
49	Street name, directional, and city changed
50	Street name, directional, city, and state changed
51	Street name, directional, city, and ZIP changed
52	Street name, directional, city, state, and ZIP changed
53	Street name, directional, and ZIP changed

54	Street name, directional, ZIP, and state changed
55	Street name, directional, and state changed
56	Street name, suffix, directional, and city changed
57	Street name, suffix, directional, city, and state changed
58	Street name, directional, city, and ZIP changed
59	Street name, suffix, directional, city, state, and ZIP changed
60	Street name, suffix, directional, and ZIP changed
61	Street name, suffix, directional, ZIP, and state changed
62	Street name, suffix, directional, and state changed
63	Suffix changed
64	Suffix and directional changed
65	Suffix and city changed
66	Suffix, city, and state changed
67	Suffix, city, and ZIP changed
68	Suffix, city, state, and ZIP changed
69	Suffix and ZIP changed
70	Suffix, ZIP, and state changed
71	Suffix, and state changed
72	Suffix, directional, and city changed
73	Suffix, directional, city, and state changed
74	Suffix, directional, city, and ZIP changed

75	Suffix, directional, city, state, and ZIP changed
76	Suffix, directional, and ZIP changed
77	Suffix, directional, ZIP, and state changed
78	Suffix, directional, and state changed
79	Directional changed
80	Directional and city changed
81	Directional, city, and state changed
82	Directional, city, and ZIP changed
83	Directional, city, state, and ZIP changed
84	Directional and ZIP changed
85	Directional, ZIP, and state changed
86	Directional and state changed
91-99 DPV Warnings	
92	Failed DPV because of invalid secondary
93	Failed DPV because of missing secondary
96	Failed DPV because of invalid required secondary
Uncorrected	
111-120 Last Line Parsing	
111	No input ZIP, no input state, and no input city
112	No input ZIP and no input city
113	Foreign address
211-220 Last Line Retrieval	
211	No input ZIP, no input state, and input city invalid
212	No input ZIP, input state invalid, and input city invalid

213	Input ZIP invalid, no input state, and input city invalid
214	Input ZIP invalid, input state invalid, and input city invalid
215	Input ZIP invalid, no input city
216	Unique input ZIP Code does not match input city/state
217	Invalid city, missing or invalid state, and invalid ZIP Code
218	Invalid city and ZIP Code
219	Missing state and ZIP Code
220	Invalid city and missing ZIP Code
311-320	Addressing Line Parsing
311	Could not parse a primary number from input data
312	Could not parse a street name from input data
313	Address lines blank
411-480	Address Line Retrieval
411	Primary number invalid
412	Street name invalid
413	Similar street names were found but with no exact matches
414	Multiple possible matches with different ZIP+4 codes were found
415	Predirectional required to choose from multiple possible matches
416	Postdirectional required to choose from multiple possible matches
417	Suffix required to choose from multiple possible matches
418	Directional and suffix required to choose from multiple possible matches

419	Valid ZIP Code required to choose from multiple possible matches
420	Valid city name required to choose from multiple possible matches
421	Valid urbanization required to choose from multiple possible matches
422	Matched to undeliverable address; 5-digit coded
423	Matched to a record in the Early Warning System (EWS) file; an exact match will be possible with the next database update
480	Unable to assign a ZIP+4 code because of a LACS <sup>Link</sup> usage violation
491-499	DPV Failures
491	Failed DPV because of invalid primary
492	Valid primary but failed DPV because of invalid secondary
493	Valid primary but failed DPV because of missing secondary
494	Failed DPV because of invalid PO, RR, or HC box number
495	Unable to assign a ZIP+4 code because of a DPV usage violation
496	Valid primary but failed DPV because of invalid required secondary

### Appendix B: Architect DPV Footnotes table (BCC Architect Developer Guide US page 485)

#### DPV footnote code:

FOOTNOTE	DESCRIPTION
LK	Processing locked out due to a seed record being processed
AA	Matched to the ZIP+4 file.
A1	No match against the ZIP+4 file.



BB	Matched to DPV/DSF2 for both primary and secondary numbers necessary to determine a valid delivery point.
CC	Primary number matched; secondary number not matched but not required
C1	Primary number matched; required secondary number not matched.
F1	Matched military address.
G1	Matched general delivery.
M1	Primary number missing.
M3	Primary number invalid.
N1	Primary number matched; required secondary number missing.
PB	Matched to a PO Box street address in the PBSA file.
P1	Input missing PO, RR or HC box number
P3	Failed DPV because of invalid PO, RR or HC box number.
RR	Matched CMRA in the CMRA file, and secondary number (PMB) present.
R1	Matched CMRA, but secondary number (PMB) missing.
R7	Matched R777 and R779 (phantom routes). The address, although DPV confirmed, is not eligible for street delivery.
TA	Matched after removing single trailing alpha from the primary street number, the trailing alpha is retained in the output.
U1	Matched unique ZIP code.

**Appendix C: Architect DPV Enhanced Indicator table (BCC Architect Developer Guide US page 484)**

INDICATOR	DESCRIPTION
Y	Both the primary and necessary secondary numbers validated against the DPV database.
D	The primary address is valid according to DPV, but the address is missing secondary information.
S	The primary address is valid according to DPV. The secondary number is present but not confirmed.
	The primary address is valid according to DPV. The secondary number information is present but invalid, or a single trailing alpha on a primary number was dropped to make a DPV match.
N	The address failed to DPV confirm. The primary number was missing or was not validated.
R	The address is valid but USPS delivery is not provided.
x	The DPV database has been locked-out because of a protocol violation; you must unlock DPV before any more addresses will be presented to the DPV table.
""	The address was not presented to the DPV table because it was missing components needed for the lookup. This usually means the record is not ZIP+4 coded.



**Appendix D: Mail Manager ZIP+4 Footnote Codes**  
**(BCC\_Mail\_Manager\_LE\_Manual page 432;**  
**BCC\_Mail\_Manager\_Manual page 991;**  
**BCC\_Mail\_Manager\_FS\_Manual page 1523)**

ZIP + 4 Footnote codes	
CODE	DESCRIPTION
<b>NOTE</b> The ending process may return more than one Footnote Code for a record	
A	<b>ZIP Code Corrected</b> – The original ZIP Code was incorrect for the delivery address given and was changed to the correct ZIP Code.
B	<b>City/State Corrected</b> – The city and state were corrected to correspond to the matched address for the other information provided.
C	<b>Invalid City/State/ZIP</b> – A matching address could not be found in the National Database within the City, State or ZIP Code and the City and/or State and/or ZIP Code were not corrected.
D	<b>Non-Deliverable Address</b> – The address was found in the National Database, but was specifically flagged by the Postal Service as a non-deliverable address. For example, a non-deliverable address might be a loading dock at the rear of a building or an address within a building complex where the postal carrier delivers only to the main office. No ZIP Code™ is assigned to non-deliverable addresses.
E	<b>ZIP Assigned for Multiple Response</b> – Multiple responses were found in the National Database and they were all in the same 5-digit ZIP Code and/or Carrier Route. A 5-digit ZIP Code and/or Carrier Route was assigned.
F	<b>Address Not Found</b> – A match, or close match, for the data in the delivery address field could not be found in the National Database within the ZIP Code or city and state entered.

	<p>Possible causes:</p> <ul style="list-style-type: none"> <li>• The street number or unit member is out of range.</li> <li>• The street name was not found. The encoding process corrects many misspelled street names but some misspellings will not be identified as matches. In general, the encoding process tends to ignore vowels, but is more sensitive to consonants.</li> <li>• The predirectional or postdirectional was incorrect.</li> <li>• Some occurrences of multiple words can cause an address not to be found. If the actual street name is <i>Greenview</i> and it was entered as <i>Green View</i> it may not be found in the database. Similarly, if the actual address was <i>Green View</i> and it was entered as <i>Greenview</i> it may not be found.</li> <li>• Sometimes abbreviated street names will not be found in the database. For example, <i>MLK Drive</i> may not be recognized as <i>Martin Luther King, Jr. Drive</i>.</li> <li>• Non-address information is included in the delivery address.</li> </ul>
G	<b>Firm Used in Address</b> - Part or all of the firm information was used to supplement or replace the delivery address information, in order to encode the input address.
H	<b>Missing Apartment/Suite Number</b> - The address was missing an apartment or suite number as compared to the National Database.
I	<b>Insufficient/Incorrect Data</b> – The given delivery address was found in the database but there were multiple occurrences of the address because of a missing address element.
J	<b>Dual Address Identified</b> – A dual address is a single address line that contains two addresses, such as PO Box and street information. A dual address may contain more than just street and PO Box addresses.

K	Multiple Input Used Non-PO Box – Obsolete starting with CASS™ Cycle K.
L	<b>Delivery Address Component Changed</b> – One or more components of the delivery address was changed. For example, <i>Street</i> was changed to <i>Avenue</i> .
M	<b>Street Name Spelling Changed</b> – The street name portion of the delivery address was changed to the correct spelling.
N	<b>Delivery Address Standardized</b> – The delivery address was corrected to the USPS® standardized format.
O	<b>Plus 4/CRRT Multiple Response</b> – Assigned when a multiple response condition (Return Code 22) is encountered during address matching due to an input address matching to two address range records where the only difference between the two records is the plus 4 or Carrier Route.
P	<b>Better Delivery Address Exists</b> – The address was found in the National Database and the Plus 4 assigned; however a better or more complete address exists and should be used.
Q	<b>EWS (Early Warning System) Match</b> – The address matches an address range in the EWS file. The EWS file contains address ranges for new addresses not yet incorporated into the ZIP + 4® and eLOT® database.
R	<b>City Abbreviated</b> – The city name after address standardization was too long to fit in the space allocated so it was abbreviated. If a standardized abbreviated city name exists in the database, the standardized abbreviation is used. Otherwise, the city name is shortened by removing vowels until the city name is short enough to fit in the allocated field space.
S	<b>Incorrect Secondary Number</b> – The suite, apartment, or unit number was not in the range of valid numbers.

T	<b>Magnet Street Multiple response</b> – The input address was not encoded due to Magnet Street matching rules and a multiple response (return code 22) was generated.
U	<b>Unofficial PO Name</b> – The city name was not an official USPS® Post Office™ name. This occurs most often with "prestige" localities or smaller communities that do not have their own Post Office. The city name answer will be changed to the official Post Office designation.
V	<b>Unverifiable City/State</b> – The city or state could not be verified as corresponding to the 5-digit ZIP Code.
W	<b>Small Town Default</b> – Obsolete starting with CASS Cycle K.
X	<b>Unique ZIP Code Default</b> – The 5-digit ZIP is unique and the Plus 4 is the default Plus 4 for that unique ZIP Code.
Y	<b>Input ZIP Removed</b> – The input ZIP Code was removed during encoding.
Z	<b>ZIP Move Match</b> – The input address was encoded by using ZIP Move data.
0	Delivery Address Line Used
1	Alternate Address Line 1 Used
2	Alternate Address Line 2 Used
3	Reserved
4	Parsed Address Fields Used
5	Apartment/Suite Field Used
6	Puerto Rican Urbanization Name Assigned
7	Input Puerto Rican Urbanization Name Changed
8	Urbanization Abbreviated
9	County Name Abbreviated
@	Firm Too Long

#	Firm Abbreviated
\$	Address Too Long
%	Address Not Standardized
&	Address Abbreviated
<	5-Digit ZIP Code Latitude/Longitude Assignment
>	9-Digit ZIP Code Latitude/Longitude Assignment
+	DPV Resolved Multiple Response Match
=	SuiteLink match

**Appendix E: Mail Manager ZIP+4 Return Codes**  
**(BCC\_Mail\_Manager\_LE\_Manual page 428;**  
**BCC\_Mail\_Manager\_Manual page 987;**  
**BCC\_Mail\_Manager\_FS\_Manual page 1520)**

ZIP + 4 Return codes	
CODE	DESCRIPTION
10	Invalid Address – The delivery address included a dual address, usually a route and a box number, but the order of these numbers was inconsistent with addressing standards, so no ZIP + 4 assignment could be confidently made.
11	Invalid City/State/ZIP® – A matching address could not be found in the National Database within the City-State or ZIP Code™, and the City and/or State and/or ZIP Code were not corrected.
12	Invalid State – The state abbreviation was not correct and no matching delivery address was found for the given ZIP Code.
13	Invalid City – The city name was not correct and no matching delivery address was found for the given ZIP Code.
17	Insufficient Data – The delivery address and/or secondary address data was missing, or the ZIP Code and either the city or state data were missing.

21	<p>Address Not Found – A match, or close match, for the data in the delivery address field could not be found in the National Database within the ZIP Code or city and state entered. Possible causes:</p> <ul style="list-style-type: none"> <li>• The street number or unit number is out of range.</li> <li>• The street name was not found. The encoding process corrects many misspelled street names but some misspellings will not be identified as matches. In general, the encoding process tends to ignore vowels, but is more sensitive to consonants.</li> <li>• The predirectional or postdirectional was incorrect.</li> <li>• Some occurrences of multiple words can cause an address not to be found. If the actual street name is Greenview and it was entered as Green View it may not be found in the database. Similarly, if the actual address was Green View and it was entered as Greenview it may not be found.</li> <li>• Sometimes abbreviated street names will not be found in the database. For example, MLK Drive may not be recognized as Martin Luther King, Jr. Drive.</li> <li>• Non-address information is included in the delivery address.</li> </ul>
22	<p>Multiple Responses – The delivery address was found in the National Database but there were multiple occurrences of the address because of a missing address element. Possible causes:</p> <ul style="list-style-type: none"> <li>• The street number was missing.</li> <li>• A required predirectional or postdirectional was missing. For example, the delivery address was entered as 113 Maple St. and there were actual addresses at 113 N Maple St. and 113 S Maple St.</li> <li>• The suffix was missing and there were multiple addresses with the same name. For example, the delivery address was entered as 113 Maple and there were entries in the National Database for 113 Maple St and 113 Maple Dr.</li> </ul>
23	Error in Primary

31	<b>Single Response</b> – The delivery address was found in the National Database and no further information was required.
32	<b>Default Response</b> – The delivery address was found in the National Database and a default ZIP Code™ was assigned, however with more information, such as a suite or apartment number, a unique ZIP + 4 would be assigned. Default ZIP® codes are assigned to certain buildings or high-rise. Within the high-rise there may be more specific ZIP codes for certain floors, suite ranges or even firms within the building.
33	<b>Non-deliverable</b> – The delivery address was found in the National Database, but it was specifically flagged by the Postal Service™ as a non-deliverable address. For example, a non-deliverable address might be a loading dock at the rear of a building or an address within a building complex where the postal carrier delivers only to the main office. No ZIP Code™ is assigned to non-deliverable addresses.
39	LACSLink™ Conversion (LACSLink only)
98	<b>Non-USPS® ZIP</b> – The address was determined, using the National Database, to be a non-USPS ZIP Code™. For example, the Canadian Postal Code B2H 567.
99	Assigned when an unexpected error occurs during the ZIP + 4® Encoding process. The original information will be left in the other fields in the address group.

**Appendix F: Mail Manager DPV Footnotes**  
**(BCC\_Mail\_Manager\_LE\_Manual page 436;**  
**BCC\_Mail\_Manager\_Manual page 994;**  
**BCC\_Mail\_Manager\_FS\_Manual page 1527)**

ZIP + 4 Footnote codes	
AA	ZIP+4 matched
A1	ZIP+4 did not match
BB	Entire address confirmed

CC	Input Address Primary Number Matched, Secondary Number Not Matched, Secondary Number Not Required
C1	Input Address Primary Number matched, Secondary Number not Matched, Secondary Number Required
F1	Matched to a military address
G1	Matched to a general delivery address
IA	Informed Address Identified
N1	Input Address Primary Number Matched, Secondary Number Missing, Secondary Number Required
M1	Primary number missing from address
M3	Address was not confirmed
P1	Box type address missing box number
P3	Box type address with invalid box number
PB	Identified PO Box Street Address
R7	Carrier Route R777 addresses not receiving mail delivery. Because there is no delivery, a Plus-4 is not assigned.  Matched to R777 and R779 (phantom routes). The address, although DPV-confirmed, is not eligible for street delivery. The ZIP+4 is not returned.
RR	Confirmed address with PMB information
R1	Confirmed address without PMB information
R7	Addresses that are assigned to a phantom route of R777 or R779
TA	Input Address Primary Number Matched to DPV by dropping trailing alpha
U1	Matched to a unique ZIP Code

**Appendix G: Mail Manager Enhanced DPV Code**  
**(BCC\_Mail\_Manager\_LE\_Manual page 437;**  
**BCC\_Mail\_Manager\_Manual page 995;**  
**BCC\_Mail\_Manager\_FS\_Manual page 1529)**

Z4, DPV - Enhanced DPV Return Codes	
Return Code	Description
Blank	Address was not presented to DPV/DSF2.
D	Address was DPV/DSF2 confirmed for the primary number only. Secondary information was missing.
N	Both primary and secondary (if present) number information failed to DPV/DSF2 confirm.
R	Address confirmed but assigned to phantom route R777 or R779 and USPS delivery is not provided.
S	Address was DPV confirmed for the primary number only, the Secondary number information was present but not confirmed or a single trailing alpha on a primary number was dropped to make a DPV match, and Secondary information required.
Y	Address was DPV/DSF2 confirmed for both primary and secondary numbers necessary to determine a valid delivery point.

**Appendix H: Mail Manager NCOALink Return Codes**  
**Architect NCOALink Footnote Codes (BCC Architect**  
**Developer Guide US page 931)**  
**(BCC\_Mail\_Manager\_LE\_Manual page 1002;**  
**BCC\_Mail\_Manager\_Manual page 991;**  
**BCC\_Mail\_Manager\_FS\_Manual page 1539)**

**A match was found and a new address was provided**

NCOALink Footnote Code	Description	New Address Provided?
A	<b>Full match</b> The address was matched to an NCOALink record, and a new address has been provided.	Yes

91	<b>Matched despite missing secondary number</b> The address was matched to an NCOALink record. The address submitted did not include a secondary number (such as an apartment or suite number), and the NCOALink record did. The secondary number was not used in making the match because the match was close enough.  A new address has been provided.	Yes
92	<b>Matched despite extra secondary number</b> The address was matched to an NCOALink record. The address submitted included a secondary number (such as an apartment or suite number), and the NCOALink record did. The secondary number was not used in making the match because the match was close enough.  A new address has been provided.	Yes

**A match was found, but no new address was available**

NCOALink Footnote Code	Description	New Address Provided?
1	<b>New address is outside US</b> The address was matched to an NCOALink record, but the new address was outside the USPS® delivery area.  Because the new address is not served by USPS®, new address could not be given.	No
2	<b>No forwarding address.</b> The address was matched to an NCOA record, but the person did not provide their new address to USPS.  Because the new address is on record, a new address could not be given	No



3	<p><b>PO Box closed.</b> The address was matched to an NCOA<sup>Link</sup> record, but the submitted address was a PO Box that was closed without a forwarding address.</p> <p>Because no forwarding address is on record, a new address could not be given.</p>	No
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	<p>At the request of the recipient. First Class mail will be forwarded to a temporary address for up to 12 months. Standard mail will not be forwarded.</p> <p>The NCOA<sup>Link</sup> system cannot provide the temporary address.</p>	No
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**A match was found, but the service is unable to provide a new address**

NCOA <sup>Link</sup> Footnote Code	Description	New Address Provided?
5	<p><b>Too many matches for new address.</b> The address was matched to an NCOA<sup>Link</sup> record, but the Delivery Point Bar Code (DPBC) on the NCOA<sup>Link</sup> record matches more than one delivery address.</p> <p>Because there is more than one possible address match, a new address could not be given.</p>	No
14	<p><b>Undeliverable address.</b> The address was matched to an NCOA<sup>Link</sup> record, but the new address on record is not a deliverable address.</p> <p>Because the new address is not recognized by USPS as a deliverable address, a new address could not be given.</p>	No
19	<p>Either:</p> <ul style="list-style-type: none"> <li>a) <b>ZIP Code not found.</b> The address was matched to an NCOA<sup>Link</sup> record, but the new address does not match a ZIP+4 code.</li> </ul> <p>Because the ZIP+4 code could not be found for the new address, a new address could not be given.</p> <p>-or-</p> <ul style="list-style-type: none"> <li>b) <b>Temporary changed of address.</b> The address was matched to an NCOA<sup>Link</sup> record for a temporary change of address.</li> </ul>	No

**The service did not find an adequate match**

NCOA <sup>Link</sup> Footnote Code	Description	New Address Provided?
0	<p><b>No matching address.</b> The address could not be found in the NCOA<sup>Link</sup> database.</p> <p>Because the provided address was not found, a new address could not be given.</p>	No
4	<p><b>Apartment number missing for family move.</b> The address was partially matched to an NCOA<sup>Link</sup> record for a family (multiple people at the same address, but there is not enough information to match a single individual. The NCOA<sup>Link</sup> address on record includes secondary address information (such as an apartment or suite number), but the submitted address does not.</p> <p>Because the apartment number is missing and a match to an individual could not be made, a new address could not be given.</p>	No
6	<p><b>More than one possible address match, but middle names do not match.</b> The address was partially matched to NCOA<sup>Link</sup> records, but there is more than one possible match. In addition, the middle names of the individual and the NCOA<sup>Link</sup> records do not match.</p> <p>Because there is more than one possible match and the middle names do not match, a new address could not be given.</p>	No

7	<p><b>More than one possible address match, but genders do not match.</b> The address was partially matched to NCOALink records, but there is more than one possible match. In addition, the genders for the first names of the individual and the NCOALink records do not match.</p> <p>Because there is more than one possible match and the genders do not match, a new address could not be given.</p>	No
8	<p><b>Too many possible matches.</b> The address was matched to more than one NCOALink record. There may be more than one record on file when a change of address is recorded more than once for an individual, a family, and/or a business/</p> <p>Because there is more than one possible match, a new address could not be given.</p>	No
9	<p><b>Family move with high rise address does not match individual name.</b> The address was partially matched to NCOALink record, but the NCOALink record is for a family (multiple people at the same address). Individual names do not match, and the NCOALink record is high rise address, where there could be many possible apartments or delivery points.</p> <p>Because there is no exact match to an individual in a building with multiple delivery addresses, a new address could not be given.</p>	No
10	<p><b>Family move with default rural address does not match individual name.</b> The address was partially matched to NCOALink record, but the NCOALink record is for a family (multiple people at the same address). Individual names do not match, and the NCOALink record is for a rural address that includes only the default route and not a specific new address.</p>	No

11	<p><b>Only a last name could be matched.</b> The address was partially matched to an NCOALink record, but the NCOALink record does not contain first name information to be able to match an individual.</p> <p>Because there is no first name information available in the NCOA record, a new address could not be given.</p>	No
12	<p><b>Middle name does not match.</b> The address was partially matched to an NCOALink record, but the middle name or initial submitted is different than the NCOALink records.</p> <p>Because the middle name does not match, a new address could not be given.</p>	No
13	<p><b>Gender does not match.</b> The address was partially matched to an NCOALink record, but the gender of the name submitted is different than the gender of the NCOALink record.</p> <p>Because the gender does not match, a new address could not be given.</p>	No
15	<p><b>Missing first name.</b> The address was partially matched to an NCOALink record, but the address submitted is does not have a first name or uses only initials.</p> <p>Because the first name of the submitted address is missing, a new address could not be given.</p>	No
16	<p><b>Apartment number does not match.</b> The address was partially matched to an NCOALink record, but the secondary information (such as an apartment or suite number) in the submitted address is different than in the NCOALink record.</p> <p>Because the apartment number could not be matched, a new address could not be given.</p>	

17	<p><b>First name does not match.</b> The address was matched to an NCOALink record, but the first name does not match or did not contain enough information to match.</p> <p>Because the first name could not be matched, a new address could not be given.</p>	No
18	<p><b>Family move with General Delivery address does not match individual name.</b> The address was partially matched to an NCOALink record, but the NCOALink record is a General Delivery address for a family (multiple people at the same address), and no individual match could be found.</p> <p>Because a General Delivery address could not be matched to an individual, a new address could not be given.</p>	No
20	<p><b>Delivery code could not be confirmed.</b> The address was matched to an NCOALink record, but the new address either did not match a ZIP+4 code or could not be confirmed as a deliverable address.</p> <p>Because the new address did not match a delivery code, a new address could not be given.</p>	No
66	<p><b>Deleted address with no forwarding allowed.</b> The address was matched to an NCOALink record, but the NCOALink record is scheduled to be deleted and no mail may be forwarded from the address.</p> <p>Because forwarding is not allowed, a new address could not be given.</p>	No

### Appendix I: Infuse Web Services ECOA Footnote

(<https://developer.satorisoftware.com/infuse-web-services/api/multiservice/fields/enhancedchangeofaddressfield/ecoafooter.html> )

#### EcoaFootnote

Information about the change of address.

#### Data Type

String

Return Values	
Return Value	Description
M	Moved with new address
K	Moved without new address
N	Newer Change of Address found; address unchanged
X	No Change of Address found
I	Individual
F	Family. Currently not in use.
B	Business. Currently not in use.

#### Common examples

Examples of information returned for this field.

X	No Change of Address Found
M;I	Individual - Moved with new address
K;I	Individual - Moved without new address

### Appendix J: Mail Manager PCOA Confidence Store

PCOA Confidence Scores	
Value	Description
	No match
1	Match - Multi-source contributor
2	Match - Single source newer than 12 months
3	Match - Single source 13-24 months
4	Match - Single source older than 24 months

**Appendix K: Infuse Web Services ECOA Footnote**  
<https://developer.satorisoftware.com/infuse-web-services/api/multiservice/fields/apartmentnumberfield/apartmentnumberfootnote.html>

**ApartmentNumberFootnote**

A result code indicating the outcome of having run the Apartment Number service, and what type of changes have been made to the secondary address information in the address.

**Data Type**

String

**Return Values**

Return Value	Description
A1	Secondary address information (apartment or suite number) confirmed as correct. No change made.
A2	Secondary address information appended to the address record.
A3	Secondary address information updated. The field has been changed from the input.
A4	Apartment information present confirmed to be correct for the address. No changes made.
A5	Not a high-rise address. Address valid is input.
B1	No match was found for the secondary address. No change made.
E1	The input address was invalid, so no lookup of secondary address information was possible. No change made.
E2	No contact name was supplied, so no lookup of secondary address information was possible. No change made.
E3	More than one contact name was supplied, so no lookup of secondary address information was possible. No change made.
E4	No lookup attempted.

**Appendix L: Mail Manager Address Resolution Service (ARS) Footnotes**

**Address Resolution Service (ARS) Footnotes**

Address Resolution Service (ARS) Footnotes	
Footnote	Description
R	Resolved
A	Apartment appended
S	SuiteLink match
Y	Resolved a non-match to a ZIP+4 match, or resolved a default or non-deliverable match to an exact ZIP+4 match.  Also supported for COMPLIANCE+ when there is a populated Return Code field in the list.  <b>NOTE</b> When the ARS Footnote includes 'Y' the improved address is written back even if "Standardize Delivery Address" is unchecked.
X	No Address Resolution match
>	Resolved to a DPV confirmed address

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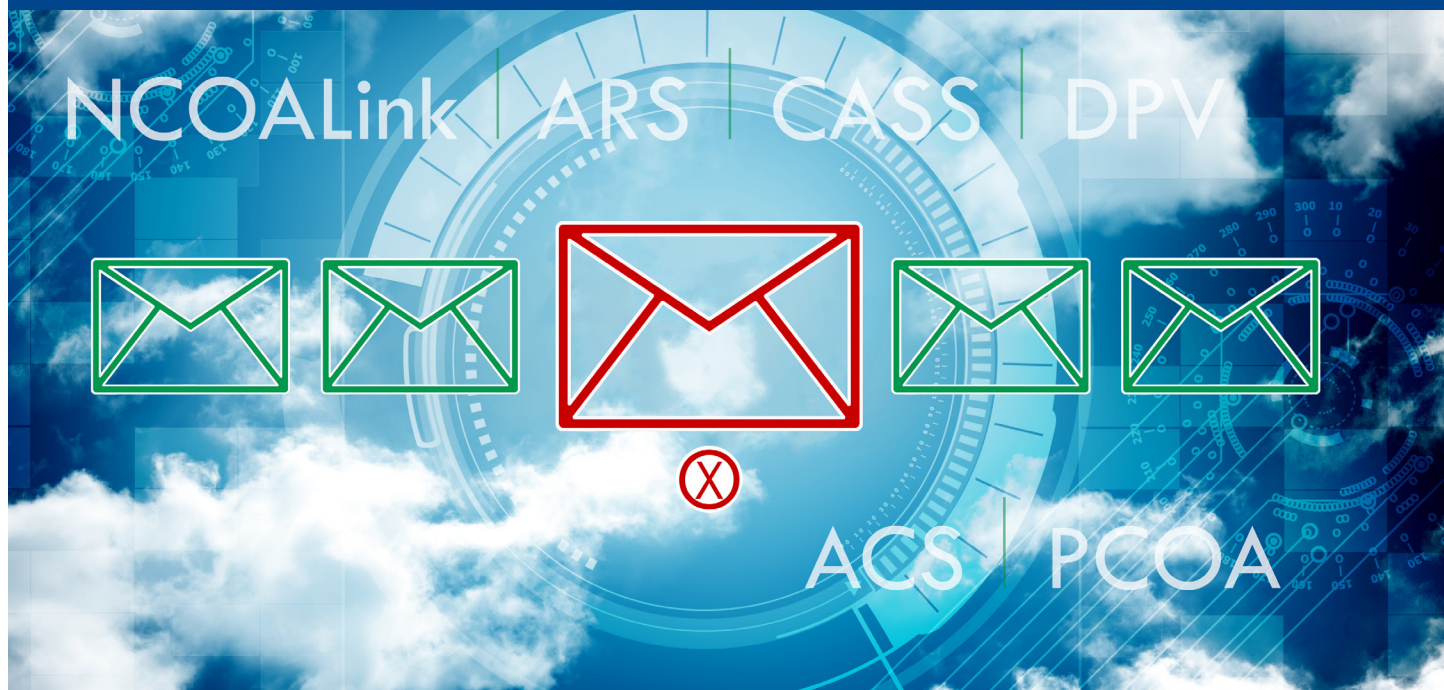


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# Leveraging Data Quality Return Codes and Avoiding Undeliverable As Addressed (UAA) Mail



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