Address Validation

Best Practices for Interpreting and Analyzing
Address Data Quality Results

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Executive Summary

Inaccurate addresses can be a costly problem for your organization and not just because they prevent prompt, accurate delivery of mailed communications. Correcting them manually involves significant time and expense while still leaving room for human error.

Informatica® AddressDoctor® simplifies and streamlines the process of capturing and validating addresses—appending missing data, correcting misspellings and other errors, and highlighting duplicates—in order to reduce the cost of direct marketing and customer relationship management (CRM) activities.

Informatica AddressDoctor provides powerful address cleansing algorithms that enhance and ensure superior data quality for addresses in more than 240 countries and territories around the globe. By helping organizations overcome the challenges of low-quality address data, Informatica AddressDoctor improves decision-making confidence while facilitating speedy postal delivery worldwide.

This white paper offers best practices for interpreting and analyzing the results generated by Informatica AddressDoctor, which uses reference data from reputable sources to evaluate the accuracy and deliverability of physical postal addresses. By correcting addresses automatically and providing status information on address data quality, Informatica AddressDoctor ensures mail pieces reach the right location in a timely fashion while improving companies' decisions about mail-driven marketing and customer relations.

This white paper's appendix provides country-specific address examples from Australia, Brazil, Canada, France, Great Britain, Hong Kong, India, Singapore, and the United States to show how Informatica AddressDoctor interprets both the rules and regulations of the specified country and the validation mode chosen by the user.

Defining Address Data Quality

The Importance of Address Data Quality

Address data quality is at the heart of many business operations, including marketing, sales, customer support and service, and fraud detection.

The cost of inaccurate and incomplete addresses has never been higher. Marketers rely on address quality to increase revenue through targeting, segmentation, acquisition, and cross-selling. The cost of returned and undelivered materials can add up quickly—and cost far more in lost opportunities and customer dissatisfaction than an organization spends on postage. Unreliable data makes it difficult to manage risk, make strategic plans, and comply with regulatory requirements.

Only quality global address validation software can ensure reliable results.

Address Data Quality Terminology

The examples provided in this paper use the following terminology:

- **Address type.** This is an output field that describes the type of mailbox contained within an address. It returns a single character, defined as follows:

    - B – Mailbox at a building

    - F – Mailbox at a company or firm

    - G – General delivery address

    - H – High-rise default address

    - L – Mailbox at a large volume receiver

    - M – Military address

    - P – Post office box in the address

    - R – Rural route mailbox

    - S – Mailbox at a street address

    - U – Unvalidated or corrected address

- **Bordering locality or vanity name.** As defined in the Australia Post *Address Matching Approval System Handbook*, a bordering locality or vanity name is locality that shares a border or is close to the border of other localities. The use of bordering localities allows matching within a geographical area rather than by a postcode area used for postal zoning purposes, allowing matches just over the postcode boundary. Bordering localities also accommodate changes to locality and postcode boundaries, delayed Postal Address Format (PAF) updates, and the use of a preferred locality or vanity address.

- **CEDEX.** This acronym was created by La Poste (the French postal service) in 1960. It means "Courier d'Entreprise à Distribution Exceptionnelle" (Business Mail for Special Delivery). The approximate U.S. and Canadian equivalent is Large Volume Receiver.

- **Element Input Status (EIS).** This variable indicates the quality of the match found between the data elements in the input address and the elements recorded for that address in the reference database.

- **Element Relevance Status.** This variable identifies the types of data elements that must be present in an address for the postal carrier to consider it deliverable. This field can be either 0 or 1 for each element. In the current implementation, postal relevance status is only completed for elements with non-zero Element Result Status (ERS). If the ERS indicates that there has been no real validation because of lack of reference data, (for example, ERS = 4), a relevance of 1 means that the element is possibly relevant and must be present in the output. Relevance is null for all addresses where a status code of Ix is returned.

- **Element Result Status (ERS).** This variable describes any discrepancies between input data values and values that are written as output. This variable is extremely useful for understanding why output may not be what the user expects. ERS is null for all addresses where a status code of Ix is returned.

- **Formatted Address Line (FAL).** This line contains the following address information in the proper format:

  - **Country-Specific Locality Line (CSLLN)** contains the country-specific line in the formatted address with the primary locality.

  - **Delivery Address Line (DAL)** contains all delivery information, e.g., building, sub-building, street, number, and delivery service.

  - **Recipient Line (RCL)** contains all contact information, e.g., organization and contact elements.

- **Formatting.** Formatting is the process of defining address structure according to the rules set of the given country's postal authorities. Address formats differ from country to country. Even where differences in formats seem minor, the lack of one necessary element or elements that are in the wrong order can prevent a mailing from reaching its proper destination.

- **Parsing.** Parsing is the ability to split an unstructured address string into meaningful entities. Parsing can also be used to rearrange incorrectly fielded data.

- **Transliteration.** Transliteration is the act of using letters from one language's alphabet to render words in a another language's alphabet, for example, writing the Cyrillic Москва as Moscow or the Japanese 東京 as Tokyo.

- **Validation.** Validation is the process of checking individual address elements against postal reference data. The validation process will, for instance, verify if a postal code or locality exists. The validation process will also check whether a street name is spelled correctly and whether the postal code and locality combination provided is correct for the building number.

Analyzing the Results of Address Validation

Informatica AddressDoctor is composed of transliteration, parsing, validation, and formatting components that interact to generate a perfect, or "clean," address.

Validation Modes

The validation component supports four different modes: batch, interactive, fast completion, and certified. Each is designed for a specific task. For example, the fast completion mode was designed for call centers, which require rapid data entry and address validation.

Most examples in this paper refer to the batch and certified modes.

Batch/Certified (for Data Warehouses)	Interactive (for eCommerce Web Sites)	Fast Completion (for Call Centers)
For processing large address volumes	**For validating addresses during input**	**For generating complete addresses from partial input**
• Returns corrected addresses immediately	• Returns correct suggestions	• Similarity metric tolerates more deviations in rear parts of address elements
• Processes millions of records per hour	• Ensures that only correct addresses are fed into an address entry form	• Significantly reduces number of keystrokes and mouse clicks needed to enter an address
• Assesses unique deliverability	• Enhances usability	
• Certified mode follows postal authority rules		
• Provides a high level of quality through certification		
• Certification ensures that the software meets expectations		

Figure 1. Informatica AddressDoctor supports multiple modes of address validation.

Batch, interactive, and fast completion validation modes are country-independent and work for all supported countries. Certified validation mode offers country-specific logic and contains specific postal certification rules and standards for Australia (AMAS), Canada (SERP), France (SNA), and the United States (CASS).

How Informatica AddressDoctor Works

Informatica AddressDoctor is designed to deal with improperly truncated data, incomplete data, missing address elements, ambiguous names, and many other challenges while minimizing incorrect modifications to address elements. It also uses fully Unicode-enabled character data processing to handle the complexities of international data.

Once an address is entered, Informatica AddressDoctor checks it and, if it is in non-Latin characters, transliterates it. Next, Informatica AddressDoctor uses sophisticated algorithms and logic to identify and interpret data elements and stores the address elements in appropriate fields for use in further validation steps. It then compares each component of the address against a reference data set. If all elements of the address are correct, it is positively validated. However, if each individual element matches the reference data, but the address does not make sense as a whole, Informatica AddressDoctor tries to correct the errors.

For example:

City: Wilmington
ZIP: 90210
State: CA

Each component of the address matches the formatting of the reference data. However, the ZIP code does not belong to Wilmington, and Wilmington is not in the state of California. Informatica AddressDoctor analyzes the data elements using sophisticated algorithms, including fuzzy matching and heuristics, to predict the best possible correction, taking great care not to create false positives.

Once a clean address has been generated, Informatica AddressDoctor formats it according to international postal standards. Users can modify and adjust standard address formats to create custom formats by setting values for specific fields in the Informatica AddressDoctor configuration file. For example, users can limit the number of characters output for each address line or make all characters in the address uppercase.

Conclusion

In an economy where your company needs to optimize every cent of its marketing and CRM budgets, address validation software is a powerful tool for controlling mailing costs by ensuring that every piece of mail reaches its intended destination.

Informatica AddressDoctor automates the process of validating and cleansing address data to rapidly produce high quality data. In addition, it accompanies the results with a list of status codes that your company can use to analyze its address database, refine its understanding of recipients based on location and mailbox type, and improve its ability to make strategic, cost-effective decisions.

Appendix

Address Examples

This appendix uses examples from the following countries to illustrate how addresses in different parts of the world are interpreted by Informatica AddressDoctor.

- Australia (AUS)
- Brazil (BRA)
- Canada (CAN)
- France (FRA)

- Great Britain (GBR)
- India (IND)
- Singapore (SGP) and Hong Kong (HGK)
- United States of America (USA)

(Please note that the Informatica AddressDoctor Software Library may be referred to as the "engine" throughout the appendix.)

A final address generated depends on each country's postal regulations and the validation mode specified by the user. Informatica used Version 5.2.9 Build 19429 of the engine to generate these results. The database versions used were from April 2012. Different version of the engine and database may produce different results.

Australia (AUS)

Bordering Locality or City Synonym on Output

As stated in the Address Matching Approval System (AMAS) documentation, the city synonym or vanity name is converted to the preferred locality name in batch processing. Please note that the bordering locality/vanity name is not returned during output in batch processing. The following example illustrates that the bordering locality is converted to the preferred locality name in batch mode.

Bordering locality/vanity name.

Bordering locality is converted to preferred locality name.

INPUT	OUTPUT
90 CAMPBELL ST SORRENTO QLD 4217	90 CAMPBELL ST BUNDALL QLD 4217

ProcessStatus	V3	Input data correct but bordering locality converted to preferred locality name
ModeUsed		Batch, interactive
AddressType	S	Street address record matched in database
Mailability	5	Mail piece completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	5	D	1	Changed to preferred locality name
Province	6	F	1	The input province is perfect
Street1	6	F	1	The street name has been found in the database; perfect match
Number1	6	F	1	Perfect match

Processing the same address in certified mode retains the bordering name. The preferred name can be found in the PREFERRED_NAME field of the Locality element. To see it in the XML result, you must set the ResultAddressElements to DETAILED in the result parameter section.

Vanity name is retained.

INPUT	OUTPUT
90 CAMPBELL ST SORRENTO QLD 4217	90 CAMPBELL ST SORRENTO QLD 4217

ProcessStatus	V3	The address-relevant locality level 1 is retained but the V3 indicates that some standardization was made (preferred name should be used for certification purpose)
ModeUsed		Certified
AddressType	S	Street address record matched in database
Mailability	5	Completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	4	7	1	Validated and corrected due to errors in input
Locality	5	E	1	Unofficial name (vanity name) retained because of certified mode
Province	6	F	1	The input province is perfect
Street1	6	F	1	Perfect match
Number1	6	F	1	Perfect match

Large Volume Receivers (LVR)

Australia Post will remove Large Volume Receivers (LVR) postal codes from its system gradually. LVR data does not exist in the Australia Postal Address file. Therefore, it is best practice not to use LVR postal codes when validating Australian addresses. If an LVR postal code is used as input, it is changed to the correct code, as illustrated by the following example.

Large Volume Receivers (LVR) postal code.

LVR is corrected to the official postal code.

INPUT	OUTPUT
GPO Box 2650 Sydney NSW 1171 Australia	GPO Box 2650 Sydney NSW 2001 Australia

ProcessStatus	C4	Corrected. All elements were checked
ModeUsed		Certified
AddressType	P	PO Box in the address
Mailability	3	Mail piece should be fine for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	3	7	1	Validated – changed (corrected)
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match

Delivery Service Addresses

Some postal delivery types require an associated postal delivery number; some are mandatory, and some are optional. For CARE PO, CMA, and CPA addresses, an associated postal delivery number is not allowed. If it appears in the input, the address is rejected. Some postal delivery types are considered to be interchangeable.

In the following example, a PO Box is converted to GPO BOX. It should be noted that for PO Box matching, the locality name should not be missing on input if certified mode is activated.

PO Box is converted to GPO Box.

INPUT	OUTPUT
PO BOX 492 BRISBANE QLD 4001	GPO BOX 492 BRISBANE QLD 4001

ProcessStatus	C4		The delivery type is converted; this counts as correction
ModeUsed			Certified
AddressType	P		PO Box address record matched in database
Mailability	3		Mail piece should be fine for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	The input Province is perfect
Delivery Service1	4	7	1	The delivery type is changed

Phantom Primary Point

Phantom primary points are virtual addresses that cannot receive mail but have potential value in matching records with non-matching secondary points. These address records are provided to assist in the address- matching process. Phantom primary points have associated secondary address records. Phantom primary points are not considered address records in their own right. If a match is made to a phantom primary point, secondary information, such as unit, must be retained. If a customer address does not contain secondary delivery information, such as flat, unit, or level, and the address is flagged as phantom in the database, no match is permissible. In the following example, input without the "UNIT 1" delivery information is not matched.

Unit 1 from the reference data is changed to U1.

INPUT	OUTPUT
Unit 1 13 MURDOCH CCT ACACIA RIDGE QLD 4110	U 1 13 MURDOCH CCT ACACIA RIDGE QLD 4110

ProcessStatus	V3		The address is validated and correct, but Unit 1 standardized
ModeUsed			Certified
AddressType	S		Street address record matched in database
Mailability	5		Mail piece completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street1	6	F	1	The street name has been found in the database; perfect match
Number1	6	F	1	Perfect match
SubBuilding1	5	E	1	Verified and standardized

Brazil (BRA)

Partly Matched Street Input

In Brazil, secondary street information is considered part of an address. Therefore, it is likely that certain street information may not appear in the reference database. As a result, only part of a street is validated. In this case, the validation process splits a street into a matched part and an unmatched copied part. The unmatched part (Quadra D) is moved into StreetLevel2 in the output, as shown in the following example. It should be noted that relevance is a countrywide value in Brazil, because no reference to StreetLevel2 is available within the Brazilian reference database.

> Unvalidated street part of the address is copied to Street Level2.

INPUT	OUTPUT
CAMINHO 1 QUADRA D CAJAZEIRAS SALVADOR-BA 41342-565	CAMINHO 1 QUADRA D CAJAZEIRAS SALVADOR-BA 41342-565

ProcessStatus	V4	All relevant elements have matched perfectly
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Mail piece completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street 1	6	F	1	"CAMINHO 1" has matched perfectly
Street 2	2	4	0	The remainder of the street input "QUADRA D" is copied into Street 2 without validating

Quadra and Bloco numbers

Quadra/Bloco, or grid number information, may or may not appear in a street reference record. A Quadra or Bloco number can be added, but an input number must not be changed.

Adding a Number

INPUT	OUTPUT
EPTG QE QUADRA 2 BLOCO A GUARÁ 71100-054	EPTG QE QUADRA 2 BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-054

Legend

Street line matched against Street record, including the Bloco number in the reference database

Locality 2 in database matched against GUARÁ

Locality 1 BRASILIA and Province DF added from reference database

ProcessStatus	C4	All relevant elements have been matched and corrections made to the input address
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	0	8	1	Added BRASÍLIA from database
Locality 2	4	7	0	Matched against Locality input GUARÁ, with corrections
Province	0	8	1	Added DF from database
Street	4	7	1	BLOCO number added
HNO	0	0	0	It is not known if a HNO is missing

Street Match over Postal Code Match

In the following example, the QUADRA number in street EPTG QE QUADRA 2 BLOCO A 4 is changed to 3, making the input incorrect. The intelligence within the engine can either change the street to match the postal code or change the postal code to match the street. In this example, the postal code is changed because the street is associated with the code 71100-104 in the reference database.

Postal code is changed.

INPUT	OUTPUT
EPTG QE QUADRA 3 BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-054	EPTG QE QUADRA 3 BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-104

ProcessStatus	C4	All relevant elements have been matched. The Postal Code has been corrected
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	4	7	1	Changed to fit the street input
Locality 1	6	F	1	Perfect match
Locality 2	6	F	0	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match. It is not known if a HNO is missing or not

Changing Numbers

Exchanging a number in a street name degrades an address. In the preceding example, the 3 in the input address is replaced with a G. This is not considered a status C-worthy correction. It is degraded to I4 because of the special status of BLOCO numbers in Brazil. The engine considers G a number, and, as such, it does not exist in the reference database. Therefore, it is difficult for the engine to determine whether to correct the input address. This treatment is similar to that for a wrong HNO (HNO) element in the input. In batch mode, the original input is returned. In interactive mode, the changed number is suggested. In the following example, a single letter counts as a numeric.

Batch Mode

G is identified as incorrect.

No Changes – Address is degraded from C to I4.

INPUT	OUTPUT
EPTG QE QUADRA G BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-054	EPTG QE QUADRA G BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-054

ProcessStatus	I4	A suggestion exists for the number in the street name, therefore it has been degraded from C to I4
ModeUsed		Batch
AddressType	U	Undefined; address rejected
Mailability	2	Mail piece has a fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	0	0	Perfect match, but ERS 0 because of reject
Locality 1	6	0	0	Perfect match, but ERS 0 because of reject
Locality 2	6	0	0	Perfect match, but ERS 0 because of reject
Province	6	0	0	Perfect match, but ERS 0 because of reject
Street	3	0	0	Quadra numeric "G" identified as wrong

Interactive Mode

In interactive mode, suggestions are provided. For the postal code in this example, the following address is the only suggestion returned.

A suggestion is added in Interactive mode.

INPUT	OUTPUT
EPTG QE QUADRA G BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-054	EPTG QE QUADRA 2 BLOCO A 4 QUADRAS ECONÔMICAS LÚCIO COSTA GUARÁ BRASÍLIA-DF 71100-054

ProcessStatus	I4	There exists a suggestion, but it has been degraded from C to I4
ModeUsed		Interactive
AddressType	U	Undefined; address rejected
Mailability	2	Mail piece has a fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	0	Perfect match
Province	6	F	1	Perfect match
Street	3	7	1	Quadra numeric changed from G to 2

Syntax of Partial Information Influences Treatment

A QUADRA must always be followed by numeric information. The number following a QUADRA is not considered a HNO.

If address syntax is identified as incorrect, for example if a QUADRA number is missing, a correction is triggered. If the syntax is correct, however, an unvalidated address part may remain in the address. In the following two examples, the reference street is ESTRADA MUNICIPAL TATUI.

Since a Quadra number does not exist in the input, the QUADRA is removed from the output.

INPUT	OUTPUT
ESTRADA MUN TATUI QUADRA JARDIM WANDERLEY TATUÍ-SP 18277-680	ESTRADA MUNICIPAL TATUI JARDIM WANDERLEY TATUÍ-SP 18277-680

ProcessStatus	C4	All relevant elements have been matched; the street has been corrected
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	0	Perfect match
Province	6	F	1	Perfect match
Street	4	7	1	Without any number, the surplus QUADRA has been removed completely from the output without any information in the RESIDUE field

In the following example, a number is added to the input from the previous example.

Mun is standardized to municipal.

INPUT	OUTPUT
ESTRADA MUN TATUI QUADRA 7 JARDIM WANDERLEY TATUÍ-SP 18277-680	ESTRADA MUNICIPAL TATUI QUADRA 7 JARDIM WANDERLEY TATUÍ-SP 18277-680

ProcessStatus	V3	All relevant elements have been matched; street is standardized
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	0	Perfect match
Province	6	F	1	Perfect match
Street 1	5	E	1	The MUN has been turned into the long form MUNICIPAL. This does not count as a correction but standardization
Street 2	2	4	0	No reference for QUADRA 7, but the syntax is ok

Canada (CAN)

Adding Delivery Service Level 2

In Canada, DeliveryServiceLevel2 may be added from the reference database to an otherwise perfect address, if indicated in the input data. This is likely to occur if there is more than one post office in a locality.

DeliveryServiceLevel2 is added .

INPUT	OUTPUT
PO BOX 15 SCARBOROUGH ONTARIO M1R 4Y7	POBOX 15 STN D SCARBOROUGH ON M1R 4Y7

ProcessStatus	C4	The address-relevant DeliveryServiceLevel 2 is added; that counts as correction
ModeUsed		Certified, batch and interactive give the same result
AddressType	P	PO Box address record matched in database
Mailability	4	Mail piece is almost certain of reaching its destination

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	5	E	1	The input Province is perfect, but has been shortened for the output; this is a standardization
DeliveryService1	6	F	1	The PO Box number has been found in the database
DeliveryService2	0	8	1	The STN D is added from the database because there is more than one post office in SCARBOROUGH; for this reason, it is marked as relevant

Note: Eliminating the postal code from the input would yield a process status I3 with four suggestions in interactive mode.

Input:
PO BOX 15
SCORBOROUGH ON

Output: (interactive mode) status I3. The following four suggestions are returned with a postal code and a delivery service level 2:

PO BOX 15 STN WEST HILL
SCARBOROUGH ON M1E 4R4

PO BOX 15 STN A
SCARBOROUGH ON M1K 5B9

PO BOX 15 STN D
SCARBOROUGH ON M1R 4Y7

PO BOX 15 STN AGINCOURT
SCARBOROUGH ON M1S 3B4

Missing Sub-Building Number

A perfect street address with a valid HNO but no sub-building input yields a perfect match if the database does not contain sub-building information for the HNO. However, if a record for the HNO exists with a sub-building, the input is rejected because of the missing sub-building in the input. This is a SERP rule. This information cannot be represented by EIS/ERS/Relevance values. The street address is perfect input but is rejected. In Canada, this indicates a missing sub-building. The validation process behaves similarly in batch and interactive modes, assuming that the reference database provides the same information.

Address is rejected because a sub-building record exists for the street/HNO in the reference database.

INPUT	OUTPUT
1555 FINCH AVENUE E NORTH YORK ON M2J 4X9	1555 FINCH AVENUE E NORTH YORK ON M2J 4X9

ProcessStatus	I4	The address is rejected because of missing sub-building information
ModeUsed		Certified
AddressType	U	Undefined; address rejected
Mailability	2	Mail piece has a fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	0	0	Perfect match, but ERS 0 because of reject
Locality	6	0	0	Perfect match, but ERS 0 because of reject
Province	6	0	0	Perfect match, but ERS 0 because of reject
Street	6	0	0	Perfect match, but ERS 0 because of reject
HNO	6	0	0	Perfect match, but ERS 0 because of reject

The certified database for Canada (CAN5C1.MD) contains Point of Call Address Data (PoCAD). These are additional reference records—usually containing sub-building information—that appear in our certified database but not in the batch database, as illustrated by the following example. The same address input yields process status V3 in batch mode, because that database does not indicate that a sub-building might be missing.

Address is standardized in batch mode.

INPUT	OUTPUT (BATCH)
1555 FINCH AVENUE E NORTH YORK ON M2J 4X9	1555 FINCH AVENUE E NORTH YORK ON M2J 4X9

ProcessStatus	V3	The address is perfect, but standardized
ModeUsed		Batch
AddressType	S	Street type record matched in database
Mailability	5	Mail piece is completely confident of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	5	E	1	Perfect match, but the database yields the short form AVE
HNO	6	F	1	Perfect match

In this address, the database does not contain sub-building information.

Be aware that for addresses such as this one, a database update can transform a valid V address into a rejected I4 address if a sub-building record is added.

Addresses with sub-building information exist in both batch and certified databases, as illustrated by the next example.

Sub-Building Number Correct, Syntax Wrong

There are addresses where the sub-building number is correct, but it has been entered with the incorrect syntax and/or format. In such cases, the address must be corrected. According to SERP rules, the process status is C, or corrected.

In batch processing, if sub-building information exists in the database, the results are the same as in certified mode, which is the case in this example. That is, the process status is C.

Sub-building is noted in the correct syntax.

INPUT	OUTPUT
4370 LORIMER RD 138 WHISTLER BC V0N 1B4	138-4370 LORIMER RD WHISTLER BC V0N 1B4

ProcessStatus	C4	The Sub-Building has been corrected
ModeUsed		Certified, batch and interactive give the same result
AddressType	S	Street match
Mailability	4	Mail piece is almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
SubBuilding	4	7	1	Number matches, but syntax is wrong: If the number appears behind the street, it must have a descriptor with it, otherwise, it must appear at the front

SERP Does Not Allow Changes to LVR (Large Volume Receiver) Postal Code

In Canada, every postal code has a marker that indicates it is a LVR postal code. According to SERP rules, a LVR postal code must stay unchanged, even if no address record is available for it.

There is no change in output because it is a LVR address.

INPUT	OUTPUT (CERTIFIED)
PO BOX 1601 STN MAIN EDMONTON AB M7A 2B6	PO BOX 1601 STN MAIN EDMONTON AB M7A 2B6

ProcessStatus	V2	The PO Box is copied without checking. Everything else is perfect
ModeUsed		Certified
AddressType	L	LVR. In the type hierarchy, "L" is stronger than "P"
Mailability	3	Mailability is decreased to 3 because postal code is not supported by any delivery information. Should be fine for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
DeliveryService1	2	4	1	Copied without checking reference
DeliveryService2	2	4	1	Copied without checking the reference data; the relevance mark is just a guess, there is no data to decide if this field is relevant or not

In batch mode, an address is processed differently. Because postal codes are vulnerable to typographical errors, it cannot be assumed that every postal code is correct—which is the assumption in SERP processing for LVR. If incoming delivery information matches a different postal code, a new postal code is returned, as illustrated by the following example.

A new postal code is returned.

INPUT	OUTPUT (BATCH)
PO BOX 1601 STN MAIN EDMONTON AB M7A 2B6	PO BOX 1601 STN MAIN EDMONTON AB T5J 2N9

ProcessStatus	C4	The postal code is corrected
ModeUsed		Batch
AddressType	P	PO Box address record matched in database.
Mailability	4	Mail piece almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	3	7	1	Input has not matched at all; has been corrected
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
DeliveryService1	6	F	1	Perfect match
DeliveryService2	6	F	1	Perfect match

Alternative Locality Level 1

In Canada, a Locality record contains the postal Locality name and often a list of valid alternative names. If a Locality is a valid alternative, batch and certified validation behave differently. In batch mode, the alternative is exchanged with the postal Locality name. In certified mode, a SERP rule demands that the name stays unchanged. The postal name is returned in the field Locality1_Preferred_Name, and the input name remains in the formatted address.

This is consistent with street treatment. In batch mode, the database entry (postal name) is provided as output.

Batch Mode

The alternative name is exchanged with the postal Locality name.

INPUT	OUTPUT (BATCH)
76 HANSON ST EAST YORK ON M4C 1A1	76 HANSON ST TORONTO ON M4C 1A1

ProcessStatus	V3	Verified; the address is a synonym match
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	5	D	1	Changed to valid alternative postal locality
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match

Certified Mode

The SERP rule demands that the input address remains unchanged in output.

INPUT	OUTPUT (CERTIFIED)
76 HANSON ST EAST YORK ON M4C 1A1	76 HANSON ST EAST YORK ON M4C 1A1

ProcessStatus	V4	Verified; all relevant elements are perfect matches
ModeUsed		Certified
AddressType	S	Street match
Mailability	5	Derived from V4 status; completely confident

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match to a valid alternative. The postal locality is available in PREFERRED_NAME. No change has been made to the input locality name
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match

France (FRA)

SNA Certification Rules

The French postal organization requires French addresses to conform to certain rules and standards. Following is a summary of the most important rules. For more information, contact the French postal organization, "La Poste," at www.laposte.com.

- A certified address consists of 6 FALs.
    - If FALs are used for input, they must follow this format as well.
- The FAL contains the following information:
    - Line 1 – Contact
    - Line 2 – Organization/Sub-Building
    - Line 3 – Building Name
    - Line 4 – Street with HNO
    - Line 5 – PO Box/BP/Locality2
    - Line 6 - CSLLN (Locality1, postal code)
- Additional localities identified not associated with Locality1 must be eliminated from the address.
- All other data must remain in the address.
- Unidentified input must not appear in lines 4-6. It must be moved into lines 1-3.
- Every SNA address must contain a FAL 6 and a FAL 4.
- CEDEX postal codes must not be changed.
- Non-CEDEX postal codes may be changed but not to a CEDEX postal code.

Ambiguous Input

Sometimes input can be parsed in different ways. To obtain optimum results, it is necessary to create all plausible parse alternatives and test them as competing inputs for validation, as in this example.

INPUT	OUTPUT
M.SCHROMPF	M.SCHROMPF
22 ESCALIER DES RIGAUDIS	22 ESCALIER DES RIGAUDIS
1B SENTIER DU PARC ST MICHEL	1B SENTIER DU PARC ST MICHEL
06500 MENTON	06500 MENTON

ProcessStatus	I3	Two results found
ModeUsed		Certified
AddressType	U	Undefined; address rejected
Mailability	2	Mail piece has a fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	0	0	Perfect match, but ERS 0 because address rejected
Locality	6	0	0	Perfect match, but ERS 0 because address rejected
Street	6	0	0	Perfect match, but ERS 0 because address rejected
HNO	6	0	0	Perfect match, but ERS 0 because address rejected

This address has two lines that can be interpreted as streets. Two input candidates are created—one with FAL 4 as street and FAL 3 as residue and one with FAL 3 as street and FAL 4 as residue. Both inputs provide a perfect match. Therefore, in order to avoid false positives, the address is rejected and given a process status of I3. The first input candidate is returned. The residue and contact fields do not have EIS/ERS/Relevance values.

Unidentified Input

As a general rule in France, unidentified input must stay in the address and be moved to lines 1-3 when necessary.

> Unidentified input is found. The address is reformatted and moved to lines 1-3.

INPUT	OUTPUT
MR XYZ 123	MR XYZ 123
	GROUPE POINTP 339 105 553 RCS PARIS
Le Mozart	LE MOZART
13/15 rue Germaine Tailleferre	13 RUE GERMAINE TAILLEFERRE
75940 Paris Cedex 19	
Groupe PointP – 339 105 553 RCS Paris	75940 PARIS CEDEX 19

ProcessStatus	V2	Delivery not checked, everything else is a perfect match
ModeUsed		Certified
AddressType	G	CEDEX address without checked delivery. With the current version, CEDEXA raw data is not yet used to do more explicit checks
Mailability	3	Derived from V2 status. One point deducted because there is no delivery match at all. Delivery should be fine

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Street	2	4	1	Not checked because of CEDEX address
HNO	4	9	1	The input HNO 13/15 has an illegal syntax. An SNA rule forces that the HNO is changed to 13. The number is not checked against the database, so it cannot be marked as a correction. Having no special ERS value for this particular address, the HNO is marked as unclear

FAL 5 has been identified as the CSLLN containing postal code and locality. These are perfect matches. In the output, the CSLLN appears in FAL 6. FAL 4 is identified as a street. FAL 1 is identified as contact. It is not checked, and no EIS/ERS value exists for it. It stays unchanged. FAL 3 "Le Mozart" is not identified. It is marked as residue but appears as output in FAL 3, because its position in the address should be kept if possible. (It must move from lines 4-6.) Residue items do not have EIS/ERS values. They are always copied without any reference check. FAL 6 is unidentified. It is marked as a second residue component and moved to the only free position in the address lines, or FAL 2.

Altered Format: No Status Change

Movement of elements can happen quite often in French addresses. In order to give meaningful results (EIS/ERS values), only content is taken into account to produce the result status. Movements are not marked as corrections.

INPUT	OUTPUT
MR XYZ 162	MR XYZ 162
	11 RUE DU CHEMIN DES FEMMES
11 RUE DU CHEMIN DES FEMMES	
91749 MASSY CEDEX	91749 MASSY CEDEX

ProcessStatus	V2	Delivery not checked; everything else is a perfect match
ModeUsed		Certified
AddressType	G	CEDEX address without checked delivery
Mailability	3	Derived from V2 status. One point deducted because there is no delivery match at all. However, delivery should be fine

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Street	2	4	1	Not checked because of CEDEX address
HNO	2	4	1	Not checked because of CEDEX address

FAL 5 is moved to FAL 4. This does not influence the process status. 1.5

Great Britain (GBR)

Empty HNO Reference

If a number reference for an address does not exist in the reference database, there is no indication that there should be a HNO for that address or if it is relevant. For most countries, this information is not in the raw data. Empty HNO references do not indicate that specific data is missing.

Exceptions to this rule are Italy (ITA) and Spain (ESP), where s/n indicates that a HNO does not exist for an address.

House number copied without verification since there is no reference to HNO in the reference database.

INPUT	OUTPUT
THORNIECROFT 3 DEER ROAD WEST MAUD PETERHEAD AB42 4NG	THORNIECROFT 3 DEER ROAD WEST MAUD PETERHEAD AB42 4NG

ProcessStatus	V2	HNO copied without checking; everything else is perfect. It is unknown if anything is missing or there is too much information in the input
ModeUsed		Batch
AddressType	B	Building match + Street match. The address type hierarchy leads to address type "B" instead of "S"
Mailability	4	Mail piece almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	1	Perfect match
Province	0	8	0	In GBR, the province is not relevant. The province also does not appear in the FALs
Street	6	F	1	Perfect match
HNO	2	4	1	Copied, there is no HNO reference. The relevance mark is just a guess, there is no data to decide if this field is relevant or not
Building	6	F	1	Perfect match

Note: Leaving HNO input empty in an address produces a process status of V4. Leaving HNO input empty and adding a sub-building to the input produces a process status of V2 again, as shown by the following example.

INPUT	OUTPUT
FLAT 2 THORNIECROFT DEER ROAD WEST MAUD PETERHEAD AB42 4NG	FLAT 2 THORNIECROFT DEER ROAD WEST MAUD PETERHEAD AB42 4NG

ProcessStatus	V2	Sub-building copied without checking, everything else is perfect. It is unknown if anything is missing or whether there is too much information in the input
ModeUsed		Batch
AddressType	B	Building match + Street match. The address type hierarchy leads to address type "B" instead of "S."
Mailability	4	Mail piece almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	1	Perfect match
Province	0	8	0	In GBR, the province is not relevant.
Street	6	F	1	Perfect match
Building	6	F	1	Perfect match
SubBuilding	2	4	1	Copied. There is no Sub-building reference. The relevance mark is just a guess; there is no data to decide if this field is relevant or not

In the next example, building information is not provided. There are several address records where the input street is associated with different buildings in the reference data. However, the address is considered valid, as denoted by process status V4. There are possible suggestions for buildings, but in the current release of the Informatica AddressDoctorSoftware Library, they are not indicated. The address type generated is S, or Street. A building is not shown in input or output data, as illustrated by the following example.

INPUT	OUTPUT
DEER ROAD WEST MAUD PETERHEAD AB42 4NG	DEER ROAD WEST MAUD PETERHEAD AB42 4NG

ProcessStatus	V4	Everything perfect; it is unknown if anything is missing in the input
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Mail piece completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	1	Perfect match
Province	0	8	0	In GBR, the province is not relevant
Street	6	F	1	Perfect match

In the next example, an unidentified building is copied without being validated, because it does not match any of the buildings in the reference data. The raw data does not indicate whether the list of building records for a specific street is complete or not. There is no HNO data against which to validate. The copied building (EIS/ERS = 2/4) is considered relevant, but it is unknown if the building should be included in the address.

INPUT	OUTPUT
SCHROMPF BLDG. DEER ROAD WEST MAUD PETERHEAD AB42 4NG	SCHROMPF BLDG. DEER ROAD WEST MAUD PETERHEAD AB42 4NG

ProcessStatus	V2	Building copied without checking; everything else is perfect. It is unknown if anything is missing or too much information is available in the input
ModeUsed		Batch
AddressType	S	Street match; no building match, so not "B"
Mailability	4	Mail piece almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Locality 2	6	F	1	Perfect match
Province	0	8	0	In GBR, the Province is not relevant
Street	6	F	1	Perfect match
Building	2	4	1	Copied because the buildings in the reference data do not match. The relevance mark is just a guess; there is no data to decide if this field is relevant or not

Matching/Non-Matching Organization

Similar to buildings, non-matching organizations are copied without referencing the data. Consider the case where a street/HNO combination exists, but the input does not match an organization. This does not exclude the possibility of an input organization residing in a specific house along with other (referenced) organizations. The raw data does not indicate whether the list of organization records linked to that specific HNO is complete or not.

INPUT	OUTPUT
SCHROMPF CORP 80 SOUTHWARK STREET LONDON SE1 0PN	SSCHROMPF CORP 80 SOUTHWARK STREET LONDON SE1 0PN

ProcessStatus	V2	Organization copied without checking, everything else is perfect. It is unknown if anything is missing or there is too much information provided in the input
ModeUsed		Batch
AddressType	S	Street match; no organization match, so not "F"
Mailability	4	Mail piece almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Province	0	8	0	In GBR, the province is not relevant
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
Organization	2	4	1	Copied because the Organization in the reference data does not match. If an Organization appears in an address, it is always considered relevant

In the following example, we use the same reference record as in the previous example. In this case, the organization matches.

The organization is corrected.

INPUT	OUTPUT
MRM WORLDWIDE (UK) 80 SOUTHWARK STREET LONDON SE1 0PN	M R M WORLDWIDE UK LTD 80 SOUTHWARK STREET LONDON SE1 0PN

ProcessStatus	C4	Organization corrected; all relevant elements have been checked against the reference database
ModeUsed		Batch
AddressType	F	Organization match
Mailability	4	Mail piece almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Province	0	8	0	In GBR, the province is not relevant
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
Organization	4	7	1	Organization corrected according to the record available in the reference database

Non-Numeric Sub-Building Reference

Consider input without a sub-building—and several sub-building records for an address in the reference database. Fast completion mode provides sub-building data from which a user can select. However, in batch mode, the address will be validated without sub-building information and will not be added.

INPUT	OUTPUT
PostalCode = AB10 6PX Locality = ABERDEEN Street = ASHVALE PLACE HNO = 16	FLAT A 16 ASHVALE PLACE ABERDEEN AB10 6PX

In fast completion mode, the output is the same as the input with the exception of the sub-building information.

The engine delivers six sub-building suggestions for the matched address. The user can then select one.

ProcessStatus	Q3	One or more acceptable matches on the input; all relevant elements have been checked against the reference data
ModeUsed		Fast completion
AddressType	S	Street match
Mailability	2	Derived from Q3 status; more than one result; fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
SubBuilding	0	8	1	Sub-building added from the database

In the next example, the same address input in batch mode results in process status V4 without an added sub-building. Sub-building records also exist in the batch database, but they are not used here. In the current version of the Informatica AddressDoctor Software Library, the output does not indicate whether records contain sub-building information or not.

INPUT	OUTPUT
PostalCode = AB10 6PX Locality = ABERDEEN Street = ASHVALE PLACE HNO = 16	16 ASHVALE PLACE ABERDEEN AB10 6PX

ProcessStatus	V4	Everything perfect; it is unknown if anything is missing in the input
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match

In the following example, adding a FLAT with a number to the input places a copy of the sub-building in the output. There is no number reference against which to check the input number. FLAT A, FLAT B, etc. sub-buildings in the reference database are not regarded as numbers.

INPUT	OUTPUT
FLAT 1 16 ASHVALE PLACE ABERDEEN AB10 6PX	FLAT 1 16 ASHVALE PLACE ABERDEEN AB10 6PX

ProcessStatus	V2	Sub-building copied without checking, everything else perfect. It is unknown if anything is missing or too much information is provided in the input
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Street	6	F	1	Perfect match
Building	6	F	1	Perfect match
SubBuilding	2	4	1	Copied, there is a sub-building reference, but no sub-building number reference. The relevance mark is just a guess, there is no data to decide if this field is relevant or not.

Two Streets in the Address

In Great Britain, an address can contain two streets. If only one HNO in the reference database exists for the two streets, it is associated with the dependent street that appears on the upper line of the two streets. That is, it is associated with Street1.

HNO is moved up to Street1.

INPUT	OUTPUT
GAIRN MEWS 7 GAIRN TERRACE ABERDEEN AB10 6FL	7 GAIRN MEWS GAIRN TERRACE ABERDEEN AB10 6FL

ProcessStatus	V4	Everything perfect. The movement of the HNO from one street to the other is not taken into account as a correction in the current release.
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Derived from V4 status; completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality 1	6	F	1	Perfect match
Street 1	6	F	1	Perfect match
Street 2	6	F	1	Perfect match
HNO	6	F	1	The HNO has been found in the reference database

India (IND)

Adding Missing Elements

Addresses in India usually contain a significant amount of information. Most of the information is missing on input, but the engine can reconstruct the address elements in most cases.

Results are added or normalized.

INPUT	OUTPUT
A26 Marmik CHS Sec 5 Charkop KandivaliW Mumbai 400067	A - 26 Marmik Cooperative Housing Society Ground Floor Near Oxford High School TriveniMitraMandal Colony Sector 5 Charkop Kandivali West Mumbai - 400067

ProcessStatus	C2	A lot of address information is added or normalized; this counts as corrections
ModeUsed		Batch and interactive give the same result
AddressType	S	Street address record matched in database
Mailability	3	Mail piece should be fine for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match, but standardized
Locality Level 1	6	F	1	Perfect match
Locality Level 2	4	7	1	Correction based on reference data
Province Level 1	0	8	0	The input province is not found but is added from database
Province Level 2	0	8	0	Province is added from database but is not address relevant
Street Level 1	0	8	1	Street is added
Number Level 1	5	E	1	Matched and verified but standardized to the value in the reference database
Building Level 1	4	7	1	Building name is corrected, because Cooperative Housing Society is not the standardized descriptor, therefore it is not counted as standardization
Subbuilding	0	8	1	Sub-building is added

Position of Address Elements

Formatted addresses in India usually contain a significant amount of information. Most addresses are not in the order preferred by address vendors or the postal administrations. The position of most elements is less relevant with Informatica AddressDoctor Version 5.2.9. The following example shows that the position of Locality2 and Locality3 in the input is not very important.

INPUT	OUTPUT
Geeta Vadhera 1 Palam Vihar CHAUMA GURGAON - 122001 INDIA	Geeta Vadhera 1 Palam Vihar Marg Chauma Palam Vihar Gurgaon - 122017

ProcessStatus	C3	The postcode and street are corrected, but some elements could not be checked
ModeUsed		Batch and interactive give the same result
AddressType	S	Street address record matched in database
Mailability	3	Mail piece should be fine for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	4	7	1	Matched with errors but corrected
Locality Level 1	6	F	1	Perfect match
Locality Level 2	6	F	1	Correction of the position is not counted as error; the input was correct
Province Level 1	0	8	0	The input province is not found but is added from database
Province Level 2	0	8	0	Province is added from database but is not address relevant
Street Level 1	4	7	1	Street is corrected
Number Level 1	2	4	1	Not checked and not changed because of missing data in the database
Organization Level 1	2	4	1	Because of unclear data the input was not checked and classified as organization level 1

Corrections and Standardizations of Address Elements

Most of the elements in the following example are standardized or corrected. All address-relevant information is drawn from the database.

INPUT	OUTPUT
R Chaitanya ChaitanyaAp PadmavatiMarg Hiranandani G Powai Andheri (E) Bombay – 400 075 IND	R Chaitanya Chaitanya Apartment Padmavati Road Hiranandani Garden Powai Andheri East Mumbai - 400 076 IND

ProcessStatus	C4	The postcode is corrected
ModeUsed		Batch and interactive give the same result
AddressType	S	Street address record matched in database
Mailability	4	Mail piece almost certain for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	4	7	1	Matched with errors; corrected
Locality Level 1	5	E	1	Matched with changed based on synonym name for locality
Locality Level 2	4	7	1	Correction was done for LO3 and minor standardization for LO2 but both together are counted as correction
Province Level 1	0	8	0	The input province is not found but is added from the database
Province Level 2	0	8	0	Province is added from the database but is not address relevant
Street Level 1	5	E	1	Street is a perfect standardized match, because the change of synonym descriptor is not counted as correction
Organization Level 1	2	4	1	Because of unclear data the input was not checked and classified as organization level 1

Singapore (SGP) and Hong Kong (HGK)

Changing HNO/Postal Code

In Singapore, it is possible for certain postal codes to determine a unique HNO. If a non-existent HNO occurs in the input, the matching HNO can be derived in interactive mode. If the HNO matches a different postal code, the postal code is changed.

> HNO and postal code do not match in the input address.

> Postal code changed because HNO 28 points to 79976 in the reference database.

INPUT	OUTPUT
28 EDGWARE ROAD SINGAPORE 799789	28 EDGWARE ROAD SINGAPORE 799776

ProcessStatus:	C4	All relevant elements have been matched. The postal code has been corrected
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	4	7	1	Corrected in order to match input HNO to postal code
Locality	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match

The postal code is changed because HNO 28 references postal code 799776 in the database.

If the input HNO for the street does not exist in the reference database, the address is considered invalid. The address is not changed in batch mode, as illustrated by the following example.

INPUT	OUTPUT
27 EDGWARE ROAD SINGAPORE 799789	227 EDGWARE ROAD SINGAPORE799789

ProcessStatus	I4	The input HNO is not in the database; this degrades the address to I4
ModeUsed		Batch
AddressType	U	Undefined; address rejected
Mailability	2	Mail piece has a fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	0	0	Perfect match, but ERS 0 because of reject
Locality	6	0	0	Perfect match, but ERS 0 because of reject
Street	6	0	0	Perfect match, but ERS 0 because of reject
HNO	3	0	0	HNO (54) reference exists, input 27 not inside the reference database

The input is rejected because of the incorrect HNO. In batch mode, the input address is returned.

In interactive mode, the incorrect HNO is changed. A unique HNO exists for the postal code.

INPUT	OUTPUT
27 EDGWARE ROAD SINGAPORE 799789	54 EDGWARE ROAD SINGAPORE 799789

ProcessStatus	I4	The input HNO is not in the database; this degrades the address to I4
ModeUsed		Interactive
AddressType	U	Undefined; address rejected
Mailability	2	Mail piece has a fair chance of delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	3	7	1	HNO changed to fit the input postal code

The input is rejected because of the incorrect HNO. In interactive mode, the input postal code delivers a unique HNO.

Reconstruct Address from Postal Code

In some countries, it is possible to create a complete address from a postal code. If this creates unique output, the address receives a C status. The following example from Singapore illustrates how a complete address is created from a unique postal code.

A complete address is generated from a postal code because the postal code is unique to this address.

INPUT	OUTPUT
799741	2R GERALD CRESCENT SINGAPORE 799741

ProcessStatus	C4	Corrected; the postal code has matched perfectly and defines a unique address
ModeUsed		Batch
AddressType	S	Default type; no special match
Mailability	4	Mail piece is almost certain for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	0	8	1	Added to fit postal code
Street	0	8	1	Added to fit postal code
HNO	0	8	1	Added to fit postal code

Add Building to Perfect Street / HNO

In Singapore or Hong Kong reference data, it is possible that one or more buildings are available for a street / HNO combination. Consider the case of input with a valid street/HNO without any building input. If there is only one building record in the reference database for the address, the building is added to the output. If, on the other hand, there are several buildings available for the address, a building is not added, preventing a multimatch reject. The following examples are from Hong Kong, where postal codes do not exist.

A building added to an address because a unique building exists for the HNO/street combination.

INPUT	OUTPUT
18 Harbour Rd. Wan Chai Hong Kong Island	CentralPlaza 18 Harbour Rd. Wan Chai Hong Kong Island

ProcessStatus	C4	All relevant elements have been matched; a building has been added because buildings are relevant in HKG
ModeUsed		Batch
AddressType	S	Street match
Mailability	4	Mail piece is almost certain for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
Building	0	8	1	A unique building exists for HNO 18, therefore It is added

The following example shows the same street, but this time with HNO = 1. Here, several building records exist in the reference database for this street/HNO combination. In order to accept the address, these buildings are ignored. The V4 process status is generated, because all the input is a perfect match and nothing appears missing. The user does not know if the database contains several buildings for this HNO or if there are no building records for this HNO.

The address is a perfect match. Although several buildings exist for HNO = 1, the building is ignored in batch mode.

INPUT	OUTPUT
1 Harbour Rd. Wan Chai Hong Kong Island	1 Harbour Rd. Wan Chai Hong Kong Island

ProcessStatus	V4	All relevant elements have been matched; building level 2 exists for this HNO, but it is ignored
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Derived from V4 status; completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match

In the following example the same street is used but this time with HNO = 5. For this record, there are no buildings available, therefore the address is a perfect match and has a process status of V4.

INPUT	OUTPUT
5 Harbour Rd. Wan Chai Hong Kong Island	5 Harbour Rd. Wan Chai Hong Kong Island

ProcessStatus	V4	All relevant elements have been matched; no building records exist for this HNO
ModeUsed		Batch
AddressType	S	Street match
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match

From the output, it is impossible to interpret whether building records exist for this HNO. Since building data was not added to the address, we could interpret this to mean that no building match was found in the reference database. However, in the current release of Informatica AddressDoctor, it is impossible to determine whether or not buildings are available for the address.

United States of America (USA)

LACSLink Processing

Locatable Address Conversion System Link (LACSLink) is a data product provided by the United States Postal Service (USPS) to allow addresses that have been converted due to USPS changes or for 911 emergency systems to be linked to their new addresses.

> The street name and house number are changed.

INPUT	OUTPUT
RR 1 Box 722 PERKINS OK 74059 USA	335468 E 750 RD PERKINS OK 74059-3275 USA

ProcessStatus	C4	Address corrected. The Street Level 1 and the Number Level 1 has been changed. The drastic change of the street name and HNO should be a clue that some other processing has been done also. Checking the LACSLink Indicator(Y) and the LACSLink Return Code(A), we can determine that the change was caused by the LACSLink processing
ModeUsed:		Certified
AddressType	S	Street type address record matched in database
Mailability	5	Mail piece is completely confident for delivery
LACSLink Indicator	Y	LACS record match; a new address could be furnished
LACSLink Return Code	A	LACS record match; a new address could be furnished

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
PostalCodeLvl1	0	8	1	Added
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
StreetLevel1	4	7	1	Corrected
HNO	4	7	1	Corrected
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuilding	0	0	0	Empty

Note: If this address is processed in batch mode, we get an exact match. All non-zero EIS codes are shown as 6 and the process status is C4, not V4, as would be expected from an exact match, because we added the ZIP4 (EIS/ERS 0/8).

ProcessStatus	C4	Address corrected
ModeUsed		Batch
AddressType	R	Rural type address record matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
PostalCodeLvl1	0	8	1	Added
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuilding	0	0	0	Empty

Alias Street – OFFICIAL

At times, the USPS changes the name of a street, or the street may be known locally by a nickname. These unofficial street names are known as Alias Street names. This parameter is available in certified mode and is called Alias Street with option values of OFFICIAL or PRESERVE. The OFFICIAL value changes the input Alias Street name to the USPS official street name.

The street name looks different from input street name because of the alias record found in database.

INPUT	OUTPUT
407 W BRONSON HWY KISSIMMEE FL 34741 USA	407 W VINE ST KISSIMMEE FL 34741-4154 USA

ProcessStatus	C4	Corrected; all postal relevant elements have been checked
ModeUsed		Certified
AddressType	S	Street type address record matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
StreetLevel1	4	D	1	This indicates that the street name has changed. The "D" means that a match to an alias street record has been made and therefore the output street name may look a lot different than the input street name
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuilding	0	0	0	Empty

Note: If this address is processed in batch mode, the process status is I2—data could not be corrected—because Alias Street data is only available in certified mode.

INPUT	OUTPUT
407 W BRONSON HWY KISSIMMEE FL 34741 USA	407 W BRONSON HWY KISSIMMEE FL 34741 USA

ProcessStatus	I2	Data could not be corrected, but there is a slim chance that the address is deliverable
ModeUsed		Batch
AddressType	U	Undefined, record not matched in database
Mailability	0	Futile

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	0	0	Perfect match
Locality	6	0	0	Perfect match
Province	6	0	0	Perfect match
StreetLevel1	3	0	0	Wrong
HNO	2	0	0	Not checked
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuilding	0	0	0	Empty

Alias Street – PRESERVE

An Alias Street with the option value PRESERVE retains the input Alias Street name, unless it is a corrected alias, in which case it is converted to the USPS official street name.

> The street name is unchanged because the Alias Street option is PRESERVE.

INPUT	OUTPUT
407 W BRONSON HWY KISSIMMEE FL 34741 USA	407 W BRONSON HWY KISSIMMEE FL 34741-4154 USA

ProcessStatus	C4	Corrected; all postal relevant elements have been checked
ModeUsed		Certified
AddressType	S	Street type address record matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
StreetLevel1	6	F	1	Perfect match
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuilding	0	0	0	Empty

Alias Street – Corrected Street Name

The following example shows a corrected Alias Street. The Alias Street option has no effect on the output in certified mode.

> The street name looks different from the input street name because of an alias record in the database. Results are the same with either OFFICIAL or PRESERVE for the Alias Street option.

INPUT	OUTPUT
6420 TANTALUS DR MALIBU CA 90265 USA	6420 SYCAMORE MEADOWS DR MALIBU CA 90265-4441 USA

ProcessStatus	C4	Corrected – all postal relevant elements have been checked
ModeUsed		Certified
AddressType	S	Street type address record matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
StreetLevel1	4	D	1	This indicates that the street name has changed. The "D" means that a match to an alias street record has been made and therefore the output street name may look a lot different than the input street name.
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuilding	0	0	0	Empty

Mailstop Processing – USPS Supported

The USPS allows mailstop information to be placed above the address line or at the end of the address line after street or sub-building data. Note that the USPS term for mailstop is STOP. The engine standardizes the mailstop indicator to STOP if it is matched to the USPS database. If no match is found, the indicator in input that was identified should be kept or standardized. This means that STOP data is placed in either SubBuilding1 or SubBuilding2, depending on the presence of APT/SUITE information in SubBuilding1.

The following address is one the USPS recognizes and delivers to as a sub-building. The address type is H (high-rise), and the standardized sub-building descriptor is STOP. The sub-building status shows as standardized (EIS/ERS 6/E).

A number of variations of mailstop are recognized in input. They include MAILSTOP, MAIL STOP, STOP, MS, M/S, M\S, MAILDROP, MAIL DROP, DROP, MD, M/D, M\D.

MAILSTOP is standardized to STOP in accordance with USPS data standards.

ZIP+4 Code

INPUT	OUTPUT	
6525 BOONE RD MAILSTOP 1 YODER CO 80864 USA	6525 BOONE RD STOP 1 YODER CO 80864-9764 USA	

ProcessStatus	C4	Corrected; all postal relevant elements have been checked
ModeUsed		Certified
AddressType	H	High-rise type address matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
PostalCodeLvl1	0	8	1	Added
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
Building	0	0	0	Empty
SubBuilding	6	E	1	Standardized

Mailstop Processing – Not USPS Supported

This address is an example of a mailstop that is delivered internally rather than by the USPS. Even though we cannot validate the mailstop data, we retain it in the sub-building, because it is what the user entered and not an indicator recognized by the USPS. When two sub-buildings are input, mailstop data will always be output as SubBuilding2.

The MAILSTOP indicator is retained in the sub-building field.

ZIP+4 Code

INPUT	OUTPUT	
425 LAKE ST STE B MAILSTOP 136 ANTIOCH IL 60002 USA	425 LAKE ST STE B MAILSTOP 136 ANTIOCH IL 60002-1464 USA	

ProcessStatus	C4	Corrected; all postal relevant elements have been checked
ModeUsed		Certified
AddressType	H	High-rise type address matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
PostalCodeLvl1	0	8	1	Added
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	6	F	1	Perfect match
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuildingLvl0	6	F	1	Perfect match
SubBuildingLvl1	3	3	1	Invalid input

Residue Data – SuiteLink Record

Data that is found in input but that could not be identified during parsing or assignment is stored as residue data. This data is not returned in the DAL or FAL unless it is a potential SuiteLink record. SuiteLink is a data-only product of the USPS that allows users to add secondary data to a high-rise default assignment using the input company name. A SuiteLink record helps correct incomplete addresses.

The following example illustrates residue data, which is returned in the FAL, because a SuiteLink record has been found for the input record.

> Residue data is returned in the output because a SuiteLink record is found for the high-rise address type.

> ZIP+4 Code

INPUT	OUTPUT
BROOKS HOUSE 62 HIGH ST BACK DOOR BRATTLEBORO VT 05301	BROOKS HOUSE BACK DOOR 62 HIGH ST BRATTLEBORO VT 05301-6893

ProcessStatus	C4	Corrected; all postal relevant elements have been checked
ModeUsed		Certified
AddressType	H	High-rise type address matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
PostalCodeLvl1	0	8	1	Added
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	4	7	1	Corrected
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuildingLvl0	0	0	0	Empty
Organization	2	4	0	Not changed due to no reference data found

Residue Data – Batch Mode

In batch mode, data that is found in input but that cannot be identified during parsing or assignment is stored as residue data. This data is not returned in the DAL or FAL and is found in the residue field.
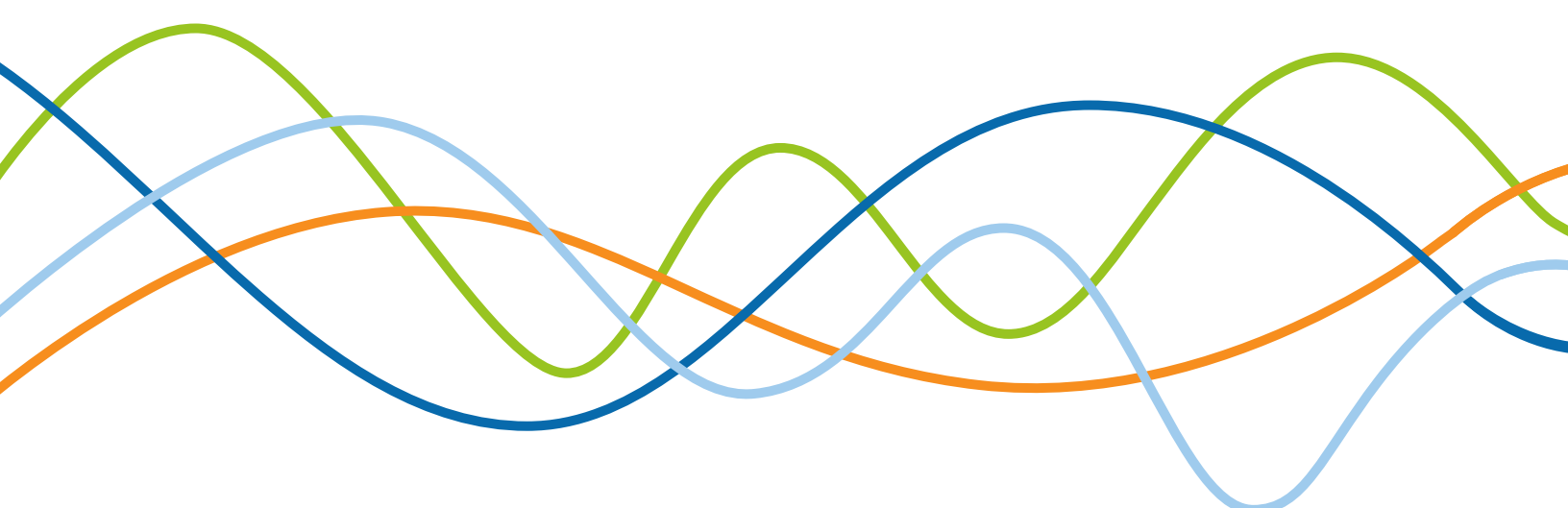
INPUT		OUTPUT	
BROOKS HOUSE 62 HIGH ST BACK DOOR BRATTLEBORO VT 05301		BROOKS HOUSE 62 HIGH ST BRATTLEBORO VT 05301-6893	

Residue data is not output.

ZIP+4 Code

ProcessStatus	C4	Corrected; all postal relevant elements have been checked
ModeUsed		Batch
AddressType	H	High-rise type address matched in database
Mailability	5	Mail piece is completely confident for delivery

FIELD	EIS	ERS	RELEVANCE	EXPLANATION
PostalCode	6	F	1	Perfect match
PostalCodeLvl1	0	8	1	Added
Locality	6	F	1	Perfect match
Province	6	F	1	Perfect match
Street	4	7	1	Corrected
HNO	6	F	1	Perfect match
DeliveryService	0	0	0	Empty
Building	0	0	0	Empty
SubBuildingLvl0	0	0	0	Empty
Organization	2	4	0	Not changed

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