

CDYNE Postal Address Verification Web Service

Version 3.0

WSDL: <http://pav3.cdyne.com/PavService.svc?wsdl>

Developer Resources: http://wiki.cdyne.com/index.php/Postal_Address_Verification

Product Web Page: <http://www.cdyne.com/products/postal-address-verification.aspx>

Description: Utilize this Web Service to return a certified deliverable address. CDYNE Postal Address Verification helps prevent spelling and formatting errors by enforcing address standardization during entry. The service returns Latitude/Longitude, ZIP+4, Bar Code information, District Type, Time Zone, Census Block and more.

CDYNE's fully redundant server farms deliver results in a fraction of a second; especially important for a business that collects customer postal address data through sales or enrollment portals.

The service can be programmed to clean customer lists by scheduling periodic scrubbing or maintaining integrity at point of entry; doing so provides unparalleled accuracy in gathering and maintaining address data. Efficiency of route sales and delivery planners can be increased by correctly identifying map coordinates (using latitude and longitude data) that can be fed into drivers' GPS Navigation Systems.

"VerifyAddress" and "VerifyAddressAdvanced" are the most commonly used functions.

VerifyAddress is used for large volumes or where interaction is not preferred (passive address verification). The best possible address will be given.

VerifyAddressAdvanced is most commonly used where user interaction is preferred. This could result in multiple addresses.

Postal Address Verification is part of CDYNE's suite of data quality and fraud detection products that includes Email Verification, Phone Verification, Phone Notify!, and Death Index for complete customer record validation.

Required License Information: The *LicenseKey* parameter that is seen in most operations of this Web Service is required to authenticate users invoking this Web Service. You must obtain a valid License Key. You can sign up for this service by using the 'Buy Now' button located on the Product Web Page (see link at top of document) or by contacting CDYNE for a limited Trial License Key.

EXAMPLE:

Licensing parameter seen in numerous operations	Sample Input
LicenseKey	F01d89fd-5155-5455-5585-e84ab8de8591

Operations:

- ▼ **VerifyAddress**
- ▼ **VerifyAddressAdvanced**
- ▼ **GetCityNamesForZipCode**
- ▼ **GetUrbanizationListForZipCode**
- ▼ **GetZipCodesForCityAndState**
- ▼ **GetCongressionalDistrictByZip**
- ▼ **GetIntelligentMailBarcode**
- ▼ **GetZipCodesWithinDistance**
- ▼ **GetZipCodesForFips**

- ▼ **VerifyAddress**
 - Returns only one match.

Operation: VerifyAddress Input		
Parameter Name	Data Type	Sample Input
FirmOrRecipient: Input address recipient or firm name.	<i>String</i>	CDYNE
PrimaryAddressLine: Input address number and street name.	<i>String</i>	2125 Smith Ave
SecondaryAddressLine: Input secondary line information.	<i>String</i>	Suite 202
Urbanization: Input urbanization(For addresses in Puerto Rico).	<i>String</i>	
ZipCode: Input ZIP Code.	<i>String</i>	23320
CityName: Input City name.	<i>String</i>	Chesapeake
State: Input State Name or State abbreviation.	<i>String</i>	VA
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: VerifyAddress Output		
Parameter Name	Data Type	Sample Output
ReturnCode: Operation result code.	<i>Integer</i>	1 -Invalid input 2 - Invalid License Key 10 – Input Address is not found 100 – Input Address is DPV confirmed for all components 101 – Input Address is found, but not DPV confirmed 102 –Input Address Primary

		number is DPV confirmed. Secondary number is present but not DPV confirmed 103 – Input address Primary number is DPV confirmed, Secondary number is missing. 200 – Canadian address on input. Verified on City level only.
FirmNameOrRecipient: Returns building or firm recipient name when available.	<i>String</i>	CDYNE Corporation
PrimaryAddressLine: Returns corrected delivery address.	<i>String</i>	2125 SMITH AVE STE 202
SecondaryAddressLine: Returns secondary delivery address line (if applicable).	<i>String</i>	
CityName: Returns City.	<i>String</i>	CHESAPEAKE
StateAbbreviation: Returns State abbreviation.	<i>String</i>	VA
ZipCode: Returns ZIP Code.	<i>String</i>	23320-2518
County: Returns County name.	<i>String</i>	CHESAPEAKE CITY
Urbanization: Returns address urbanization (for addresses in Puerto Rico, if applicable).	<i>String</i>	
Country: Returns address country (USA or Canada for version 3.0).	<i>String</i>	USA

▼ **VerifyAddressAdvanced**

Operation: VerifyAddressAdvanced Input		
PavRequest structure		
Parameter Name	Data Type	Sample Input
FirmOrRecipient: Input address recipient or firm name.	<i>String</i>	CDYNE
PrimaryAddressLine: Input address number and street name.	<i>String</i>	2125 Smith Ave
SecondaryAddressLine: Input secondary line information.	<i>String</i>	Suite 200
Urbanization: Input urbanization(For addresses in Puerto Rico).	<i>String</i>	
ZipCode: Input ZIP Code.	<i>String</i>	23320
CityName: Input City name.	<i>String</i>	Chesapeake

State: Input State abbreviation.	<i>String</i>	VA
ReturnResidentialIndicator: Default - false. Set to true if residential information is required.	<i>Boolean</i>	True
ReturnMailingIndustryInfo: Default - false. Set to true if extended mailing industry information (Carrier Route, DPV footnotes, Delivery point, etc.) information is required.	<i>Boolean</i>	True
ReturnCityAbbreviation: Default - false. Set to true to return abbreviated city name	<i>Boolean</i>	True
ReturnStreetAbbreviated: Default - false. Set to true to return abbreviated street name.	<i>Boolean</i>	True
ReturnGeoLocation: Default - false. Set to true if geo location information is required.	<i>Boolean</i>	True
ReturnCensusInfo: Default - false. Set to true if census information is required.	<i>Boolean</i>	True
ReturnLegislativeInfo: Default - false. Set to true if legislative information is required.	<i>Boolean</i>	True
ReturnCaseSensitive: Default - false. Set to true to turn off default "all uppercase" return of street names.	<i>Boolean</i>	True
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: VerifyAddressAdvanced Output		
PavResponse structure		
Parameter Name	Data Type	Sample Output
ReturnCode: Operation result code.	<i>Integer</i>	1 -Invalid input 2 - Invalid License Key

		<p>10 – Input Address is not found 100 – Input Address is DPV confirmed for all components 101 – Input Address is found, but not DPV confirmed 102 –Input Address Primary number is DPV confirmed. Secondary number is present but not DPV confirmed 103 – Input address Primary number is DPV confirmed, Secondary number is missing. 200 – Canadian address on input. Verified on City level only.</p>
FirmNameOrRecipient: Returns building or firm recipient name when available.	<i>String</i>	CDYNE Corporation
PrimaryAddressLine: Returns corrected delivery address.	<i>String</i>	2125 SMITH AVE STE 202
SecondaryAddressLine: Returns secondary delivery address line (if applicable).	<i>String</i>	
CityName: Returns City.	<i>String</i>	CHESAPEAKE
StateAbbreviation: Returns State abbreviation.	<i>String</i>	VA
ZipCode: Returns ZIP Code.	<i>String</i>	23320-2518
County: Returns County name.	<i>String</i>	CHESAPEAKE CITY
CountyNum: Returns County number.	<i>String</i>	0
Urbanization: Returns address urbanization (for addresses in Puerto Rico, if applicable).	<i>String</i>	
Country: Returns address country (USA or Canada for version 3.0).	<i>String</i>	USA
Primary: Returns primary street house number.	<i>String</i>	2125
PrimaryEO: Returns code identifying if Post Office considers address even, odd or both. Odd (O), even (E), or both (B).	<i>String</i>	B
PrimaryLow: Returns low-end address of range of addresses.	<i>String</i>	2125
PrimaryHigh: Returns high-end address of range of addresses.	<i>String</i>	2125
Secondary: Returns number indicating suite, apartment, or	<i>String</i>	202

trailer number (if applicable).		
SecEO: Returns code for secondary address being odd (O), even (E), or both (B).	<i>String</i>	
SecondaryLow: Returns secondary low-end address of range of addresses.	<i>String</i>	
SecondaryHigh: Returns secondary high-end address of range of addresses.	<i>String</i>	
PreferredCityName: Returns preferred City name.	<i>String</i>	CHESAPEAKE
FinanceNumber: Returns USPS Finance Number.	<i>String</i>	
PreDirectional: Returns direction designation. Ex: N, S, E, W (if available).	<i>String</i>	
PostDirectional: Returns direction designation (after suffix). Ex: N, S, E, W (if available).	<i>String</i>	
Suffix: Returns address component. Ex: AVE, LN, DRIVE.	<i>String</i>	AVE
StreetName: Returns street name.	<i>String</i>	SMITH
SecondaryAbbreviation: Returns abbreviation for apartment, suite, or trailer number (if applicable) abbreviation list .	<i>String</i>	STE
PMBDesignator: Returns designator for private mail box.	<i>String</i>	PMB
PMBNumber: Returns number for private mail box.	<i>String</i>	7
PostnetBarcode: Returns Address Bar Code.	<i>String</i>	f233202518527f
IntelligentMailBarcodeKey: Returns a key that can be used to obtain Intelligent Mail Barcode using GetIntelligentMailBarcode method.	<i>String</i>	ZTVQibvZk2Jrcsi387W33A==
ResidentialDeliveryIndicator: Returns Residential indicator. Y – address is residential N – address is commercial. This indicator is returned only if ReturnResidentialIndicator was	<i>String</i>	Y

set to true.		
MultipleMatches: Returns up to 10 available records in case of multiple or default match.	<i>List of AddressInfo</i>	
MailingIndustryInfo: Returns advanced mailing industry information if ReturnMailingIndustryInfo parameter was set to true.	<i>MailingIndustryInfo</i>	
Filed below are part of the MailingIndustryInfo structure		
DpvConfirmationIndicator: Returns DPV indicator.	<i>String</i>	<p><empty string> –address not presented to DPV (means address was not found in USPS database).</p> <p>N – address is not DPV confirmed.</p> <p>Y – address is DPV confirmed.</p> <p>D – primary number is DPV confirmed, but secondary is not present.</p> <p>S- primary number is DPV confirmed, secondary number is present but not DPV confirmed.</p>
DPVFootnote1: Address matching footnotes.	<i>String</i>	<p>AA - address is matched to zip4.</p> <p>A1 – address is not matched to zip4.</p>
DPVFootnote2: Address matching footnotes.	<i>String</i>	<p>BB - address is matched to DPV (all components).</p> <p>CC – primary number is matched to DPV, secondary is present but matched.</p> <p>N1 – primary number is matched to DPV, secondary is missing.</p> <p>M1 – primary number is missing.</p> <p>M3 – primary number is invalid.</p> <p>U1 – address is matched to unique zip code.</p> <p>F1 – address is matched to military address.</p> <p>G1 – address is matched to general delivery address.</p> <p>P1 – input address PO, RR, or HC Box number is missing.</p> <p>P3 – input address PO, RR, or HC Box number is invalid.</p>

DPVFootnote3: Address matching footnotes.	<i>String</i>	RR - address matched to CMRA with secondary present. R1 - address matched to CMRA with secondary not present.
DpvNoStatIndicator: Returns NoStat.	<i>String</i>	Y or N
DpvVacantIndicator: Returns Vacant.	<i>String</i>	Y or N
DpvCrmaIndicator: Returns CRMA.	<i>String</i>	Y or N
RecordTypeCode: F=Firm, G=General Delivery, H=High-Rise, P=P.O. Box, R=Rural Route/Highway Contract, S=Street.	<i>String</i>	H
CarrierRoute: Returns Carrier Route ID.	<i>String</i>	C006
DefaultFlag: Returns default flag.	<i>String</i>	Y or N
EwsFlag: Returns early warning system indicator.	<i>String</i>	Y - address is in early warning system database. N - address is not in EWS <empty string> - not presented to EWS.
DeliveryPoint: Returns Delivery Point.	<i>String</i>	52
CheckDigit: Returns digit used in PostNet Barcode.	<i>String</i>	7
CSKey: Returns City State Key.	<i>String</i>	0
LACSFlag: Returns LACS flag.	<i>String</i>	Y - address has been converted by LACS.
LACSIndicator: Returns LACS Indicator.	<i>String</i>	L - input address has been matched to "L" marked record.
LACSReturnCode: Returns LACS Return code.	<i>String</i>	
SuiteLinkReturnCode: Returns SuiteLink Return Code.	<i>String</i>	0
ELOTAscDesc: Returns eLot ascending/descending code.	<i>String</i>	A or D
ELOTSequenceNumber: Returns eLot sequence number.	<i>String</i>	0002
CensusInfo: Returns US Census information if ReturnCensusInfo was set to true.	<i>CensusInfo</i>	
Filed below are part of the CensusInfo structure		
MA: Returns Metropolitan Area.	<i>String</i>	572
MSA: Returns US Census Metropolitan Statistical Area.	<i>String</i>	5720

CMSA: Returns US Census Consolidated Metropolitan Statistical Area.	<i>String</i>	5720
PMSA: Returns US Census Primary Metropolitan Statistical Area.	<i>String</i>	
FIPS: Returns Federal Information Processing Standard Code.	<i>String</i>	51550
CensusTractNum: Returns Census Tract Number.	<i>String</i>	0208.01
CensusBlockNum: Returns Census Block Number.	<i>String</i>	4001
LegislativeInfo: Returns US Legislative information if ReturnLegislativeInfo was set to true.	<i>LegislativeInfo</i>	
Fields below are part of the LegislativeInfo structure		
CongressDistrictNumber: Returns Congress District Number.	<i>String</i>	4
StateLegislativeUpper: Returns Upper Legislative District that address belongs to (Senate).	<i>String</i>	014
StateLegislativeLower: Returns Lower Legislative District that address belongs to (House).	<i>String</i>	090
GeoLocationInfo: Returns location based information if ReturnGeoLocationInfo was set to true.	<i>GeoLocationInfo</i>	
Fields below are part of the GeoLocationInfo structure		
FromLongitude: Returns 'from' longitude.	<i>String</i>	-76.228684
FromLatitude: Returns 'from' latitude.	<i>String</i>	36.794340
ToLongitude: Returns 'to' longitude.	<i>String</i>	-76.229660
ToLatitude: Returns 'to' latitude.	<i>String</i>	36.798348
AvgLongitude: Average longitude position for address.	<i>String</i>	
AvgLatitude: Average latitude position for address.	<i>String</i>	
HasDaylightSavings: Returns true or false if address location has Daylight Savings.	<i>Boolean</i>	
TimeZone: Returns Time Zone for	<i>String</i>	EST

area.		
AreaCode: Returns Area Code.	<i>String</i>	757

▼ **GetCityNamesForZipCode**

▼ Operation: GetCityNamesForZipCode Input		
Parameter Name	Data Type	Sample Input
ZipCode: Input ZIP Code.	<i>String</i>	23320
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

-Returns all possible City names for a ZIP Code as an array.

Operation: GetCityNamesForZipCode Output		
Parameter Name	Data Type	Sample Output
ReturnCode Return code.	<i>Integer</i>	0 – success 1 – invalid input 2 – invalid license 3 – no match
CityName Contains information on all available city names for the given zip code along with mailing and default indicator.	<i>List of City structure</i>	(If Available)

▼ **GetUrbanizationListForZipCode**

▼ Operation: GetUrbanizationListForZipCode Input		
Parameter Name	Data Type	Sample Input
ZipCode: Input ZIP Code.	<i>String</i>	23320
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

-Returns all possible Urbanization names for a ZIP Code as an array.

Operation: GetUrbanizationListForZipCode Output		
Parameter Name	Data Type	Sample Output
ReturnCode Return code.	<i>Integer</i>	0 – success 1 – invalid input 2 – invalid license 3 – no match
UrbanizationNames Contains information on all available urbanization names for the given zip code (for addresses in Puerto Rico).	<i>List of String</i>	(If Available)

GetZipCodesForCityAndState

-Returns all possible ZIP Codes for a City/State combination.

Operation: GetZipCodesForCityAndState Input		
Parameter Name	Data Type	Sample Input
City: Input City name.	<i>String</i>	Chesapeake
State: Input State abbreviation.	<i>String</i>	VA
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: GetZipCodesForCityAndState Output		
Parameter Name	Data Type	Sample Output
ReturnCode Return code.	<i>Integer</i>	0 – success 1 – invalid input 2 – invalid license 3 – no match
ZipCodes Contains information on all available zip codes for the given state and city name.	<i>List of String</i>	(If Available)

▼ GetCongressionalDistrictByZip

-Returns a Congressional District by Zip Code.

Operation: GetCongressionalDistrictByZip Input		
Parameter Name	Data Type	Sample Input
ZipCode: Input ZIP Code.	<i>String</i>	23320
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: GetCongressionalDistrictByZip Output		
Parameter Name	Data Type	Sample Output
ReturnCode Return code.	<i>Integer</i>	0 – success 1 – invalid input 2 – invalid license 3 – no match 4 – multiple match
CongressionalDistrict: Returns Congressional District.	<i>String</i>	04

▼ GetIntelligentMailBarcode

-Returns Intelligent Mail Barcode string using the key obtained from VerifyAddressAdvanced call.

Operation: GetIntelligentMailBarcode Input		
Parameter Name	Data Type	Sample Input
BarcodeIdentifier: Input barcode identifier.	<i>String</i>	12
ServiceTypeIdentifier: Input service type identifier.	<i>String</i>	123
MailerIdentifier: Input mailer identifier.	<i>String</i>	123456
SerialNumber: Input serial number.	<i>String</i>	123456789
IntelligentMailBarcodeKey: barcode key from VerifyAddressAdvanced.	<i>String</i>	ZTVQibvZk2Jrcsi387W33A==
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: GetIntelligentMailBarcode Output		
Parameter Name	Data Type	Sample Output
ReturnCode Return code.	<i>Integer</i>	0 - success 1 - invalid input
Barcode: Returns Intelligent Mail Barcode string.	<i>String</i>	TFDFATAADTAFATTDATTDFAFAAFFFFFFFAAFFTAAFATAT ADADFDDDTATFAATAFDFTDAA

▼ **GetZipCodesWithinDistance**

-Returns all zip codes within a Radius around a Lat/Long Geolocation.

Operation: GetZipCodesWithinDistance Input		
Parameter Name	Data Type	Sample Input
Latitude: Latitude coordinate from: -179.2311 to 179.8597	<i>String</i>	36.796768
Longitude: Longitude coordinate from: 17.8315 to 71.4411	<i>String</i>	-76.228590
Radius: In Miles (50 max).	<i>String</i>	1
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: GetZipCodesWithinDistance Output		
Parameter Name	Data Type	Sample Output
ReturnCode Return	<i>Integer</i>	0- Success

code.		1- Invalid Input 2- Invalid License Key 3- Returned 0 Zip Codes 4- Outside Of Latitude/Longitude Range
ZipCodes: Returns Array of Zip codes within Range.	<i>String</i>	23325 23320 23464

▼ **GetZipCodesForFips**

-Returns all zip codes within a FIPS.

Operation: GetZipCodesForFips Input		
Parameter Name	Data Type	Sample Input
FIPS: The Federal information processing standards code that represents the area or county of interest. http://www.census.gov/datamap/fipslist/AllSt.txt	<i>String</i>	51710
LicenseKey: See page 1 for more info.	<i>String</i>	F01d89fd-5155-5455-5585-e84ab8de8591

Operation: GetZipCodesForFips Output		
Parameter Name	Data Type	Sample Output
ReturnCode: Return code.	<i>Integer</i>	0- Success 1- Invalid Input 2- Invalid License Key 3- Returned 0 Zip Codes
ZipCodes: Returns Array of Zip codes related to FIPS	<i>String</i>	23501 23502 23503