Oracle® Enterprise Data Quality

Oracle Enterprise Data Quality Address Verification Server Release Notes

Release 14.x, 15.x, 16.x

E78145-02

October 2016

This document contains cumulative release information for Oracle Enterprise Data Quality (EDQ) Address Verification Server Release 14.x and 15.x and includes the following:

Oracle recommends you review its contents before installing or working with the product.

1 Release 16.3.1 October 2016

This zip file contains the installers required to install the Oracle Enterprise Data Quality Address Verification Server API (EDQ AV) onto a server that already has Oracle Enterprise Data Quality (EDQ) installed.

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 16.3.1.

1.1 New Features

This release includes the following new features and improvements:

1.1.1 Casing for Roman Numerals

Roman numerals in addresses were often previously converted to proper case rather than retained as upper case (for example IV changed to Iv). This has been corrected such that Roman Numerals are retained as upper case.

1.1.2 Improved Matching on Thoroughfares with Directional

Matching has been improved for thoroughfares with directional indicators to provide higher confidence matching for thoroughfares such as 'N. 10th Ave' matching to '10th Ave N'.

1.1.3 Conditional Formatting for Korea

This improvement improves the output of verified Korean addresses by outputting Dependent Localities in the formatted address where appropriate.

1.1.4 United Kingdom Alias Data

This improvement adds the use of new UK reference data that includes known aliases for addresses. Aliases are normally house or organization names that are not needed for mailing purposes but may be considered as a part of the address on either input or output. This improves both verification and search capability for UK addresses.

1.2 Data Updates

It is necessary to update both the EDQ AV software and the Loqate data packs to access the improvements in this release. Improvements to the Loqate data packs have been made for a number of countries at this release.

To download and install the latest data packs, please run the Loqate Install Manager after installation of this release and enter your Loqate license key.

Installation and upgrade instructions are available at:

http://docs.oracle.com/middleware/1213/edq/DQAVI/dqavi.htm

If you have any problems, please contact Oracle support.

1.3 Known Issues

None.

2 Release 16.2 October 2016

This zip file contains the installers required to install the Oracle Enterprise Data Quality Address Verification Server API (EDQ AV) onto a server that already has Oracle Enterprise Data Quality (EDQ) installed.

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 16.2.

2.1 New Features

This release includes the following new features and improvements:

2.1.1 Search Fixes

Improvements have been made to Address Verification processing when running in Search mode. The important improvements include:

- The SimpleParse search algorithm has been improved for better handling of input addresses when constructing query statements.
- Two new options have been added to prevent longer processing times and limit the processing where there are a large number valid contextual combinations and candidate results.

2.1.2 RecordBaseTimeout

This option limits the time taken processing the list of candidate records. The value set for this option is in milliseconds. It is recommended that this is set to 3000 for effective processing with acceptable quality of results. This option should be used in combination with the ResultBaseTimeout option.

2.1.3 ResultBaseTimeout

This option limits the time taken in processing of contextual combinations. The value set for this option is in milliseconds. It is recommended that this is set to 10000 for effective processing acceptable quality of results. This option should be used in combination with the RecordBaseTimeout option.

2.2 Other Updates

For a comprehensive list of issues resolved in this release, please visit
http://www.loqate.com/support/releasenotes/2016Q2cases/

2.3 Data Updates

It is necessary to update both the EDQ AV software and the Loqate data packs to access the improvements in this release. Improvements to the Loqate data packs have been made for a number of countries at this release.

To download and install the latest data packs, please run the Loqate Install Manager after installation of this release and enter your Loqate license key.

Installation and upgrade instructions are available at:

http://docs.oracle.com/middleware/1213/edq/DQAVI/dqavi.htm

If you have any problems, please contact Oracle support.

2.4 Known Issues

None.

3 Release 16.1 March 2016

This zip file contains the installers required to install the Oracle Enterprise Data Quality Address Verification Server API (EDQ AV) onto a server that already has Oracle Enterprise Data Quality (EDQ) installed.

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 16.1.

3.1 New Features

This release includes the following new features and improvements:

3.1.1 Automatic Country Identification

The address verification and search engine now includes the ability to attempt to determine the likely country of an address if the country is not input, using other input information such as Locality, Administrative Area, Postal Code, or the character set of the data. Automatic Country Identification is not enabled by default, but can be enabled using the new `EnhancedCountryTool` option. See New Options in Release 16.1 below.

Table 1 New Options in Release 16.1

New Option	Possible Values
`EnhancedCountryTool`	`ON/True` – EDQ AV will attempt to determine the country (where not input) based on alternative input information `OFF/False` (default) – EDQ AV will only use the input country

3.2 Other Updates

For a comprehensive list of issues resolved in this release, please visit `http://www.loqate.com/support/releasenotes/2016Q1cases/`

3.3 Data Updates

It is necessary to update both the EDQ AV software and the Loqate data packs to access the improvements in this release. Improvements to the Loqate data packs have been made for a number of countries at this release.

To download and install the latest data packs, please run the Loqate Install Manager after installation of this release and enter your Loqate license key.

Installation and upgrade instructions are available at:

`http://docs.oracle.com/middleware/1213/edq/DQAVI/dqavi.htm`

If you have any problems, please contact Oracle support.

3.4 Known Issues

None.

4 Release 15.3 October 2015

This zip file contains the installers required to install the Oracle Enterprise Data Quality Address Verification Server API (EDQ AV) onto a server that already has Oracle Enterprise Data Quality (EDQ) installed.

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 15.3.

4.1 New Features

This release includes the following new features and improvements:

4.1.1 Duplicate Input Handling

The address parsing engine has a new feature to handle duplicate data in input addresses. Address elements that contain duplicates in input cause slower processing and complicate parsing. Duplicate input handling is not enabled by default, but can be enabled using the new `DuplicateHandlingMask` option. The option can be configured by enabling various levels of handling duplicate inputs. See Table 2, " New Options in Release 15.3".

4.1.2 South Korea: New Postal Format

South Korea has recently changed its postal address format. The new format includes different numbering systems, thoroughfare types, and a shift from 6-digit postcodes to 5-digit postcodes. Starting with the 15.3 release, EDQ Address Verification is now compatible with the new format.

The new format is automatically included in the standard Korean data set (DSVKOR). The functionality is as follows:

- Input addresses that are compliant with the new format will be verified and output according to the new format, including all new names and 5-digit postcodes.
- Input addresses that are compliant with the old format will be verified and output according to the old format. However, if the address' 6-digit postcode has been replaced by a 5-digit postcode then the 5-digit postcode will be output instead.

The change in formats may cause a regression in EDQ Address Verification's ability to geocode addresses in Korea.

4.2 Other Updates

For a comprehensive list of issues resolved in this release, please visit:
http://www.loqate.com/support/releasenotes/2015q3cases

4.3 Data Updates

It is necessary to update both the EDQ AV software and the Loqate data packs to access the improvements in this release. Improvements to the Loqate data packs have been made for a number of countries at this release.

To download and install the latest data packs, please run the Loqate Install Manager after installation of this release and input your Loqate license key.

Installation and upgrade instructions are available at:

http://docs.oracle.com/middleware/1213/edq/DQAVI/dqavi.htm

If you have any problems, please contact Oracle Support.

4.4 Known Issues

Verification and correction effectiveness issues have been found at this release for addresses in Australia and South Korea, and are under investigation. Customers with addresses predominantly in these countries should consider skipping this release.

5 Release 15.2 May 2015

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 15.2.

5.1 New Features

This release includes the following new features and improvements:

5.1.1 New Options

Search mode has been improved to enable the use of options to control its behavior. Search mode uses several algorithms that return results based on different criteria. From this release, new options (in the table below) are available to drive how searching for valid addresses is performed. These options and their values should be specified in the EDQ Address Verification processor's Additional Options box on the Options tab of the processor.

Table 3 Search Mode Options

New Option	Possible Values	Notes
OutputSortType	AVC (default), Alphabetical, Similarity	AVC will sort the results by the Address Verification Code, with the 'best' results returned first. Alphabetical will return results sorted alphabetically. Similarity will sort the results by Similarity, with the closest matches to the input data returned first.
SearchAutoCompleteIndexCheck	Yes (default), No	Specifies whether or not to use the Powersearch autocomplete indexes. These will only function if the Loqate Address Powersearch data is licensed and installed. If the Powersearch data is not installed, the algorithm will be skipped and Search will jump to the next function. The Powersearch method is faster and designed for incomplete input data.
AutocompleteIndexOnly	Yes, No (default)	If set to Yes, this will stop any other Search algorithms being called. If No, and the Powersearch data for a given country is not installed, Search will skip to conventional Search methods.
SearchLikeFieldCheck	Yes (default), No	Specifies whether or not to use the *like field* algorithm. This option looks for an exact field match in the address field which is useful for single items such as postal codes, building names, organization names, etc.

Table 3 (Cont.) Search Mode Options

New Option	Possible Values	Notes
SimpleParse	Yes (default), No	Specifies whether or not to use the *simple parse* algorithm. This option looks for something like premise and street in the `address` input, but is not particularly tolerant of invalid input data.
CombinedSearch Methods	Yes (default), No	Specifies whether or not to use a word-based search algorithm, similar to a web search engine approach.
MinimumSimilarity	0-100 (default=70)	This allows the user to set the threshold for search results to be returned. The lower the threshold, the larger the number of input characters that do not need to exist in the output result.

5.1.2 Sample Data

Starting from this release, EDQ AV will include a sample data set with every installation, before the license and installation of complete data files for a given country, provided the `Sample US Data` option is ticked in the EDQ AV Installer. The sample data is a small subset of the larger US data pack and only includes reference data for Sacramento County, California. It will be installed as a folder named /data where the EDQ AV files are installed. The /data folder contains one file for the US verification reference data as well as files for the lexicons and context rules.

In order to help test the sample data, an additional sample input data file named sample.txt will also be installed where EDQ AV is installed. This file contains example addresses that are in the reference data and can be used to test correct installation.

5.1.3 Evaluation License Expiration Enforcement

Starting with this release, EDQ AV will start enforcing the expiration date for evaluation licenses of the Loqate data packs. Once an evaluation license of the data packs expires, EDQ AV will not be able to verify addresses for the countries covered within that license. If your evaluation license has expired, please contact Loqate and request for it to be renewed.

5.1.4 Crash Fixes

An issue was identified where an EDQ AV server running with multiple threads on SPARC or SOLARIS would sometimes crash. This has been resolved.

5.1.5 Other Updates

For a comprehensive list of issues resolved in this release, see `http://www.loqate.com/support/releasenotes/2015q2cases`.

5.1.6 Data Updates

It is necessary to update both the EDQ AV software and the Loqate data packs to access the improvements in this release. Improvements to the Loqate data packs have been made for a wide range of countries at this release, and especially for China.

To download and install the latest data packs, run the Loqate Install Manager after installation of this release and input your Loqate license key.

5.2 Need Help?

For more information on the new features and improvements in this release, and to access complete documentation of the address verification APIs, please make sure to register at:

http://www.loqate.com/oracle/

This website gives you full access to all technical information.

5.3 Installation

Please note that this version (15.2.0.0.0) of EDQ AV may require you to update your version of EDQ for compatibility purposes. Please consult the following table for a guide to compatibility:

Table 4 EDQ Compatibility

EDQ Address Verification Server Version	Required EDQ Version
12.x, 13.x, 14.1.0.0.0	EDQ 9.0.7 or later, EDQ 11.1.1.7.3 or later, or EDQ 12.1.3 or later
14.2.0.0.0, 14.3.0.0.0, 14.4.0.0.0, 15.1.0.0.0, 15.2.0.0.0	EDQ 9.0.10 or later, EDQ 11.1.1.7.4 or later, or EDQ 12.1.3 or later

You can find installation instructions in the *Oracle Enterprise Data Quality Address Verification Server Installation and Upgrade Guide* at

http://docs.oracle.com/middleware/1213/edq/index.html

6 Release 15.1 February 2015

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 15.1.

6.1 New Features and Improvements in 15.1

This release includes the following new features and improvements:

6.1.1 Faster Verification for Germany and China

In Release 14.4, we introduced a new hash index for the US. In Release 15.1, the hash index was extended to Germany and China. The hash index is built to support faster verification for addresses that match the reference data exactly. Other countries may be supported in future releases.

The hash index helps improve verification performance significantly on input that matches reference data.

6.1.2 Improved Title Casing for All Countries

In Release 14.4, intelligent title casing was introduced for the US and Australia. This feature resulted in output having proper casing for all verified fields. This feature has been extended to all countries in Release 15.1. This includes upper-cased Roman numerals and upper-cased directional words.

6.1.3 Premium India Data

In this release, we introduced premium data for India. Premium India data provides better verification and geocoding than regular India data.

7 Release 14.4 December 2014

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 14.4.

7.1 New Features and Improvements in 14.4

This release includes the following new features and improvements:

7.1.1 Faster Verification for US

In this release, we introduced a new Hash Index for US. The hash index is built to support faster verification for addresses that match the reference data exactly. Other countries will be supported in future releases.

For example, if the input address is "999 Baker way, Ste 320, San Mateo, CA, 94404," then the hash index will be used to verify the address before using the match tool.

Hash Index helps improve verification performance significantly on input that matches reference data.

7.1.2 Address Powersearch for Japan

Japan was one of the few countries not to receive a Powersearch data pack in our previous release. This data pack has now been compiled and will be added to our product list.

7.1.3 Native Address Powersearch Formatting for China, Japan, and Korea

Addresses in Japan start with the postal code instead of the premise number, as is common in most other countries. Our Powersearch indexes previously required all input to Powersearch to start with a premise number in order to be auto-completed accurately.

Now Powersearch will be able to auto-complete addresses that are in native format when the input is in the respective native script. This is an ongoing effort and should extend to other countries in future releases.

7.1.4 Improved Title Casing for the US, Australia, and Canada

Casing and capitalization can be an issue with many addresses. Users often capitalize the wrong word, or forget to capitalize the necessary ones which can make the address harder to read or process. Our GKR will now be able to assign the correct casing to addresses in the US, Australia, and Canada even in cases where the user completely neglected to do so.

7.1.5 Improved Parsing with Phonetic Lexicon

In this release, we added phonetic lexicons to help improve the parsing and therefore improve the verification quality.

Phonetic lexicons are able to handle homonyms and spelling errors with better accuracy than our previous methods. For example, a phonetic lexicon will be able to recognize *Baltamor* as *Baltimore* by itself, rather than having to depend on hardcoded rules. This should enable the engine to correct misspellings that were not explicitly included in our GKR rules.

7.1.6 New Server Options

This release includes the following new server options:

- **SearchAutocompleteIndexCheck**: this option allows the user to control if the search process should use the Powersearch auto-complete index files. The default is ON. The option should be set to 0 or OFF to have the search process not use Powersearch auto-complete index files. The option should be set to 1 or ON for the search process to use the Powersearch auto-complete index files. This can also be used as a process option.
- **AutocompleteIndexOnly**: this option allows the user to specify whether the search process should use Powersearch auto-complete index ONLY. The default is OFF. The option should be set to 0 or OFF to allow search tool to also use the parser and match tool when the auto-complete index cannot find any results. The option should be set to 1 or ON to allow the search tool to use the Powersearch auto-complete index files. This can also be used as a process option.
- **FlexiconCountryList**: this option allows the user to specify a comma separated list of ISO 3166-1 alpha-3 country codes for which phonetic lexicons (described above) is enabled for parsing. Default value is empty which means that the phonetic lexicons are not enabled for any country by default.

7.1.7 New Process Options

This release includes the following new process options:

- **HashCheck**: this option controls whether the Verify process will use the hash index or not. The default is ON. If the option is set to 0 or OFF, then the Verify Process will not use the Hash Index during verification.

7.2 General Suggestions and Tips

For the best results, install this release as soon as your application development cycle allows it. This release makes improvements in both the throughput of the verification process and the quality of the results.

Remember to update both the program files and the reference data. The improvements in the Loqate Engine are tied to the data in the Global Knowledge Repository and the combination works better. If you cannot update both in your application, contact support prior to upgrading so we can help you.

8 Release 14.3 September 2014

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 14.3.

8.1 New Features and Improvements in 14.3

This release includes the following new features and improvements:

8.1.1 Address Powersearch™ Improvements

The new Address Powersearch™ functionality has been expanded to cover most countries worldwide. It provides faster, more accurate address capture and verification to improve customer service and reduce the costs associated with inaccurate address data. Note that the Powersearch feature requires the purchase of additional data files from Loqate.

Here is an overview of how Address Powersearch works. When you call Address Verification using the Search option from EDQ, the Address Verification Engine will first look for the corresponding auto-complete index in the Powersearch data files. If present, the method will attempt to return a list of candidate addresses instantly. If the index is not present, or if the index does not return any results, the older search process will be triggered.

Auto-complete indexes use only the first 10 characters to search within the US data set. The other supported countries use up to 15 characters to search. Address Powersearch will return the best information currently available. Some countries¿ data packs might not have addresses more precise than the street or locality levels. In those countries, Address Powersearch will accept the street or city name as input, and return the complete name with any additional information available.

Address Powersearch now covers all countries in the world except for India, Japan, Botswana, Ethiopia, San Marino, Saint Kitts and Nevis, Malaysia, Mongolia, and Kazakhstan.

Auto-complex index files can be downloaded via the Loqate Install Manager. Note that you will likely need to upgrade your license in order to be granted access to the Powersearch data for the countries you require.

It is important to note that the results returned can only be as comprehensive as the underlying reference data available for a country. Please consult the Data Coverage documentation to see the level of coverage in any countries of interest:

http://www.loqate.com/datacoveragesummary/

8.1.2 Improved Handling of Incorrectly Formatted Input Queries During Search

In the 2014Q2.0 release, we introduced improved parsing and spelling correction to the Verify option. This functionality has now been added to the Search option, providing better results where input is not recognizable as a standard address structure. For example, in the string `san francisco 300 berry usa', the order of the address elements is incorrect. The additional capability here will now provide more accurate results.

The parsing recognition has also been improved to handle compressed data, common in database systems with limited field lengths (for example, `SANFRANCISCO' instead of `SAN FRANCISCO').

8.1.3 Improved Alias Handling During Search

In this release, Search is better able to handle partial input with non-postal standard aliases. For instance, `1303 Nerine Circle' or `2100 W Point Avenue' in the US – the postal standards are Cir and Ave respectively, but now Search is able to provide better results in these situations with partial input.

The improved handling of incorrectly formatted input queries and improved alias handling during Search are controlled by the CombinedSearchMethods option. This option is set to YES (or ON or TRUE or 1) by default and will improve the quality of results.

There are also a wide range of Reference Data improvements in the compatible 2014Q3.0 data files from Loqate.

8.2 General Suggestions and Tips

Please remember to update both the program files (available in this zip file) and the global knowledge repository data files, available from Loqate. This release requires data files at version 2014Q2.0 or later. The improvements in the engine are tied to the data in the Global Knowledge Repository and the combination works better. If a reason exists in your application that both cannot be updated, please contact Oracle Support prior to upgrading so we can help you.

9 Release 14.2 May 2014

The following are the release notes for Oracle Enterprise Data Quality Address Verification Server Release 14.2.

9.1 New Features and Improvements in 14.2

This release includes the following new features and improvements:

- New Address Powersearch™ : Instant single line search results for 29 countries. *Note*: This feature requires the purchase of additional data files from Loqate.
- Flexible spelling correction during verification.
- Improved geocoding for Brazil.
- Performance improvements for better throughput in batch processing.

There are also a wide range of Reference Data improvements in the compatible 2014Q2.0 data files from Loqate.

9.2 Known Issues

This release will not work correctly with versions of EDQ prior to 9.0.10 or 11.1.1.7.4. If EDQ AV 14.2.0.0.0 is installed on a server running EDQ 11.1.1.7.3 or 9.0.9 (for example), the Address Verification processor will fail to load, and there will be an error in the log file stating that the version is incompatible. This is due to bug 18139586 in EDQ that has been fixed in EDQ 11.1.1.7.4 and 9.0.10.

10 Release 14.1 March 2014

The following is release information for Oracle Enterprise Data Quality Address Verification Server Release 14.1.

10.1 New Features and Improvements in 14.1

This release includes the following new features and improvements:

- Point-level geocoding for USA, Brazil, and Bosnia and Herzegovina
- Geocoding improvements; new `MaximumGeoDistance` and `MinimumGeoAccuracy` options
- New `ReturnDataType` and `SuppressMatchFields` options that provide more flexibility on Search and Verify modes respectively
- Improved Reference Data for New Zealand, Australia, Canada, and US
- Parsing improvements for Brazil, Canada, and US
- Transliteration improvements

10.2 Known Issues and Workarounds

The following are known issues and any workarounds in this release:

On 32-bit environments with more than 1024 MB of memory allocated to the EDQ Application Server's Java heap, a process with more than one instance of the Address Verification processor may attempt to use more memory than is available causing the application server to crash.

Extensive testing has not revealed this issue on any 64-bit environments, nor with any processes featuring a single instance of the Address Verification processor.

To be certain that you avoid this issue, Oracle recommends that you always run EDQ in 64-bit environments with sufficient memory to support both it and the additional Address Verification Server. For detailed requirements, contact Oracle support.

11 Related Documents

For more information, see the following documents in the Oracle Enterprise Data Quality documentation set:

- *Oracle Enterprise Data Quality Address Verification Server Installation and Upgrade Guide*

See the latest version of this and all documents in the Oracle Enterprise Data Quality Documentation website at

http://download.oracle.com/docs/cd/E48549_01/index.htm

12 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

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