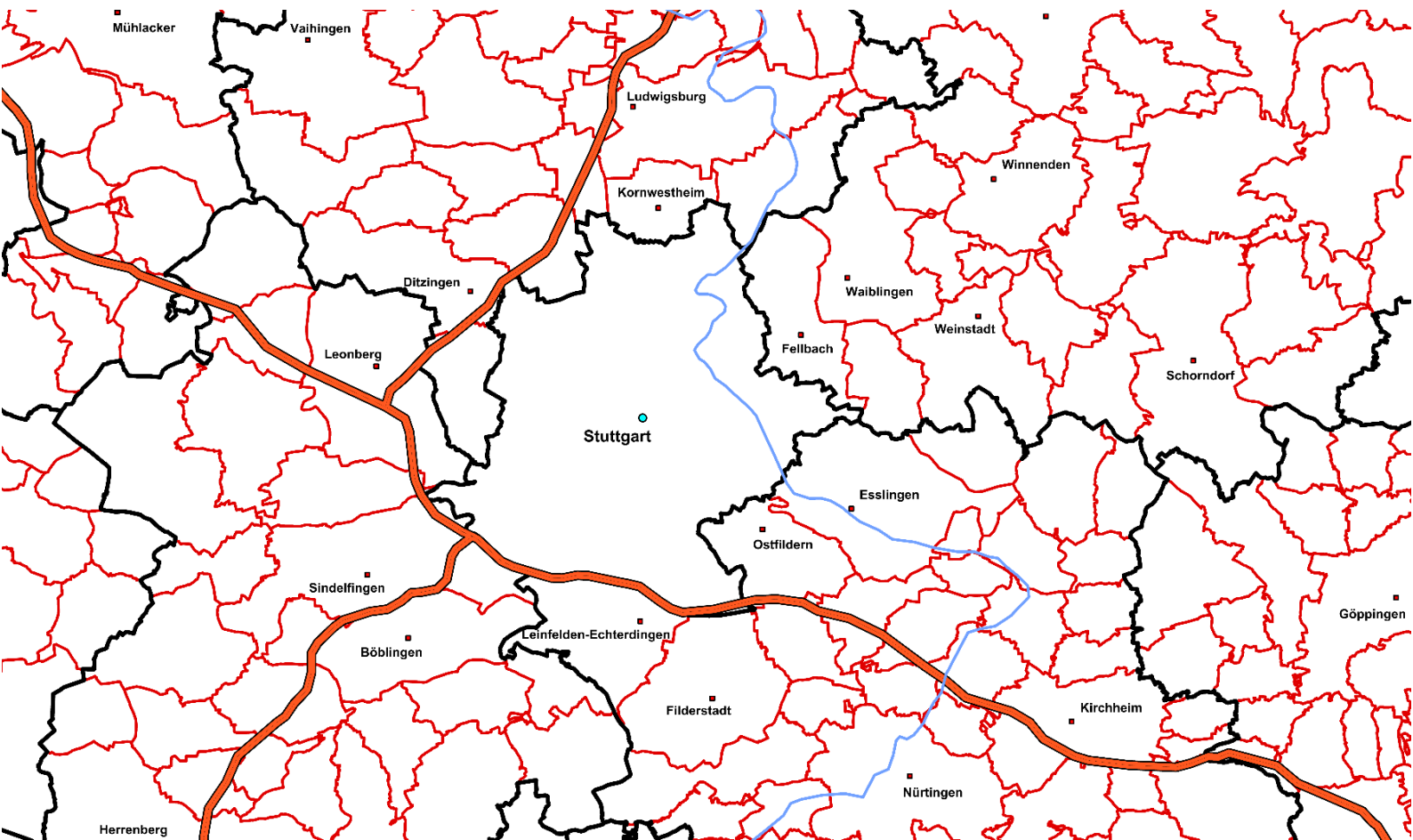


## PTV Admin Boundaries



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# 1 Introduction

Once a year PTV Logistics releases the product PTV Admin Boundaries which, in addition to the municipal boundaries, also includes the boundaries of the districts, administrative districts and federal states. This document provides an overall product specification, however with the notion that these are global directions that are not applicable in every region in the world. Regional differences to the global rules will exist, but all content should comply with the overall product specification.

PTV Admin Boundaries has a flexible standalone and aligned layered architecture. Administrative features are delivered as stand-alone content layers. The features are not directly embedded in the overall map database, but instead are delivered as dedicated stand-alone map layers. The product is further divided into two layers: Base and Enhanced.

The data set PTV Admin Boundaries is based on HERE Administrative Boundaries. The data is built on the most accurate and reliable information possible. However, data gaps or errors cannot be excluded.

This general documentation was last edited in March 2024, specific changes can be found in the corresponding release notes. The territory status depends on the revision date of the respective country.

## 2 General information on the data record

Product name:	PTV Admin Boundaries
Content of the data record:	Administrative boundaries in different levels of detail
Coverage:	Global
Subset possible:	Yes
Source:	HERE Technologies, Amsterdam; PTV Logistics GmbH, Karlsruhe
Data type:	Admin boundaries
Geometry type:	Polygon
Status of the data:	Depending on the time of the last country update, see release notes
Standard data format:	ESRI-Shape, MapInfo TAB, FGDB (upon request)
Projection/Datum information:	Projection Geographic Datum World Geodetic System 1984 (WGS84) Units Decimal degrees (Precision Five decimal degrees)
Language:	English
Update interval:	Annual

## 3 Overview

This chapter introduces all the contents and their format in order to understand the layer correctly and to be able to use it afterwards.

### 3.1 Base and Enhanced Layers

The product is further divided into two layers: Base and Enhanced

Base layer is characterized by the following:

- Generated from HERE's core map administrative features.
- Built-up Areas (*Feature Type (900156)*) is represented as polygons.
- Hydrography is enhanced to better reflect reality.

Enhanced layer is characterized by the following:

- Generated from Base layer.
- Polygons are positionally enhanced.
- Hydrography is provided with more detail per source.

**Note:** Misalignment can be expected between countries where one is rendered as Enhanced among others as Base.

### 3.2 Design Overview

The product is designed considering the following:

- Relational design concept (like RDF).
- Product design by thematic layer. The product content can differ per layer.
- Classification of administrative features through a hierarchical, multi-layered model, where depth of the classification hierarchy is dependent on the amount of data regionally required or desired.
- Ability to represent regional differences in the type of administrative features and corresponding attribution.
- Standard representation of bilingual/multilingual areas, and disputed areas.
- Definition of three hierarchical spanning administrative layers per country worldwide (where available).
- Availability of different levels of generalisation for each of the administrative layer groups, i.e., EAB-Base and EAB-Enhanced Administrative layers. The generalised layers are zoom level dependent. Four generalisation levels will be available: Base view L20 (ungeneralised), L30, L50, L70.
- Topology correctness (i.e., OGC compliance) and alignment between different types of boundaries. Alignment rules are defined on a feature basis and can differ between layers as well as within layers.

### 3.3 Conceptual Model

The initial phase of the product contains the following layers:

1. Government Admin: These boundaries typically represent the governmental authority of a given area: national boundary, state boundary, etc. (i.e., Country Admin, Other Government)
2. Known Area: These boundaries typically represent less formal but locally recognized areas like neighbourhoods.

### 3.4 Definitions, Acronyms and Abbreviations

Term	Definition
CaaS	Content as a Service
OGC	Open Geospatial Consortium

## 4 Content and Field Description

The PTV Admin Boundaries product includes the following:

- Geometry of different levels of generalisation
- Hierarchical Association – parent/child boundary concept
- Indication of at least three hierarchical spanning administrative layers per country worldwide (where available)
- Indication of which administrative level an Administrative Area is the capital
- Population of cities and municipalities
- Indication of official country and governmental administrative levels.
- References to Core Map through Area ID's, including corresponding Feature Type
- Disputed views: International view versus regional views.
- References that define an area, e.g., Government Codes, FIPS Codes, etc., per source
- Points at the center of the polygons for attaching labels, annotations, etc.
- Time Zone and DST Observance information

The above-listed content is modelled via the following set of attributes:

- Generalisation Level
- ISO Country Code
- Area ID
- Disputed Area View
- Actual Admin
- Feature Class
- Feature Description
- Feature Type
- Parent Feature ID
- Parent Feature Class
- Parent Feature Description
- Capital Indicator
- Population
- Naming: Base Name, Exonyms, Abbreviations, and Transliterations.
- Language Code
- Reference ID/Reference Type
- Latitude and Longitude of the Label Point
- Time Zone

- DST information

The following will be populated in the Base Layers at a minimum:

- Feature Type
- Capital Indicator
- Population
- Time Zone
- DST Observance information

## 4.1 Schema

Dedicated Layers are defined for official, i.e., governmentally defined Administrative Boundaries. These layers contain the ungeneralised boundary geometry for each administrative feature that exists nationally, as well as other government features defined by local governments. These layers include the preferred base name, base name transliterations if applicable, and attributes.

The geometry and names are stored in their respective layers as described in the table below:

Boundary Information	Layer Name	Remarks
Ungeneralised Country Administrative	<REGION>_CA_L20	Continental files.  Layer names are prefixed with <REGION>, e.g., Americas, APAC, and EMEA; suffixed with L20, the level at which ungeneralised view is rendered.
Ungeneralised Other Government	<REGION>_OG_L20	
Known Area	<REGION>_KA_L20	
Generalised Country Administrative	CA_L30 CA_L50 CA_L70	Global files
Generalised Other Government	OG_L30 OG_L50 OG_L70	Global files  Note: Not yet populated in the initial phase of the product
Daylight Saving Time Information	DSTInformation	
Alternate Feature Names	AlternateFeatureNames	
References	References	

Alternate names and transliterations are stored in a separate Alternate Feature Names Layer.

Reference information is also stored in a separate layer to allow for multiple Reference IDs to be stored for one polygon.

As a general rule, numeric and text fields are populated with “0” and “”, respectively, when there is no data.



## 4.2 Layers/Table Overview

In the following tables the attributes of the different layers are described. For more detailed information please get in touch.

### Ungeneralised Geometry Layer

The following table contains the structure and semantics applicable to the following layers:

- <REGION>\_CA\_L20
- <REGION>\_OG\_L20
- <REGION>\_KA\_L20

Attribute	Field Name	Description	Format
Shape	SHAPE	Indicates the type of geometry available.	CLOB
Feature ID	FEATURE_ID	Unique identifier for the feature (primary key).	Text(36)
Area ID	AREA_ID	Reference to the Core Map Admin Place PVID.	Numeric(10)
ISO Country Code	ISO_CODE	ISO country code of the polygon.	Text(3)
Feature Name	FEAT_NAME	Preferred base name of the feature.	Text(250)
Language Code	LANG_CODE	Language code of the preferred base name.	Text(3)
Transliterated Name	TRANS_NAME	Transliterated name of the preferred base name (if applicable).	Text(250)
Transliterated Type	TRANS_TYPE	Transliteration type of the transliterated base name.	Text(3)
Actual Admin	ACTUAL_ADM	Indicates the type of the actual admin boundary that is used to fill a non-existent area boundary to render a spanning view.	Text(250)
Disputed Area View	DISPU_VIEW	Indicates the country/state view of areas under dispute where different from the international view.	Text(250)
Feature Class	FEAT_CLASS	Numeric representation for a specific type of feature.	Numeric(10)
Feature Description	FEAT_DESCR	Represents the country or regional name of the Feature Class value.	Text(250)
Parent Feature ID	PRNTFT_ID	Unique identifier for the parent feature. This is the FEATURE_ID of the parent feature.	Text(36)
Parent Feature Class	PRNTFT_CL	Defines the hierarchical relationship between governmental Admin boundaries within a country.	Numeric(10)
Parent Feature Description	PRNTFT_DSC	Represents the country or regional name of the parent Feature Class value.	Text(250)
Label Point Latitude	LABEL_LAT	The latitude for the position of the Label Point.	Numeric(10)

Label Point Longitude	LABEL_LON	The longitude for the position of the Label Point.	Numeric(10)
Feature Type	FEAT_TYPE	Indicates the Core Map feature that corresponds to an Enterprise Boundary feature, via Feature Type value.	Numeric(7)
Capital Indicator	CAPITAL_IND	Identifies an Administrative level of which an Administrative Area is the capital.	Text(1)
Population	POPULATION	Indicates the number of inhabitants of an Administrative area.	Numeric(10)

### Generalised Geometry Layer

The following table contains the structure and semantics applicable to the following layers:

- CA\_L30
- CA\_L50
- CA\_L70
- OG\_L30
- OG\_L50
- OG\_L70

Attribute	Field Name	Description	Format
Shape	SHAPE	Indicates the type of geometry available.	CLOB
Feature ID	FEATURE_ID	Unique identifier for the feature (primary key).	Text(36)
Area ID	AREA_ID	Reference to the Core Map Admin Place PVID.	Numeric(10)
ISO Country Code	ISO_CODE	ISO country code of the polygon.	Text(3)
Feature Name	FEAT_NAME	Preferred base name of the feature.	Text(250)
Language Code	LANG_CODE	Language code of the preferred base name.	Text(3)
Transliterated Name	TRANS_NAME	Transliterated name of the preferred base name (if applicable).	Text(250)
Transliterated Type	TRANS_TYPE	Transliteration type of the transliterated base name.	Text(3)
Actual Admin	ACTUAL_ADM	Indicates the type of the actual admin boundary that is used to fill a non-existent area boundary to render a spanning view.	Text(250)
Disputed Area View	DISPU_VIEW	Indicates the country/state view of areas under dispute where different from the international view.	Text(250)
Feature Class	FEAT_CLASS	Numeric representation for a specific type of feature.	Numeric(10)
Feature Description	FEAT_DESCR	Represents the country or regional name of the Feature Class value.	Text(250)

Parent Feature ID	PRNTFT_ID	Unique identifier for the parent feature. This is the FEATURE_ID of the parent feature.	Text(36)
Parent Feature Class	PRNTFT_CL	Defines the hierarchical relationship between governmental Admin boundaries within a country.	Numeric(10)
Parent Feature Description	PRNTFT_DSC	Represents the country or regional name of the parent Feature Class value.	Text(250)
Label Point Latitude	LABEL_LAT	The latitude for the position of the Label Point.	Numeric(10)
Label Point Longitude	LABEL_LON	The longitude for the position of the Label Point.	Numeric(10)
Feature Type	FEAT_TYPE	Indicates the Core Map feature that corresponds to an Enterprise Boundary feature, via Feature Type value.	Numeric(7)
Capital Indicator	CAPITAL_IND	Identifies an Administrative level of which an Administrative Area is the capital.	Text(1)
Population	POPULATION	Indicates the number of inhabitants of an Administrative area.	Numeric(10)
Generalisation Level	GEN_LEVEL	Indicates the level of generalisation applied to the polygons within the generalised layers.	Numeric(2)

### DST Information (DSTInformation)

The following table for the DST Information contains the structure and semantics applicable to the following layers:

- CA\_L30
- CA\_L50
- CA\_L70
- OG\_L30
- OG\_L50
- OG\_L70

Attribute	Field Name	Description	Format
Feature ID	FEATURE_ID	Feature ID is a reference to a Feature. (Foreign Key to the Geometric Layers)	Text(36)
Time Zone	TIME_ZONE	Time Zone, defined in hours and minutes, with an offset from UTC, indicates the Time Zone in which an Admin Feature is located.	Text(4)
DST Observed	DST_OBSVD	Indicates if the administrative area observes Daylight Saving Time (DST).	Boolean(1)
DST Start Day	DST_ST_DAY	Day of Year when Daylight Saving Time starts.	N(2)

DST Start Weekday	DST_ST_WDY	Day of Week when Daylight Saving Time starts.	N(1)
DST Start Month	DST_ST_MON	Month when Daylight Saving Time starts.	N(2)
DST Start Time	DST_ST_TM	Time in specified day when Daylight Saving Time starts.	N(4)
DST End Day	DST_EN_DAY	Day of Year when Daylight Saving Time ends.	N(2)
DST End Weekday	DST_EN_WDY	Day of Week when Daylight Saving Time ends.	N(1)
DST End Month	DST_EN_MON	Month when Daylight Saving Time ends.	N(2)
DST End Time	DST_EN_TM	Time in specified day when Daylight Saving Time ends.	N(4)

### Alternate Feature Names Layer (AlternateFeatureNames)

This layer publishes Alternate names and transliterations for Features other than the base name.

Attribute	Field Name	Description	Format
Feature ID	FEATURE_ID	Unique identifier for the feature (primary key).	Text(36)
Feature Name	FEAT_NAME	Alternate name for the administrative area.	Text(250)
Language Code	LANG_CODE	Language code of the alternate name.	Text(3)
Transliterated Name	TRANS_NAME	Transliterated name of the alternate name (if applicable).	Text(250)
Transliterated Type	TRANS_TYPE	Transliteration type of the transliterated alternate name.	Text(3)
Name Type	NAME_TYPE	Identifies the type of alternate name.	Text(1)

### References (References)

This layer publishes reference types that uniquely define an area. Examples are official Government Codes, FIPS codes, census IDs etc.

Attribute	Field Name	Description	Format
Feature ID	FEATURE_ID	Unique identifier for the feature (primary key).	Text(36)
Reference ID	REF_ID	Represent official identifiers that uniquely define an area. Examples are Government Codes, FIPS codes, census IDs etc.	Text(250)
Reference Type	REF_TYPE	Represents the type of identifier that uniquely defines an area.	Text(250)

## 4.3 Geometric Representation

### Generalisation

Each of the layers defined are published with various levels of generalisation while keeping a smooth transition between generalised layers.

Not all layers are published with all generalisation levels. This is dependent on the type of administrative feature and its intended use case. The following rules are observed:

- The administrative boundaries that are spanning are prioritised to be generalized (starting at Country level followed by the next administrative level down the hierarchy).
- Water cuts (i.e., full formation) are observed for the higher generalisation levels.
- The generalised polygons retain their relative shape but no holes and gaps will exist between them.
- Lowest administrative levels are not generalised, e.g., coastline detail is retained.

### Alignment

Hierarchical governmental administrative boundaries are aligned, i.e., edges of the polygons line up across all the hierarchical levels. Other non-hierarchical layers (boundaries) may be aligned as well. This is decided on a country by country basis.

Some Administrative features are required to align to the road network. However, this alignment will be feature dependent and not strictly enforced. The alignment of roads and Administrative features is only achieved where it adds value from a usage perspective.

### Coastline-Administrative Boundary Representation

Coastlines:

- Coastlines represent the outer boundary of Administrative features that border the coastline. This includes any administrative boundary along the coastline, including postal code boundaries, known areas etc.
- Administrative boundaries follow the boundary of significant water bodies, e.g., lakes, bay/harbours, and major rivers (typically water features with Display Class value of 1 or 2 in the Core Map products).

Administrative Boundaries:

- Multiple polygons may exist to represent a single Administrative Area.