BS EN 14142-1:2011

BSI Standards Publication

Postal services — Address databases

Part 1: Components of postal addresses

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National foreword

This British Standard is the UK implementation of EN 14142-1:2011. It supersedes BS EN 14142-1:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee SVS/4, Postal services.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Services postaux - Bases de données d'adresse - Partie 1: Composants des adresses postales

Postalische Dienstleistungen - Adressdatenbanken - Teil 1: Bestandteile der postalischen Anschrift

This European Standard was approved by CEN on 18 June 2011.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 14142-1:2011) has been prepared by Technical Committee CEN/TC 331 “Postal Services”, the secretariat of which is held by NEN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14142-1:2003.

NOTE This document has been prepared by experts coming from CEN/TC 331 and UPU, under the framework of the Memorandum of Understanding between the UPU and CEN.

This document (EN 14142-1:2011), is the CEN equivalent of UPU[1)] standard S42-6 Part A. It may be amended only after prior consultation, between CEN/TC 331 and the UPU Standards Board, in accordance with the Memorandum of Understanding between CEN and the UPU.

The UPU’s contribution to the document was made, by the UPU Standards Board[2)] and its sub-groups, in accordance with the rules given in Part V of the "General information on UPU standards".

EN 14142-1:2011 is based on UPU S42-6 Part A "International postal address components and templates — Part A: Conceptual hierarchy and template languages" [1].

This document is the equivalent to Part A of a two-part UPU Standard, S42: International postal address components and templates. S42 was originally published as a single part standard covering the definition of address components and postal address templates with examples, but has been split into two parts in order to separate the general aspects which apply to all countries and which can be expected to remain stable from the specific aspects which apply to each country considered in itself and conventions adopted by the working group which may be modified in the light of further experience. For example, the conceptual hierarchy of segments, constructs, elements and element sub-types, code tables, and the definition of the template languages will be found in EN 14142-1:2011, while the specific natural language and XML templates, rendition instructions, mapping conventions, and presentation guidelines for each country are included in CEN/TR 14142-2:2010.

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1) The Universal Postal Union (UPU) is the specialized institution of the United Nations that regulates the universal postal service. The postal services of its 189 member countries form the largest physical distribution network in the world. Some 5 million postal employees working in over 660 000 post offices all over the world handle an annual total of 425 billion letters-post items in the domestic service and almost 6,7 billion in the international service. Some 4,5 billion parcels are sent by post annually. Keeping pace with the changing communications market, posts are increasingly using new communication and information technologies to move beyond what is traditionally regarded as their core postal business. They are meeting higher customer expectations with an expanded range of products and value-added services.

2) The UPU's Standards Board develops and maintains a growing number of standards to improve the exchange of postal-related information between posts, and promotes the compatibility of UPU and international postal initiatives. It works closely with posts, customers, suppliers and other partners, including various international organizations. The Standards Board ensures that coherent standards are developed in areas such as electronic data interchange (EDI), mail encoding, postal forms and meters. UPU standards are published in accordance with the rules given in Part VII of the General information on UPU standards, which may be freely downloaded from the UPU world-wide web site (www.upu.int).

EN 14142-1:2011 contains a revised element list with several elements added or deleted, and defines an expanded roster of element sub-types in order to account for addresses from countries around the world that are either represented with templates defined in EN 14142-1:2011 or have been provided to the UPU as sample addresses. Many of these sample addresses can be found on the UPU web site, though from time to time that site is updated with changes and new examples. As part of the work of the Addressing Project Group, the Web site addresses will be mapped according to the UPU element list, including element sub-types, from EN 14142-1:2011, using the mapping conventions detailed in CEN/TR 14142-2:2010.

CEN/TR 14142-2:2010 describes the address templates for each country, i.e. the specific way an address is formatted in each country, indicating in particular the order in which the various elements appear. The address templates are supplemented by rendition instructions, specifying how elements are to be rendered for printing.[3)]

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

3) The Brazilian postcode, for example, is saved in the format 99999999 in a database. However, in an address, the postcode should be printed in the format 99999–999. The rendition instructions therefore state that the Brazilian postcode is printed with a dash between the 5th and 6th digits.

Introduction

The postal service provides letter, package and parcel **delivery**[4)] on a global and universal basis, without the need for recipients to enter into explicit service contracts. **Postal addresses**, which combine private recipient information with publicly known **delivery point** data, provide the mechanism through which **mailers** specify the intended recipient and the means by which the postal operator can fulfil its delivery commitment.

This document deals with physical postal addresses and not with others like email addresses.

Traditionally, postal operators have been highly flexible with regard to the manner in which postal items can be addressed: any form and content of address was acceptable as long as it permitted sufficiently unambiguous determination of the delivery point. Even today, many postal services pride themselves on their ability, using staff intelligence and local demographic knowledge, to deliver postal items carrying incomplete or unusual address representations.

However, increasing volumes and labour cost rates mean that automation became not only economic, but also essential a long time ago. As a result, it has become more and more vital to ensure that the vast majority of postal items are addressed in a way which can be processed automatically, without risk of misinterpretation.

Today, the vast majority of postal items carry printed addresses which are extracted from computer databases.

Such databases need to be maintained in the face of population mobility, creation and suppression of delivery points and changes in their specification such as renaming of streets, renumbering of properties, etc. Moreover, there is a growing tendency for companies to exchange or trade address data and, in the context of the European Single Market, for companies in one country to hold address data of organisations and individuals in other countries, which might use different approaches to the structuring of printed addresses.

In this context, the UPU Postal Operations Council's POST*Code Project Team charged its sub-project team 2 to develop a standard, covering the definition of address components and **postal address templates**. This standard, International Postal Address Components and Templates, is the result of this development.

4) Terms in **bold** are defined either in Clause 3, Terms and Definitions or Clause 5, Postal Address Components.

1 Scope

This standard provides a dictionary of the possible[5)] components of postal addresses, together with examples of and constraints on their use.

This standard This standard defines three hierarchical levels of postal address component:

— **segments**, such as **addressee specification**, which correspond to major logical portions of a postal address;

— **constructs**, such as **organisation identification**, which group elements within segments into units which are meaningful for human interpretation;

— **elements**, such as **organisation name** or **legal status**, which correspond to the lowest level of constructs, i.e. those which are not themselves made up of subordinate elements, though they may be sub-divided for technical purposes.

To cover multiple occurrences and locations of elements in an address, and to be able where necessary to work with sub-divisions of element content, the standard defines a fourth level:

— **element sub-types**, such as **door type** or **door indicator**, representing parts of conceptual elements, such as **door**, for database storage or to facilitate presentation, or representing multiple instances of conceptual elements for use in defining address element structures or templates.

NOTE The underlying point is that elements are conceptual whereas sub-types are defined to meet technical needs such as template construction, rendition requirements, accurate representation of address instances, and matching to postal database fields.

This standard further provides a methodology for the specification of **postal address templates**, which stipulate how a postal address is to be written, including the order in which **postal address elements** are to appear, required and optional elements, and the presentation or rendition of the elements, subject to constraints on the space available for that task. Languages suitable for human comprehension and computer processing of postal address templates are defined and described.

It also defines a number of useful terms, such as **delivery address**, **forwarding address**, **mailee** and **mail originator**. By providing a standard dictionary of postal address components, this standard is expected to greatly facilitate the formal description of actual address representations and the definition of procedures for mapping between them.

In practice, many address representations, whether in computer databases, in electronic messages or in printed or written form, combine several of the postal address components defined herein into single fields or lines.[6)] Considerable intelligence may be required in mapping between different representations, particularly where these are subject to a degree of ambiguity.[7)]

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5) Note that an individual postal address, or a class of postal addresses (such as the addresses used in a given country) may require only a subset of the possible components. For example, Irish postal addresses do not at this time include **postcodes**.

6) Note that practical databases (and even printed addresses) may also combine postal address components, as defined herein, with other relevant data. For example, a company's customer database may include a customer reference or identification number along with each customer's address. Such additional data are not considered, for the purpose of this standard, as part of the address, but they obviously need to be taken into account in the design of the database and the applications which use it.

7) For example, in the individual name John Smith, it is reasonably evident that Smith is the individual's **surname** and that John is a **given name**. But James Joyce is rather more ambiguous: does this represent *Mr. Joyce*, with given name *James*, or *Ms James*, with given name *Joyce*?

This standard does *not* specify the length or value range of components.

This standard does not cover the topic of data protection. Users of this standard are nevertheless reminded that the storage and exchange of personal data are subject to legislation in many countries. This standard may be applied only to the extent that this is compliant with such legislation.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3166–1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes (ISO 3166-1:2006)*

UPU Standards Glossary

3 Terms and definitions

For the purposes of this document, the terms and definitions in the UPU Standards Glossary and the following additions and exceptions apply.

NOTE This clause of the standard defines a number of general terms and concepts which are referred to in this standard. This clause does not include definitions of individual **postal address components**, which are separately defined in Clause 5.

3.1
address
see **postal address**

3.2
addressee
party who is the intended ultimate recipient of a postal item

NOTE 1 The addressee may be explicitly defined as part of the **postal address**, or may be implicit. For example, in certain countries, omission of addressee information is taken as implying that **delivery** is to be to an individual or legal entity having legal access to the **delivery point**.

NOTE 2 An address may contain multiple addressee specifications. For example, Mr. or Mrs. Smith specifies that the addressee is either one of two individuals, whilst Mr. Jones and Mrs. Smith denotes that the addressee is a group of two individuals. See also ***addressee role descriptor***.

NOTE 3 The use made by the postal operator of addressee and mailee data might be dependent on the postal service applicable to the postal item. For some services, such as registered mail, the postal operator's responsibility might include ensuring that the addressee, or a duly authorised representative, acknowledges receipt of the postal item. In other cases, addressee data could be purely informative or used by the postal operator only for consistency checking and/or for the activation of forwarding services. In still other cases, it might be used for sorting or sequencing purposes prior to delivery (e.g. in the case of business mail being pre-sequenced by department or individual company official).

NOTE 4 When the addressee is explicitly defined (see NOTE 1), there is always one addressee in a syntactically correct postal address, whereas the mailee information does not have to be present. In some countries, the addressee may be an abstraction such as "Postal Customer".

3.3
component
see **postal address component**

3.4
construct
see **postal address construct**

3.5
delivery
postal process in which a postal item leaves the responsibility of the postal operator through being handed over to, or left for collection by, the **addressee**, the **mailee** or an authorised representative, or deposited in a private letter box accessible to one or other of these

NOTE Except in the case of special services, for which the addressee or mailee is required to acknowledge receipt, delivery does not necessarily guarantee that the postal item actually reaches the addressee or mailee. In particular, where postal items are left for collection or deposited in a private letterbox, other persons might have access to them, either legally or otherwise.

3.6
delivery address
postal address specified by the **mailer** to which the postal operator is requested to deliver the postal item

NOTE 1 The delivery address may in certain circumstances, e.g. unaddressed mail, not actually be represented on the postal item. In this case, the delivery address is determined by the postal operator in accordance with an agreement between the operator and the mailer.

NOTE 2 The postal item might not actually be delivered to the requested delivery address. For example, in the case of forwarding, delivery takes place at the forwarding address.

3.7
delivery point
physical location recognised by a postal operator as a valid location at which **delivery** of a postal item may occur

3.8
element
see postal address element

3.9
forwarding address
postal address, specified by the **addressee** or **mailee** of a postal item, to which the postal operator is requested to deliver the postal item, in place of delivering it to the **delivery address**

NOTE 1 Not all postal items can be forwarded, as for some postal services the **mailer** might require the return of the postal item if it cannot be delivered at the delivery address.

NOTE 2 Forwarding addresses can be permanent, e.g. in case of relocation of the addressee, or temporary. They may also involve the holding of mail for collection by the addressee or the mailee (see **poste restante**).

3.10
mail originator
party responsible for originating the content of a postal item

NOTE The mail originator can be thought of as the initiator of the postal item. Mail production, finishing, submission and payment processes may be performed by the mail originator, but may equally be performed by other parties. In particular, the mail originator:

— *does not necessarily determine the **delivery address** (e.g. unaddressed mail, or mail which is addressed by a mail-house);*

— *does not necessarily produce (print, fold, insert into envelopes, etc.) the mail;*

— *can be distinct from the **mail submitter**;*

— *might not pay for the (complete) service (Freepost, Business Reply, COD, under-franking, etc.);*

— *can be distinct from the party to which the postal item is to be returned in case of non-delivery.*

See **mailer**

3.11
mail recipient
individual who actually receives a postal item at **delivery**, or who first accesses the postal item if it is left for collection

NOTE The mail recipient should normally be the **addressee**, the **mailee** or an authorised representative of one of these two. However, this might not always be the case, e.g. if the postal item is left for collection in a location to which third parties have access; if the addressee/mailee has moved without leaving forwarding instructions, or if the addressee or mailee specification was ambiguous and was, as a result, misinterpreted by the postal operator.

3.12
mail submitter
party responsible for induction of a postal item into the postal system

NOTE The mail submitter may be, but is not necessarily, the same party as the **mail originator**.

3.13
mailee
party designated in a **postal address** as having responsibility for ensuring that postal items, delivered or handed over by the postal operator at the **delivery address**, reach their **addressee**

NOTE 1 Unlike addressee specification, mailee specification is never implicit: if a postal address does not contain a mailee specification, then there is no mailee.

NOTE 2 Notwithstanding NOTE 1, the mailee may be designated explicitly by use of a role descriptor, or designated implicitly with no role descriptor.

NOTE 3 As is the case for addressee, the information in a particular mailee specification might be ambiguous.

3.14
mailer
party who carries out one or more of the processes involved in creating, producing, finishing, inducting and paying the postage due for a postal item

NOTE Many processes are involved in the production and mailing of postal items. These include:

— initiation;

— content production, which might be separated into parts produced by several different parties (e.g. inserts might be produced separately from covering letters);

— finishing, including assembly of the content and its packaging (e.g. placing in an envelope, or wrapping) for mailing purposes;

— addressing;

— induction into the postal system;

— payment.

These processes may be performed by one party, or may be split between different parties, each fulfilling a particular role or combination of roles. Where it is necessary to distinguish between such roles, they are referred to by separate terms, in particular **mail originator**, **mail submitter** and **payer**; where such distinction is not necessary, mailer is used as a generic term.

3.15
party
one or more natural and/or legal persons and/or organisations without legal personality that act(s) as a single entity for the purpose of participation in a transaction associated with a postal item

3.16
payer
party responsible for payment to the postal operator of the postage due in respect of a postal item

NOTE 1 This term is not used in the present document, but is included for consistency with other specifications relating to the interface between **mailers** and postal operators.

3.17
postal address
set of information which, for a postal item, allows the unambiguous determination of an actual or potential **delivery point**, usually combined with the specification of an **addressee** and/or a **mailee**

see **delivery address, forwarding address, return address**.

NOTE 1 The **components** of postal addresses are defined in Clause 5.

NOTE 2 Postal addresses can be ambiguous, incorrect or non-existing. See also **syntactically correct postal address**, **valid postal address**.

3.18
postal address component
collective term for **postal address elements**, postal address constructs and postal address segments, as defined in this standard

NOTE Clause 5 of this standard defines the postal address components which may occur in an actual postal address. It should be noted that not all components are necessarily used in a specific instance or class of postal addresses.

3.19
postal address construct
combination of **postal address elements** which together form a logical portion of a **postal address**

NOTE 1 Some constructs are defined hierarchically. That is, a construct may comprise a logical grouping of postal address elements, a logical grouping of lower level constructs, or a combination of elements and lower level constructs.

NOTE 2 5.3 of this standard defines the constructs which may occur in a postal address. It should be noted that not all constructs are necessarily used in a specific instance or class of postal addresses.

see **postal address component**, **postal address segment**

3.20
postal address element
basic entity of a **postal address** that has a well-defined conceptual meaning and representation and has significance for customer or postal processing purposes

NOTE A thoroughfare name which may comprise one or more words is an example of a ***postal address construct***, but that does not imply that the individual words of which it is comprised are also constructs. For example, with Pine Grove Avenue, there are at most two ***postal address constructs***. So Pine Grove might be considered as a postal address element, the thoroughfare name. On the other hand, it is part of a larger thoroughfare construct that includes thoroughfare type and thoroughfare qualifier. These entities can precede or follow the thoroughfare name. This makes it helpful to have separate placeholders for each possible sequential ordering of components in designing ***postal address templates***, and since the meaning of an element is independent of the position, this shows the need for element sub-types alongside elements.

So is thoroughfare name an element sub-type, an element, or a larger construct made up of elements? EN 14142-1 approaches this by defining those components needed to represent instances or parts of constructs as element sub-types.

Following this, the elements are the lowest level constructs remaining. As a result, some elements have one or more levels of sub-types, while others have none. The remaining components above the element level are the higher level constructs and segments.

Alternate representations of information that have a distinct function are given the status of elements, which conforms with the above definition of postal address element. An example would be country name and EN ISO 3166-1 country code, which are separate elements.

On the segment level, though not the construct level, it is possible to replicate a group of elements and have them recognized in the templates. This provides a way to solve certain problems in designing address database, such as multiple addressees at one address, or multiple addresses for one addressee.

Leaving aside the cases of representations and replication, EN 14142-1:2011 handles multiplicity and subdivision of elements by defining element sub-types. It uses two levels of sub-type in the notation, one for instances and one for parts. Instances can be levels, positions, or occurrences, and parts can be physical or logical. This approach keeps the number of postal address elements limited. Elements should have meaning in a general rather than only a specialized postal context, while this is not always the case with element sub-types, particularly those representing parts of elements. Some cases could be decided either way, but this approach results in combining some previously defined elements, including the components of thoroughfare and the components of delivery service identifier, into single elements, while leaving others such as surname prefix and name qualifier to retain their status as elements.

5.4 of this standard defines the elements which may occur in a postal address. It should be noted that not all elements are necessarily used in a specific instance or class of postal addresses.

3.21
postal address element and element sub-type code
alternate representation for a postal address element or element sub-type which uses a condensed notation that conforms to specified conventions, is suitable for use in templates, and is relatively language independent when compared with the element and element sub-type names

NOTE Clause 6 of this standard further explains element and element sub-type codes.

3.22
postal address element sub-type
sub-division of a postal address element representing parts or instances of the root element, used to facilitate template design, address rendition, address database storage and related technical needs

NOTE Postal address element sub-types are further described in 5.5.

3.23
postal address segment
named group of related **postal address constructs** and/or **postal address elements** with a specific defined function

NOTE 5.2 defines the postal address segments.

see **postal address component**

3.24
postal address structure
manner in which **postal address components** are or can be combined to form a **postal address**

NOTE Postal address structures may differ from country to country, from region to region or even from operator to operator within a country.

see **syntactically correct postal address**, **valid postal address, postal address template**

3.25
postal address template
specification of how a postal address is to be written; in particular, of the order in which **postal address elements** are to appear, of which **postal address elements** are mandatory and which are optional and of **rendition instructions**

see **syntactically correct postal address**, **valid postal address, postal address structure**

NOTE Postal address templates are further described in Clause 7.

3.26
poste restante
delivery service indicator specifying that a postal item is to be held at a designated postal establishment or agency for collection by the **addressee** or his/her authorised representative

3.27
recipient
see mail recipient

3.28
rendition instruction
specification of how address elements shall be rendered, or in some cases optionally may be rendered, when printed on a mail piece

NOTE Postal address rendition instructions are further described in Clause 8.

3.29
return address
postal address to which the postal operator should deliver a postal item if it is unable to effect normal **delivery** to the delivery address or, if specified, a forwarding address

NOTE 1 The interpretation of "normal delivery" might be dependent on the service characteristics for the postal service appropriate to the individual postal item.

NOTE 2 The return address is usually (but not always) the postal address of the **mail originator** or the **mail submitter**. It need not necessarily be explicitly represented on the postal item – for example, it may be derived from a company logo or from a franking mark, or it may only be apparent when the postal item is opened (normally in a special location designated for the processing of non-deliverable postal items). It might also be impossible to determine the return address, in which case the non-delivered postal item concerned should be handled according to national regulations (e.g. be destroyed).

3.30
segment
see **postal address segment**

3.31
syntactically correct postal address
postal address in which the combination of **postal address components** is fully in accord with this standard and with relevant national or regional rules which define restrictions on allowed combinations and internal structures of such components

Example:	*<form of address>*	*Mr.*
	<given name>	*John*
	<surname>	*Smith*
	<street number or plot>	*4395*
	<thoroughfare name>	*Station*
	<thoroughfare type>	*Road*
	<town>	*Porchester*
	<distribution area indicator>	*FAREHAM*
	<postcode>	*PO16 8BQ*
	<country>	*UNITED KINGDOM*

forms a syntactically correct United Kingdom postal address, but if the country were France, it would not be syntactically correct, because France uses only numeric postcodes.

NOTE Syntactic correctness does not imply validity. The above is not a **valid postal address** because the **delivery point** identified within it does not exist.

3.32
valid postal address
postal address in which the combination of **postal address components** corresponds to, and provides for unambiguous identification of, a single **delivery point** and of an **addressee** and/or **mailee**

NOTE 1 Valid postal addresses are not necessarily syntactically correct. For example:

<function>	*The Director General*
<organisation name>	*CCMC*
<street number or plot>	*17*
<thoroughfare type>	*Avenue*
<thoroughfare name>	*Marnix*
<town>	*Bruxelles*
<country>	*BELGIUM*

is not a **syntactically correct postal address**, because **postcode** is missing, but it is valid since it uniquely defines a delivery point in Brussels.

NOTE 2 The **addressee and/or mailee specification** may be implicit, as in the case in which the postal item is intended for the party having legal access to the delivery point.

4 Symbols and abbreviations

CEN: European Committee for Standardisation

CEN/TC 331: CEN Technical Committee 331: Postal Services

ISO: International Organisation for Standardisation

SB: (UPU) Standards Board

UPU: Universal Postal Union

5 Postal address components

5.1 General

This clause defines the decomposition of a postal address specification into segments, constructs and elements. Definitions of more general terms and concepts are given in Clause 3.

A postal address specification comprises one to four segments:

— an **addressee specification** (optional);

— a **mailee specification** (optional);

— **mail recipient despatching information** (optional);

— a **delivery point specification** (mandatory).

Each of these is described in 5.2. Segments are built up from postal address constructs and elements, which are described in 5.3 and 5.4 respectively. In addition to constructs and elements, the specification also defines element sub-types in 5.5. The diagrams below include only segments, constructs, and elements, and do not include element sub-types. For the full conceptual hierarchy in XML, and diagrams which do include the element sub-types, see Annex A.

NOTE The diagrams show how elements are combined to form components and segments of addresses. They should not be interpreted as implying the existence or otherwise of constraints on which combinations of elements and components constitute a syntactically valid postal address. In particular, it should be noted that not all segments, constructs and elements are necessarily used in a specific instance of a postal address or class of postal addresses. Certain components may not be permitted, or may not be permitted in combination, in postal addresses of a particular country, region or postal operator.

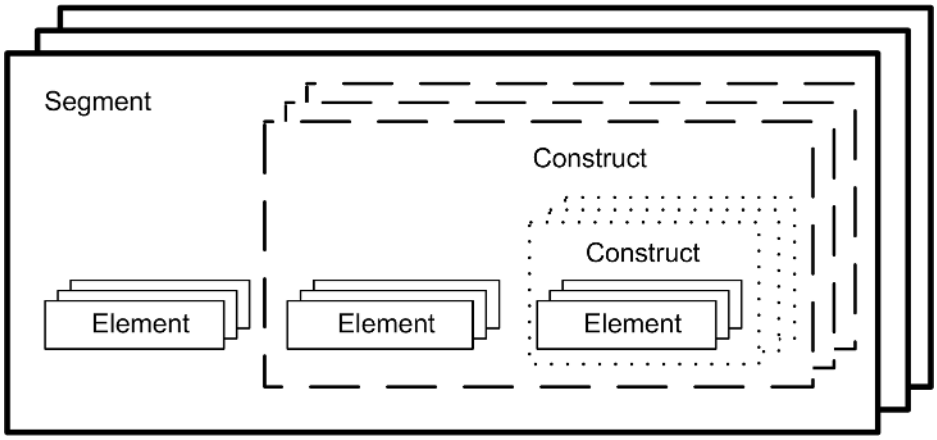

Figure 1 — Postal Address Components – Segments, Constructs & Elements

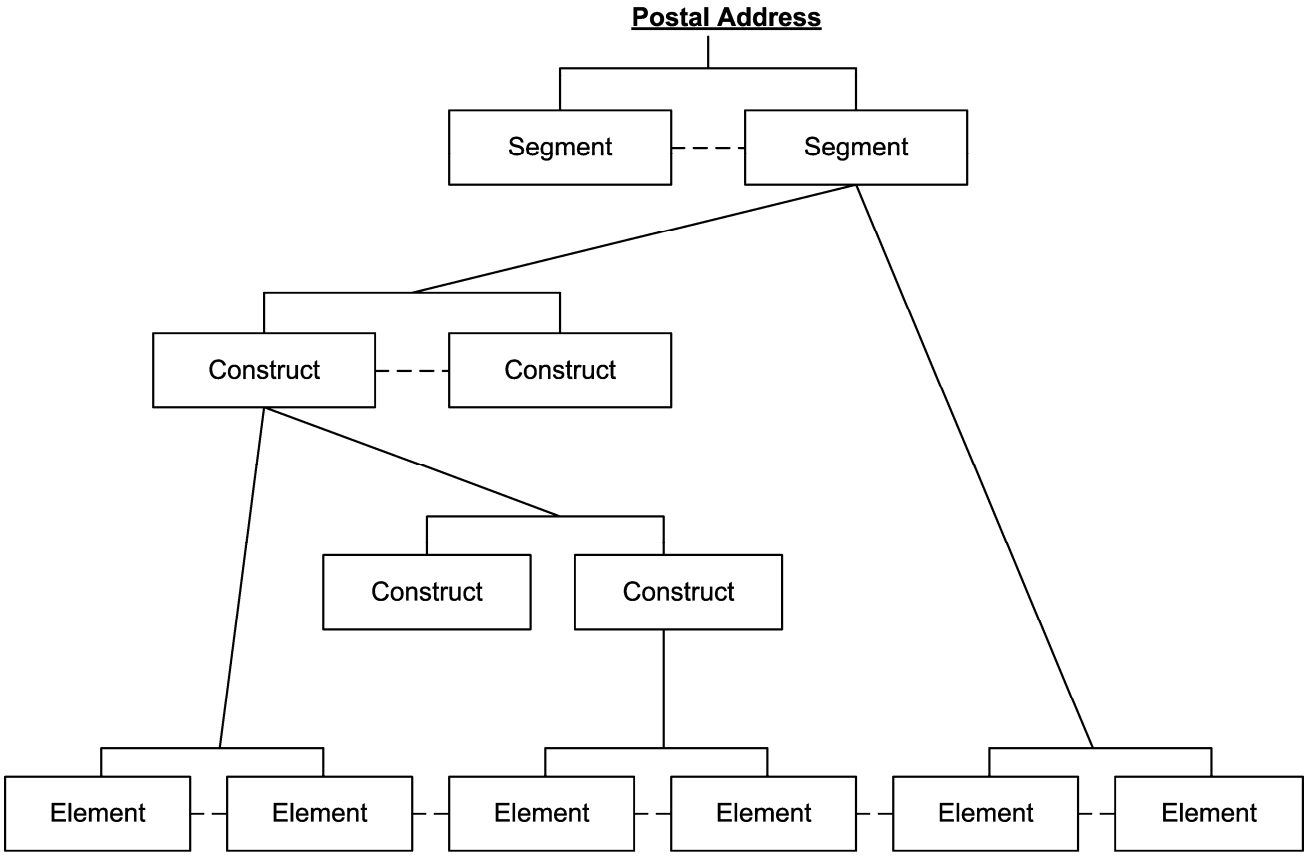

Figure 2 — Postal Address Components – Segments, Constructs & Elements

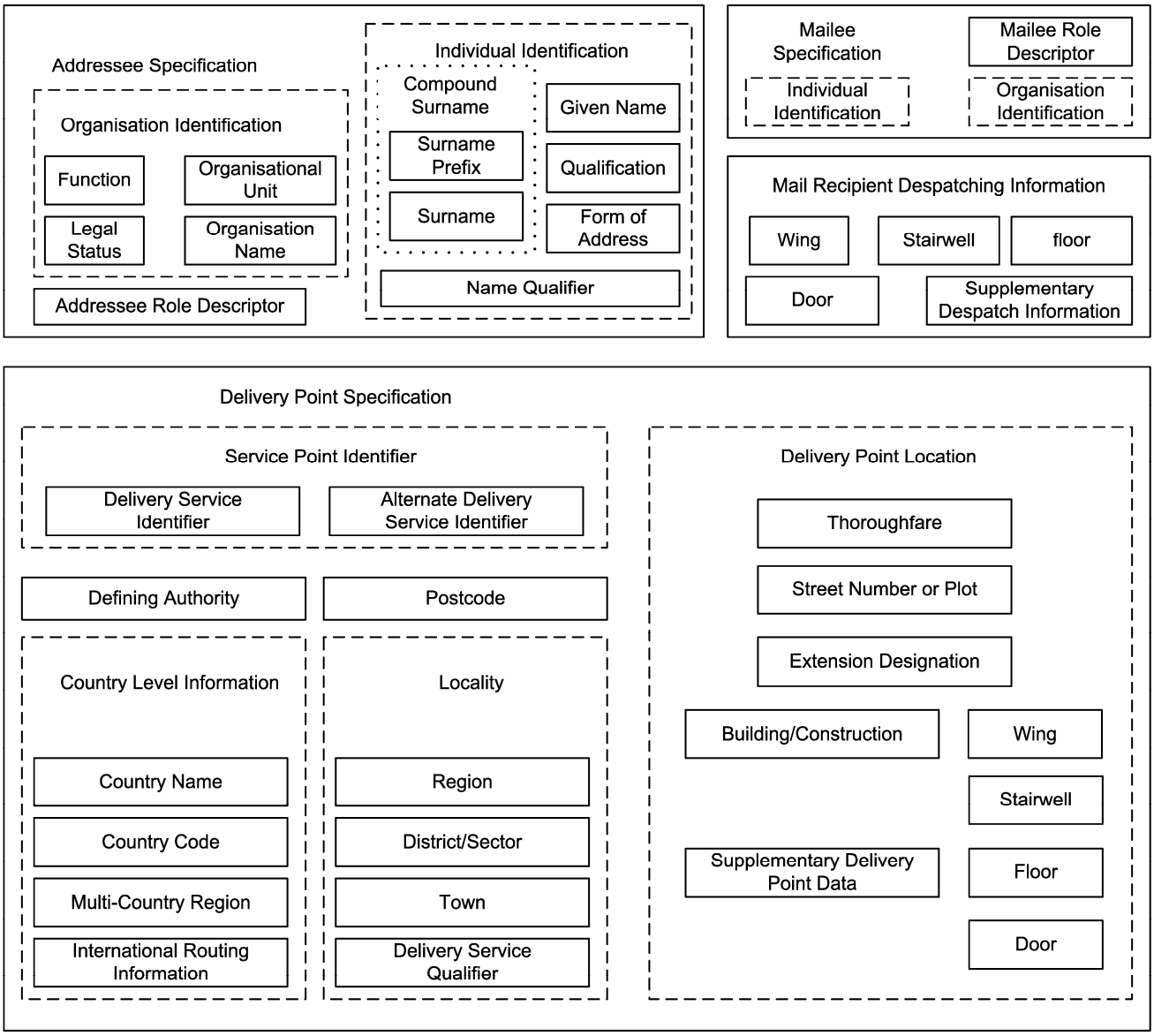

Figure 3 — Postal Address Components – Segments, Constructs & Elements

5.2 Postal address segments

This sub-clause defines the segments which may occur in a postal address. Terms in bold font correspond to postal address constructs or postal address elements which are defined in 5.3 and 5.4 respectively; terms defined in Clause 3 and in 5.5 are printed in normal font.

5.2.1
addressee specification
postal address segment which specifies the addressee

NOTE 1 Addressee specification is composed of either ***individual identification*** or **organisation identification**, possibly combined with **addressee role descriptor.**

NOTE 2 Specification of the addressee may be optional or mandatory, depending on the particular postal service for which a postal address is to be used. For example, for normal letter mail, a delivery point specification is sufficient in many countries, and in this case, the addressee is considered as being any party which has legal access to the delivery point. In contrast, registered mail should normally carry an explicit specification of the addressee.

5.2.2
delivery point specification
postal address segment which designates the **delivery point** for a postal item

NOTE 1 Delivery point specification is composed of **defining authority, locality** and **delivery point location** and/or a **service point identifier**. A **postcode** may also be required. **Country level information** may need to be specified for cross border mail.

NOTE 2 The association between a delivery point specification and the delivery point may be service or time dependent. For example, whilst a normal letter mail item addressed to an apartment may be delivered to a letterbox in the entry hall of the apartment building, a registered mail item carrying an identical postal address has to be delivered to the addressee (or his representative), possibly at the door of the apartment itself. Similarly, the link between a business reply or freepost service number and a delivery point might change if the customer concerned moves locations.

NOTE 3 Several delivery point specifications may be associated with a single delivery point.

NOTE 4 In some countries, certain forms of delivery point specification are limited to particular postal products. For example, a box number might not be permitted for the addressing of recorded delivery postal items or parcels.

5.2.3
mail recipient despatching information
postal address segment providing information intended for the routing and dispatch of mail by the mail recipient, when this is not the addressee

NOTE 1 Mail recipient despatching information is intended for use by the mailee, if one is specified, or by the mail recipient. It is not used by the postal operator.

NOTE 2 For postal items addressed to an organisation and which are delivered by the postal operator to a mailroom or post office box, mail recipient dispatching information may include information such as **wing, *stairwell,* floor** and **door** which, in the case of more specific services (such as registered mail) form part of the **delivery point specification**. **Supplementary despatch information** may also be required.

5.2.4
mailee specification
postal address segment which specifies the mailee

NOTE 1 Mailee specification is composed of individual identification or organisation identification, possibly combined with mailee role descriptor.

NOTE 2 Specification of a mailee is required only in situations in which the postal operator is requested to deliver the postal item into the care of an individual or organisation other than the addressee.

5.3 Postal address constructs

This sub-clause defines the constructs which may occur in postal address segments. Terms in bold font correspond to postal address elements which are defined in 5.2 and 5.4 or to other postal address constructs; terms defined in Clause 3 and in 5.5 are printed in normal font.

5.3.1
compound surname
postal address construct which identifies a family or provides indication of parentage

NOTE 1 Compound surname is a component of **individual identification**. It comprises **surname prefix** and **surname**.

NOTE 2 The division of compound surname into two elements is intended for use where only part of the construct is significant for sorting purposes. If all words of a compound surname are significant for sorting purposes, surname prefix is not used.

NOTE 3 Patronymic and matronymic names, mother's maiden names, etc. are considered, for the purposes of this standard, as compound surnames. For example, in certain cultures, children's compound surnames are derived by appending "son" or "daughter" to either the father's first **given name** (patronymic names) or the mother's first **given name**

(matronymic names); in others, a child's mother's maiden name and father's compound surname may be used in combination, though one of these might be considered as the person's preferred or legal compound surname.

NOTE 4 If an individual has more than one compound surname, these may be used separately or in combination. For example, in certain countries, a married person may be addressed either by their original compound surname, or by that of their spouse, or by a concatenation of the two. Word combinations that may appear only in combination should be regarded as a single compound surname.

NOTE 5 Where an individual has multiple compound surnames, the order might be significant.

5.3.2
country level information
postal address construct encompassing the postal address elements applying to countries or groupings of countries

NOTE 1 Country level information is a component of delivery point specification. It comprises country name, country code, multi-country region, and international routing information.

NOTE 2 As a rule, these elements are only included in address presentation for cross border mail, but in that situation, they are necessary to avoid risk of ambiguity.

NOTE 3 The UPU strongly recommends that country level information be rendered in upper case wherever possible, be presented following all other address elements, and not presented on the same line with other address elements, while being expressed in the language of the sending country or in an internationally known language.

5.3.3
delivery point location
postal address construct identifying a delivery point, or a group of delivery points from which the postal operator may choose one, by reference to geographical and, where necessary, other spatial data expressed in human intelligible form

NOTE 1 Delivery point location is a component of ***delivery point specification***. It comprises thoroughfare, street number or plot, extension designation***, building/construction, wing, stairwell, floor, door*** *and* ***supplementary delivery point data.***

NOTE 2 Delivery point location is relative to, and unique only within, country and **locality**.

NOTE 3 Differentiated delivery point access data might not be needed if the location of the delivery point on the plot is self-evident. Thus, in a simple case, in which there is only one building, with one delivery point, on a plot***, thoroughfare*** and ***street number or plot*** should be sufficient. If, as in the case of there being two residences on the plot, there are multiple delivery points, the combination of ***thoroughfare***, ***street number or plot*** and ***extension designation*** might be sufficient.

5.3.4
individual identification
postal address construct identifying, for the purpose of establishing the addressee or mailee of a postal item, either a single individual or a group of individuals, from which the postal operator may select one

NOTE Individual identification is a component of ***addressee specification*** and ***mailee specification***. It comprises **form of address**, **given name**, **compound surname**, **name qualifier** and **qualification** in which each element may occur none, one or more times.

5.3.5
locality
postal address construct identifying the geographical area in or adjacent to which a delivery point is located

NOTE 1 Locality is a component of ***delivery point specification***. It comprises region, town, district/sector and delivery service qualifier.

NOTE 2 ***Region***, ***town*** and ***district/sector*** provide for multiple levels of geographically localising information. Use need only be made of the number of levels which are actually required to unambiguously identify the geographic area in which the delivery point is situated. Thus:

region should be used, in accordance with the specifications of the postal operator, if there are multiple towns having the same name within the country;

though many towns are divided into commonly accepted areas or districts, the ***district/sector*** need not always be specified in a postal address if the address is otherwise unambiguous.

NOTE 3 Mobile delivery points, such as mobile homes and ships, might not be (permanently) situated in a particular country and locality. Nevertheless, they are associated with a country and locality for delivery point specification purposes. Depending on the situation, these might correspond either to the place of registration or to the place in which the delivery point is currently located or is expected to move.

5.3.6
organisation identification
postal address construct identifying, for the purpose of establishing the addressee or mailee of a postal item, either a single individual or a group of individuals within an organisation, from which the postal operator may select one

NOTE 1 Organisation identification is a component of ***addressee specification*** and ***mailee specification***. It comprises function, organisational unit, organisation name and legal status.

NOTE 2 Organisation identification does not include the name of an individual which, if present, forms part of an **individual identification**. In a postal address which includes both an ***individual identification*** and an ***organisation identification***, one identifies the addressee of the postal item and the other identifies a mailee.

NOTE 3 ***Function*** and **organisational unit** are optional, the (group of) individual(s) then identified being the authorised representative(s) of the organisation. ***Legal status*** might also be optional, if ***organisation name*** is sufficient to unambiguously identify the intended organisation.

5.3.7
service point identifier
postal address construct identifying a delivery point served by a postal or alternate delivery service, and which, combined if necessary with other address elements, shall uniquely identify a delivery point within a country, and do so without requiring reference to its physical location

NOTE Service point identifier is a component of ***delivery point specification***. It comprises delivery service identifier and alternate delivery service identifier.

EXAMPLE Post office box numbers, poste restante and business reply services.

5.4 Postal address elements

This sub-clause defines the elements which may occur in postal address segments and constructs. Terms in bold font correspond to other postal address elements or element sub-types; terms defined in Clause 3, 5.2, and 5.3 are printed in normal font.

5.4.1
addressee role descriptor
postal address element indicating that the role of the identified individual or organisation is that of addressee

NOTE 1 This element appears in the addressee specification segment.

NOTE 2 The purpose of addressee role descriptor is to ensure, when a postal address includes multiple addressee specifications or both an addressee specification and a mailee specification, that there is no ambiguity between them.

NOTE 3 Addressee role descriptor is optional. If it is omitted in cases in which the postal address contains both an addressee specification and a mailee specification, the distinction between the two segments has to be inferred from the mailee specification, from the order of the segments or from postal operator and product rules.

EXAMPLE Attn., tav (ter attentie van), FAO, or (indicates that two addressees are considered as alternatives), and (indicates that two addressees are considered as forming a group).

5.4.2
alternate delivery service identifier
postal address element which designates a delivery point, or a group of delivery points from which an alternate delivery service may choose one, by reference to a defined identifier, rather than by reference to its physical location

NOTE Alternate delivery service identifier appears in the delivery point specification segment. It comprises element sub-types for **alternate delivery service type** and **alternate delivery service indicator**. An **alternate delivery service type** is an element sub-type indicating the type of delivery service. An **alternate delivery service indicator** is an element sub-type designating a specific delivery point, within the category identified by delivery service type, within, or accessed for delivery services via, the locality.

EXAMPLE Private mail box.

5.4.3
building/construction
postal address element identifying the number or name and type of the building or construction in or adjacent to which a delivery point is located.

NOTE This element appears in the delivery point specification segment. It comprises the element sub-types ***preceding building/construction type, succeeding building/construction type,*** and ***building/construction indicator.***

EXAMPLE Batiment A, Block 7, Houseboat, London Tower.

5.4.4
country code
postal address element designating the EN ISO 3166-1 code for the country, territory or area of geopolitical interest, in which a delivery point is located or via which the delivery point is accessed

NOTE 1 This element appears in the delivery point specification segment.

NOTE 2 The EN ISO 3166-1 two character alphabetic representation is specified.

NOTE 3 In certain circumstances the country code may appear in an address presentation for cross border mail.

EXAMPLE FR, NL, NZ.

5.4.5
country name
postal address element designating the country, dependency or area of geopolitical interest, in which a delivery point is located or via which the delivery point is accessed

NOTE 1 This element appears in the delivery point specification segment.

NOTE 2 In specifying the country name, the language used may be significant.

NOTE 3 Mobile delivery points, such as mobile homes and ships, might not be (permanently) located in or accessed via a particular country. Nevertheless, they are associated with a country and locality for delivery point specification purposes. Depending on the situation, these might correspond either to the place of registration or to the place in which the delivery point is currently located or is expected to move.

5.4.6
defining authority
postal address element designating the postal operator or other authority responsible for the definition and maintenance of the delivery point specification concerned

NOTE 1 This element appears in the delivery point specification segment.

NOTE 2 Depending on the country, delivery point specifications may be defined and maintained by a central government agency, by regional or municipal authorities or by a postal operator.

NOTE 3 In a competitive postal service environment, a delivery point might be owned or served exclusively by a particular postal operator. In such a case, the defining authority for the delivery point specification will normally be the identity of the postal operator which owns or serves the delivery point concerned. Even where this is not the case, different operators might have different ways of specifying a particular delivery point. For example, in the U.K., Hays has its own system of "DX codes" which differ from the postcodes in use by The Post Office.

5.4.7
delivery service identifier
postal address element which designates a delivery point, or a group of delivery points from which the postal operator may choose one, by reference to a defined identifier, rather than by reference to its physical location

NOTE A postal delivery service identifier appears in the delivery point specification segment. It comprises element sub-types for **delivery service type** and **delivery service indicator**. A **delivery service type** is an element sub-type indicating the type of delivery service. A **delivery service indicator** is an element sub-type designating a specific delivery point, within the category identified by **delivery service type**, within, or accessed for postal delivery services via, the locality.

EXAMPLE Post office box numbers, BP (Boîte Postale), PRIVATE BAG, poste restante and business reply services

5.4.8
delivery service qualifier
postal address element designating the name of the distribution office used for delivery services

NOTE This element appears in the delivery point specification segment.

EXAMPLE BORDEAUX CEDEX, NANTES CEDEX 1, FUTUROSCOPE CEDEX.

5.4.9
district/sector
postal address element giving the name of the hamlet, estate, or area within or adjacent to **town**, in which a delivery point is located, or via which it is accessed for postal delivery purposes

NOTE 1 This element appears in the delivery point specification segment. It comprises element sub-types for four instances of district/sector and for a type and indicator for each instance.

NOTE 2 A district/sector may be a commonly known name for an area, or it may be an area assigned for a postal or administrative purposes. A district or sector may be one of a number of areas with a similar naming structure that may include a type and indicator structure.

EXAMPLE Arrondissement, Conjunto, Colonia Juarez, Kebele 4, Moo 11.

5.4.10
door
postal address element indicating the apartment, room or office in, at or adjacent to which a delivery point which is situated within a building is located

NOTE This element appears in the delivery point specification segment and in the mail recipient despatching information segment. In each segment, it comprises the element sub-types ***door type*** and ***door indicator***.

5.4.11
extension designation
postal address element designating the specific delivery point where this is not uniquely identified, within country and locality, by other components of delivery point location

NOTE 1 This element appears in the delivery point specification segment.

NOTE 2 For example, where all the delivery points for a block of apartments are located in the entry hall of a building, these may be distinguished by the allocation of a box number or by the use of the apartment number.

NOTE 3 Extension designation might not be required if there is only one delivery point on the plot, or in the vicinity defined by delivery point access data.

NOTE 4 In a country with multiple forms of secondary designator, these may be differentiated in a database or in address presentation, or they may be combined under a general description such as **extension designation** or **door**.

5.4.12
floor
postal address element indicating the floor or level on which a delivery point is located in a multi-story construction

NOTE This element appears in the delivery point specification segment and in the mail recipient despatching information segment. In each segment, it comprises the element sub-types ***floor type*** and ***floor indicator***.

5.4.13
form of address
postal address element indicating, through a word, group of words, acronyms or abbreviations, an individual or group's civil status or condition

NOTE 1 This element appears in the addressee specification segment and in the mailee specification segment.

NOTE 2 Form of address may include gender specific references and honorific distinctions, though preceding qualification is best suited for earned or designated attributes applying to an individual.

EXAMPLE Mr., Mrs., Mr. & Mrs., Miss, Family, Herr, Senora.

NOTE 3 A form of address may in some countries be sufficient to identify an abstract addressee.

EXAMPLE Postal Customer, Occupant, Current Resident.

5.4.14
function
postal address element designating role or responsibility within an organisation

NOTE 1 This element appears in the addressee specification segment and in the mailee specification segment.

NOTE 2 Function, which relates to a role within an organisation, should be distinguished from qualification, which is an intrinsic attribute of a specific individual.

NOTE 3 If there is a function, it implies that there is also an organisation even though an organisation might not be present in the address.

EXAMPLE 1 The function Postmaster may be followed by a town and postcode, omitting reference to the Post.

NOTE 4 An individual addressee may be denoted only by a function, for example because the name of the individual may not be known.

EXAMPLE 2 Managing Director, Chief Executive, Marketing Manager, Programmer, Janitor, Secretary at CEN/TC 331.

5.4.15
given name
postal address element specifying the name used to distinguish between persons having the same compound surname(s) and who may have access to a particular delivery point

NOTE 1 This element appears in the addressee specification segment and in the mailee specification segment. In each segment, it comprises element sub-types for ***given name part 1***, ***given name part 2***, and ***given name part 3***. These can be used in rendition to shorten or eliminate parts of the given name while retaining other parts in full.

NOTE 2 If more than one given name is specified, the sequence of given names is significant. One may be defined as "first" or "preferred" given name.

NOTE 3 Given names may be abbreviated (e.g. Ch for Charles) or represented only by an initial letter.

NOTE 4 Given name is associated with an individual, as opposed to a family or a matrilineal or patrilineal identifier.

5.4.16
international routing information
postal address element indicating how a country, territory or area of geopolitical interest may be reached.

NOTE This element appears in the delivery point specification segment.

EXAMPLE VIA CAPE TOWN.

5.4.17
legal status
postal address element indicating the legal status of an organisation

NOTE This element appears in the addressee specification segment and in the mailee specification segment. In the mailee segment, it comprises the element sub-types ***preceding legal status*** and ***succeeding legal status***.

EXAMPLE GmbH, Inc., Ltd., AB, A/S, OY.

5.4.18
mailee role descriptor
postal address element indicating, in association with an individual or organisation identification, that the role of the identified individual or group is that of mailee

NOTE 1 This element appears in the mailee specification segment.

NOTE 2 The purpose of mailee role descriptor is to ensure, when a postal address includes multiple mailee specifications or both an addressee specification and a mailee specification, that there is no ambiguity between them.

NOTE 3 Mailee role descriptor is optional. If it is omitted in cases for which the postal address contains both an addressee specification and a mailee specification, the distinction between the two segments has to be inferred from the addressee specification, from the order of the segments or from postal operator and product rules.

EXAMPLE c/o (care of), p/a (per adres), or (indicates that two mailees are considered as alternatives), and (indicates that two mailees are considered as forming a group).

5.4.19
multi-country region
postal address element indicating a region in which the country, territory, or area of geopolitical interest is located and by which it may be more effectively recognized

NOTE This element appears in the delivery point specification segment.

EXAMPLE British West Indies (BWI).

5.4.20
name qualifier
postal address element used to distinguish between persons with the same compound surname(s) which have similar **given names** or initials

NOTE This element appears in the addressee specification segment and in the mailee specification segment.

EXAMPLE III, Senior, the Third.

5.4.21
organisation name
postal address element giving the official name, the registered business name or other official designation of an organisation

NOTE This element appears in the addressee specification segment and in the mailee specification segment. In the mailee segment it comprises element sub-types for ***preceding organisation name*** and ***succeeding organisation name***.

5.4.22
organisational unit
postal address element identifying a subdivision of an organisation

NOTE This element appears in the addressee specification segment and in the mailee specification segment. In each segment it comprises element sub-types for two organisational levels. In the mailee segment it further comprises the element sub-types ***preceding organisational unit*** and ***succeeding organisational unit.***

EXAMPLE Marketing Department, Accounts Receivable.

5.4.23
postcode
postal address element designating the code used for the sorting of mail

NOTE 1 This element appears in the delivery point specification segment. It comprises the element sub-types **primary postcode, secondary postcode** and **tertiary postcode.**

NOTE 2 In many countries, postcodes are structured into two or more parts, with one part identifying the delivery region or postal processing facility at which delivery sorting should take place, the second defining the delivery office or route, within the area covered by that facility, and the third, if used, indicating the specific delivery point. For example, most French postcodes commence with the 2-digit number of the *Département*; British ones are separated into two parts, with the first being a two, three or four character code which indicates the postal district and the second identifying a (group of) delivery address(es) within this.

NOTE 3 Postcodes are sometimes referred to as postal codes, ZIPs or ZIP Codes.

NOTE 4 Postcodes are not used in all countries. In many cases they are complementary information, providing only an encoded representation of locality, the (part of the) delivery route which includes the delivery point concerned and, possibly, the individual delivery point on that delivery route.

NOTE 5 A postcode can relate to a single delivery point or to a group of delivery points which are related in postal processing terms, usually by virtue of their being served by a single delivery office or being on a single delivery route. It may, however, relate to other grouping parameters, such as special services.

NOTE 6 Though normally having long-term, national significance, postcodes can be operator specific (c.f. Hays DX codes in the United Kingdom) and might have only temporary existence, as when a special postcode is assigned to handle mail resulting from a charity appeal, or when an existing assignment of codes is reformed due to changes in the scope or magnitude of delivery point distribution.

NOTE 7 Though defined primarily for the purpose of sorting mail, postcodes are often used, outside the postal processing context, for other purposes. In particular, many organisations use them in marketing databases to link potential customer characteristics to geographic areas.

5.4.24
qualification
postal address element indicating an individual’s professional or academic qualification or rank in a professional group or society

NOTE 1 This element appears in the addressee specification segment and in the mailee specification segment. In each segment, it comprises the element sub-types ***preceding qualification***, ***intermediate qualification*** and ***succeeding qualification.***

NOTE 2 Qualification, which is an attribute of an individual, should be distinguished from **function**, which designates a role within an organisation. An individual's qualification(s) remain valid, irrespective of changes in the organisation for which (s)he works or in his or her function or job title in an organisation.

EXAMPLE Reverend, PhD, Doctor, Fellow of the Royal Society, FRS, Barrister at Law.

5.4.25
region
postal address element specifying the geographic or administrative area of the country in which **town** is situated

NOTE 1 This element appears in the delivery point specification segment. It comprises element sub-types for three instances of region and for a type and indicator for each instance.

NOTE 2 Regions are generally related to administrative rather than to postal geography. Examples include French Departments, German Länder, British Counties and American States. See also ISO 3166–2 Country Subdivision Code.

NOTE 3 Region as a postal address element may become less significant over time if the combination of other elements such as town and postcode is unique within the country. It may still be included in the address to corroborate other information, though there may be other more efficient ways to do that.

5.4.26
stairwell
postal address element indicating access to **floor** or **door** within a **building/construction**

NOTE This element appears in the delivery point specification segment and in the mail recipient despatching information segment. In each segment, it comprises the element sub-types ***stairwell type*** and ***stairwell indicator.***

EXAMPLE Escalier.

5.4.27
street number or plot
postal address element designating the area, or the object on an area, adjacent to **thoroughfare**, in which the delivery point or delivery point access is located

NOTE 1 This element appears in the delivery point specification segment. It is comprised of element sub-types for type and indicator.

NOTE 2 This may be in the form of a house or site number or name and will normally correspond to an area defined in the cadastral or municipal register of building plots.

NOTE 3 Where one **building/construction** spans several registered plots, this element may be composite, e.g. 6–8. This situation is hard to distinguish from the use of an ***extension designation*** following the street number or plot, or from appending a secondary identifier, such as ***door***, to the street number or plot. Generally, local or country knowledge will allow understanding of which use is indicated.

5.4.28
supplementary delivery point data
postal address element providing additional data or instructions intended to facilitate access to, or designation of, a delivery point

NOTE This element appears in the delivery point specification segment. It comprises element sub-types for two occurrences specified as positions.

EXAMPLE "Opposite number 23", "50 metres to the left of the main door", “Cruce Con Calle Obregon”.

5.4.29
supplementary despatch information
postal address element providing additional data or instructions intended to assist the mail recipient in the processing of a postal item

NOTE This element appears in the mail recipient despatching information segment.

EXAMPLE An internal organisational mail distribution code, or mail stop.

5.4.30
surname prefix
postal address element consisting of the prefix or part of a compound surname which is not significant for sorting purposes

NOTE This element appears in the addressee specification segment and in the mailee specification segment.

EXAMPLE de, van, van de, von.

5.4.31
surname
postal address element consisting of the root or part of a compound surname which has sorting significance

NOTE 1 This element appears in the addressee specification segment and in the mailee specification segment. In each segment, it comprises sub-types for ***surname part 1*** and ***surname part 2***. These can be used to index names that are not sorted on the part of the surname that is rendered first, or optionally may be rendered first.

NOTE 2 For countries in which surnames are rendered before given names in a consistent manner, template ordering can reflect this situation. If the rendering within a country is not consistent, an implementation can support multiple orderings provided that it has a mechanism for signalling which ordering is preferred in a given instance.

5.4.32
thoroughfare
postal address element which identifies the road or part of a road or other access route along which a delivery point can be accessed, either directly or via a secondary or tertiary road or access route

NOTE 1 This element appears in the delivery point specification segment. It comprises sub-types for three occurrences, specified as primary, secondary and tertiary. Within each occurrence there are sub-types for name, name prefix, type and qualifier, with the latter two further sub-typed as preceding or succeeding.

NOTE 2 For addressing purposes, a ***thoroughfare*** need not be on land, e.g. a canal or river might serve as a ***thoroughfare*** in the address of a houseboat or of a construction on the bank.

NOTE 3 A thoroughfare name may uniquely identify the **thoroughfare** or may need to be supplemented with type and qualifier information or other elements in order to be unique in the required context.

EXAMPLE 1 San Marcos, Pine Ridge, Main, 6th, Charles de Gaulle

NOTE 4 A thoroughfare name prefix may be used to separate connecting words without sorting significance from the main part of the name of the **thoroughfare.**

EXAMPLE 2 “de la” in Avenue de la République, “of the” in Avenue of the Americas

NOTE 5 A thoroughfare type indicates the category or type of **thoroughfare**. Thoroughfare type can be used to distinguish between instances in the locality which have the same thoroughfare name. Thoroughfare type is separated from thoroughfare name and thoroughfare qualifier because it may have different abbreviation rules and/or a sorting significance which differs from its relative position in printed representations.

NOTE 6 Thoroughfare type may precede or follow thoroughfare name in printed representations; its position may depend on national, regional and/or linguistic considerations, or may be specific to the ***thoroughfare*** concerned. For example, in Belgium, French language thoroughfare types, such as boulevard and drêve du generally precede the thoroughfare name, whilst their Flemish equivalents, laan and dreef, follow the thoroughfare name.

EXAMPLE 3 Avenue, Beach, Canal, Lane, Place, Road, Square, Street

NOTE 7 A thoroughfare qualifier distinguishes between different parts or instances of **thoroughfare**, within a **locality**, which have the same thoroughfare name and thoroughfare type.

NOTE 8 Thoroughfare qualifier may be separated from thoroughfare name if it has different abbreviation rules and/or has a position in printed representations which is not adjacent to thoroughfare name or thoroughfare type. Its position in printed representations – at the beginning, between thoroughfare name and thoroughfare type, or at the end – may be determined by national, regional and/or linguistic considerations, or may be specific to the thoroughfare concerned.

EXAMPLE 4 Directionals such as North, SW and qualifiers such as Little, Upper

NOTE 9 A **secondary thoroughfare** identifies the road or part of a road or other **thoroughfare** in which a delivery point may be reached and which is accessed via **primary thoroughfare**.

NOTE 10 **A tertiary thoroughfare** identifies the road or part of a road or other thoroughfare in which a delivery point may be reached and which is accessed via a **primary thoroughfare** and **secondary thoroughfare.**

5.4.33
town
postal address element indicating the name of the village, town or city in which a delivery point is located, or near to or via which the delivery point is accessed for postal delivery purposes

NOTE This element appears in the delivery point specification segment.

5.4.34
wing
postal address element identifying, for a delivery point, the **building/construction** section in which it is housed and/or the main entry door through which it is accessed

NOTE This element appears in the delivery point specification segment and in the mail recipient despatching information segment. In each segment, it comprises the element sub-types ***wing type*** and ***wing indicator***.

5.5 Postal address element sub-types

This sub-clause explains the concept of element sub-types.

In line with the definition in 3.20, elements are the basic conceptual units from which addresses are built. An element can, however, be present several times and in different locations within the address. As a separate case, addresses within a country may use different locations in the sense of rendition positions for address elements, even if they both are not present at the same time. In addition, address elements, such as **region**, may have multiple levels in the sense of occurrences within the same address. In EN 14142-1:2011 multiple occurrences of elements are called instances, in contrast to parts of elements. Different parts of a single element often have to be distinguished during the rendition process, e.g. in order to insert proper punctuation. Instances and parts comprise the two primary sub-divisions of elements, each representing one of the two digits of the element sub-type code. The element sub-types help to represent these multiple instances and parts and facilitate the construction of address templates. When an element is present only once and in an undivided form within an address, so that neither multiple instances nor multiple parts are required, no sub-types are used and the element itself can directly be included within a template. Elements and element sub-types can therefore be considered together as among the building blocks of templates.

*In forming the element sub-types, there is an issue concerning cardinality. An element such as **district/sector** may have several levels, positions, or occurrences in an address. Once the need for sub-types is recognized, either they will be limited to some small finite number of instances, or defined with unbounded cardinality. It is not difficult to define an unlimited number of levels of district, for example, by using XML schemas, but in practice the number of levels is limited by the sufficient requirements for unique postal addresses, the constraints of postal databases, and the limited space available for address presentation. Furthermore, defining cardinality as unbounded gives little guidance to designers of address databases. For these reasons, element sub-types are defined in EN 14142-1:2011 in such a way as to provide enough instances and parts to handle known situations, while providing for some degree of extensibility in implementation.*

5.6 Postal address element sub-type terms

There are certain terms that are constituents of the names of postal address constructs whose presence signals the appropriateness (though not the necessity) of designating an element sub-type. The definitions of the terms may be found below. The element sub-types themselves are listed in Annex A of this document.

5.6.1
indicator
term used in the names of postal address element sub-types, representing a logical part of a root element, which may be combined with a type to constitute an identifier, and instances of which represent numerical, alphabetic, or symbolic data that differentiates one instance of an element from another, within a certain scope of reference

EXAMPLE In Apartment A, Apartment is a type and A is an indicator. Apartment A should be a unique identifier within a limited scope of reference.

5.6.2
instance
term used in the names of postal address element sub-types, which represents an occurrence of the root element

NOTE Within EN 14142-1:2011, the term instance can also refer to an individual PATDL template that is validated against the relevant W3C XML schema**.**

EXAMPLE In Brazil, Quadra 7 may be the name of an instance of district/sector.

5.6.3
intermediate
term used in the names of postal address element sub-types, which represents a position after preceding and before succeeding

EXAMPLE In Prof. Alex graaf van Nispen BA MKM, graaf is an intermediate qualification.

5.6.4
level
term used in the names of postal address element sub-types, which represents an unspecified hierarchical ordering

EXAMPLE Organisational unit level 1.

5.6.5
name
term used in the name of postal address element sub-types, which represents a logical part of a root element, and may be further differentiated by the content of related element sub-types

NOTE The term name is also used in the name of address elements, such as organisation name and given name. Thoroughfare name is an element sub-type and not an element in its own right because it is subordinate to primary, secondary and tertiary thoroughfare, which are element sub-types.

EXAMPLE Thoroughfare name is further differentiated by the content of thoroughfare name and thoroughfare type.

5.6.6
part
term used in the names of postal address element sub-types, which represents a physical subdivision of the root element, such as a word or delimited string

NOTE 1 Physical and logical parts are both differentiated using the second digit of the element sub-type code, but the names of logical parts use other terms defined in this section, such as type, indicator and qualifier.

NOTE 2 The given name Jean Claude may be stored as two physical parts, or it may be stored in the root element. If the name is hyphenated, such as Jean-Claude, it could be stored as two physical parts only if the presence of the hyphen is managed by some convention governing retention or restoration during rendition, and in view of those complexities, it is likely to be stored as a single physical part.

EXAMPLE For physical parts, given name part 1, surname part 2.

5.6.7
position
term used in the names of postal address element sub-types, which represents an instance of the root element that can be combined with other instances either within a single address or in a set of addresses to be processed within a particular template

EXAMPLE Supplementary delivery point data position 1.

5.6.8
preceding
term used in the names of postal address element sub-types, which represents a position before intermediate and before succeeding

EXAMPLE In Prof. Alex graaf van Nispen BA MKM, Prof. is a preceding qualification.

5.6.9
prefix
term used in the names of postal address element sub-types, which represents a position before another element sub-type

NOTE The term prefix is also used in the name of address elements, and in that case represents a position before another element. For example, a surname prefix comes before the surname. Thoroughfare name prefix is an element sub-type and not an element in its own right because it is subordinate to primary, secondary and tertiary thoroughfare, which are element sub-types.

5.6.10
primary
term used in the names of postal address element sub-types, which represents a status or level above secondary and above tertiary

NOTE Primary, secondary and tertiary may be used for both instances and parts.

EXAMPLE Primary thoroughfare, primary postcode.

5.6.11
qualifier
term used in the name of postal address element sub-types, which represents a logical part of a root element, and further differentiates the content of related element sub-types

NOTE The term qualifier is also used in the name of address elements, and in that case differentiates the content of related elements. For example, name qualifier further differentiates the content of given name and surname. Thoroughfare qualifier is an element sub-type and not an element in its own right because it is subordinate to primary, secondary and tertiary thoroughfare, which are element sub-types.

EXAMPLE Thoroughfare qualifier further differentiates the content of thoroughfare name and thoroughfare type.

5.6.12
secondary
term used in the names of postal address element sub-types, which represents a status or level below primary and above tertiary

NOTE Primary, secondary and tertiary may be used for both instances and parts.

EXAMPLE Secondary thoroughfare, secondary postcode.

5.6.13
succeeding
term used in the names of postal address element sub-types, which represents a position after preceding and after intermediate

EXAMPLE In Prof. Alex graaf van Nispen BA MKM, BA MKM is a succeeding qualification.

5.6.14
tertiary
term used in the names of postal address element sub-types, which represents a status or level below primary and below secondary

NOTE Primary, secondary and tertiary may be used for both instances and parts.

EXAMPLE Tertiary thoroughfare, tertiary postcode.

5.6.15
type
term used in the names of postal address element sub-types, representing a logical part of a root element, which may be combined with an indicator to constitute an identifier, and instances of which describe a category

EXAMPLE In RESIDENCE MASUREL, RESIDENCE is a type.

6 Element and element sub-type codes

This clause explains the methodology on which element codes and element sub-type codes are based. A listing of element codes and element sub-type codes is provided in Annex A of this document. The main aim of this code is to provide a compact representation which enables an element to be easily identified in templates. The codes are well suited for computer processing and are relatively independent of any natural language considerations. They facilitate error detection by providing a secondary representation to corroborate the name of the element or element sub-type in templates and associated reports. In addition, they provide a means for supporting a limited degree of extensibility of element and element sub-type occurrences.

An element code comprises two hierarchical levels, the first two digits identifying the segment/construct and the second two digits identifying the element within the segment/construct, the two being separated by a full stop: xx.yy.

The following identifiers have been assigned to the segment level:

10 addressee specification segment
20 mailee specification segment
30 mail recipient despatching information segment
40 delivery point specification segment

The second digit of the segment code is reserved for replicating the segment, that is, providing a copy of all the elements and element sub-types within the segment. Where the form of address, for example, is 10.05, a replicated segment provides for a copy with the code 11.05. This capability provides for multiple addressees with one postal address, or one addressee with multiple postal addresses. In this way it facilitates the design of address databases. However, many postal administrations specify that only one delivery point should be presented in a rendition for mailing purposes. Some postal administrations do allow a post office box delivery point coupled with a thoroughfare address on the same mail piece; an example is South Africa.

The restriction on the use of the second digit of the segment level allows for a maximum of ten segments, of which four are defined. On the element level, the code uses two digits to represent each element, allowing for a maximum of one hundred elements. For EN 14142-1:2011, thirty-four elements and ninety-eight element sub-types have been defined. This approach keeps the element list relatively compact while providing a capability for high levels of granularity and specificity in storing, combining, and transforming postal address components.

The following identifiers have been assigned to the element level:

00 organisation name
01 legal status
02 organisational unit
03 function
04 addressee role descriptor
05 form of address
06 given name
07 surname prefix
08 surname
09 name qualifier
10 qualification
11 mailee role descriptor
12 defining authority
13 postcode
14 country name
15 region
16 town
17 district/sector
19 delivery service identifier
20 alternate delivery service identifier
21 thoroughfare
24 street number or plot
26 building/construction
28 extension designation
29 wing
30 stairwell
31 floor
32 door
33 supplementary despatch information
34 supplementary delivery point data
35 delivery service qualifier
41 country code
43 multi-country region
44 international routing information

An element sub-type code consists of the code of the element of which it is a sub-type, followed by a hyphen and an identifier consisting of a single digit identifying instances, followed by a hyphen and ending with a single digit identifying parts. The value of each single digit in the element sub-type code is zero if the element sub-type is latent in that dimension, and from one to nine if it is present. As a convention, when using an element directly in a template, the format xx.yy and the format xx.yy-z-z with each z taking the value of zero are considered equivalent.

NOTE The element sub-type "door type" is identified by 40.32-0-1 when it involves information found in the delivery point specification (information used by the postal operator for deliveries). This element sub-type defines a part of **door**. However, the same element sub-type, but in the mail recipient despatching information (information intended for the routing and dispatch by the mail recipient, when this is not the addressee), will be identified by 30.32-0-1.

EXAMPLE 40.13-0-1 is a part of 40.13. 40.17-1-0 is an instance of 40.17. 40.17-1-1 and 40.17-1-2 are parts of that instance. 40.17-2-0 is a second instance of 40.17. 40.13-0-0 is equivalent to 40.13.

7 Postal address templates

This clause explains the concept of address templates. The template languages, NLT and PATDL, are specified in Annex B of this document. The templates themselves, one or more for each country as they are developed, are published in CEN/TR 14142-2.

An address template states how an address is to be written; in particular, it shows the order in which address elements are to appear, distinguishes between mandatory and optional elements and provides rendition instructions.

For the purposes of this specification, address templates include both name and address elements. For some mailing purposes, additional components may be included in the address area on a mail piece, including information used by postal services to route the mail, process address changes, and as part of qualification for postal rates. Though it can be useful to include these additional components in address templates, the definition and description of such components is not within the scope of this standard.

Address templates may also be used to convey additional characteristics of an address or of a set of addresses. This information may include the language in which the address or parts of the address are presented, the character set that is used, and the specification of rules and preferences governing the inclusion or exclusion of optional elements.

Each country may have its own characteristic address templates. There are often multiple address types for a given country, with different mandatory and optional elements and different orderings of elements. In the formal notation used for expressing address templates this can give rise either to multiple templates for a single country. or to a composite template that incorporates multiple address types in a single template. Such a composite template may include branching logic based on the data contained in address elements or the value of external variables.

Each template is accompanied by a description of the trigger conditions indicating the conditions under which each branch of the template should be selected, and in the case of multiple templates for a country, which template should be used for an address.

Each address template is presented in natural language template (NLT) notation and as an instance of the Postal Address Template Description Language (PATDL) W3C XML schema.

NOTE 1 When an prEN 14142-1 element or element sub-type code is referenced in a PATDL template, a prefix of U is used so that codes assigned by UPU may be intermixed with codes or data names from other sources to produce renditions. External data may be needed for various purposes related to mail production.

EXAMPLE Following this convention, element 40.13 appears in a PATDL template as U40.13.

NOTE 2 To produce an address rendition using a template, an intermediate process is required. In the case of an NLT, the intermediate process may consist in a simulation in thought of the results of branching and substitution of data for the element and element sub-types. In the case of a PATDL template, address data may also be passed through the template through simulation, but to process a significant number of address instances, construction of a template software processor, capable of accepting structured inputs and producing screen display and/or structured outputs, is recommended.

8 Postal address rendition instructions

This clause explains the concept of address rendition instructions. The rendition instructions themselves are included in UPU CEN/TR 14142-2.

Rendition instructions define how address elements shall be rendered, or in some cases optionally may be rendered, when printed on a mail piece or displayed on a screen or other medium in human readable form. They reflect rules for properly formatting addresses, including punctuation, spacing, fonts, the format of the postcode, locations for identifying marks and codes, abbreviations, and techniques for shortening and reorganising components to ensure deliverability when there are constraints on available label space.

These instructions can be defined in natural language or as named procedures including algorithms that are capable of being directly or indirectly incorporated in software systems. Such named procedures can operate directly on address elements or upon sets of address elements. Alternatively, they can constitute a decision procedure determining aspects of formatting such as inclusion of constants or choice among branches within a template.

EXAMPLE: The postcode in the United States of America can be saved in the format 999999999 in a database. However, in an address, the postcode should be printed in the format 99999-9999. The rendition instructions therefore state that it is printed with a dash between the 5th and 6th digits. If this rendition instruction is registered as a named procedure, then this procedure mightmay also state that the dash is not present when the last four digits of the postcode are not provided, that the last four digits should not be 0000 nor the first five 00000, that the last four digits are never printed without the first five, that leading zeros are always printed, and that no spacing is allowed preceding or following the dash.

Annex A
(normative)

prEN 14142-1 Conceptual Hierarchy

Listing of segments, constructs, elements and element sub-types with element and element sub-type codes.

A.1 XML Representation of prEN 14142-1 (UPU - S42-6) Conceptual Hierarchy

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- <S42_Conceptual_Hierarchy>
- <!-- Version B14_0.5
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- <AddresseeSpecification>
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  </GivenName>
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  </CountryLevelInformation>
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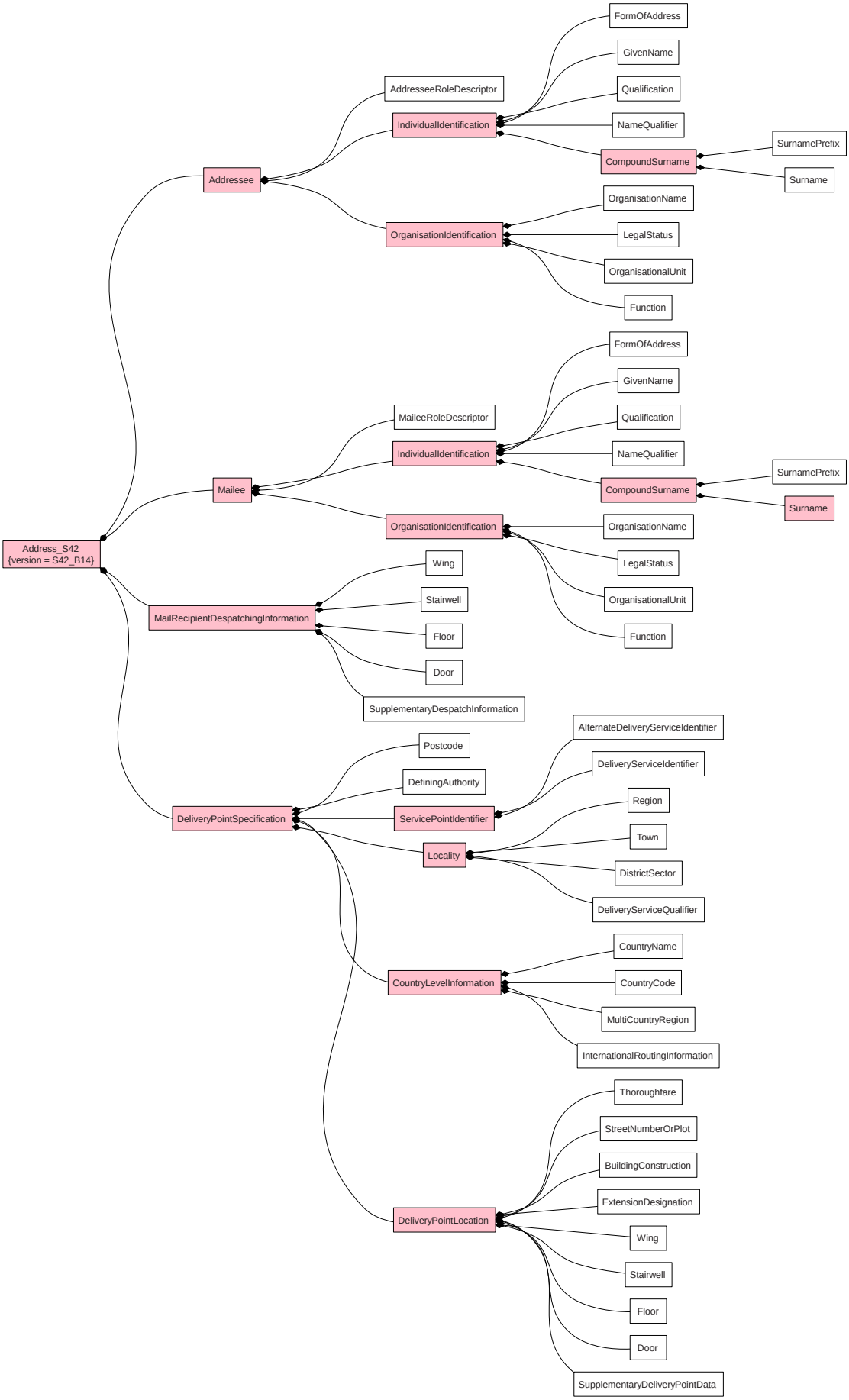
A.2 UML Diagrams

The following pages present UML diagrams of S42 Conceptual Hierarchy.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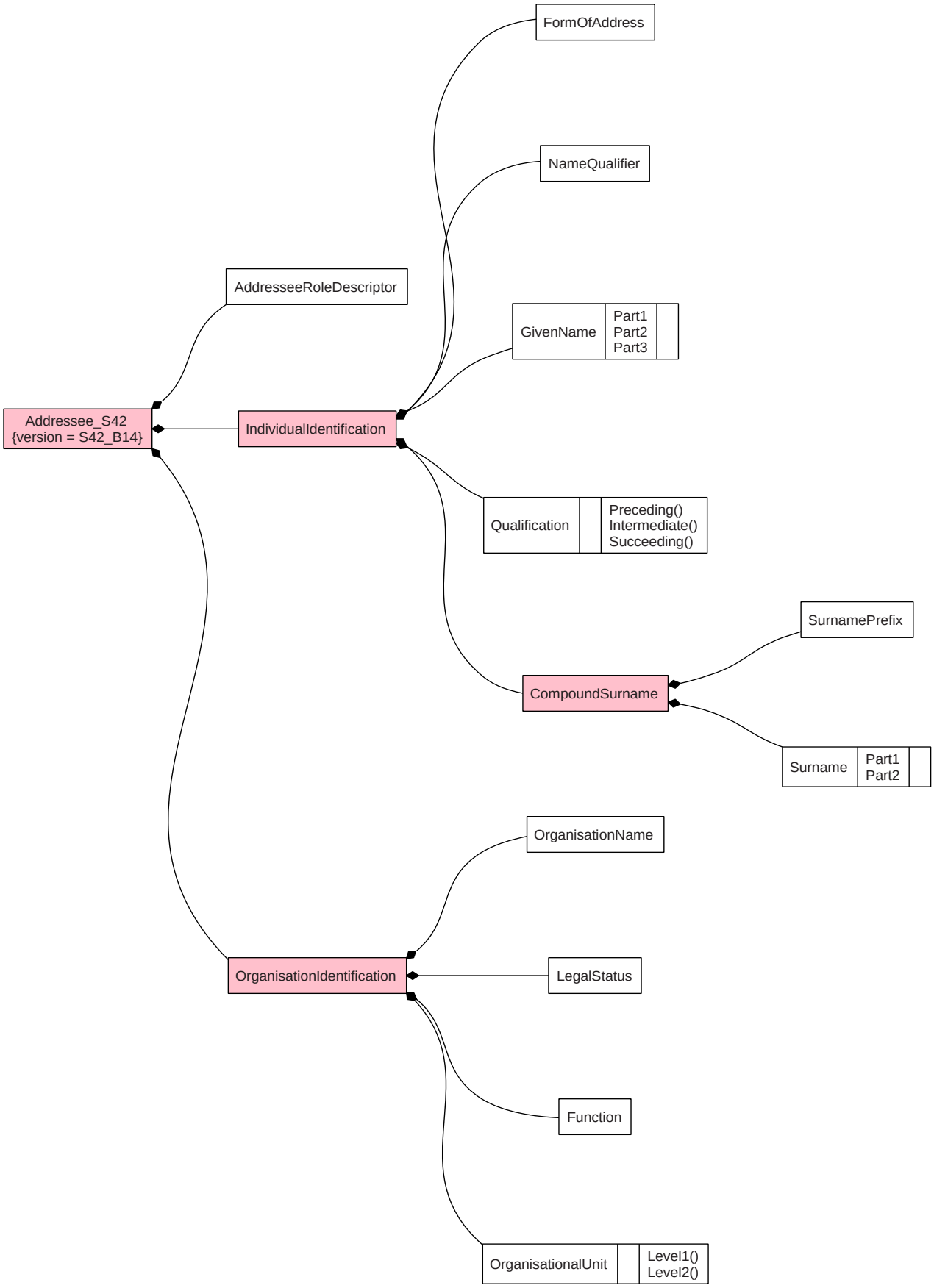
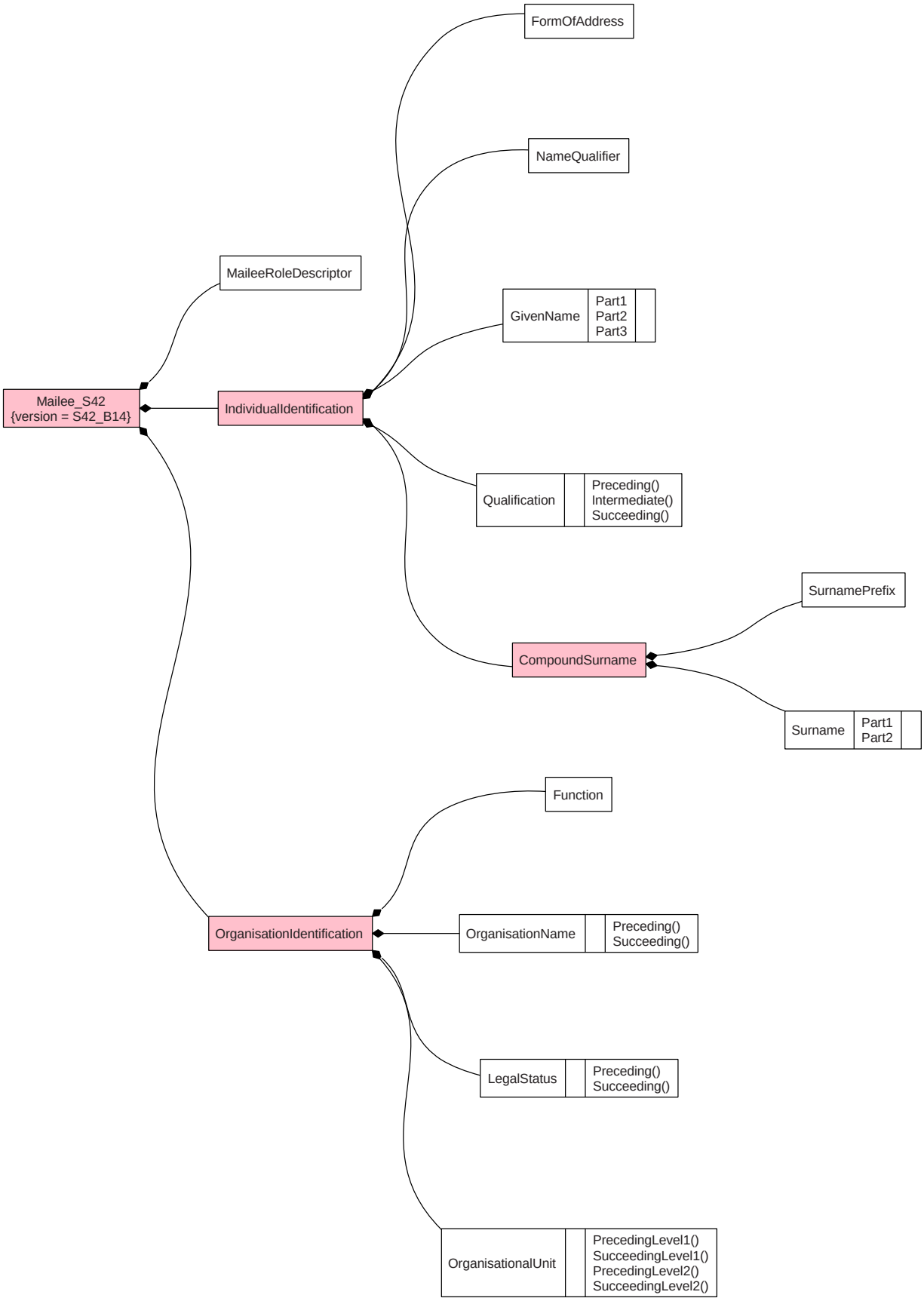
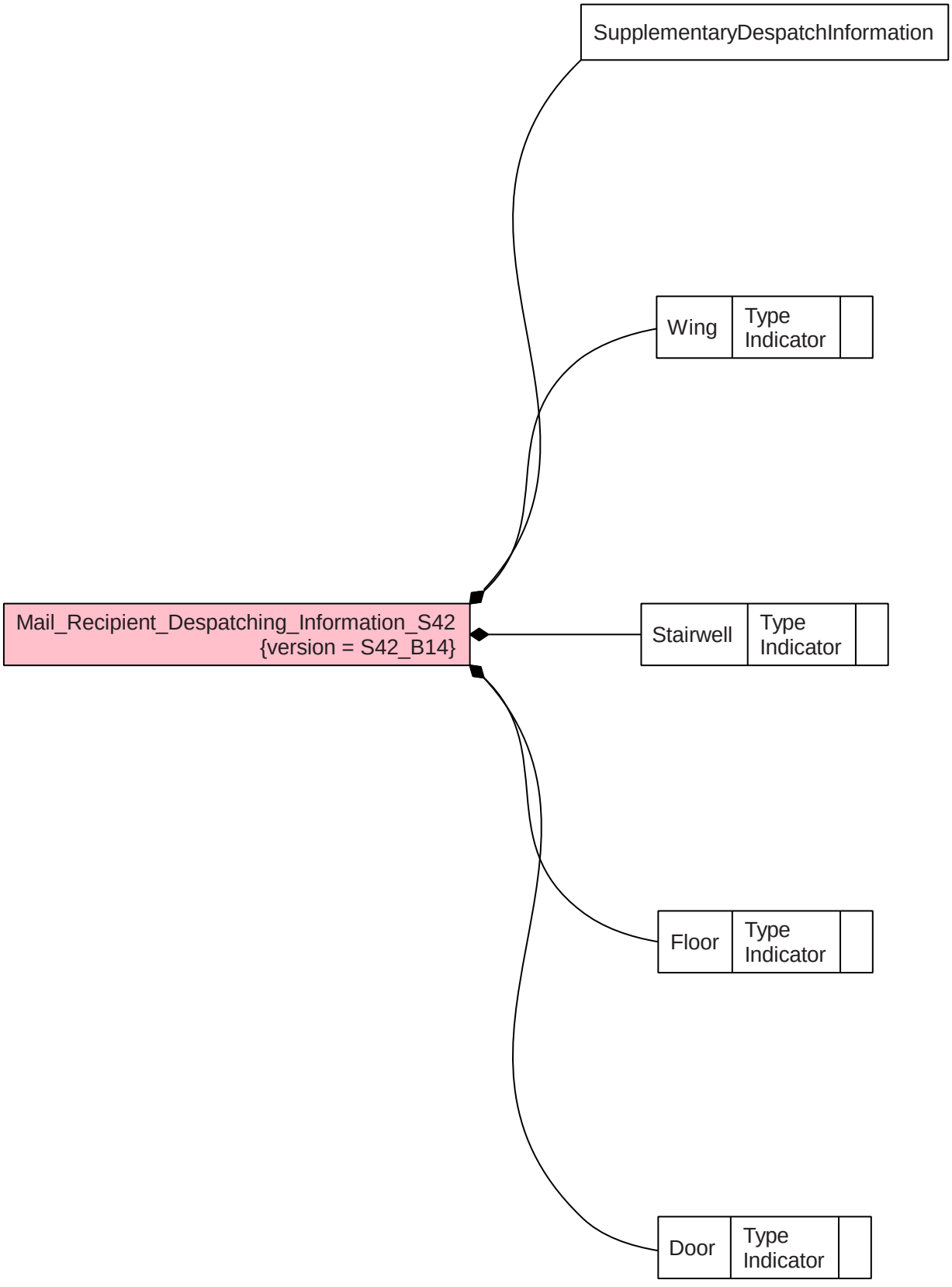
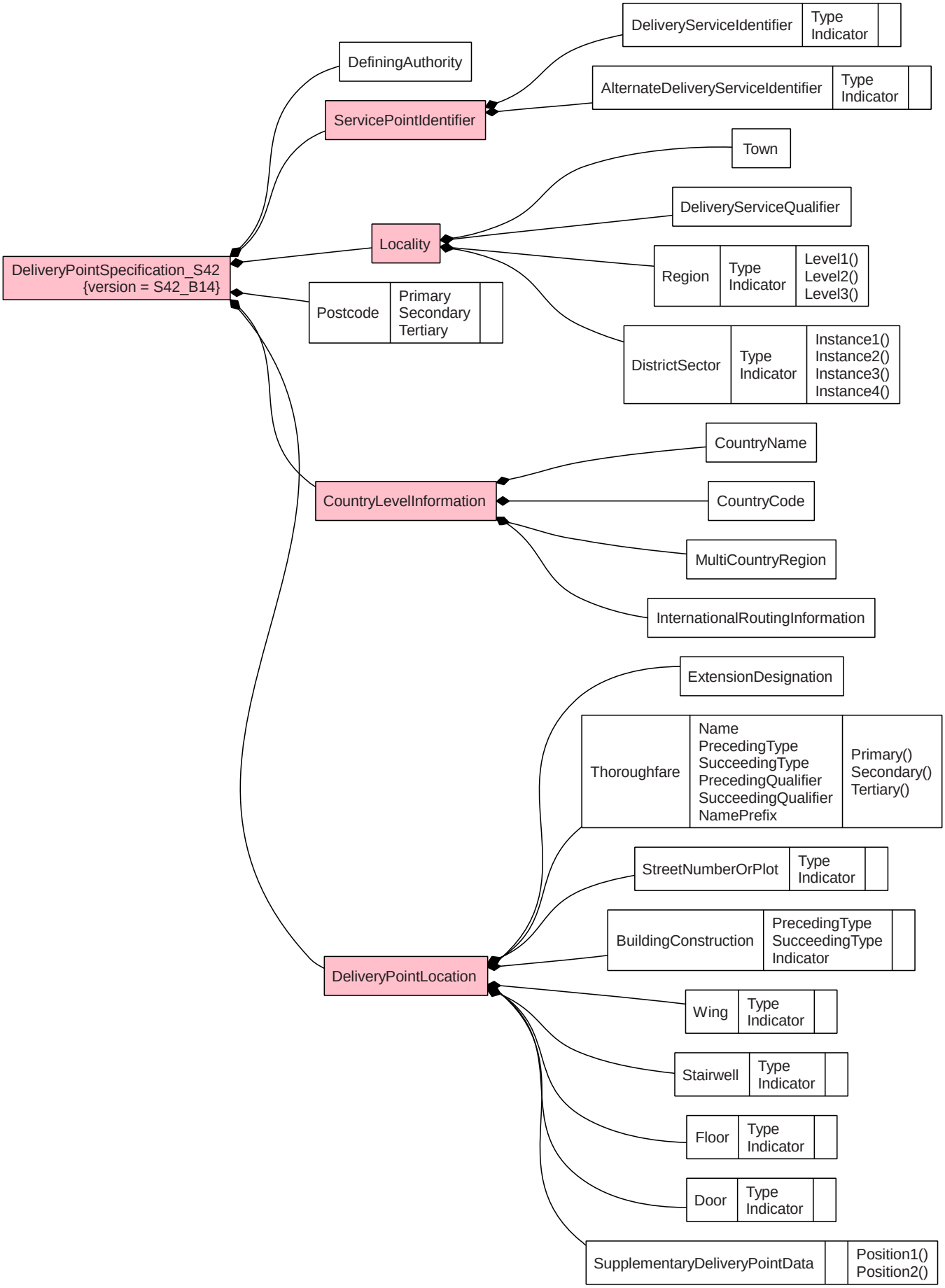
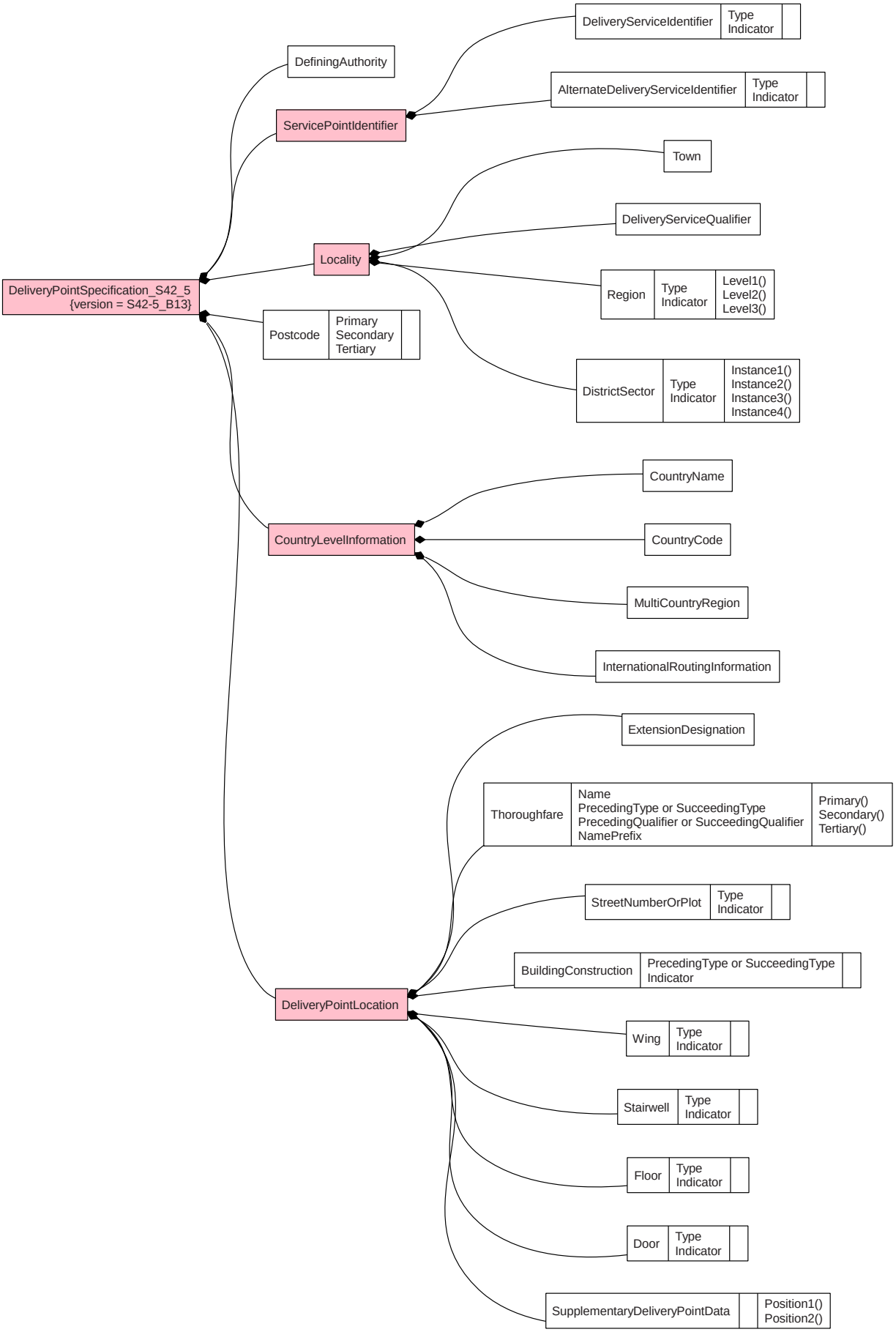
{version = S42_B14}
Addressee
AddresseeRoleDescriptor
IndividualIdentification
FormOfAddress
GivenName
Qualification
NameQualifier
CompoundSurname
SurnamePrefix
Surname
OrganisationIdentification
OrganisationName
LegalStatus
OrganisationalUnit
Function
Mailee
MaileeRoleDescriptor
IndividualIdentification
FormOfAddress
GivenName
Qualification
NameQualifier
CompoundSurname
SurnamePrefix
Surname
OrganisationIdentification
OrganisationName
LegalStatus
OrganisationalUnit
Function
MailRecipientDespatchingInformation
Wing
Stairwell
Floor
Door
SupplementaryDespatchInformation
DeliveryPointSpecification
Postcode
DefiningAuthority
ServicePointIdentifier
AlternateDeliveryServiceIdentifier
DeliveryServiceIdentifier
Locality
Region
Town
DistrictSector
DeliveryServiceQualifier
CountryLevelInformation
CountryName
CountryCode
MultiCountryRegion
InternationalRoutingInformation
DeliveryPointLocation
Thoroughfare
StreetNumberOrPlot
BuildingConstruction
ExtensionDesignation
Wing
Stairwell
Floor
Door
SupplementaryDeliveryPointData


FormOfAddress
NameQualifier
AddresseeRoleDescriptor
GivenName
Part1
Part2
Part3
Addressee_S42
{version = S42_B14}
IndividualIdentification
Qualification
Preceding()
Intermediate()
Succeeding()
SurnamePrefix
CompoundSurname
Surname
Part1
Part2
OrganisationName
OrganisationIdentification
LegalStatus
Function
OrganisationalUnit
Level1()
Level2()


FormOfAddress
NameQualifier
MaileeRoleDescriptor
GivenName
Part1
Part2
Part3
Mailee_S42
{version = S42_B14}
IndividualIdentification
Qualification
Preceding()
Intermediate()
Succeeding()
SurnamePrefix
CompoundSurname
Surname
Part1
Part2
Function
OrganisationIdentification
OrganisationName
Preceding()
Succeeding()
LegalStatus
Preceding()
Succeeding()
OrganisationalUnit
PrecedingLevel1()
SucceedingLevel1()
PrecedingLevel2()
SucceedingLevel2()


SupplementaryDespatchInformation
Wing
Type Indicator
Mail_Recipient_Despatching_Information_S42 {version = S42_B14}
Stairwell
Type Indicator
Floor
Type Indicator
Door
Type Indicator


DeliveryPointSpecification_S42
{version = S42_B14}
DefiningAuthority
ServicePointIdentifier
DeliveryServiceIdentifier
Type Indicator
AlternateDeliveryServiceIdentifier
Type Indicator
Locality
Town
DeliveryServiceQualifier
Region
Type Indicator
Level1()
Level2()
Level3()
DistrictSector
Type Indicator
Instance1()
Instance2()
Instance3()
Instance4()
Postcode
Primary
Secondary
Tertiary
CountryLevelInformation
CountryName
CountryCode
MultiCountryRegion
InternationalRoutingInformation
DeliveryPointLocation
ExtensionDesignation
Thoroughfare
Name
PrecedingType
SucceedingType
PrecedingQualifier
SucceedingQualifier
NamePrefix
Primary()
Secondary()
Tertiary()
StreetNumberOrPlot
Type Indicator
BuildingConstruction
PrecedingType
SucceedingType
Indicator
Wing
Type Indicator
Stairwell
Type Indicator
Floor
Type Indicator
Door
Type Indicator
SupplementaryDeliveryPointData
Position1()
Position2()


DeliveryPointSpecification_S42_5
{version = S42-5_B13}
DefiningAuthority
ServicePointIdentifier
DeliveryServiceIdentifier
Type Indicator
AlternateDeliveryServiceIdentifier
Type Indicator
Locality
Town
DeliveryServiceQualifier
Region
Type Indicator
Level1()
Level2()
Level3()
DistrictSector
Type Indicator
Instance1()
Instance2()
Instance3()
Instance4()
Postcode
Primary
Secondary
Tertiary
CountryLevelInformation
CountryName
CountryCode
MultiCountryRegion
InternationalRoutingInformation
DeliveryPointLocation
ExtensionDesignation
Thoroughfare
Name
PrecedingType or SucceedingType
PrecedingQualifier or SucceedingQualifier
NamePrefix
Primary()
Secondary()
Tertiary()
StreetNumberOrPlot
Type Indicator
BuildingConstruction
PrecedingType or SucceedingType Indicator
Wing
Type Indicator
Stairwell
Type Indicator
Floor
Type Indicator
Door
Type Indicator
SupplementaryDeliveryPointData
Position1()
Position2()

Annex B
(normative)

Postal Address Template Languages

B.1 Postal Address Template Description Language (PATDL) W3C XML Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified">
    <!--
This W3C XML schema defines version 2.6 of the Postal Address Template Description Language (PATDL).

A PATDL template is an ordered list of address data elements, which might be populated in any given instance, arranged in groups corresponding to lines of output information in such a way that the data populating the elements will produce a mailing address, order form address, display screen address, or other desired outcome. There can be one or more address templates for a particular job, and the templates are invoked from an application under control of the user.

A set of rendition instructions is normally incorporated within each template , which define various functions and operations that can be performed upon the address data elements. This is done in order to ensure that the output from processing the template preserves the information necessary to achieve postal delivery, maintain quality control in production, and communicate with the addressee, even when production constraints dictate that some of the available information will not fit on the mail piece.

A PATDL template is identified by five components, though not all are needed in all circumstances. The first is a template type code. The second is the country code, in the two character alphabetic EN ISO 3166 standard code. The third is a four-position user code that identifies the owner or designer of the template. The fourth is a three-digit template number, which should be sufficient to support a library of template variations. The fifth is a four-position version number to allow for testing and documentation.

PATDL supports implicit conditional logic, enabling branching within the template based on based on field values, business rules, decision tables, or other defined procedures. Templates refer to elements by their names or by using codes assigned by the UPU, and can also utilize externally defined elements or code sets. Templates for some countries, such as the United Kingdom, can be substantially more complex than for others, such as the United States.

As further work is done on templates, including defining standard templates as part of the UPU S42 project, the user will increasingly benefit from the opportunity to incorporate standard templates into an application, customizing them as necessary to add proprietary features. PATDL supports customization through an extensive selection of parameters that allow expression of user preferences during final presentation.

PATDL was developed in February 2002, as the first XML description language for postal address templates. Successive versions have been included in UPU S42 as a way to define templates in XML corresponding to natural language template (NLT) descriptions while supplying additional information useful to an application. A PATDL template includes identifying information and has content pertaining to defining address structures and formats, including user preferences, trigger conditions, line candidates, line components, address elements, and rendition instructions.

User preferences are needed to resolve issues of selection of line candidates, line components, lines, and address elements, constraints upon rendition, options requiring a choice, and rendition instructions that vary depending on the job to be performed. Additionally, user preferences determine quality thresholds and govern the type and amount of output information generated from an implementation relating to the achievement of these thresholds.
```

Trigger conditions determine the inclusion or exclusion of line candidates and components from the initial rendition, which is a starting point from which rendition instructions are followed to create the final presentation. Before this is done there is an opportunity to perform operations that serve as preconditions, either to help determine the paths taken through template logic or in some cases to allow for data manipulations needed prior to executing that logic.

Line candidates and components are collections of elements that can become multiple physical lines, single physical lines, or parts of physical lines during the rendition process.

Address elements are parts of addresses as defined in a standardization process such as that begun at the CEN and continued at the UPU. In PATDL, both elements and element sub-types can be used in populating the templates, and it is also possible to use external elements from other sources even when they are only identified with tags or names and not with a code structure.

Rendition instructions accomplish the final presentation of the address or intermediate steps toward that end. They include rendition operators that utilize constants and rendition commands that manipulate elements, lines, and line components. There are also rendition parameters that govern the conditions under which the rendition is carried out. Rendition instructions are an integral part of the UPU S42 approach to governing address presentation. There are upstream rendition instructions that perform branching among different parts of the template and downstream rendition instructions which accomplish the final presentation of address elements and components.

As part of the identifying information in the template, a reference key can be used to uniquely identify the data set. A means is provided to define general information about systems of element identifiers, element definers, and element descriptors, including type, prefix, language, system, version, and source. Later on, individual instances of these entities are used to populate logical lines and components. An element identifier uniquely specifies an element even when multiple sources of elements are being used. If there are multiple sources, a prefix is used with the identifier to guarantee uniqueness. An element definer documents what an element represents and is not used to access the element. An element descriptor provides a semantic clue or an alternate description of the meaning of an element and can also serve as an alternate identifier.

A default delimiter will be used to separate elements and constants in output generated using the template, unless it is overridden by using a rendition instruction that has a specific behaviour that results in suppression of the default delimiter.

Within the template, a default separator is used to separate arguments. A default sequencer is used to separate elements within a single argument. A default collector indicates a series of elements within a single argument.

An external entity can be a data table used in the rendition process, called procedures invoked during the rendition process, or other data relevant to the process. External entities are documented to indicate where they can be found and also to describe key aspects of their structure that need to be known in order for a PATDL interpreter to work properly. Such an interpreter may have such external entities available locally or it may have to access them remotely. Among the features of external entities that are documented are unique names, input parameters, elements used, data modes of IN for input and OUT for output, table data structures including starting positions and field lengths, result codes, and reporting requirements.

A PATDL document may include one or more templates, referenced by a template identifier. There may be multiple branches within a template for the same country representing different address types with distinct orderings of elements. There can be multiple templates for the same country within a PATDL document. Alternatively, each template can be presented as a different PATDL document.

The user preferences include several constructs designed to indicate which of a set of line candidates or components is preferred when more than one is populated for a given address instance, and also to permit the elimination of particular line candidates or components from consideration in the current rendition process.

Another user preference allows arbitration within an application between the relative priorities of rendition instructions operating in the horizontal vs. the vertical dimension. There is also a capability to specify other application parameters as a user preference.

A character set is a preferred or allowable set of characters that are eligible to be used in the output of a particular rendition process.

A quality threshold is crossed when, in the process of rendition, essential data has been eliminated, or required data is determined not to be present, that can compromise deliverability of the address as determined by the user or a postal service.

Quality control thresholds can provide error reports depending on the value of the OUT parameter. Reports can be generated if a rendition instruction with a priority over a given threshold is invoked, if default truncation of any element is performed, or if an element with required content is either null or an empty string. The parameters for these include LVL with a numeric value to denote the maximum priority allowed, TRN for default truncation with a value of “Y” or “N”, REQ for absence of a required element or component with a value of "Y" or "N", and LIM with a numeric value to limit the number of cases for which output is generated. The OUT parameter can take the values "Y", "LVL", "TRN", "REQ", or "N". Output should include diagnostic and identifying information.

User preferences also permit the specification of a maximum number of lines and characters per line for the rendition, which often determines the constraints that govern almost all the other rendition procedures. Another preference prevents the elimination of blank lines through compression, which is the default behaviour. This can also be specified on a line by line basis.

Trigger conditions show whether an element or set of elements is populated, or whether an element, an external called procedure, or a user preference, has a certain value. There is also a block construct, lineSelect, to denote the scope of a set of trigger conditions, and a defaultCase trigger condition to guarantee that one of a set of conditions within a block will be satisfied. Within a trigger condition, a default separator indicates a boundary between two arguments, and a default sequencer and default collector can indicate a series or sequence of elements within a single argument. Values are enclosed within either single or double quotes.

Trigger conditions are followed by one or more line candidates, and if the conditions are satisfied, the immediately following line candidates, which may explicitly include or implicitly exclude line components, will be selected into the initial rendition. Each line candidate and line component with all of its elements and operators are defined in a lineData section. Whenever one set of trigger conditions within a lineSelect block has been satisfied, none of the others are evaluated. If a line candidate is selected but user preferences indicate that it is to be suppressed, it is not brought forward.

The isPopulated trigger condition can have multiple arguments and is satisfied only if all arguments, including at least one of a set of elements within an argument, meet the condition of being populated. The isNotPopulated trigger condition has the same options and is satisfied only if all arguments, including at least one of a set of elements within an argument, are not populated, that is, null or an empty string. The hasValue trigger condition can test whether an element has a particular value, or a value within a range of values, or whether an element has the same value as another element. The hasNotValue trigger condition can test whether an element does not have a particular value, or does not have a value within a range of values, or whether an element does not have the same value as another element. The containsValue trigger condition iterates through the data in an element, considered as a string, to determine whether an element contains a value, or a value within a range of values. The hasPreference trigger condition tests whether a user preference has been indicated matching a value or one of a series of values. The hasResult trigger condition and the preCondition trigger condition compare the result of an external called function to a specified value. These are the only trigger conditions that can accept elements as input parameters. If present, the parameters are enclosed in parentheses after the function name and delimited by the default sequencer. The defaultCase trigger condition can be used after one or more other conditions are tested to ensure that one of a set of trigger conditions is satisfied. It has no arguments and cannot be combined with any other trigger conditions, but it is followed by one or more line candidates and line components.

Whether or not a defaultCase condition is present, a lineSelectReport condition may be defined with parameters to define when the particular lineSelect block should report events that it generates. Specific parameters include LANG for setting a language for reporting, POS to identify a code or codes denoting a successful result, and NEG to identify a code or codes denoting an unsuccessful result. The parameter OUT can take a value of "Y", "SEL" or "N" to generate or suppress output, with "Y" including all events, "N"

including none, and "SEL" including events generated either by a default case or when the logic produces no selections. LIM can be set to limit the number of cases for which output is generated, and ERR can convey error codes on output. Output should include the elements tested and the specific values found that led to the events or the lack of any events.

Implicitly, an or-function can be represented by repeating trigger conditions, each with its own line construct result, and an and-function can be represented by consecutive trigger conditions prior to a line construct result. A test for equality can be accomplished by the hasValue trigger condition with two elements, and a test for inequality can be done by the hasNotValue trigger condition with two elements. All of these tests can also be done by using hasResult with an appropriate called procedure.

Trigger conditions are defined in PATDL at the line or line component level, not at the element level. This simplifies the template logic at the expense of verbosity. For example, given a choice between a formal first name and a nickname, with a middle name also possible, the middle name might not be wanted with the nickname. To get this result, it is necessary to set up two alternate name lines, and populate one or the other based on whether the formal first name is available or not.

Line data includes line names, line numbers, line components, line component identifiers, and line priorities. There is a component language designator, and indicators for whether a component can be moved or compressed, an indicator for whether content is required if the component is selected, or alternatively whether the component is part of a group one or more of which is required if the component is selected. There are rendition commands for combining lines including specifying priority, limits, grouping and order of the line components, any needed delimiters, and location of the combined components, and finally, sets of rendition commands, elements, and rendition operators applying to the elements. The line names and line numbers are mandatory. Line names and numbers are both needed since the same line construct may appear in different places, and several components could be candidates for the same line number. The line numbers are subject to change during the rendition process. Line components with line priorities are needed in order to establish a decision procedure for keeping or dropping lines. Certain lines, such as international lines, can be excluded by "Y" when lines are counted and compared against a maximum number of lines. A component that can be moved can have its own position changed by the expansion, contraction or elimination of other components. A component that can be compressed is one whose position can itself be eliminated if it is not populated. If content is not present when a required component has been selected, a quality control error message will be generated, if the appropriate parameter has been specified. Combining lines is part of the rendition process, and multiple components are used when lines might be divided by moving a component either up or down. Elements can also be divided so that portions of element content are moved up or down using the default delimiter as a separator.

Element data includes one or more sets of an element identifier, definer, and descriptor, and an indicator for whether content is required if the component is selected, or alternatively whether the element is part of a group one or more of which is required if the component is selected. There is a migration precedence function, an indicator for left or right field justification, parameters for field starting position and length, and one or more rendition commands applying to the element. Element substitution is accomplished by indicating multiple elements. If the first is not populated, the next will be tried, and so on, though once one has been included, the remainder of the set is not checked. If required content is not present, and the component is required, or if the component is not required and is not eliminated during the rendition process, a quality control error message will be generated, if the appropriate parameter has been specified. The migration precedence function allows an element to be selected in more than one position within the same or different components and provides a priority setting method for locating the element data properly based on the presence or absence of other elements within the component. For example, a mailee role descriptor with a value of "c/o" could apply to a named individual, or an organizational function, or an organizational unit, or the organization name, depending on which of these elements or sets of elements were populated.

Rendition instructions, including commands and operators, and elements are defined in the appropriate source documents. The sources include the Universal Postal Union (UPU) S42 standard "International Postal Address Components and Templates", the IDEAlliance Address Data Interchange Specification (ADIS), code lists from the Electronic Commerce Code Management Association (ECCMA), or others. Multiple sources of elements and rendition instructions can be used together as long as they are uniquely differentiated. This can be accomplished by designating a different prefix for each source.

```
-->
    <xs:element name="patdl26.xml">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="identifier" type="identifierType"/>
                <xs:element name="contentDefinition" type="contentDefinitionType"
maxOccurs="unbounded"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <!--  -->
    <xs:complexType name="identifierType">
        <xs:sequence>
            <xs:element ref="referenceKey"/>
            <xs:element name="elementIdentifier" type="elementIdentifierType"
maxOccurs="unbounded"/>
            <xs:element name="elementDefiner" type="elementDefinerType"
maxOccurs="unbounded"/>
            <xs:element name="elementDescriptor" type="elementDescriptorType"
maxOccurs="unbounded"/>
            <xs:element name="renditionInstruction" type="renditionInstructionType"
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element ref="defaultDelimiter"/>
            <xs:element ref="defaultSeparator"/>
            <xs:element ref="defaultSequencer"/>
            <xs:element ref="defaultCollector"/>
            <xs:element name="externalEntityData" type="externalEntityDataType"
minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="elementIdentifierType">
        <xs:sequence>
            <xs:element ref="type"/>
            <xs:element ref="prefix" minOccurs="0"/>
            <xs:element ref="language" minOccurs="0"/>
            <xs:element ref="system"/>
            <xs:element ref="version"/>
            <xs:element ref="source"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="elementDefinerType">
        <xs:sequence>
            <xs:element ref="type"/>
            <xs:element ref="prefix" minOccurs="0"/>
            <xs:element ref="language"/>
            <xs:element ref="system" minOccurs="0"/>
            <xs:element ref="version" minOccurs="0"/>
            <xs:element ref="source"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="elementDescriptorType">
        <xs:sequence>
            <xs:element ref="type"/>
            <xs:element ref="prefix" minOccurs="0"/>
            <xs:element ref="language"/>
            <xs:element ref="system" minOccurs="0"/>
```

```
            <xs:element ref="version" minOccurs="0"/>
            <xs:element ref="source"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="renditionInstructionType">
        <xs:sequence>
            <xs:element ref="type"/>
            <xs:element ref="prefix" minOccurs="0"/>
            <xs:element ref="language"/>
            <xs:element ref="system"/>
            <xs:element ref="version"/>
            <xs:element ref="source"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="externalEntityDataType">
        <xs:sequence>
            <xs:element name="templateIdentifier" type="templateIdentifierType"
minOccurs="0"/>
            <xs:element ref="entityId"/>
            <xs:element ref="entityType"/>
            <xs:element ref="entityReference"/>
            <xs:element ref="entitySystem"/>
            <xs:element ref="entityVersion"/>
            <xs:element name="entityDataStructure" type="entityDataStructureType"/>
            <xs:element name="entityArguments" type="entityArgumentsType"/>
            <xs:element ref="entityPriority" minOccurs="0"/>
            <xs:element ref="entityLocation" minOccurs="0"/>
        </xs:sequence>
        <!--  -->
    </xs:complexType>
    <xs:complexType name="entityArgumentsType">
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
            <xs:element ref="parameterName"/>
            <xs:element ref="parameterValue" minOccurs="0"/>
            <xs:element ref="dataMode"/>
        </xs:sequence>
    </xs:complexType>
    <!-- -->
    <xs:complexType name="entityDataStructureType">
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
            <xs:element ref="elementId"/>
            <xs:element ref="posStart" minOccurs="0"/>
            <xs:element ref="posLength" minOccurs="0"/>
            <xs:element ref="dataMode"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="templateIdentifierType">
        <xs:sequence>
            <xs:element ref="templateType"/>
            <xs:element ref="countryCode"/>
            <xs:element ref="userId"/>
            <xs:element ref="templateSeqNum"/>
            <xs:element ref="templateVersion" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
```

```
    <xs:complexType name="contentDefinitionType">
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
            <xs:element ref="templateName"/>
            <xs:element name="templateIdentifier" type="templateIdentifierType"/>
            <xs:element name="userPreferences" type="userPreferencesType"/>
            <xs:element name="triggerConditions" type="triggerConditionsType"/>
            <xs:element name="lineData" type="lineDataType" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="userPreferencesType">
        <xs:sequence>
            <xs:element name="linePreference" type="linePreferenceType"
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="componentPreference" type="componentPreferenceType"
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="suppressLine" type="suppressLineType" minOccurs="0"
maxOccurs="unbounded"/>
            <xs:element name="suppressComponent" type="suppressComponentType"
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element ref="applicationParameter" minOccurs="0"
maxOccurs="unbounded"/>
            <xs:element ref="characterSet" minOccurs="0"/>
            <xs:element name="verticalVsHorizontal" type="verticalVsHorizontalType"
minOccurs="0"/>
            <xs:element name="qualityThreshold" type="qualityThresholdType"
minOccurs="0"/>
            <xs:element ref="maxLines" minOccurs="0"/>
            <xs:element ref="maxCharacters" minOccurs="0"/>
            <xs:element ref="preserveBlankLines" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="linePreferenceType">
        <xs:sequence>
            <xs:element name="lineName" type="lineNameType"/>
            <xs:element ref="typeOfPreference"/>
            <xs:element name="lineName" type="lineNameType"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="lineNameType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="lineNumber" type="xs:string" use="required"/>
                <xs:attribute name="excludeFromMaxLines" type="xs:string"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="componentPreferenceType">
        <xs:sequence>
            <xs:element ref="componentId"/>
            <xs:element ref="typeOfPreference"/>
            <xs:element ref="componentId"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="suppressLineType">
```

```
        <xs:sequence>
            <xs:element name="lineName" type="lineNameType"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="suppressComponentType">
        <xs:sequence>
            <xs:element ref="componentId"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="verticalVsHorizontalType">
        <xs:sequence>
            <xs:element ref="typeOfPreference"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="qualityThresholdType">
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
            <xs:element ref="parameterName"/>
            <xs:element ref="parameterValue"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="triggerConditionsType">
        <xs:sequence>
            <xs:element ref="preCondition" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="lineSelect" type="lineSelectType" minOccurs="0"
maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
    <!--  -->
    <xs:complexType name="lineSelectType">
        <xs:sequence>
            <xs:sequence maxOccurs="unbounded">
                <xs:choice minOccurs="0" maxOccurs="unbounded">
                    <xs:element ref="isPopulated"/>
                    <xs:element ref="isNotPopulated"/>
                    <xs:element ref="hasValue"/>
                    <xs:element ref="hasNotValue"/>
                    <xs:element ref="containsValue"/>
                    <xs:element ref="hasPreference"/>
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maxOccurs="unbounded"/>
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minOccurs="0"/>
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          <xs:element ref="priority"/>
          <xs:element ref="language" minOccurs="0"/>
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minOccurs="0" maxOccurs="unbounded"/>
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minOccurs="0" maxOccurs="unbounded"/>
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    </xs:complexType>
    <!--  -->
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    <xs:element name="userId" type="xs:string"/>
    <xs:element name="version" type="xs:string"/>
</xs:schema>
```

Bibliography

This bibliography provides full reference and sourcing information for all standards and other reference sources which are quoted in the above text. For references which mention specific version numbers or dates, subsequent amendments to, or revisions of, any of these publications may not be relevant. However, users of this specification are encouraged to investigate the existence and applicability of more recent editions. For references without date or version number, the latest edition of the document referred to applies.

UPU standards

NOTE 1 UPU documents are available from the UPU International Bureau:

Weltpoststrasse 4, Case postale, 3000 Berne 15, SWITZERLAND;
Tel: +41 31 350 3111; Fax: +41 31 350 3110; http://www.upu.int

[1] General information on UPU standards, accessible on URL http://www.upu.int

European standards

NOTE 2 European standards can be obtained from national standardisation institutes of CEN member states

[2] EN 14142-1: "Postal services – Address data bases – Part 1 – Components of Postal Addresses"

ISO standards

NOTE 3 ISO standards are available from national standards institutes or from the International Organisation for Standardisation (ISO):

1, ch. de la Voie-Creuse, Case postale 56, 1211 Genève 20, SWITZERLAND;
Tel: +41 22 749 0111; Fax: +41 22 733 3430; http://www.iso.org

[3] ISO/IEC 15418, *Information technology – EAN/UCC application identifiers and FACT data identifiers and maintenance*

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