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Poštnе storitve - Informacijske storitve za stranke, vključno s sledenjem "track and trace" - Splošni pojmi in definicije

Postal services - Customer-directed information including track and trace - General concepts and definitions

Postalische Dienstleistungen - Kundengesteuerte Informationen einschließlich track-and-trace - Allgemeine Konzepte und Definitionen

Services postaux - Informations orientées client incluant le suivi et la localisation - Concepts généraux et définitions

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English Version

Postal services - Customer-directed information including track and trace - General concepts and definitions

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Postalische Dienstleistungen - Kundengesteuerte Informationen einschließlich track-and-trace - Allgemeine Konzepte und Definitionen

This Technical Report was approved by CEN on 28 May 2011. It has been drawn up by the Technical Committee CEN/TC 331.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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CEN/TR 15524:2011 (E)

Foreword

This document (CEN/TR 15524:2011) has been prepared by Technical Committee CEN/TC 331 "Postal Services", the secretariat of which is held by NEN.

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 CEN/TR 15524:2006.

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Introduction

Widespread proliferation of electronic, internet-based data communications provides a cost-effective platform for the effective integration of a global mail communication system. The essence of such integration is an automated exchange of computerised information between *mailer, postal and recipient domains*. Within each of these domains there is a wealth of information that has been, or could be collected, computerised and subsequently communicated to other domains, enhancing the overall mail system. This information is typically information *about* mail units and it allows for effective control and management of the entire mail distribution network and integration of mail communications with main business applications in postal customers IT systems. In particular, modern postal operators employ sophisticated mail processing machinery and supporting IT infrastructure. Computerised information describing mail units and sets undergoing postal processing, transportation and delivery activities that already exists within postal IT systems does have significant value for postal customers, both senders and recipients (and their authorised agents). The main purpose of the present Technical Report is to define basic concepts associated with collection and distribution of post-generated information to postal customers (framed using methodology of an entity-relationship model), and to describe the content and structure of messages that can be used by posts to communicate this information to its customers using post-mailer interface. This report, however, does not describe specific messages and protocols that could be recommended for communicating the collected information nor the methods of its use within sender or recipient environments.

Thus, the main objective of this document is a description of a standardised method of capturing by post and enabling customers to access information within the *postal environment*. The basis of the method described in this report is an entity-relationship model that is widely used in the design of modern computer databases. At the heart of this model is the notion of *mail units and their attributes*, the values of which can be captured at feasible and desirable locations and dates to form *observations*. Comparison of observations taken at different locations and dates naturally leads to the notion of *events* that are triggers for the communication of information contained in the observations to postal customers. Generalisation of the concept of observation is the concept of *expectation* that provides quite a useful way to create a forecast for the future values of mail units attributes. Together, expectations, observations and values of mail unit attributes form a basis for a formal and broad definition of the concept of *postal product or service*. It is expected that more and more postal services will be information-rich, meaning that the main added value of such services will come from computerised information (about postal distribution process applied to mail units) that will be made available to postal customers.

The methodology described in this report is also applicable to capturing a broad class of information that is encountered in mail communication systems, for example information that is important for managing data exchanges between postal operators and between postal operators and their contractors.

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1 Scope

This Technical Report consists of three parts.

The first part defines, describes and explains basic concepts typical to all mail communication systems such as; domains, parties, agents and their role in the system, physical and informational objects, processes, interfaces and relationships.

The first part does not cover more detailed technical aspects of the main concepts such as:

- a detailed description of mail units and sets, their attributes and methods of collection/capture of their values;
- applications describing specific use of the information describing basic objects by mailers, postal operators and recipients;
- data elements, data constructs and message descriptions;
- communication protocols and infrastructure for message transport including transport of messages through a print-scan channel (or paper channel);
- message security issues related to individual messages: confidentiality and integrity of data, authentication and non-repudiation;
- printing symbology, physical placement of data elements and symbols, their orientation and dimensions, and inks and print quality.

The second part of this Technical Report defines the necessary and sufficient concepts for customer directed information that can be captured by post and made accessible to customers using post-mailer interface. This report explains and describes relationships between these concepts.

This report provides a comprehensive list of mail unit attributes that are involved in forming observations and events significant for postal customers. This report describes a methodology suitable for the selection of observation points within postal domain process where information collected in observations is most useful for customers. The report does not cover:

- applications describing the use of collected event information;
- messages and protocols;
- communication infrastructure.

The third part of this Technical Report describes:

- a list of specific events knowledge of which is valuable to postal customers (mail senders and recipients) and could be made available to such customers;
- underlying mail unit attributes that form corresponding observations;
- data construct supporting practical access to information collected within postal domain about events, underlying observations and expectations, and in particular information about events, observations and expectations that are valuable to postal customers.

This Technical Report also provides an example of application that demonstrates the use of specific events and data constructs.

This Technical Report makes use of XML schema in describing relevant data constructs. Actual communication messages can be built from data constructs described in this report. However, this report does not specify the structure of specific messages, nor does it preclude using mechanisms other than XML schema to describe data constructs.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

address list selection

process of selecting a mailing address for the intended recipient of the message

2.2

agent

entity involved in any part of the provision of postal services in respect of a mail item

2.3

agent attribute

characteristic of the agent which is or can be represented by a data value

2.4

authorised third party

party that is authorised by the mail originator to receive information about the mail unit for the purpose of potential dispute resolution concerning the mail unit between the mail originator, postal operator, carrier or their agents and the recipient

2.5

collection (posting)

process of picking up mail units from collection boxes, postal retail facilities or the mailer domain

2.6

communication domain domain

set of parties, agents, and processes that together play a specific functional role (such as sender, channel or recipient) in a mail communication system

2.7

consolidator

party that is responsible for assembling mail units from a given creator together with mail units from other creators

2.8

containerisation

process of assembling together and putting mail units into receptacles for transportation

2.9

mail creator creator

party that is responsible for production (creation) of a mail item, a mail unit or an aggregate

2.10

customs process

series of activities comprising customs entry, customs examination, clearance, retention or refusal aimed at processing dutiable cross-border mail units according to customs regulations

CEN/TR 15524:2011 (E)**2.11
delivery**

process of transferring a mail unit from a postal operator/carrier to a recipient which may result in successful completion or failure

**2.12
destination postal operator/carrier**

party responsible for accepting a mail unit from other postal operator/carrier or its contractor and for processing and delivery of the mail unit to its final destination (a recipient or recipients)

**2.13
electronically exchanged message
EEM**

electronic message sent or received by a mailer or postal operator during the process of mail creation, preparation, submission, acceptance, processing and delivery

**2.14
electronic interface channel**

electronic communication channel designed for the exchange of information between computers operating in mailer, postal and recipient domains and enabled by a public or private electronic communication network such as internet

**2.15
electronic sortation**

process of sorting a list of mailing addresses into groups having common characteristics (such as identical postal codes)

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**2.16
event**

occurrence of a significant change in the actual or predicted values of one or more attributes of an entity

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**2.17
event attribute**

set of name-value pairs specifying a significant change(s) or a deviation(s) that trigger the event, the name and/or identities of the parties responsible for defining these values and the rules governing the decision concerning the occurrence of the event

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**2.18
expectation**

set of mail unit attribute name-value pairs predicted, derived or assumed for a given date or a date range

**2.19
facility entry**

process of entering mail units into postal/carrier processing facilities

**2.20
finishing**

process of direct printing of information on (or applying labels containing information to) assembled mail units, said information concerning payment evidence and endorsements required for the entry of finished mail units into the postal distribution network

**2.21
incoming sortation**

process of sorting mail units into groups having common internal characteristics such as recipient mail stop codes or recipient names

**2.22
insertion**

process of folding printed message(s), assembling the content (that includes the message and optional additional enclosures) and inserting the entire content into a mailing envelope

2.23**intended recipient**

party that is specified in the destination address of the mail unit or otherwise uniquely identified by its originator

2.24**list preparation (address cleansing)**

process of comparing between mailing (postal) addresses in the selected address list and a standardised list containing corrected and up-to-date postal addresses for the purpose of finding and correcting erroneous entries in the selected list

2.25**mail aggregate****aggregate**

set of mail units that satisfy specific criteria defined in the context of a particular application

2.26**aggregate attribute**

characteristic of a mail aggregate which is or can be represented by a data value

2.27**aggregate catalogue**

set of all attribute names of a mail aggregate

2.28**mail unit**

mail item or collection of mail items which are constrained to form a physical unit

2.29**mail unit processing**

collection of sequential activities such as culling, facing, cancelling, sortation, printing of ID tags, application of forwarding labels and containerisation that are performed in postal/carrier processing facilities before mail units are transferred for loading and transportation

2.30**mail unit attribute**

characteristic of a mail unit which is or can be represented by a data value

NOTE Mail unit attributes could be a single value, a set of values including a simple range of values or a value that is expressed as a complement to a given set of values. This means that the fact that a given mail unit does not have a specified value can also be expressed using the concept of mail unit attribute (in this manner, for example, the values "not within the given range" can be also expressed).

2.31**mail induction/entry**

process whereby mail units are handed over to a postal operator and which results in either the postal operator taking responsibility for the mail units concerned or rejecting all or some of the mail units presented for hand-over

2.32**mail item****item****mail piece****postal item**

indivisible mailable entity in respect of which a mail service contractor accepts an obligation to provide postal services

2.33**mail item content**

physical document or documents and/or an object contained within means of closure such as an envelope, a box, a wrapper, and intended for the use of the recipient; all objects included in a mail item

CEN/TR 15524:2011 (E)**2.34****mail receptacle**

physical device which may be used to contain or carry mail so as to assist in its handling, transportation, storage or delivery as a unit

EXAMPLE Mailbags, trays, recipient mailbox, wheeled containers (roller cages), pallet and pallet-based containers and airfreight containers (ULDs).

NOTE Receptacles may contain mail which is housed in other (lower level) receptacles. For example, a roller cage may contain trays and/or bags of mail as well as individual (loose loaded) mail items and bundles. Some types of postal receptacle (e.g. roller cages and ULDs) have a residual value; others need not (e.g. disposable trays).

2.35**mail receptacle attribute**

characteristic of a mail receptacle which is or can be represented by a data value

2.36**mailing submission**

mail aggregate which has a unique identification and is presented or handed over for processing, by a postal operator, as part of a single induction unit

2.37**material interface channel**

physical communication channel designed for the exchange of information between computers operating in mailer, postal and recipient domains by printing or attaching electronically stored digital information to a mail unit and optically or electronically scanning (capturing) information present on this entity

2.38**message preparation**

process of preparing data that is designed to be sent as a message (content of a mail item) to the intended recipient

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2.39**observation**

set of mail unit attribute name-value pairs captured at a given date

2.40**observation attribute**

set of name-value pairs related to or characterising the observation process

2.41**opening and processing**

process of mail unit opening, extracting its content (message) and processing information (or object) contained therein

2.42**originating postal operator/carrier**

party responsible for the acceptance of a mail unit or an aggregate from the mail entity/aggregate submitter into a postal distribution network and possibly for transfer of the mail unit/aggregate to another party for processing and delivery

2.43**originator**

party that controls a mail unit's content (i.e. the message to the recipient) and the mail unit's destination address and has the overall legal control and responsibility for the mail unit

2.44**party**

legal entity involved in a mail communication process

2.45**party attribute**

characteristic of the party which is or can be represented by a data value

2.46**payer**

party responsible for payment of charges for services rendered by a mail service contractor in respect of a mail item

2.47**physical sortation**

process of sorting mail units into groups having common characteristics (such as identical postal codes)

2.48**postal product/service**

agreed-upon set of rules operating on the values of mail unit attributes governing both actions to be taken on the mail unit and communication of observations to all authorised parties

2.49**postal product/service attribute**

set of name-value pairs related to or characterising a postal product

2.50**post/carrier domain**

domain of the mail unit collection, acceptance, processing, transportation and delivery that includes all parties, agents, processes and their relationships that are involved in these activities

2.51**process in the mailer domain**

series of sequential functional activities (or sub-processes) within the mailer domain resulting in a finished mail item, a mail unit or an aggregate being ready for entry into a postal/carrier distribution network

2.52**process in the postal domain**

series of sequential functional activities (or sub-processes) within the postal domain including collection, facility entry, acceptance, processing (culling, facing, sorting), containerisation and transportation resulting in a mail unit being delivered to a recipient, discarded or returned to the mail originator (or a party authorised by the mail originator)

2.53**process in the recipient domain**

series of sequential functional activities (or sub-processes) within the recipient's domain resulting in a mail unit being delivered to a recipient, discarded or returned to the postal domain for exception processing

2.54**recipient domain**

domain of the mail unit receipt and after receipt processing including activities when the mail unit has been received by a party or an agent other than the party specifically indicated by the sender as a recipient. It includes all parties, agents, processes and their relationships that are involved in these activities

2.55**return**

process of returning a mail unit to the postal operator for the purpose of sending it back to the mail unit's originator or its agent

2.56**sender/mailer domain**

domain of the mail unit creation, finishing and submission for delivery that includes all parties, agents, processes and their relationships that are involved in these activities

CEN/TR 15524:2011 (E)**2.57****statement of aggregate**

collection of attribute name-value pairs for an aggregate assembled for the purpose of a specific application in the context of which mail units comprising the aggregate form a logical unit

2.58**statement of mailing submission**

collection of attribute name-value pairs which specifies a mailing submission and its content

2.59**submitter**

party responsible for submitting (inducting) a mail unit or an aggregate into postal/carrier distribution network

2.60**transportation**

process of carrying mail units (or mail aggregates) from one location to another that can involve carrier reception, transport vehicle assignment, loading, unloading and carrier hand-over

2.61**transportation contractor**

party responsible for transporting a mail unit received from a postal operator or a carrier from one location to another

2.62**undesirable recipient**

party that has obtained the mail unit as a result of illegal or unauthorised activity such as mail theft

2.63**unintended recipient**

party that has obtained the mail unit as a result of an inadvertent error that has occurred within the mail communication system such as delivery to a wrong address or a wrong recipient

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3 Symbols and Abbreviations

AOI	area of interest
DAB	destination address block
DPM	digital postage mark
ID	(identifier for) identity
MU	mail unit
MS	mailing submission
MS-ID	mailing submission identifier
NULL	the value of an attribute meaning, by convention, that there are no known values
OCR	optical character recognition
PP	postal product
PP-ID	postal product identifier
RFID	radio-frequency identification

NOTE Throughout the document, the following notation is used "entity.attribute". For example, the mail unit identifier is designated as "mailunit.mailunit.ID".

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This clause provides the background, motivation and explanation for all concepts and objects that are defined in Clause 2. General concepts are described referring to a mail communication system diagram presented in Figure 1.