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Poģtne 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

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Service postal - Informations orientée client incluant le suivi et la localisation - Concepts généraux et définitions

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Foreword

This document (CEN/TR 15524:2006) has been prepared by Technical Committee CEN/TC 331 “Postal services”, the secretariat of which is held by NEN.

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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 entities 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. Specifically, modern postal operators employ sophisticated mail processing machinery and supporting IT infrastructure. Computerised information describing mail entities 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 customer's access to 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 entities 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 entities attributes. Together, expectations, observations and values of mail entity 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 entities) that will be made available to postal customers.

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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.

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:

— detailed description of mail entities 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.

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The second part of this Technical Report defines the concepts necessary and sufficient to describe 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.

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This report provides a comprehensive list of mail entity 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 report describes:

— 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 entity 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.

The 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
acceptance
process of verification of a mailing submission to ensure its compliance with postal/carrier regulations

2.2
address list selection
process of selecting a mailing address for the intended recipient of the message

2.3
agent
entity involved in a mail communication process that does not have a legal status

NOTE In the context of a mail communication system the major role of the agent is to capture, process, store and share information.

2.4
agent attribute
characteristic of the agent which is or can be represented by a data value

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2.5
authorised third party
party that is authorised by the mail originator to receive information about the mail entity for the purpose of potential dispute resolution concerning mail entity between the mail originator, postal operator, carrier or their agents and the recipient

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2.6
bank
party that facilitates payment (exchange of funds) between parties for mail entity creation, finishing, consolidation, transportation and delivery

2.7
collection (posting)
process of picking up mail entities from collection boxes, postal retail facilities or the mailer domain

2.8
communication 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

2.9
consolidator
party that is responsible for consolidating mail entities from a given creator together with mail entities from other creators

2.10
consolidation contractor
party responsible for consolidating mail entities received from a postal operator or a carrier together with other mail entities (possibly from another postal operator/carrier) to achieve a desirable grouping of mail entities such as sortation or containerisation for transportation

2.11
containerisation
process of assembling together and putting mail entities into receptacles for transportation

2.12
creator
party that is responsible for production (creation) of a mail item, a mail entity or a mail set

2.13
customs process
series of activities comprising customs entry, customs examination, clearance, retention or refusal aimed at processing dutiable cross-border mail entities according to customs regulations

2.14
delivery
process of transferring a mail entity from a postal operator/carrier to a recipient which may result in successful completion or failure

2.15
delivery clerk (letter carrier, mail carrier)
human agent in a mail communication system who is responsible for delivering mail entities into recipient mail box (receptacle) or directly into the hands of the mail recipient

2.16
delivery contractor
party responsible for delivering a mail entity received from a postal operator or carrier to a recipient

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2.17
destination postal operator/carrier
party responsible for accepting a mail entity from other postal operator/carrier or its contractor and for processing and delivery of the mail entity to its final destination (a recipient or recipients)

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2.18
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

2.19
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

2.20
electronic sortation
process of sorting a list of mailing addresses into groups having common characteristics (such as identical postal codes).

2.21
event
occurrence of a significant change between any two observations (regular event) or occurrence of a significant deviation between an observation and an expectation (exceptional event)

2.22
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

2.23
expectation
set of mail entity attribute name-value pairs predicted, derived or assumed for a given date or a date range

2.24
facility entry
process of entering mail entities into postal/carrier processing facilities

2.25
finishing
process of direct printing of information on (or applying labels containing information to) assembled mail entities, said information concerning payment evidence and endorsements required for the entry of finished mail entities into the postal distribution network

2.26
incoming sortation
process of sorting mail entities into groups having common internal characteristics such as recipient mail stop codes or recipient names

2.28
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

2.29
intended recipient
party that is specified in the destination address of the mail entity or otherwise uniquely identified by its originator

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2.30
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

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2.31
mail aggregate
set of mail entities which has been grouped so as to permit common handling

2.32
mail aggregate attribute
characteristic of a mail aggregate which is or can be represented by a data value

2.33
mail aggregate catalogue
set of all attribute names of a mail aggregate

2.34
mail entity
mail item or collection of mail items which are constrained to form a physical unit

NOTE 1 The means of constraint can be a receptacle such as a tray, roller cage, or some form of packaging such as shrink wrap or rubber band.

NOTE 2 The definition of a mail entity is recursive in the sense that it makes use of the notion of the lower level mail entities. At the lowest level mail entities are mail items and the higher level mail entities can be built from lower level mail entities according to the definition.

2.35
mail entity 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 entities are transferred for loading and transportation

2.36
mail entity attribute
characteristic of a mail entity which is or can be represented by a data value

NOTE Mail entity 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 entity does not have a specified value can also be expressed using the concept of mail entity attribute (in this manner, for example, the values "not within the given range" can be also expressed).

2.37
mail induction/entry
process whereby mail entities are handed over to a postal operator and which results in either the postal operator taking responsibility for the mail entities concerned or rejecting all or some of the mail entities presented for hand-over

2.38
mail item
single mailable object that cannot be further broken up (separated) into other mailable objects

2.39
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 the like, and intended for the use of the recipient, all objects included in a mail item

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2.40
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).

2.41
mail receptacle attribute
characteristic of a mail receptacle which is or can be represented by a data value

2.42
mail set
collection of mail entities that form a logical unit in the context of a specific application (e.g. sorting, transportation, accounting, payment, hand-over)

NOTE The mail set is a logical unit. As a unit, it requires specification of commonality between its members. The commonality is expressed in terms of mail entity attributes and has to be explicitly stated for specific instances of mail sets with the exception of the case when all mail entities contained in the mail set are individually listed.

2.43
mail set attribute
characteristic of a mail set which is or can be represented by a data value

2.44
mail sorting machine
mechanical agent in a mail communication system that is designed to organise mail entities into groups of items having identical characteristics

2.45
mailing submission
mail set which has a unique identification and is presented or handed over for processing to a postal operator, as a part of a single hand-over transaction

2.46
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 entity and optically or electronically scanning (capturing) information present on this entity

2.47
message preparation
process of preparing data that is designed to be sent as a message (content of a mail item) to the intended recipient

2.48
observation
set of mail entity attribute name-value pairs captured at a given date

2.49
observation attribute
set of name-value pairs related to or characterising the observation process

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2.50
opening and processing
process of mail entity opening, extracting its content (message) and processing information (or object) contained therein

2.51
originating postal operator/carrier
party responsible for the acceptance of a mail entity or a set from the mail entity/set submitter into a postal distribution network and possibly for transfer of the mail entity/set to another party for processing and delivery

2.52
originator
party that controls a mail entity's content (i.e. the message to the recipient) and the mail entity's destination address and has the overall legal control and responsibility for the mail entity

2.53
party
legal entity involved in a mail communication process

2.54
party attribute
characteristic of the party which is or can be represented by a data value

2.55
payer
party responsible for payment of postal/carrier charges for processing and delivering a mail item, a mail entity or a mail set

2.56
payment
process of accounting for charges and transfer of funds from the mail recipient to the postal operator for services that were not paid by the mail originator or any of its authorised agents (or parties)

2.57
physical sortation
process of sorting mail entities into groups having common characteristics (such as identical postal codes).

2.58
printing
process of printing messages or envelopes (or both) that are to be assembled into sealed and unfinished mail entities.

2.59
postal product/service
agreed-upon set of rules operating on the values of mail entity attributes governing both actions to be taken on the mail entity and communication of observations to all authorised parties

2.60
postal product/service attribute
set of name-value pairs related to or characterising a postal product

2.61
post/carrier domain
domain of the mail entity collection, acceptance, processing, transportation and delivery that includes all parties, agents, processes and their relationships that are involved in these activities

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2.62
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 entity or a mail set being ready for entry into a postal/carrier distribution network

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2.63
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 entity being delivered to a recipient, discarded or returned to the mail originator (or a party authorised by the mail originator)

2.64
process in the recipient domain
series of sequential functional activities (or sub-processes) within the recipient's domain resulting in a mail entity being delivered to a recipient, discarded or returned to the postal domain for exception processing

2.65
recipient domain
domain of the mail entity receipt and after receipt processing including activities when the mail entity 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

2.66
return
process of returning a mail entity to the postal operator for the purpose of sending it back to the mail entity's originator or its agent

2.67
sender/mailer domain
domain of the mail entity creation, finishing and submission for delivery that includes all parties, agents, processes and their relationships that are involved in these activities

2.68
statement of mail set
collection of mail set attribute name-value pairs assembled for the purpose of a specific application in the context of which the mail set forms a logical unit

2.69
statement of mailing submission
collection of mailing submission attribute name-value pairs assembled for the purpose of a single hand-over transaction

2.70
submitter
party responsible for submitting (induction) a mail entity or a set into postal/carrier distribution network

2.71
transportation
process of carrying mail entities (or mail aggregates) from one location to another that can involve carrier reception, transport vehicle assignment, loading, unloading and carrier hand-over

2.72
transportation contractor
party responsible for transporting a mail entity received from a postal operator or a carrier from one location to another

2.73
undesirable recipient
party that has obtained the mail entity as a result of illegal or unauthorised activity such as mail theft

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2.74
unintended recipient
party that has obtained the mail entity 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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