

English version

**Postal services - Mail aggregates - Creation, processing and tracking**

Postalische Dienstleistungen - Sammelsendungen -  
Verarbeitung und Nachverfolgung

This Technical Specification (CEN/TS) was approved by CEN on 4 October 2004 for provisional application.

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## Foreword

This document (CEN/TS 14441:2005) has been prepared by Technical Committee CEN/TC 331 "Postal Services", the secretariat of which is held by NEN, in collaboration with the UPU.

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

This document (CEN/TS 14441:2005) complements CEN/TS 14631:2004 and UPU<sup>1)</sup> standards M34a and S37. It may be amended only after prior consultation, between CEN/TC 331 and the UPU Standards Board<sup>2)</sup>, 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 and its sub-groups, in accordance with the rules given in Part V of the "General information on UPU standards" (<http://www.upu.int/standards/en/index.html>).

This document represents the second version of the Technical Specification; it supersedes and replaces the first version (CEN/TS 14441:2003) which should no longer be used. The revision was developed to improve alignment with UPU standards developed since the work on the original version was completed. To achieve consistency with UPU standards, the text has been largely restructured and redrafted.

Annex A is informative.

This document includes a Bibliography.

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

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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 letter-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 can be freely downloaded from the UPU world-wide web site ([www.upu.int](http://www.upu.int)).

## Introduction

Postal service customers<sup>3)</sup> increasingly require not only the secure, timely delivery of their mail, but to also have information about its processing and control over the time and place of its delivery. Such requirements apply to both domestic or international mail and regardless of how many postal handling organisations are involved in servicing it. The table below lists key customer expectations and suggests how these might be satisfied.

**Table 1 — Customer expectations and how they might be met**

Customer Expectation	How it might be met
High, improving, quality of service (speed of delivery)	Identification of bottlenecks and procedures that lead to unnecessary delays; modification of processes to eliminate or alleviate these; real-time process monitoring and remedial action
Reliable, consistent service	Better process management; integrated processing and information exchange between postal handling organisations
Low cost	Creation of modules of deliverable mail at the mail finishing stage; improvement of work load planning through pre-advice of mail induction; avoidance of repeated processing
Tracking of mail	Unique identification of mail items, combined with the collection and correlation of information on the timing of critical events during each item's passage through the mail handling system
Personalised service measurement	Statistical analysis of tracking information (see above) relating to identified batches of mail / mail sent by or to individual customers
Notification of failures or delays	Monitoring of tracking information (see above) to detect abnormal events and delays; reporting of these to the customers concerned
Control over delivery time & place	Introduction of new time certain and controlled time services; support for advance notification of delivery, linked to provision of dynamic forwarding services
High, improving quality of service (damage avoidance)	Reduction in the number of processing steps and of packaging and repackaging operations
Confident use of third party service providers	Monitoring of down-stream access and inter service provider handovers
Individually tailored services	Support adaptability through the adoption of common, well defined processes
Improved in-company handling	The use of standard identifiers could facilitate improved handling and direction of mail once it arrives at the addressee's premises

Most of these expectations can be met only if individual mail items are tracked, through the mail processing pipeline, by collecting, processing, correlating and statistically analysing information on the timing of critical events during each item's passage through the mail handling system. This requires that individual items carry a unique identifier or, for batch-related services, an identifier of the mail batch to which they belong.

Though a number of systems for the tracking and tracing of individual mail items already exist, these apply, at least internationally, only to special service products such as express, insured and recorded delivery and registered mail.

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3) Note that mail recipients, as well as mailers, are considered to be customers of the postal service. Both are interested in the quality of service provided.

They are not currently applied to normal<sup>4)</sup> letter and parcel mail and do not provide either the mailer or recipient with control over the time and place of delivery.

Emerging customer requirements imply that such systems need to be significantly extended both in terms of their functionality and the range of mail services they cover. In particular, their application to standard letter and parcel mail is expected to become the norm. This requires both the introduction of a global standard for the unique identification of individual mail items and, since much of the processing of such items takes place at the level of mail aggregates, the introduction of aggregate tracking systems and the linking of these to systems for item tracking.

Mail aggregates or, more simply, aggregates are defined in the UPU Standards glossary. They are sets of mail items which have been physically grouped (and often, though not necessarily, constrained to form a single unit) so as to permit common handling. UPU standard M34 deals with their identification; their relationships with other entities, including mail items and receptacles; their characteristics or attributes and the electronic communication of information, about them, between postal handling organisations. This specification complements M34 by addressing related issues, including:

- the association of aggregate identifiers with the physical aggregates to which they relate;
- aggregate creation;
- the processing of aggregates as a unit;
- aggregate tracking;
- aggregate break-up;
- how the above relates to the tracking of individual mail items;
- the implementation of aggregate information exchange and tracking systems through the evolution of existing electronic data exchange systems.

Implementation of the concepts described in the specification is expected both to result in a modern postal service infrastructure capable of addressing the customer requirements described above and to lead to the following benefits for the postal handling organisations involved:

- more competitive, consistent and reliable services;
- enhanced control over the mail pipeline, with improved ability to take timely remedial action in the event of delays and processing errors;
- increased competitiveness, achieved through the ability to offer enhanced services, including individualised value-added information-based services and customer control of delivery timing and location, at low marginal cost;
- operational consistency, achieved through the adoption, by postal handling organisations across the world, of common standards and procedures;
- lower costs, achieved through operational efficiencies resulting from process integration;
- more realistic cost allocation, both internal to individual postal handling organisations, and between them;

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4) "Normal" in this context refers to the large volumes of ordinary letter and parcel mail handled by mail service contractors under their obligation to provide universal services. It is recognised that many private postal service providers do identify and individually track all or most of the letters and parcels which they carry. However, the volumes concerned are generally small and the services are provided at a premium, compared with universal service volumes and prices.

— an improved, more modern, market image.

This specification addresses the above under four main headings:

5. *Mail aggregates; their formation, handling and unforming, containerisation and nesting*: provides an introduction to the concept of mail aggregates, discusses the reasons for their formation, their composition, their handling and, when it is again necessary to process their content, their break-up or unforming. The clause also introduces the fact that aggregates can be hierarchically structured, or nested, and the relationships between aggregates and their eventual physical containers.
6. *Communication of aggregate data to downstream processors*: describes the methods and procedures used for the exchange of information about the formation of aggregates and their composition. These procedures are primarily used by the creator of an aggregate (i.e. the mail handling organisation that formed an aggregate) to send information to the aggregate processing organisation (i.e. mail handling organisation that is required to unform and process the contents of the aggregate). However, they may also be used to provide information to other parties involved in the transportation or intermediate handling of the aggregate, or for such parties to forward information to the aggregate processing organisation.
7. *Aggregate processing and the reporting of events – tracking*: describes the methods and procedures involved in the intermediate handling and unforming of an aggregate and, in particular, the electronic exchange of tracking information. Tracking messages are primarily used, by both intermediate mail handling organisations and the aggregate processing organisation, to advise the aggregate creator of the events to which the aggregate has been subject, their timing and location and the resulting status of the aggregate.
8. *Relationship with tracking systems for items*: specifies how aggregate tracking systems are related to systems for the tracking of related entities, particularly containers (receptacles) and individual items.

The normative text is supported by informative *Annex A*, which describes a number of existing systems for the electronic interchange of aggregate, item and tracking data and discusses how migration to the concepts described in this specification might be achieved.

## 1 Scope

This Technical Specification complements CEN/TS 14631:2004 and UPU standards M34a and S37, which cover the definition of mail aggregates; their relationships with other entities; their identification and attributes and the electronic exchange of aggregate attribute and composition data.

NOTE 1 CEN/TS 14631:2004 is equivalent to UPU standard S37-4; there is no CEN equivalent of UPU standard M34a.

NOTE 2 Though the specification repeats some information from these standards for reasons of readability, a full understanding requires familiarity with the above referenced specifications.

The specification primarily addresses issues not covered in M34a:

- the association of aggregate identifiers with the physical aggregates to which they relate;
- aggregate creation;
- the processing of aggregates as a unit;
- aggregate tracking;
- aggregate break-up;
- how the above relates to the tracking of individual mail items;
- the implementation of aggregate information exchange and tracking systems through the evolution of existing electronic data exchange systems.

The specification is principally concerned with methods and procedures for the communication of process control and tracking information about mail aggregates. It should not be interpreted as specifying or limiting the applications for which such information may be used.

The specification is especially concerned with cross-border mail that is exchanged between postal handling organisations. However, the concepts described are equally applicable to the exchange of mail between different postal handling organisations in the same country and may beneficially be applied to the internal operations of individual mail service contractors and postal handling organisations.

NOTE 3 Individual postal handling organisations could define proprietary approaches for internal use. However, this would almost certainly lead to increased development and maintenance costs for both the organisations themselves and their customers and service providers. It might also be difficult to guarantee that mail aggregates, identified in accordance with the (closed) proprietary system, are segregated from mail aggregates that are exchanged with other postal handling organisations in accordance with the open system described herein.

Many of the examples given in this specification make use of aggregate and other ISO/IEC 15459-compliant identifiers issued under the UPU issuing agency code (IAC), the use of which is subject to registration as an issuer under UPU standard S31. The use of such examples is not intended to pre-empt or prejudice such registration and should not be interpreted as implying that the use of other IACs is not supported.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, or references to a version number, only the edition cited applies. For undated references and where there is no reference to a version number, the latest edition of the referenced document (including any amendments) applies.

### CEN Standards

CEN/TS 14631, *Postal services — Automatic identification of receptacles and containers — Receptacle asset numbering*.

NOTE 1 The version current at the time of approval of this specification, TS 14631:2005 is the CEN equivalent of UPU standard S37-4

## **UPU standards**

UPU *Standards glossary*<sup>5)</sup>

UPU M34, *Mail aggregate attributes and the communication of aggregate information*

UPU M36, *Despatch attributes and the communication of despatch information*

UPU M37, *Postal processing events and event reporting*

NOTE 2 M34, M36 and M37 are multi-part standards, with individual parts being numbered M34a, M34b, etc.

UPU S25, *Data constructs for the communication of information on postal items, batches and receptacles*

UPU S29, *Bar-coded receptacle labels*

UPU S37, *Receptacle asset numbering*

NOTE 3 The version current at the time of approval of this specification, S37-4, is the UPU equivalent of CEN TS 14631:2004.

## **3 Terms and definitions**

For the purposes of this Technical Specification, the terms and definitions given in the UPU Standards glossary and the following apply.

### **3.1**

#### **aggregate creator**

party that creates (forms) an aggregate – see UPU standard M34a

### **3.2**

#### **aggregate processing organisation**

party that breaks-up (unforms) or is intended to unform an aggregate – see UPU standard M34a

### **3.3**

#### **forming**

process by which individual postal items, bundles<sup>6)</sup>, and/or postal receptacles are assembled into mail aggregates

NOTE 1 The purpose of forming is usually to facilitate transportation within or between postal processing facilities, handover between different carriers, and/or to facilitate handling by staff or equipment.

See also **unforming**

### **3.4**

#### **item; mail item; postal item**

indivisible entity in respect of which a mail service contractor accepts an obligation to provide transport, delivery and possibly other postal services

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5) UPU Standards are obtainable from the UPU International Bureau, whose contact details are given in the Bibliography; the UPU Standards glossary is freely accessible on URL <http://www.upu.int>

6) Bundles are defined in the UPU Standards glossary.