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Postal services - Interface and data transfer format for capturing postal automation events IDT-PAE

Services postaux - Format d'interface et de transfert des données relatives à la capture des évènements sur des équipements postaux automatisés

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European foreword

This document (CEN/TS 16919:2016) has been prepared by Technical Committee CEN/TC 331 “Postal services”, the secretariat of which is held by NEN.

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Introduction

This Technical Specification will be in the series of the Open Standard Interfaces defining manufacturer independent interface definitions where needed. All Sorting equipment of the different manufacturers in a sorting centre produce data which are relevant for service planning, machine and staff planning, optimization of machine utilization and other sorting centre management relevant data. On the other hand the major suppliers for postal IT systems have developed MIS systems for these or other purposes. In sorting centres with mixed machinery and one or more MIS systems, data need to be converted for integration. This Technical Specification will allow to define a common interface to avoid these multiple conversions and by this save costs in the postal business. See Figure 1.

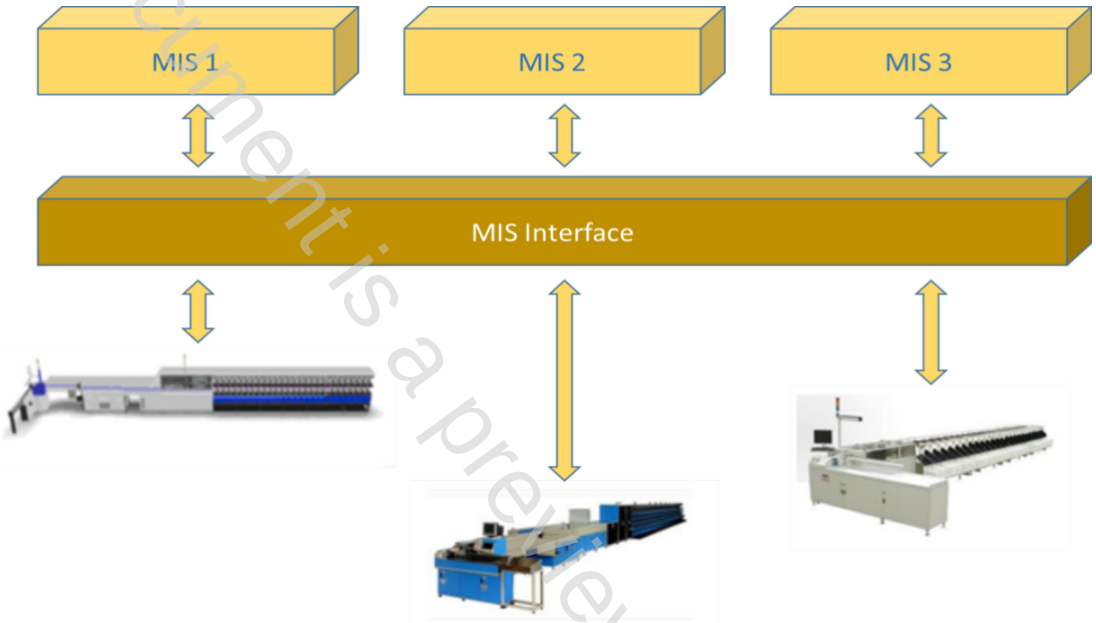

Figure 1 — Open Interface Illustration

As a conscious decision of the Project Team work it is assumed MIS standard will be an instance of EPCIS standard with specific application of this Technical Specification to the Postal Process that will be modelled in the chapters. The Technical Specification will then go through a number of significant events of the process that an MIS interface should contain in order to guarantee the interoperability of different proprietary MIS systems and different Postal Sorting equipment.

Focus of the development is:

— The specification will allow interfacing postal processes in order to gather information which shall be prepared for presentation/aggregation to higher-level systems;

— The specification will not be in favour of one vendor over another;

— The specification will not be specific to a programming language, operating system or hardware;

— The specification will be specific enough, to allow any standards-compliant equipment to be connected to standards-compliant higher level systems and get at least basic functionality without any customization;

— The Data Model will use well-established terms, e.g. taken from the UPU data model, which are suitable to describe postal processes accurately;

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— The Data Model will categorize the information sent and received (e.g. into status, event, control-message) and define standards for each of these categories;

— The specification will allow for vendor-specific or equipment-specific variations. The scope of these variations will be limited (otherwise we would not have a standard at all);

— The specification will provide for future extensions and modifications, such that future versions do not break existing installations;

— It will have to be easy to implement an interface which is compliant with this standard;

— The specification will define how to prevent unauthorized access, preferably by referring to an existing security standard;

— The specification will use well-established technologies for Data Transport;

— The specification will use established standard for Data Format;

— The specification needs to state minimal requirements for data volume and frequency as well as the permissible latency which an implementation needs to comply to.

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1 Scope

An IDT-PAE interface enables interoperability among several systems and processes by providing specifications to the following requirements:

a) Data Collection and Transfer: Specification of data transported from the devices to higher level systems. There may be more than one permissible protocol referring to different OSI layers. The standard will define where the communication requires polling and where asynchronous messages are used.

   The basis is messages triggered by events.

b) Data Storage and Format: Specification how data is formatted and structured. This concerns the choice between XML, CSV, EDI, JSON and other formats including possible binary representations.

c) Data Model: Specification of the semantics (meanings) behind the data. This is the most important part and the one of the most important objectives for the specification. This means that conceptual data model and its mapping to the Data Format will be developed. Major focus on specifications level of detail will be placed in order to provide a document that will provide detailed specification information without being too general or too specific.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply[1)].

2.1
acceptance
process of examining a mail induction unit at the acceptance location, to ensure that the mail is acceptable for postal processing and that the postal operator may take responsibility for it

2.2
acceptance location
location at which responsibility for a mail induction unit is handed over from the mail submitter to the mail service contractor

2.3
acceptance of postal processing
completion of the process of ensuring that mail can legally be conveyed by post, fulfils postal system requirements, regarding size, addressing, etc. and that correct postage has been paid or is chargeable under normal contractual arrangements

2.4
activity
work performed by people, equipment, technologies or facilities

2.5
addressee
party that is the intended ultimate recipient of a postal item

1) The terms and definition in this document are defined in the UPU Standard glossary, Date of approval 26 February 2014, in the bibliography and in this document.

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