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Information technology — Unique identifiers —

Part 8:
Grouping of transport units

Technologies de l'information — Identificateurs uniques —

Partie 8: Regroupement des unités de transport

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Foreword

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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ISO/IEC 15459-8 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

ISO/IEC 15459 consists of the following parts, under the general title *Information technology — Unique identifiers*:

— *Part 1: Unique identifiers for transport units*

— *Part 2: Registration procedures*

— *Part 3: Common rules for unique identifiers*

— *Part 4: Individual items*

— *Part 5: Unique identifier for returnable transport items (RTIs)*

— *Part 6: Unique identifier for product groupings*

— *Part 8: Grouping of transport units*

Introduction

Unique identification can occur at many different levels in the supply chain: at the transport unit, at the item level, and at the grouping level for transport units. Such distinct entities are often handled by several parties: the sender, the receiver, one or more carriers, customs authorities, etc. Each of these parties must be able to identify and trace the item so that reference can be made to associated information such as configuration, maintenance history, address, order number, contents of the item, customs clearance, and advance shipment notice.

The information is often held on computer systems, and can be exchanged between parties involved via EDI (Electronic Data Interchange) and XML (eXtensible Markup Language) messages.

There are considerable benefits if the identity of the item is represented in bar code format or other AIDC (Automatic Identification and Data Capture) media, and attached to or made a constituent part of that which is being uniquely identified so that:

— it can be read electronically, thus minimizing errors;

— one identity can be used by all parties;

— each party can use the identity to look up its computer files to find the data associated with the item;

— the identifier is unique within the class and cannot appear on any other item of the class during the lifetime of the item.

The unique identifier for grouping of transport units defined in this part of ISO/IEC 15459 might be represented in a bar code label, two-dimensional symbol, radio-frequency identification tag, or other AIDC media and associated with the grouping to meet these needs. An individual instance of an entity is aptly identified by a unique identifier defined in other parts of ISO/IEC 15459. Where a unique identifier for the grouping is also required, the provisions of this part of ISO/IEC 15459 apply. The unique identifier for groupings might be used solely as a reference key and linked to the already existing identifier, marked using AIDC media on the individual item. Any such relationship has to be communicated to the business partners accordingly.

All AIDC technologies have the potential to encode a unique identifier. It is expected that application standards for items, using various automatic identification technologies, will be developed based upon the unique identifier as a prime key. These application standards may be made available from the Issuing Agency.

Information technology — Unique identifiers —

Part 8:
Grouping of transport units

1   Scope

This part of ISO/IEC 15459 specifies a unique, non-significant, string of characters for the unique identifier for grouping of transport units. The character string might be represented in a bar code label or other AIDC media associated with the items that make up the grouping to meet supply chain needs and regulatory needs (e.g. customs clearance). An individual instance of an entity is aptly identified by a unique identifier defined in other parts of ISO/IEC 15459. This relationship has to be communicated to the business partners according to the business need and the unique identifier for the grouping might be used as a reference number only or marked in addition to the existing identifier. To address management needs, different classes of items are recognized in the various parts of ISO/IEC 15459, which allows different requirements to be met by the unique identifiers associated with each class. This part of ISO/IEC 15459 defines the rules for the grouping of transport units to identify the multiple physical units that make up a single shipment from a consignor and are treated as a single logical grouping for customs and other shipping requirements.

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.

ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 15418, *Information technology — Automatic identification and data capture techniques — GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance*

ISO/IEC 15459-2, *Information technology — Unique identifiers — Part 2: Registration procedures*

ISO/IEC 15459-3, *Information technology — Unique identifiers — Part 3: Common rules for unique identifiers*

ISO/IEC 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

GS1 General Specifications, GS1

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19762 (all parts), ISO/IEC 15459-2 and the following apply.

3.1
grouping of transport items
multiple physical units that make up a single shipment from a consignor and are treated as a single logical grouping for customs and other shipping requirements

4 Class identification of grouping of transport units

Each grouping shall be unambiguously identified by a code as defined in Clause 5. So that groupings of this class can be distinguished from other classes, the unique identifier may be combined with a class identifier determined by the Issuing Agency. The class of the unique identifier of items may be identified by one of the identifiers as defined in ISO/IEC 15418:

⎯ the GS1 Application Identifiers **402**, Global Shipment Identification Number;

⎯ the ASC MH 10 Data Identifiers, as defined in ISO/IEC 15418 (ANS MH10.8.2), **2K**, Bill of Lading/Waybill/Shipment Identification Code assigned by Supplier/Shipper.

5 Unique identifier for grouping of transport units

5.1 Introduction

A unique identifier is assigned to a grouping of transport units to meet global supply chain reporting needs by the consignor of the goods who shall also be a unique identifier issuer. This shall be done in accordance with the rules established by an authorised Issuing Agency as identified in ISO/IEC 15459-2 and ISO/IEC 15459-3.

5.2 Maximum number of characters permissible in a unique identifier for grouping of transport units

The unique identifier for a grouping of transport units shall not contain more than 35 characters.

For efficient use within bar coding and other AIDC data carrier systems, it is recommended that wherever possible the number of characters be maximum 20. However, any data processing system shall be capable of processing unique identifiers of 35 characters.

5.3 Permissible character sets in a unique identifier for grouping of transport units

The unique identifier shall only contain characters and numeric digits from the invariant character set of ISO/IEC 646.

An Issuing Agency may put additional restrictions on the repertoire for unique identifiers for items using its IAC.

Any data processing system shall be capable of processing unique identifiers using the full repertoire of characters permitted for unique identifiers for a grouping of transport units.

Annex A
(informative)

Grouping of transport units

A.1 Role of the Issuing Agency in providing application guidance for grouping of transport units

In addition to the requirements of an Issuing Agency, outlined elsewhere in ISO/IEC 15459, each Issuing Agency is expected to provide guidelines if grouping of transport units is relevant to its IAC domain.

A.2 Unique identifier for grouping of transport units

To illustrate the usage, the hypothetical example is given using the Issuing Agency GS1, recognised by the Registration Authority. A second hypothetical example is used using the Issuing Agency UPU.

The rule for the construction of the unique identifier for grouping of transport units is provided by the Issuing Agency as outlined in ISO/IEC 15459-2. This ensures all unique identifiers are unambiguous within a class.

A.3 GS1 unique identifier for grouping of transport units (Global Shipment Identification number)

The rules of GS1, as outlined in the *GS1 General Specifications* and to whom the Issuing Agency Codes "0" till "9" have been allocated by the Registration Authority, are that the unique identifier consists of a fixed length seventeen numeric digits. The first numeric string of characters is allocated by GS1 to the issuer (Global Company Prefix) and the following digits are assigned by issuer under the rules of GS1.

EXAMPLE   Unique identifier issued under the rules of GS1. In this example the Application Identifier is "402" Global Shipment Identification Number (Bill of Lading), the Issuing Agency GS1 has provided the unique identifier issuer with "0123456789", that starts with the Issuing Agency Code "5", and "12345" has been assigned by the issuer. The final digit "7" is a check-digit calculated according to a standard algorithm specified by GS1.

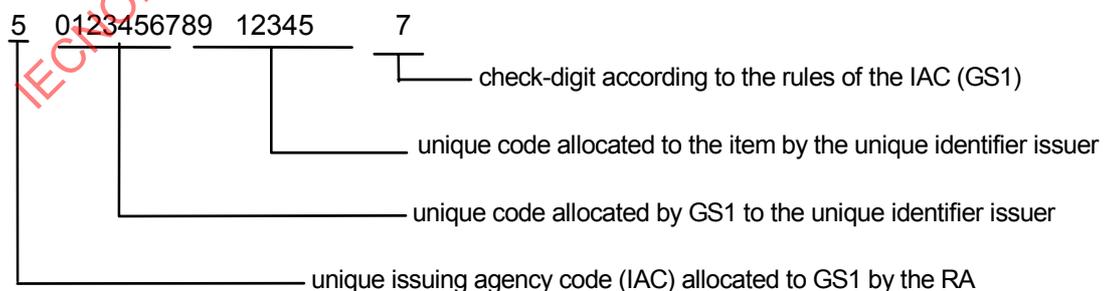Figure A.1 shows an example of a GS1 unique identifier (Application Identifier 402).

5   0123456789 12345   7

check-digit according to the rules of the IAC (GS1)

unique code allocated to the item by the unique identifier issuer

unique code allocated by GS1 to the unique identifier issuer

unique issuing agency code (IAC) allocated to GS1 by the RA

Figure A.1 — Unique identifier for GS1 Global Shipment Identification number

This unique identifier can be contained in a GS1-128 bar code symbol, or other endorsed GS1 Data Carrier such as an EPCglobal RFID tag, with the GS1 Application Identifier "**402**".

A GS1-128 bar code symbol when scanned can be expected to pass the following data string as shown in Table A.1 to the computer system.

Table A.1 — Data stream – GS1

]C1	402	50123456789123457
symbology identifier	GS1 Application Identifier	unique identifier

A.4 ASC MH10 Unique identifier for grouping of transport units (Bill of lading)

The rules of UPU, to whom the Issuing Agency Codes "J" has been allocated by the Registration Authority, allow for the creation of a Bill of lading number.

EXAMPLE   Unique identifier issued under the rules of UPU. In this example the Data Identifier is "2K" (Bill of Lading/Waybill/Shipment Identification Code assigned by Supplier/Shipper), the Issuing Agency UPU has provided the unique sub-domain code "NL", the sub-domain has provided the unique identifier issuer the unique code "Y", and the Bill of Lading "123456" has been assigned by the identifier issuer.

Figure A.2 shows an example of a UPU unique identifier (Data Identifier 2K).

J   NL   Y   123456

Bill of Lading allocated to the grouping of transport units by the unique identifier issuer

unique code allocated by the sub-domain to the unique identifier issuer

unique sub-domain code allocated to a sub-domain by the UPU

unique issuing agency code (IAC) allocated to "UPU" by the registration authority (RA)
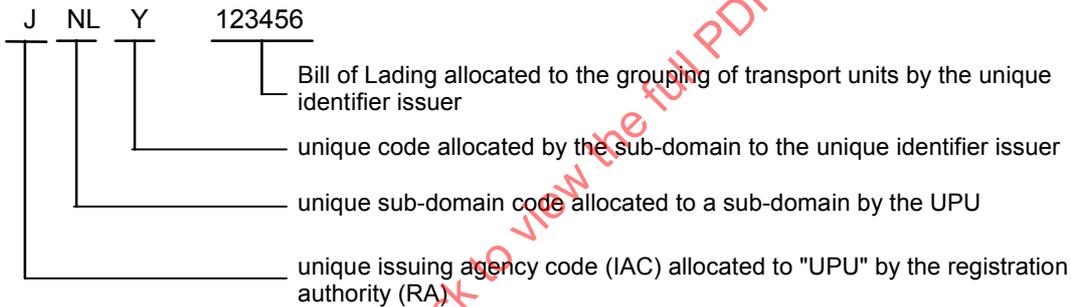
Figure A.2 — Unique identifier for ASC MH10 Bill of lading

This unique identifier can be contained in a Code-128 bar code symbol, or other Data Carrier such as RFID tags or 2D Bar Codes, with the ASC MH10 Data Identifier "**2K**".

A Code-128 bar code symbol when scanned can be expected to pass the following data string as shown in Table A.2 to the computer system:

Table A.2 — Data stream – UPU

]C0	2K	JNLY123456
symbology identifier	ASC MH10 Data Identifier	unique identifier