ISF (Internet Shipment Format) for Shops

ver. 1.1

Technical Specification

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Language used in this document: English (en-GB)

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Scope

This document describes the Internet Shipment Format (ISF) in 1.1 version. It was developed by IAI S.A. and is its sole property.

Terms and Conditions of using ISF for Shops

Every version of ISF is a product of IAI S.A. and is distributed on the terms of Creative Commons Attribution-NoDerivatives 4.0 International (CC BY-ND 4.0) licence.

What has changed since ver. 1.0?

1. Changed attribute /set/@generated to format compliant with ISO-8601.
2. Changed the standard of attribute @id, adding attributes @type and @sequence:

- **/event/**
  before: <event id="order-7777">
  now: <event id="7777" type="order">
- **/event/shipment/**
  before: <shipment id="7220-01" carrier="PL-UPS">
  now: <shipment id="7220" sequence="1" carrier="PL-UPS">
- **/event/shipment/package/**
  before: <package id="01">
  now: <package sequence="1">

3. Minor bug fixes in editing.

General description of the ISF Format

ISF (Internet Shipment Format) is a universal format that can be applied to any e-commerce system to manage information about shipments. It associates e-commerce events (orders and returns) with single- or multi-package shipments and enables to associate created shipment labels with those events. Thus, it simplifies communication between online shops and carriers and expands the choices available for online shops owners.

This format is designed for both carriers and brokers who offer services from different carriers. It includes detailed description of packages, carrier services and parties included in the delivery process (sender, receiver and payer). What is more, error handling has been introduced to increase the communication safety and customer satisfaction.

Descriptive conventions and issues

To enable efficient use of the ISF format the XPath Syntax is used throughout the document to describe particular nodes. Node names are written in lower case, with multiple words separated by underscores to facilitate human readability.

Every file must contain attributes of version and format (placed inside the main /set/ tag). For version 1.1 the following tags are compulsory:

1. @file_format=”ISF”

2. @version=”1.1”

3. @generated – contains the generation time in the ISO-8601 format, e.g.:

@generated=”2016-05-25T11:08:51+01:00”

4. @author – identifies the author of the file, e.g.

@author=”Very-Good-Shop”

Common issues:

1. Standards of passing data

Following standards are used in ISF:

a. currency - ISO 4217 (e.g. PLN, USD, EUR):

http://en.wikipedia.org/wiki/ISO_4217#Active_codes

b. language - ISO 639-2 (e.g. pol, eng, ger):

http://www.loc.gov/standards/iso639-2/php/code_list.php

c. country - ISO 3166-1 alpha-2 (e.g. PL, US, DE):

http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2#Officially_assigned_code_elements

(this two-character code is coherent with currency and subdivision codes)

d. subdivision (state, province, region) - ISO 3166-2 (e.g. PL-ZP, US-DC, DE-BB):

http://en.wikipedia.org/wiki/ISO_3166-2#Current_codes

and subdivisions for one particular country, e.g. Poland:

http://en.wikipedia.org/wiki/ISO_3166-2:PL#Current_codes

e. generated – ISO 8601 (e.g. 2016-05-25T11:08:51+01:00)

https://en.wikipedia.org/wiki/ISO_8601

2. Defining languages

To define the language use the ISO 639-2 Code representing the language of your choice. You can find the appropriate codes on the List of Codes for the Representation of Names of Languages with ISO 639-2 Code.

In ISF version 1.1 the attribute @language is used to choose the language of particular parties of the delivery process (sender, receiver, payer) to enable communication in the language of the party.

3. Separators

Separators are used to clarify the use of fractions and mixed numerals. In ISF version 1.1 there are following separator types:

a. point (.) - whenever there is a float number (e.g. amount of money), the point separator is used,

b. zero separator – whenever there is a weight or dimension unit specified (e.g. kg or cm) no separator is used and an integer is required.

4. Carrier names

Carriers are named differently in particular e-commerce systems. Therefore a predefined list has been created to facilitate unified communication between users of the ISF format. It can be found at the end of this specification in the Attachments section.

Each carrier name used in ISF consists of two parts connected with a hyphen:

a. country of operation defined in the ISO 3166-1 alpha-2 standard (e.g. PL, US, DE):

http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2#Officially_assigned_code_elements

b. name of the company or brand the carrier operates under (e.g. DPD, TBA, PACZKOMATY)

Structure of the /event/ node

The /event/ is the main part of the /set/ of events included in each ISF file. It describes an e-commerce event, which in ISF version 1.1 is an order or a return.

Each event contains the @id attribute (number which is unique for the author of the file), and the @type attribute (event type “order” or “return”) and e.g.:

```
<event id="7777" type="order">
```

or

```
<event id="7220" type="return">
```

Each event in the file is divided into several nodes:

1. /shipment/

It is an **obligatory** node to describe a particular shipment, containing one or more packages. It includes tracking details (number and URL), the label or labels, chosen carrier services, pickup details and costs.

2. /sender/

It is an **obligatory** node to describe the sender of the shipment. It includes address data (where the package is sent from and where it should be returned if delivery is impossible), notification preferences and optionally an ID for external carrier systems.

3. /receiver/

It is an **obligatory** node to describe the receiver of the shipment. It includes address data (where the package should be delivered), details about the contact person, notification preferences and optionally an id for external carrier systems.

4. /payer/

It is an **obligatory** node to describe the party due to pay for the shipment. It includes address data with tax ID and optionally an id for external carrier systems.

5. /return_shipment/

A node about shipments sent back from the receiver to the sender. It can be used in two scenarios:

a. An order event generates a shipment with the possibility to create a return label at the same time (if the customer decides to return the package in the future). The node /return_shipment/ is **optional** in this scenario.

b. A return event generates a shipment when the customer has decided to return their order and wants to get the return label. The node /return_shipment/ is **obligatory** in this scenario.

6. /errors/

An **optional** node that returns errors encountered while interpreting the original ISF file with their types (priorities), codes, descriptions and positions (nodes) in the structure.

Structure of the /shipment/ node

The /shipment/ is the main part of the /event/ node. It contains one or more packages connected with the event.

Each shipment contains the @id attribute with the event's internal number. Additionally, the carrier of the shipment is specified in the **obligatory** @carrier attribute, and **obligatory** @sequence attribute (the subsequent shipment number - “1” for the first shipment) e.g.:

```
<shipment id="7220" sequence="1" carrier="PL-UPS">
```

or

```
<shipment id="2345" sequence="2" carrier="DE-DHL">
```

For a comprehensive list of carriers visit the Attachments section at the end of this document.

Each /shipment/ in the file is divided into several nodes:

1. /tracking_number/ (obligatory)

The shipment tracking number will be assigned by the carrier and returned in the ISF reply. If the customer is allowed to generate shipment tracking numbers from a range assigned by the carrier, then it is possible to put the tracking number here.

There are two scenarios to use both the shipment and the package tracking number:

a. If the carrier uses only package tracking numbers, the number for a particular package will be written into both /shipment/tracking_number/ and /shipment/package/tracking_number/.

b. If the carrier uses both shipment and package tracking numbers, the numbers for particular packages will be written into /shipment/package/tracking_number/ and the number for the shipment will be written into /shipment/tracking_number/.

2. /tracking_url/ (obligatory)

The /tracking_url/ node holds the direct URL for tracking purposes. Usually it is returned in the ISF reply. However, if the user generates tracking numbers from a predefined range and knows the link structure for a particular carrier then a link may be included in the ISF request (and returned automatically without changes).

3. /package/ (obligatory)

The node /package/ contains the detailed package description and its tracking number. Multiple packages are possible for each shipment included as separate /package/ nodes within the /shipment/ node.

Each /package/ node requires the @sequence attribute with the subsequent number of the package (“1” for the first one).

There are two nodes within the /package/ node:

a. /tracking_number/ **(obligatory)** for the unique package tracking number

b. /description/ **(obligatory)** for the package parameters:

- /packaging/ **(obligatory)** - defines the shape and material of the packaging. Possible values are:

    1. "bag" (made of plastic),
    2. "envelope" (made of paper),
    3. "box" (made of cardboard),
    4. "tube" (made of plastic or cardboard),
    5. "pallet" (made of wood or plastic),
    6. "other" (packaging of any irregular or non-standard type)

- /weight/ **(obligatory)** for the package weight (including the @unit attribute)

- /dimensions/ (**optional**) for the package dimensions (including the @unit attribute):

    - /length/,
    - /width/,
    - /height/

- /content_description/ (**optional**) for carriers who require a detailed description of the package contents

- /reference/ (**optional**) for reference or references held in this node, which will be divided/separated according to the requirements of specific carriers by the carrier or broker

4. /label/ (optional)

This node is designed for labels associated with the shipment. Multiple instances of this node are allowed.

The following nodes contain details about the label expected in the XML reply. If nothing is defined, a standard A4 PDF is assumed. The label itself will be returned within the /base64/ node, encoded to BASE64.

The following nodes may be used to define the expected label:

- /type/ (**optional)** - a “standard” or “thermal” label might be chosen

- /format/ (**optional**) - the expected format of the returned label, possible values are:

    1. PDF,
    2. A6P,

3. DPL,

4. EPL,

5. ZPL.

- /size/ (**optional**) - the size of the expected label may be described using the following value types:

1. standard sizes (e.g. A4),

2. dimensions (with /height/ and /width/) in units defined in /size@unit (e.g. mm),

3. resolution using units defined in /size@unit (e.g. dpi),

- /labels_per_page/ (**optional**) - number of labels included on the returned page,

- /base64/ (**obligatory**) - placeholder for the label returned in the XML reply.

5. /service/ (obligatory)

This node describes how the package should be delivered. It contains the customer's decisions about priority and time to enable mapping to the carriers specific products in the following nodes:

- /priority/ **(obligatory)** - defines the service type to be chosen from the carrier's products: “same day”, “express”, “standard”,

- /time_definite/ (**optional**) - defines the latest time of day for the delivery as guaranteed by the carrier. If no time is specified - until the end of day is assumed. A particular time should be given in 4 digits, in the 24-hour format (e.g. 0900, 1030, 1200, 1500). The XML reply may contain the time specific for the courier in this node.

- /time_range/ (**optional**) - defines the preferred delivery time or range, as chosen by the customer. It's not mandatory for the carrier and/or it may require additional fees for the customer.

- /shipment_date/ (**optional**) - defines if the package should be sent on a specific date (in the future). If it is sent empty, the XML reply may contain the actual shipment date.

6. /additional_services/ (optional)

This node contains choices about most common services that can be added to the shipment (all nodes are **optional**):

- /insurance/ - If the package is to be insured, this node must be present. If the carrier accepts or requires the value for insurance purposes it will be given in the node together with the @currency in the ISO 4217 format.

- /value/ - defines the value of the package (together with the @currency in the ISO 4217 format) to meet carrier requirements,

- /nonstandard/ - contains the value "yes" if the package is not possible to be sorted automatically or has got unusual shape or elements.

- /fragile/ - enables to send packages that need careful handling because of contents that get broken easily.

- /bring_up/ - contains the value "yes" for heavy or big packages that need to be brought into higher floors.

- /carbon_neutral/ - contains the value "yes" when the customer wants to neutralise the influence of the package on the climate.

- /dutiable/ - contains information required for international shipments. The value of the shipment is given in the /customs_value/ node together with the @currency in the ISO 4217 format.

7. /pickup/ (optional)

This node contains details of services connected with the pickup of the shipment (all nodes are **optional**):

- /cod/ - contains details about the service cash on delivery (the payment for the ordered good occurs at the moment of delivery or later) with the following subnodes:

- /amount/ - contains the amount of money due together with the @currency in the ISO 4217 format.

- /reference/ - contains the reference to be included with the transfer of the money

- /account_type/ - enables to choose between a traditional wire transfer (“transfer”) or a Paypal payment (“paypal”)

- /account_id/ - bank account number for the wire transfer or paypal id for Paypal.

- /priority/ - describes how quickly the customer wants to get his money back. Possible values are “standard”, “express” and “fastest”.

- /rod/ - contains details about the return on delivery service (also knows as return of documents) with the following nodes:

- /reference/ - the reference for the ROD shipment

- /receiver_id/ - user ID of the receiver in the carrier system

- /tracking_number/ - The ROD tracking number will be assigned by the carrier after delivery - it will not be returned in the XML reply. However, when the customer is able to generate tracking numbers from a range assigned by the carrier, then it is possible to put the tracking number here.

- /confirmation/ - defines the kind of confirmation that is required. Possible values are:

1. no_signature (no signature of the customer will be obtained),
2. signature (a signature of any person will be obtained),
3. personal (a personal signature of the recipient will be obtained),

4. adult (a signature of an adult will be obtained),

5. telephone (a courier representative will confirm the delivery over the phone).

- /self_pickup/ - defines whether the customer in picking the package up from the carrier warehouse (with “yes” or “no” as possible values)

8. /cost/ (obligatory)

This node defines the cost of the shipment that the shop owner pays to the carrier (together with the @currency in the ISO 4217 format) with the following nodes:

- /net/ - net value

- /vat_percent/ - VAT rate as percentage (equals 0 for both the 0% and the exempt rate)

- /gross/ - gross value

/shipment/ - example code for one one-package shipment

```
<shipment id="7220" sequence="1" carrier="PL-UPS">
    <tracking_number></tracking_number>
    <tracking_url></tracking_url>
    <package sequence="1">
        <tracking_number></tracking_number>
        <description>
            <packaging>box</packaging>
            <weight unit="kg">1</weight>
        </description>
    </package>
    <label>
        <type>standard</type>
        <base64></base64>
    </label>
    <service>
        <priority>standard</priority>
    </service>
    <cost currency="">
        <net></net>
        <vat_percent></vat_percent>
        <gross></gross>
    </cost>
</shipment>
```

Parties in the delivery process - /sender/, /receiver/ and /payer/

There are three parties that are included in ISF for each delivery process, described in the following nodes (all three nodes are **obligatory**):

- /sender/ - describes from whom the shipment will be dispatched

- /receiver/ - describes to whom the package will be delivered

- /payer/ - describes who will pay for the packages

each with optional attributes:

- @id for internal identification (e.g. sender-123, customer-62 or payer-68),
- @language for notification purposes.

All of these three nodes have a similar structure, the similarities and differences are described in this chapter. The following nodes are used:

1. /external_id/ (**optional**) - contains a user ID that is used in an external carrier system

2. /address/ (**obligatory**) - contains address data for the current party including the following nodes:

- /name/ - the name of the recipient or the contact person for companies

- /company/ - the name of the company

- /country/ - the name of the country in the ISO 3166-1 alpha-2 format (e.g. PL, US, DE)

- /subdivision/ - the name of the subdivision (region, province, state, etc.) in the ISO 3166-2 format (e.g. PL-ZP, US-DC, DE-BB)

- /postcode/ - the postal code

- /city/ - the name of the city

- /address/ - one node for the name of the street, the house/building number, the floor/department/room number to be divided by the carrier/broker if necessary

- /telephone/ - the telephone number (**only for** /sender/ and /payer/, the recipient telephone will be passed in /receiver/contact/)

- /type/ - enables the distinction between “private” (houses and flats) and “business” (companies and pickup points) addresses

3. /notifications/ (**optional**)

There are three types of notifications included in ISF - text (SMS), e-mail and voice (audio) messages. The language used in the notifications depends on the language setting for the /sender/ and the /receiver/ in the particular nodes. The following nodes are designed to facilitate those notifications:

- /text/ - enables text (SMS) messages with the following options:
  - use the optional /text@number attribute to specify a telephone number for notifications (other than the obligatory number in /receiver/contact/telephone/)
  - if the carrier enables defining the contents of the text notification, the expected text should be passed directly in the /text/ node
  - use the optional /text@type attribute to choose the types of events that result in messages being sent:
    - @type=”create” - The shipment has been created in the carrier system
    - @type=”ship” (default for /receiver/) - The shipment is on the way (has been picked up by the carrier or delivered to his facility)
    - @type=”courier” - The shipment has been picked up by the delivering driver in the destination city
    - @type=”delivery” (default for /sender/) - The shipment has been delivered
    - @type=”exception” - There has been an issue with the package which requires customer's attention

- /email/ - enables e-mail notifications with the following options:
  - use the optional /email@address attribute to specify an e-mail address for notifications (other than the address in /receiver/contact/email/)
  - if the carrier enables defining the contents of the e-mail notification, the expected text should be passed directly in the /email/ node
  - use the optional /email@type attribute to choose the types of events that result in messages being sent:
    - @type=”create” - The shipment has been created in the carrier system
    - @type=”ship” (default for /receiver/) - The shipment is on the way (has been picked up by the carrier or delivered to his facility)
    - @type=”courier” - The shipment has been picked up by the delivering driver in the destination city
    - @type=”delivery” (default for /sender/) - The shipment has been delivered
    - @type=”exception” - There has been an issue with the package which requires customer's attention

- use the /bounce/ node to define the e-mail address for undeliverable notifications in the @address attribute

- /voice/ - enables voice notifications (automated or human) with the optional /voice@number attribute to specify a telephone number for notifications (other than the obligatory number in /receiver/contact/telephone/)

Additional nodes are available for the particular parties:

a. /sender/:

- /return_address/ (**optional**) - the address for undeliverable packages with the following nodes:

- /name/ - the name of the recipient or the contact person for companies

- /company/ - the name of the company

- /country/ - the name of the country in the ISO 3166-1 alpha-2 format (e.g. PL, US, DE)

- /subdivision/ - the name of the subdivision (region, province, state, etc.) in the ISO 3166-2 format (e.g. PL-ZP, US-DC, DE-BB)

- /postcode/ - the postal code

- /city/ - the name of the city

- /address/ - one node for the name of the street, the house/building number, the floor/department/room number to be divided by the carrier/broker if necessary

- /telephone/ - the telephone number

- /type/ - enables the distinction between “private” (houses and flats) and “business” (companies and pickup points) addresses

b. /receiver/:

- /contact/ (**obligatory**) - contains details about the person responsible for receiving the package with the following nodes:

- /name/ (**optional**) - name of the contact person

- /telephone/ (**obligatory**) - telephone number of the recipient, used as the default number for notifications (if not otherwise specified in /receiver/notifications/)

- /email/ (**optional**) - e-mail address

- /pickup_point/ (**optional**) - contains details for pickup points owned by the carrier (e.g. own warehouse, service point, paketshop) or owned externally (e.g. a pickup in a shop, or a stationary branch of an online shop) with the following nodes:

- /id/ - contains the unique identification number of the location

- /country/ - the name of the country in the ISO 3166-1 alpha-2 format (e.g. PL, US, DE)

- /subdivision/ - the name of the subdivision (region, province, state, etc.) in the ISO 3166-2 format (e.g. PL-ZP, US-DC, DE-BB)

- /postcode/ - the postal code

- /city/ - the name of the city

- /address/ - one node for the name of the street, the house/building number, the floor/department/room number to be divided by the carrier/broker if necessary

c. /payer/:

- /address/tax_id/ - enables passing tax identification number (e.g. NIP, Steuer-IdNr.).

/sender/ - example code for one sender

```
<sender>
    <address>
        <name>John Smith</name>
        <company>Very Good Shop</company>
        <country>PL</country>
        <subdivision>PL-ZP</subdivision>
        <postcode>71-043</postcode>
        <city>Szczecin</city>
        <address>Piastow 4d / Warehouse 1 / Section G</address>
        <telephone>48 91 43 33 881</telephone>
        <type>business</type>
    </address>
    <notifications>
        <email address="office@verygoodshop.pl" type="delivery"/>
        <bounce address="office@verygoodshop.pl" />
    </notifications>
</sender>
```

/receiver/ - example code for one receiver

```
<receiver>
    <address>
        <name>Eve Blackwell</name>
        <company>Poznan City Council</company>
        <country>PL</country>
        <subdivision>PL-WP</subdivision>
        <postcode>61-841</postcode>
        <city>Poznan</city>
        <address>Plac Kolegiacki 17 / Administrative Department / Reception</address>
        <type>business</type>
    </address>
    <contact>
        <name>Eve Blackwell</name>
        <telephone>48 609 150 286</telephone>
        <email>ebl-poz@gmail.com</email>
    </contact>
    <notifications>
        <text />
        <email />
    </notifications>
</receiver>
```

/payer/ - example code for one payer

```
<payer>
    <address>
        <company>Poznan City Council</company>
        <country>PL</country>
        <subdivision>PL-WP</subdivision>
        <postcode>61-841</postcode>
        <city>Poznan</city>
        <address>Plac Kolegiacki 17</address>
        <tax_id>NIP: 777-11-22-333</tax_id>
    </address>
</payer>
```

Structure of the /return_shipment/ node

There are two scenarios when a return shipment might be generated:

1. An **order** generates a shipment with the possibility to create a return label at the same time (if the customer decides to return the package in the future). The node "return_shipment" is optional in this scenario.

2. A **return** generates a shipment when the customer has decided to return their order and wants to get the return label. The node "return_shipment" is obligatory in this scenario.

Return shipments are described using the following nodes:

1. /label_type/ - determines the way of delivering the return shipment label, with the following possible values:

a. “print” – the shop prints the label and sends it to the customer,

b. “email” – the carrier generates a link and it is passed to the customer (by the shop or by the carrier),

c. “collection” – the label is not generated online, because the carrier picks up the shipment from the customer (and the label is printed by the carrier).

2. /service/ (**optional**)- describes how the return shipment should be delivered. It contains the customer's decisions about priority and time to enable mapping to the carriers specific products in the following nodes:

a. /priority/ - defines the service type to be chosen from the carrier's products, possible values are: “standard” or “express”

b. /time_definite/ - defines the latest time of day for the delivery as guaranteed by the carrier. If no time is specified - until the end of day is assumed. A particular time should be given in 4 digits, in the 24-hour format (e.g. 0900, 1030, 1200, 1500). The XML reply may contain the time specific for the courier in this node.

3. /base64/ (**optional**) - placeholder for the BASE64-encoded label (if “print” is chosen in /label_type/)

4. /tracking_number/ (**optional**) - placeholder for the tracking number which will be assigned by the carrier and returned in the ISF reply (if “print” is chosen in /label_type/).

5. /link/ (**optional**) - placeholder for the URL to the label (if “email” is chosen in /label_type/)

6. /return_address/ (**optional**, possible only in scenario 1.) - the address data when the return shipment should be delivered to a different address (e.g. particular warehouse or external service facility) with the following nodes:

- /name/ - the name of the recipient or the contact person for companies

- /company/ - the name of the company

- /country/ - the name of the country in the ISO 3166-1 alpha-2 format (e.g. PL, US, DE)

- /subdivision/ - the name of the subdivision (region, province, state, etc.) in the ISO 3166-2 format (e.g. PL-ZP, US-DC, DE-BB)

- /postcode/ - the postal code

- /city/ - the name of the city

- /address/ - one node for the name of the street, the house/building number, the floor/department/room number to be divided by the carrier/broker if necessary

- /telephone/ - the telephone number

- /type/ - enables the distinction between “private” (houses and flats) and “business” (companies and pickup points) addresses

Additionally, the /return_shipment/ node might have the optional attribute @carrier to define the carrier dedicated for the return shipment (e.g. “PL-DPD” or “DE-DHL”).

/return_shipment/ - example code for one return shipment (scenario 1.)

```
<return_shipment>
    <label_type>email</label_type>
    <service>
        <priority>standard</priority>
    </service>
    <base64></base64>
</return_shipment>
```

Structure of the /errors/ node

The ISF format distinguishes between two types of errors that are handled in the delivery process:

a. **critical** - errors that result in a shipment not being delivered or causing substantial losses to the online shop. They include for example following cases:

1. A service is not available, e.g. COD for international shipments
2. An incorrect address or an address out of the carrier's range

Such errors are to be handled within the shop.

b. **noncritical** - errors that make the delivery more difficult, but possible. They include for example:

1. receiving an inquiry about a carrier's service that is available with lower parameters
2. delivering a return shipment label in a different way than expected by the customer (e.g. by e-mail and not as a link)

Such errors are to be handled by the carrier/broker according to settings defined by the customer who signs the contract with the carrier/broker.

For example, a broker does not offer a delivery type expected by the customer, but offers a different one with a longer delivery time. It may be:

a. a different service of the same carrier or
b. a service of a different carrier

In such a situation the carrier/broker should ask the customer whether he wants to get a cheaper delivery with a different service or receive an error that a delivery is not possible.

The errors are described in separate /error/ nodes with the following subnodes each:

1. /priority/ - severity of the error, either “critical” (known as errors) or “noncritical” (known as warnings)

2. /code/ - alphanumeric code to distinguish the error, e.g. E001. A list of possible errors is given in the Attachment section at the end of this specification.

3. /short_description/ - a brief summary of the error, e.g. “COD unavailable for international shipments”

4. /description/ - detailed information about the error and its consequences, e.g. “The service COD is unavailable for shipments outside Europe. Because of safety regulations it is not possible to accept shipments with COD.”

5. /node/ - XPath to the node where the error occurs, e.g. “/event/shipment/pickup/cod/”

/errors/ - example code for one error and one warning

```
<errors>
     <error>
          <priority>critical</priority>
          <code>E001</code>
          <short_description>COD unavailable for international
shipments</short_description>
          <description>The service COD is unavailable for shipments outside Europe.
Because of safety regulations it is not possible to accept shipments with
COD.</description>
          <node>/event/shipment/pickup/cod/</node>
     </error>
     <error>
          <priority>noncritical</priority>
          <code>W001</code>
          <short_description>Type of shipment not available</short_description>
          <description>The chosen shipment type is not available with this carrier.
Another type has been chosen in exchange, which means lower costs but slower
delivery.</description>
          <node>/event/shipment/service/</node>
     </error>
</errors>
```

A comprehensive list of error and warning codes will be made available after the first implementation of ISF.

Advanced handling of external pickup points – pickup-points.xml

The ISF format handles external pickup points as a basis for e-commerce solutions responsible for:

a. downloading and updating information about locations

b. storing and displaying to customers up-to-date delivery destinations

c. passing chosen locations to shipments in the ISF format

The information about pickup points is to be prepared by the carrier or broker within the pickup-points.xml, with the main node /locations/ and multiple instances of /pickup-point/ node.

The following nodes are available to describe each pickup-point within the /pickup-point/ node:

a. /id/ - contains the unique identification number of the location

b. /country/ - the name of the country in the ISO 3166-1 alpha-2 format (e.g. PL, US, DE)

c. /subdivision/ - the name of the subdivision (region, province, state, etc.) in the ISO 3166-2 format (e.g. PL-ZP, US-DC, DE-BB)

d. /postcode/ - the postal code

e. /city/ - the name of the city

f. /address/ - one node for the name of the street, the house/building number, the floor/department/room number

g. /latitude/ - the latitude in decimal degrees (e.g. 53.4175191)

h. /longitude/ - the longitude in decimal degrees (e.g. 14.5324166)

i. /status/ - current status of the pickup point, with the following possible values:

1. available – the pickup point is operating and available within the operating hours

2. out_of_service – the pickup point is temporarily unavailable and will be available in the future

3. removed – the pickup point is permanently unavailable

4. planned – the new pickup point is unavailable and will be made available in the future

j. /operating_hours/ - when (days, hours) the pickup point is available

k. /description/ - how to find the pickup point

l. /payment_forms/ - list of payment forms that are available for the pickup point, with the

possible nodes:

- /cash/ - cash payment
- /card/ - card payment
- /pay_by_link/ - pay-by-link payment
- /instalments/ - payment in instalments

Partners

The following companies and brands have taken part in preparing the ISF format specification. IAI would like to thank its Partners for their cooperation.

TBA Express

Apaczka.pl

10ka.pl

Goglobal24.com

Sheepla.com

Example shipments – an ISF request and response

As a practical example of the ISF format a files with example shipments have been prepared (ISF-example-request.xml and ISF-example-response.xml).

request example code

```
<?xml version="1.0" encoding="UTF-8"?>
<set file_format="ISF" version="1.1" generated="2016-07-18T13:16:17+0200" author="IAI
S.A.">
  <event id="12345" type="order">
    <shipment sequence="1" carrier="PL-CARRIER">
      <tracking_number/>
      <tracking_url/>
      <package sequence="1">
        <tracking_number/>
        <description>
          <weight unit="g">1500</weight>
          <packaging><![CDATA[box]]></packaging>
          <dimensions unit="cm">
            <height>20</height>
            <width>20</width>
            <length>30</length>
          </dimensions>
          <content_description/>
        </description>
      </package>
      <label>
        <type><![CDATA[standard]]></type>
        <format><![CDATA[PDF]]></format>
        <size/>
        <labels_per_page/>
        <base64/>
      </label>
      <service>
        <priority><![CDATA[standard]]></priority>
      </service>
      <additional_services>
        <dutiable currency="PLN">
          <customs_value/>
        </dutiable>
        <insurance/>
        <value/>
        <nonstandard><![CDATA[no]]></nonstandard>
        <fragile><![CDATA[no]]></fragile>
        <bring_up><![CDATA[no]]></bring_up>
        <carbon_neutral><![CDATA[no]]></carbon_neutral>
      </additional_services>
      <pickup>
        <rod>
          <reference/>
        </rod>
        <confirmation><![CDATA[signature]]></confirmation>
        <self_pickup><![CDATA[no]]></self_pickup>
      </pickup>
```

```
      <cost currency="PLN">
        <net>11.38</net>
        <vat_percent>23.0</vat_percent>
        <gross>14</gross>
      </cost>
    </shipment>
    <sender>
      <address>
        <company><![CDATA[Company name - sender]]></company>
        <country><![CDATA[PL]]></country>
        <postcode><![CDATA[12-345]]></postcode>
        <city><![CDATA[City name]]></city>
        <address><![CDATA[Street 123]]></address>
        <telephone>555555555</telephone>
        <type><![CDATA[business]]></type>
      </address>
    </sender>
    <receiver>
      <address>
        <name><![CDATA[First and last name - receiver]]></name>
        <country><![CDATA[PL]]></country>
        <postcode><![CDATA[12-123]]></postcode>
        <city><![CDATA[City name]]></city>
        <address><![CDATA[Street 321]]></address>
        <type><![CDATA[private]]></type>
      </address>
      <contact>
        <telephone>555111222</telephone>
        <email><![CDATA[privatemail@example.com]]></email>
      </contact>
    </receiver>
    <payer>
      <address>
        <company><![CDATA[Company name - payer]]></company>
        <country><![CDATA[PL]]></country>
        <postcode><![CDATA[00-123]]></postcode>
        <city><![CDATA[City name]]></city>
        <address><![CDATA[Street 33]]></address>
        <telephone>555555555</telephone>
        <tax_id>8882226699</tax_id>
      </address>
    </payer>
  </event>
</set>
```

response example code

```
<?xml version="1.0" encoding="UTF-8"?>
<set file_format="ISF" version="1.1" generated="2016-07-18T13:16:17+0200" author="IAI
S.A.">
  <event id="12345" type="order">
    <shipment sequence="1" carrier="PL-CARRIER">
      <tracking_number>123</tracking_number>
      <tracking_url>http://trck.com/?123</tracking_url>
      <package sequence="1">
        <tracking_number/>
        <description>
          <weight unit="g">1500</weight>
          <packaging><![CDATA[box]]></packaging>
          <dimensions unit="cm">
            <height>20</height>
            <width>20</width>
            <length>30</length>
          </dimensions>
          <content_description/>
        </description>
      </package>
      <label>
        <type><![CDATA[standard]]></type>
        <format><![CDATA[PDF]]></format>
        <size/>
        <labels_per_page/>
        <base64><![CDATA[SWRlYcWCeSBzxIUgamFrIGd(...)]]></base64>
      </label>
      <service>
        <priority><![CDATA[standard]]></priority>
      </service>
      <additional_services>
        <dutiable currency="PLN">
          <customs_value/>
        </dutiable>
        <insurance/>
        <value/>
        <nonstandard><![CDATA[no]]></nonstandard>
        <fragile><![CDATA[no]]></fragile>
        <bring_up><![CDATA[no]]></bring_up>
        <carbon_neutral><![CDATA[no]]></carbon_neutral>
      </additional_services>
      <pickup>
        <rod>
          <reference/>
        </rod>
        <confirmation><![CDATA[signature]]></confirmation>
        <self_pickup><![CDATA[no]]></self_pickup>
      </pickup>
      <cost currency="PLN">
        <net>11.38</net>
        <vat_percent>23.0</vat_percent>
        <gross>14</gross>
      </cost>
    </shipment>
    <sender>
      <address>
        <company><![CDATA[Company name - sender]]></company>
```

```
        <country><![CDATA[PL]]></country>
        <postcode><![CDATA[12-345]]></postcode>
        <city><![CDATA[City name]]></city>
        <address><![CDATA[Street 123]]></address>
        <telephone>555555555</telephone>
        <type><![CDATA[business]]></type>
      </address>
    </sender>
    <receiver>
      <address>
        <name><![CDATA[First and last name - receiver]]></name>
        <country><![CDATA[PL]]></country>
        <postcode><![CDATA[12-123]]></postcode>
        <city><![CDATA[City name]]></city>
        <address><![CDATA[Street 321]]></address>
        <type><![CDATA[private]]></type>
      </address>
      <contact>
        <telephone>555111222</telephone>
        <email><![CDATA[privatemail@example.com]]></email>
      </contact>
    </receiver>
    <payer>
      <address>
        <company><![CDATA[Company name - payer]]></company>
        <country><![CDATA[PL]]></country>
        <postcode><![CDATA[00-123]]></postcode>
        <city><![CDATA[City name]]></city>
        <address><![CDATA[Street 33]]></address>
        <telephone>555555555</telephone>
        <tax_id>8882226699</tax_id>
      </address>
    </payer>
  </event>
</set>
```

Attachments

Attachment 1 – Carriers

In this Attachment we describe where within the format the carrier names are used and we provide examples of particular companies.

Carrier names are possible to be defined in the following attributes:

1. /event/shipment@carrier - to choose the carrier for the delivery from the shop to the customer or for the return shipment from the customer to the shop (only for the **return** event).

2. /event/return_shipment@carrier - to choose the carrier for the return shipment (from the customer back to the shop) if it should be a different carrier than the original one (only for the **order** event).

Each carrier name used in ISF consists of two parts connected with a hyphen:

a. country of operation defined in the ISO 3166-1 alpha-2 standard (e.g. PL, US, DE):

http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2#Officially_assigned_code_elements

b. name of the company or brand the carrier operates under (e.g. DPD, TBA, PACZKOMATY)

Example suggested names are:

PL-DPD	PL-K-EX	PL-PACZKOMATY	PL-DHL
PL-FEDEX	PL-GLS	PL-POCZTA	PL-TBA
PL-UPS	PL-INPOST	PL-RUCH	PL-SCHENKER
PL-SIODEMKA	PL-TNT	PL-X-PRESS	DE-POST
GB-ROYALMAIL	DE-HERMES	GB-INTERLINK	GB-UKMAIL
GB-WINCANTON	DE-ILOXX	PL-PATRONSERVICE	PL-JAG24
DE-DPD	DE-UPS	GB-UPS	GB-DPD

Attachment 2 – Error and warning codes

This section will be made available after the first implementation of the ISF.

Document history

Technical specification of the ISF (Internet Shipment Format) for Shops ver. 1.0

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