

Ocean Freight Industry EIPP Standards Advisory Board Guideline 2 Version 1.1 Revision 1 Invoice Message Model for EIPP

PUBLIC REVIEW DRAFT

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Work Team	Message Structure & Codes

Revision History

Date	Version	What has changed
2012-03-30	1.0	Initial version
2014-12-10	1.1	Revision
2015-05-19	1.1	Publication for Public Review

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Table of Contents

1	Introduction	4
2	Background	4
3	Scope	4
3.1	Functional Definition	4
3.2	Principles.....	5
3.2.1	Messages	5
3.2.2	Segments	5
3.2.3	Data Elements.....	7
3.2.4	Invoice Scenarios	8
3.2.5	Cardinality and Optionality	8
3.3	URIs and Namespaces.....	10
4	Invoice Message Model	12
4.1	Graphical Model	12
4.2	Segments	12
4.3	Invoice Scenarios	13
4.4	Segment Definition and Invoice Scenarios	13
5	References	14

1 Introduction

This guideline establishes a logical model for an electronic invoice message sent from an ocean carrier to a customer who has received ocean transportation services.

The model is independent of any implementation in any technology or format. It specifies the information which shall be communicated and which of these information are required. The model shall be used as a reference for implementations of electronic invoice messages in the ocean freight industry.

2 Background

In 2010 carriers, freight forwarders and other players in the ocean freight industry established the EIPP Standards Advisory Board as a forum for discussing and designing collaborative processes for carriers, freight forwarders and others in the ocean freight industry. The Ocean Freight Industry EIPP Standards Advisory Board will advise on the standards that will shape electronic invoicing for the ocean freight industry. Its purpose will be to

- Understand and influence standards and regulations for electronic invoicing and to provide a roadmap for service and product development;
- Determine the implementation of current standards used in the industry;
- Determine and prioritize the adoption of future standards used by the industry;
- Allow ocean freight industry participants to take advantage of electronic business and preserve their investments in systems development and operations;
- Collaborate with colleagues, customers, and leaders with foresight in the field;
- Learn from experience and best practices in related field (e.g. other transport modes, banking, public sector);
- Provide a framework for the ocean freight Industry to influence international standards activities.

The overall vision is to establish a set of guidelines for best practices based on international standards that will ensure the adoption and long-term sustainability of electronic invoicing for our industry.

For this purpose the board establishes several work teams including the work team *Message Structure & Codes*. First line target of this work team is to

- Develop a common structure for the data elements
- Define EDIFACT implementation standards
- Define how cancelation scenarios shall be reflected in the message
- Get a common understanding of accepted code lists.

3 Scope

3.1 Functional Definition

The ocean freight invoice is message by which an ocean carriers or his agent requests or announces the intended request of payment for providing ocean transportation services or services to a customer. The

request is based on agreed or accepted conditions. The message supports all shipment related business cases including but not limited to freight, surcharges, local charges, demurrage, detention and recoveries.

The message is also used to correct or announce the intended correction of such requests or to offer payments (credit note) to customers in relation to ocean transportation services.

The potential expansion of the message for so called 'self billing' is under investigation.

In the following the phrase invoice is used as a generic term covering also debit note and credit note.

The electronic invoice shall comprise enough detail to allow the receiver to

- identify the corresponding business case
- provide evidence to any 3rd party involved in the business
- verify whether the invoice is justified as such
- verify whether each individual line item is calculated according to the rate agreements and tariffs
- verify whether the applied rates are justified
- verify how currency conversions are done and whether the conversion rates follow the agreements
- address the right contact at the invoice issuer with inquiries.

3.2 Principles

The invoice message model describes what an invoice shall comprise in general in the ocean freight industry.

The model is specific. Each field has a specific meaning. Use of generic fields like 'role' is avoided.

The rationale for this approach is as follows:

- easier to understand for any business person
- less ambiguity
- more meaningful description of the fields
- clear description when to use which field
- easier to map to different formats

The model is described by the following key notions: message, segment, data element and invoice scenario.

3.2.1 Messages

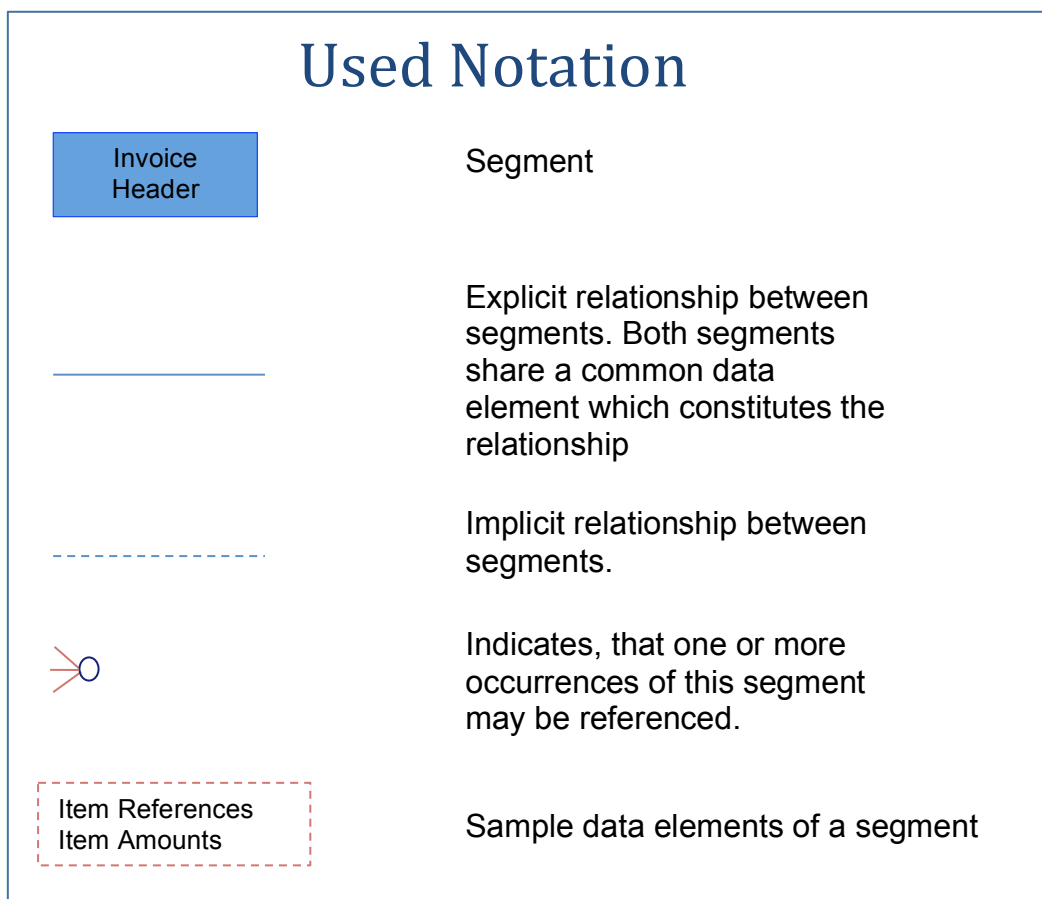
The message is the header notion. The message is an electronic, structured document sent from a sender to a receiver with potential use of intermediaries. A message consists of segments which relate to each other. The definition of the message comprises the segments it contains and the relation between the segments. The message does not define any order of segments.

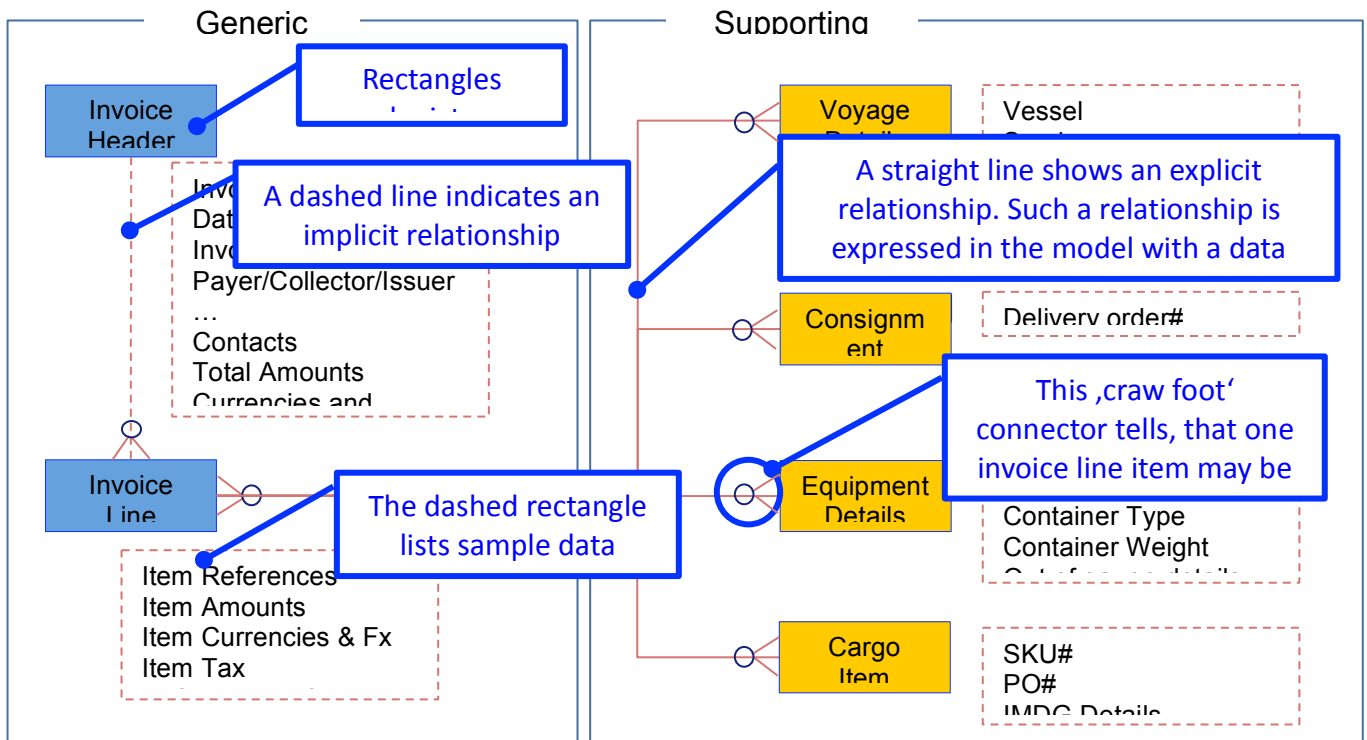
3.2.2 Segments

A segment is a set of related data elements. Segments relate to each other. Some relationships between segments are explicitly indicated by data elements, others are implicit. The model does not stipulate any specific order of segments.

Example: The invoice message model comprises the segments *invoice header*, *invoice line item* and *equipment details*. The *invoice header* can occur only once. *Invoice line items* occur many times and since they all belong to the one invoice, there is no need to indicate their relationship to the invoice header explicitly. The *equipment details* relate to some *invoice line items*. Since this relationship is not obvious, it needs to be indicated explicitly in the model by a common data element.

The segments of a message and their relationships are defined graphically in a diagram. In this diagram rectangles are used to show segments, lines establish relationships between segments and a crow foot indicates cardinality.





The above example shows a message with a segment called 'Invoice Header'. This segment is implicitly (dashed line) related to none, one or more (craw foot) 'Invoice Line Item' segments. The 'Invoice Line Item' segment comprises amongst others a data element 'Item Tax' (see dashed rectangle). One 'Invoice Line Item' segment is potentially (craw foot at the 'Equipment Details' segment) and explicitly (straight line) related to one or more 'Equipment Details' segments.

3.2.3 Data Elements

A segment consists of data elements. All data elements are defined in *Guideline 1 Data Elements Dictionary for EIPP*. For each data element of a segment all parent data elements are listed and only those sub elements, which are part of the segment. Not explicitly listed data elements are not part of the segment. The model does not define any particular sequence of data elements within a segment. To identify a particular data element in a particular segment the segment code and the data element code are used together separated by a dash.

Example: H-006.06.5.2 Invoice Header-Shipper Contact Name

- H : Invoice Header Segment
- 006 : Party
- 06 : Shipper
- 5 : Shipper-Contact Details
- 1 : Shipper-Contact Name

The element H-006.06.5.2 is the Shipper-Contact Name in the invoice header segment.

The generic description of a data element is given in *Guideline 1 Data Elements Dictionary for EIPP*. This guideline may add description specific to the message. Such description will particularly identify conditions under which a data element must be present (see [Cardinality and Optionality](#)).

3.2.4 Invoice Scenarios

Since there are many different cases giving reason to produce invoices this guideline breaks down invoices into more specific cases called invoice scenarios. The model describes also whether a data element shall be present in a segment for a particular invoice scenario.

An invoice scenario is a number of specific services which are typically billed on the same invoice and whose invoices typically have common features due to the nature of the services and the way they are billed. Invoice scenarios are identified by a 2-part number. The first part indicates the main scenario. The second part allows subdividing a main scenario into more specific scenarios.

Example:

Code	Name	Description
01-00	Single B/L Invoice	Invoice for shipping charges related to a single bill of lading. The bill of lading could be the ocean carrier's bill of lading or a house bill of lading.
01-01	Single FCL B/L invoice	Same as 001-00 but just FCL B/L

3.2.5 Cardinality and Optionality

The segment defines which data elements belong to a it. It does not describe which one is required and whether they occur multiple times. This depends on the invoice scenario.

Usually a data element occurs once in a segment. However some data elements are allowed to show up multiple times. This is indicated. The model does not say anything about the order of data elements in a segment or the ordering within multiple instances of the same data element. However there are very few cases, where the order of multiple instances of a data element is important and requires consideration. Whether a data element can have multiple instances within a segment and whether for these the order is relevant is explicitly stated in the model.

Examples:

Code	Data Element	Cardinality and Optionality
H-001	Invoice Number	Belongs to the invoice header segment and occurs only one time for an invoice
H-014	Currency Subtotal	Belongs to the invoice header segment and may occur for each currency used in the charges. The order of these subtotals is not relevant.
H-006.1.3.1	Payer Address Line	Belongs to the invoice header segment and may occur a few times. The order of the address lines is important.

This guideline describes by invoice scenario in a tabular form the cardinality and optionality of data elements. For this purpose it makes use of what we call CardOpt codes

CardOpt Code	Description
M	If the segment is present, then this data element must be present in this scenario. If this is a sub element, it must be present if the parent element is present.
O	The data element is optional in this scenario. Presence is subject to the sender's decision or a bilateral agreement.
C	If the segment is present, then the data element must be present under conditions defined in the description. If this is a sub element it must be present under the defined conditions, if the parent data element is present.
M1	This data element is one out of a couple of data elements having the marker 'M1'. It means that at least one out of these must be present.
Mr, Or, Cr	The lower case 'r' indicates that the data element is repeatable. It may occur multiple times in a segment and the order is meaningless and not defined. In case of 'Mr' or 'Cr' minimum one occurrence is required under the conditions mentioned above.
Mro, Oro, Cro	As before but the ordering of the occurrences is important.
na	The data element is not applicable in this scenario.

Examples:

Code	Data Element	Specific Description	Card Opt Code	Meaning
H-006.1.3	Payer-Address		M	The payer address must always be present
H-006.1.3.1	Payer-Address Line		Mro	One line of the address must always be present (<u>M</u> ro). More lines are possible (<u>M</u> <u>r</u> o) and their order is important (<u>M</u> ro)
H-006.1.3.2	Payer-UN Country Code		O	Whether this data element is used or not is left to the sender of the message.
H-006.1.4	Payer-Tax ID	Required if the local tax law requires it	C	This data element must be present if the countries tax law requires it.
H-006.1.4.3	Payer-Tax Registration#		M	If the parent data element H-006.1.4 Payer-Tax ID is present (above line shows that it is not necessarily present), then this data element is required
H-006.1.5	Payer-Contact		O	Whether this data element is used or not is left to the sender of the message
H-006.1.5.2	Payer-Contact Name		M	If the parent data element H-006.1.5 Payer-Contact is present (above line shows that it is not required) , then this data element is required.
H-006.2.6.3	Collector-IBAN		M1	One of both data elements must be present
H-006.2.6.4	Collector-National Account Number		M1	

3.3 URIs and Namespaces

For the purpose of referencing this guideline in other works the following naming rules must be used to identify a specification and can be applied to URIs and Namespaces that may be required:

OFI-EIPP-SAB-[Document_name]-[Artifact_type] -[Version].[Release]

These are all the URI components:

- OFI = Ocean Freight Industry
- SAB = Standards Advisory Board
- EIPP = Electronic Invoicing Presentment and Payment
- 2 (Guideline Number)
- Document_name = Invoice Message Model
- Artifact_type = MOD (Model)

- Version v(Major version).(Minor version)
- Release:
 - Draft (Internal Draft)
 - prd (Public Review Draft)
 - cs (Committee Specification)

Examples:

FILE NAMES:

OFI-SAB-EIPP- 2-InvoiceMessageModel -MOD -v1.1.*

URIs:

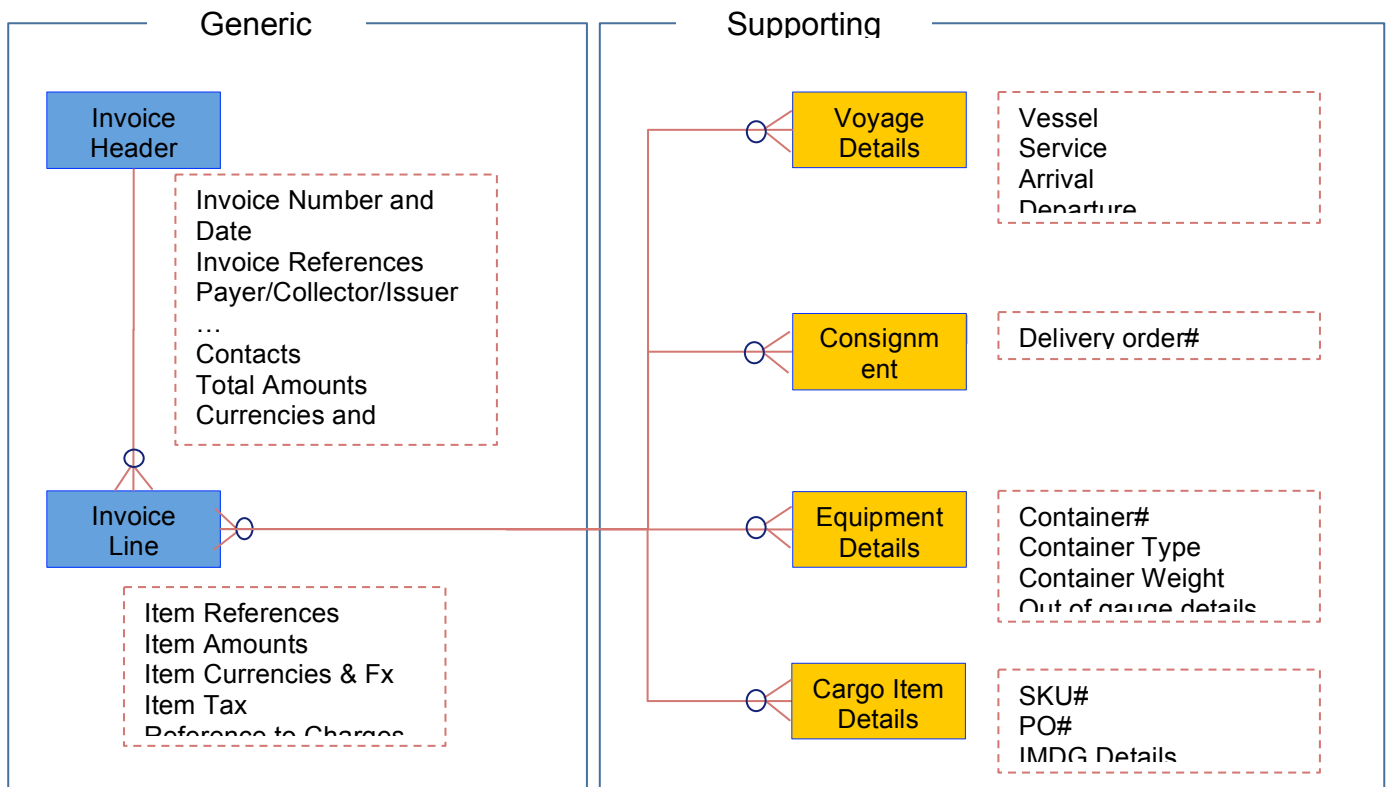
urn:X-ofi-sab:eipp:2- InvoiceMessageModel

[www.ofi-sab.org/eipp/2- InvoiceMessageModel /](http://www.ofi-sab.org/eipp/2- InvoiceMessageModel/)

4 Invoice Message Model

4.1 Graphical Model

Invoice Message Model



4.2 Segments

The invoice message model comprises the following segments.

Code	Name	Description
H	Invoice Header	Data elements unique for the complete invoice. Each invoice has one header segment only.
L	Invoice Line Item	Data elements unique for an individual line of an invoice
V	Voyage Details	Data elements unique for a voyage, which can be referenced by multiple invoice line item
S	Consignment Details	Data elements unique for a shipment or bill of lading, which can be referenced by multiple, invoice line items.
C	Cargo Item Details	Data elements unique for a cargo item, which can be referenced by multiple invoice line items.
E	Equipment Details	Data elements unique for a container or compatible load device, which can be referenced by multiple invoice line items.

4.3 Invoice Scenarios

Since there are so many different cases giving reason to produce invoices this guideline breaks down invoices into more specific cases, called invoice scenarios, for which a more specific indication is given, which details have to be part of an invoice.

An invoice scenario is a number of specific services which are typically billed on the same invoice and whose invoices typically have common features due to the nature of the services and the way they are billed. Invoice scenarios are identified by a 2-part number. The first part indicates the main scenario. The second part allows subdividing a main scenario into more specific scenarios.

List of invoice scenarios:

Code	Name	Description
01-00	Single B/L Invoice	Invoice for shipping charges related to a single bill of lading. The bill of lading could be the ocean carrier's bill of lading or a house bill of lading.
01-01	Single FCL B/L invoice	Same as 001-00 but just FCL B/L
01-02	Single LCL B/L invoice	Same as 001-00 but for a LCL-, general- or break bulk cargo
02-00	Multiple B/L invoice	An invoice for more than one B/L loaded of the same vessel
03-00	Monthly DnD invoice	An invoice for all extended usage of containers by a customer within a month.
04-00	Single DnD invoice	An invoice for extended usage of a single container by a customer
05-00	Voyage summary invoice	Invoice issued for one port of call covering all containers of a customer. Often used for large customers.
06-00	Slot excess invoice	Invoice for excessive use of a slot given to a customer on one service or vessel.
07-00	Recovery invoice	An invoice to recover cost disbursed by the carrier on behalf of the customer or incurred by the customer.
08-00	Volume credit note	A credit note to honor shipping of large volumes

4.4 Segment Definition and Invoice Scenarios

See attachment 1 to this guideline: <http://www.ofi-sab.org/eipp/model/v0.1/OFI-EIPP-SAB-2-InvoiceMessageModel-MOD-v1.1-prd1.xlsx>

5 References

Citation	Full Reference
Guideline 1 Data Elements Dictionary for EIPP	Ocean Freight Industry EIPP Standards Advisory Board Guideline 1 Data Elements Dictionary for EIPP