



European Committee for Standardization
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CEN/ISSS WS/BII05

Billing

PROFILE DESCRIPTION

Business Domain: Post award procurement

Business Process: Billing

Document Identification: CEN/ISSS WS/Profile BII05

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Document Summary

This profile describes a process comprising an electronic Invoice and, potentially, an electronic Credit Note. It is intended for situations where invoicing is electronic but where matching of the Invoice to other electronic documents may not be practical. The Invoice and Credit Note are self-contained documents with respect to commercial and fiscal requirements.

Billing anomalies are notified externally and then resolved by the issuing of a Credit Note and/or a Corrective Invoice.

It is not a primary objective of this profile to facilitate automatic Order-Invoice matching and/or cost allocation; the profile assumes limited or no procurement data content and limited or no aligned or synchronized identifiers in the system to match the transaction.

The Invoice may be expressed as text rather than identifiers and codes e.g. the Invoice may contain items (goods or services) with item identifiers as well as items with free text description.

This profile may cover Invoice factoring arrangements. This profile can be used with little or no integration to ERP systems.

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1 Preamble

The CEN/ISSS Workshop on business interoperability interfaces for public procurement in Europe (CEN/ISSS WS/BII) was established in order to

- Identify and document the required business interoperability interfaces related to pan-European electronic transactions in public procurement expressed as a set of technical specifications, developed by taking due account of current and emerging UN/CEFACT standards in order to ensure global interoperability;
- Co-ordinate and provide support to pilot projects implementing the technical specifications in order to remove technical barriers preventing interoperability.

To facilitate implementation of electronic commerce in a standardized way, thereby enabling the development of standardized software solutions as well as efficient connections between business partners without case by case specification of the data interchange, the workshop agreed to document the required business interoperability interfaces as profile descriptions. The end goal is to reduce the cost of implementing electronic commerce to a level that is economical for small and medium size companies and institutions.

1.1 Profile description

A profile description is a technical specification describing

- the choreography of the business process(es) covered, i.e. a detailed description of the way the business partners collaborate to play their respective roles and share responsibilities to achieve mutually agreed goals with the support of their respective information systems,
- the electronic business transactions exchanged as part of the business process and the sequence in which these transactions are exchanged,
- the business rules governing the execution of that business process(es), its business collaborations and business transactions, as well as any constraints on information elements used in the transaction data models
- the information content of the electronic business transactions exchanged by pointing to a given data model for each of the business transactions.

As well as determining what business transactions are used, the profile restricts their content in terms of elements and the cardinality of elements. The key standardization aspect of the profile description is thus on the organisational and semantics interoperability levels rather than on syntax within the technical interoperability level. Consequently the business transactions within a profile can be structured based on different message standards/syntax as long it contains all the necessary data elements.

Although the profile descriptions and transaction data models provided by CEN BII will be neutral of syntax, the workshop has agreed to provide specifications of how its data models may be mapped to defined syntaxes. This is done in order provide the market with implementable specifications.

It should be noted that the profile description does not attempt to address issues related to topics such as:

- the actual transmission of the electronic messages,
- security and confidentiality of the message exchange,
- integrity, authentication and auditing of information content or
- the process of implementing a solution based on the profile description.

These issues have however been addressed by other deliverables of the CEN/ISSS WS/BII (see section 2 for reference to relevant documents).

The main focus of the profile description and the associated transaction data models is to address generally expressed business requirements applicable throughout the European market. Although the profile description and associated transaction data model are designed to meet generally expressed requirements, it is still the responsibility of the users to ensure that the actual business transactions exchanges meets all the legal, fiscal and commercial requirements relevant to their business.

2 References

External documents

- UN/CEFACT Modelling Methodology (available at <http://www.untmg.org/specifications/>)
- UMM Meta Model – Foundation Module Version 1.0, Technical Specification, 2006-10-06
- UMM Meta Model – Base Module Version 1.0, Technical Specification, 2006-10-06
- UML (Unified Modelling Language), version 2.0
- UN/CEFACT ebXML Core Components Technical Specifications version 2.01 – ISO 15000-5
- UN/CEFACT Business Requirements Specification version 1.5 (CEFACT/ICG/005)

Related publications from CEN/ISSS WS/BII:

- CWA xxxx-1: Profile Overview
- CWA xxxx-1, annex A: Glossary of terms
- CWA xxxx-1, annex B: Profile Architecture
- CWA xxxx-1, annex C: Controlled Vocabulary Approach
- CWA xxxx-2: UBL-UN/CEFACT convergence (WG2)
- CWA xxxx-3: Toolbox Requirements (WG3)
- CWA xxxx-4: Pilot Support (WG4)

3 Business benefits and requirements

3.1 Business benefits

The main business benefits to be gained by implementation of this profile are:

Aspect	Beneficiary	Benefit
Automated Invoice Transfer	Supplier	Faster Invoice transfers. Acknowledgement of Invoice receipt (at technical level) Potential for shortened payment cycle and improved cash flow.
Automated Invoice Processing	Customer	Reduced requirement for manual intervention leads to fewer human keying errors. Automatic Invoice validation. Potential for systematic invoice processing. Resource redeployment.

3.2 Business Requirements

1. The Supplier sends an electronic Invoice and potentially, electronic Credit Note that can be received and processed by the Customer.
2. The Invoice and Credit Note must comply with the commercial and fiscal requirements of the country where the Supplier is registered.
3. The Invoice and the Credit Note content enables the Customer's system to route the document to a specific person, department or unit within the organization; this may be required for authorization etc.
4. The Invoice and Credit Note content facilitates automatic validation of legal and tax values, tax accounting and payment.

4 Profile detailed description

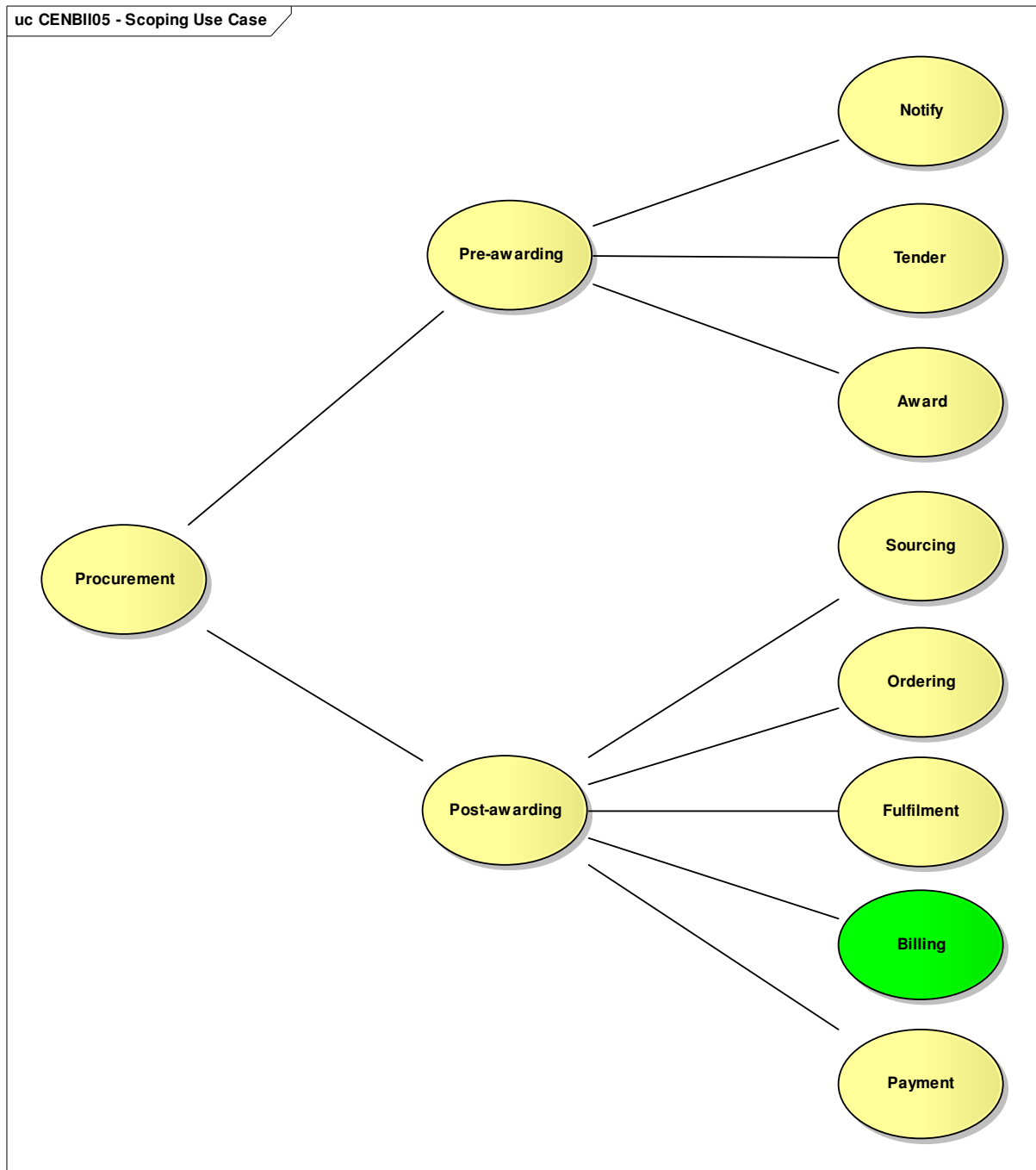
4.1 Context

The specification contained in this document is relevant within the following context:

Categories	Description and Values
Business Process	Billing
Product Classification	All types of goods and services
Industry Classification	Buyer and Seller organisations in all sectors, public and private
Geopolitical	Europe
Official Constraint	EU Directive 2006/112 (VAT directive)
System Capabilities	None specific.

4.2 Business process in scope

Procurement is a complex domain with several key processes, some of which are illustrated in the following figure.



The Billing process covers the business processes highlighted in the above figure.

4.3 Partners and authorized roles

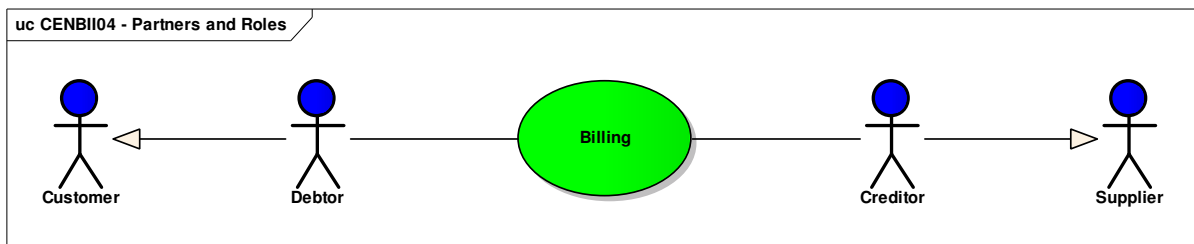
The following business partners participate in this profile, acting in the roles as defined below.

Business partners	Description
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Customer	The customer is the legal person or organization who is in demand of a product or service. Examples of customer roles: buyer, consignee, debtor, contracting authority.
Supplier	The supplier is the legal person or organization who provides a product or service. Examples of supplier roles: seller, consignor, creditor, economic operator.

Role/actor	Description
Creditor	One to whom a debt is owned. The Party that claims the payment and is responsible for resolving billing issues and arranging settlement. The Party that sends the Invoice. Also known as Invoice Issuer, Accounts Receivable, Seller.
Debtor	One who owes debt. The Party responsible for making settlement relating to a purchase. The Party that receives the Invoice. Also known as Invoicee, Accounts Payable, Buyer.

The following diagram links the business processes to the roles performed by the Business Partners.

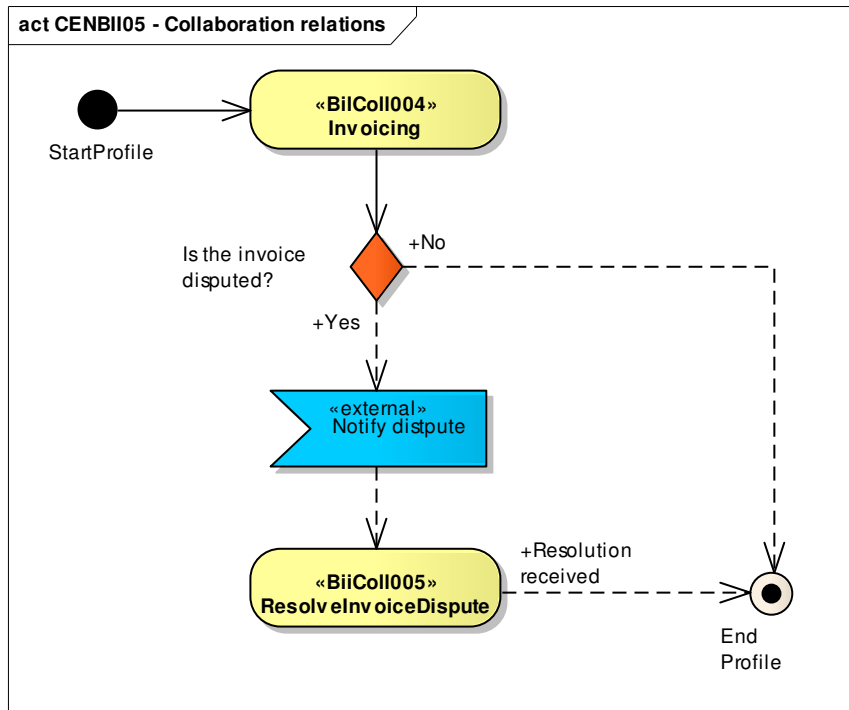


4.4 Choreography of business collaborations

Each business process in scope contains within itself one or more business collaborations:

Business Process	Business Collaboration(s)	Collaboration ID
Billing	Invoicing	BiiColl004
	ResolveInvoiceDispute	BiiColl005

The following diagram shows the relationships (i.e. links) between the collaborations of each business process implemented by the profile. The choreography of business collaborations defines the sequence of interactions when the profile is run within its context. Each sequence of interactions can be understood as a run-time scenario.



Description	The Creditor sends an electronic Invoice to the Debtor. If the Debtor disputes the Invoice he does so through an external process. In case of dispute the Creditor corrects by sending a Credit Note and/or a corrective Invoice.
Pre-conditions	The Debtor and the Creditor have identified each other and a contract between the two or an order exists.
Post-conditions	The Debtor has received an Invoice or a combination of Invoices and Credit Notes which he accepts for payment.
Exceptions	The notification of Invoice errors in handled externally.
Remarks	None.

4.4.1 Profile business rules

4.4.1.1 Process rules

- None specified.

4.4.1.2 Information constraints

ID	Data element	Context	Severity	Rule description
2	Invoice reference	CreditNote	Hard	A Credit Note must reference the invoice that is being corrected.
3	Invoice reference	Corrective Invoice	Hard	A Corrective Invoice must reference the Invoice that is being corrected.

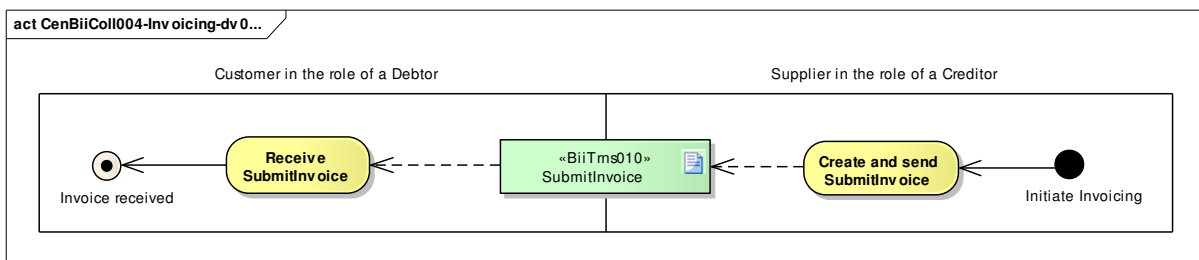
4.5 Business Collaboration(s) detailed description

4.5.1 Invoicing collaboration

4.5.1.1 Overview

Categories	Description and Values
Collaboration ID	BiiColl004
Description	The collaboration is used to deliver an Invoice from a Creditor to a Debtor. It does not require the Debtor to produce any business level response.
Pre condition	None.
Post condition(s)	The Debtor has received an Invoice
Transactions	SubmitInvoice - BiiTrns010
Roles	Creditor Debtor

4.5.1.2 Diagram



4.5.1.3 Activity description

Role	Activity	Description
Creditor	Create and send SubmitInvoice	The Creditor creates and sends an Invoice to the Debtor.
Debtor	Receive SubmitInvoice	The Debtor receives the Invoice.

4.5.1.4 Collaboration business rules

4.5.1.4.1 Process rules

1. The invoice must comply with the commercial and fiscal requirements of the country where the Supplier is registered.
2. An electronic Invoice represents a legal claim for payment.
3. Payment means and terms stated at document level must apply to all invoice lines.
4. Accounting details stated at document level must apply to all invoice lines.
5. Tax information stated at document level must apply to all invoice lines.
6. Stated pre-payments must apply to the invoice as a whole.

4.5.1.4.2 Information constraints

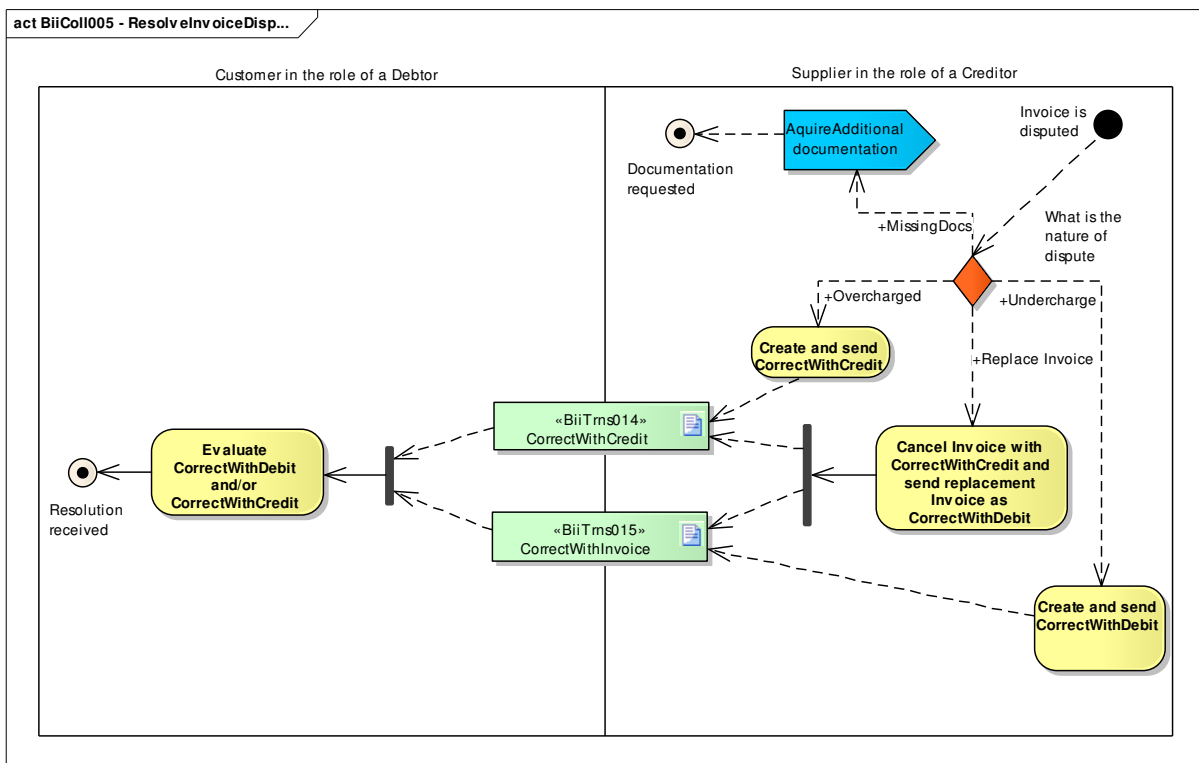
Information constraints relevant to this collaboration are captured in the referenced transaction data model(s).

4.5.2 ResolveInvoiceDispute collaboration

4.5.2.1 Overview

Categories	Description and Values
Collaboration name	ResolveInvoiceDispute
Collaboration ID	BiiColl005
Description	Following a disputed invoice this collaboration is used to exchange documents to resolve the invoice dispute.
Pre condition	The Debtor has received an invoice, which he has disputed.
Post condition(s)	a. The Debtor has received a resolution to the dispute. b. The Creditor has recognized that the dispute concerns a request for additional documents.
Transactions	CorrectWithCredit - BiiTrns014 CorrectWithInvoice - BiiTrns015
Roles	Creditor Debtor

4.5.2.2 Diagram



4.5.2.3 Activity description

Role	Activity	Description
Scenario	All	
Creditor	External reception of a dispute.	The Creditor has externally received a dispute to an invoice and proceeds to identify how to resolve it.
Scenario	Overcharge	

	Create and send CorrectWithCredit.	If there is an overcharge, which is resolved by giving credit, the Creditor creates and sends a CorrectWithCredit transaction to the Debtor.
Scenario	Undercharge	
	Create and send CorrectWithInvoice.	If there is an undercharge, which is resolved by issuing an additional invoice, the Creditor creates and sends a CorrectWithInvoice transaction to the Debtor.
Scenario	Replace Invoice	
	Cancel invoice with CorrectWithCredit and send replacement invoice as CorrectWithInvoice.	If the Creditor decides to resolve the disputed invoice by replacing it, the Creditor creates and sends a CorrectWithCredit transaction (zero balancing the disputed Invoice) and also sends a new replacement invoice by using a CorrectWithInvoice transaction.
Scenario	All above	Post condition a
	Evaluate CorrectWithCredit and/or CorrectWithInvoice.	The Debtor receives and processes the CorrectWithCredit - and/or CorrectWithInvoice transactions and proceeds to verify that they sum up to the right amount and/or information has been corrected.
Scenario	Missing Doc	Post condition b
	Acquire additional documentation.	The Creditor identifies that the nature of the dispute is a request for additional documents and he proceeds to provide those documents externally.

4.5.2.4 Collaboration business rules

4.5.2.4.1 Process rules

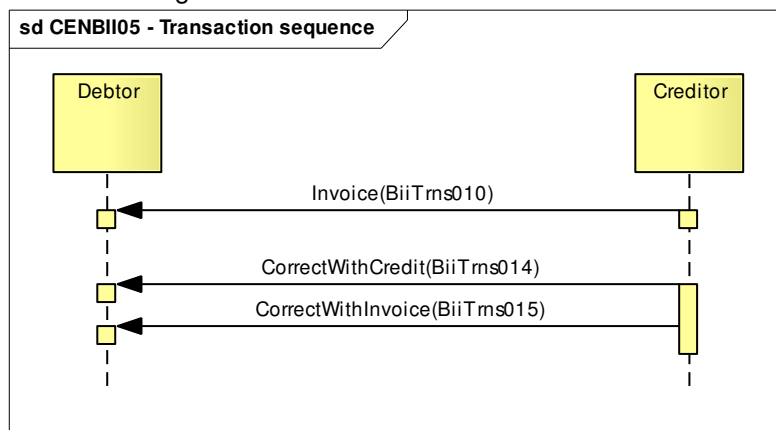
1. The credit note and corrective invoice must comply with the commercial and fiscal requirements of the country where the Supplier is registered.
2. A CorrectWithCredit represents reduction of the claim for payment made in the referenced invoice.
3. Payment means and terms stated at document level apply to all CorrectWithCredit lines.
4. Accounting details stated at document level apply to all CorrectWithCredit and/or CorrectWithInvoice lines.
5. Tax information stated at document level applies to all CorrectWithCredit and/or CorrectWithInvoice lines.

4.5.2.4.2 Information constraints

- None specified.

4.6 Transaction(s) detailed description

The figure below identifies the electronic messages exchanged as part of this process and the sequence in which these documents are exchanged.



4.6.1 Transaction data models

Transaction	Trns ID	Data Model	Data model ID, Core - Full
SubmitInvoice	BiiTrns010	Invoice	BiiCoreTrdm010 - BiiFullTrdm010
CorrectWithCredit	BiiTrns014	CreditNote	BiiCoreTrdm014 - BiiFullTrdm014
CorrectWithDebit	BiiTrns015	CorrectiveInvoice	BiiCoreTrdm015 - BiiFullTrdm015

Each of the identified transactions is elaborated in the following chapters.

4.6.2 SubmitInvoice transaction

Categories	Description and Values
Identifier	BiiTrns010
Description	A structured electronic business document claiming payment for goods or services supplied under conditions agreed between the Supplier and the Customer. In most cases this document describes the actual financial commitment of goods or services ordered from the Supplier.
Partner Types	Customer Supplier
Authorized Roles	Creditor Debtor
Legal Implications	See business rules below.
Initial Event	Create and send invoice.
Terminal event	Receive Invoice.
Scope	Invoicing for any goods and services.
Boundary	None
Constraints	See business rules below

4.6.2.1 Transaction business rules

1. An invoice containing VAT information must comply with VAT rules of the country where supplier is registered. If supplier and buyer are registered within the same country, the invoice must comply with the commercial and fiscal requirements of that country.

4.6.3 CorrectWithCredit transaction

Categories	Description and Values
Identifier	BiiTrns014
Description	A structured electronic business document for a Creditor to specify a reduced payment in reference to an Invoice or to cancel that Invoice fully.
Partner Types	Customer Supplier
Authorized Roles	Debtor Creditor
Legal Implications	None specified.
Initial Event	Create and send CorrectWithCredit

Categories	Description and Values
Terminal event	Receive and process CorrectWithCredit
Scope	To reduced the amount claimed in an invoice or to nullify (cancel) an invoice in full.
Boundary	Only used in relation to an existing invoice.
Business rules	None specified.

4.6.3.1 Transaction business rules

- None specified.

4.6.4 CorrectWithInvoice transaction

Categories	Description and Values
Identifier	BiiTrns015
Description	A structured electronic business document that adds to or replaces an existing invoice.
Partner Types	Customer Supplier
Authorized Roles	Creditor Debtor
Legal Implications	None specified.
Initial Event	Create and send CorrectiveInvoice.
Terminal event	Receive and CorrectiveInvoice.
Scope	Corrective invoice in the case of an undercharge.
Boundary	Only used in relation to an existing invoice.
Constraints	None specified.

4.6.4.1 Transaction business rules

- None specified.