



UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE
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UN/CEFACT
Core Components Business Document Assembly
Technical Specification

Version 1.0

27 June 2012

20 **Abstract**

21 This document describes how to construct syntax independent Business
22 Documents based on UN/CEFACT Core Components and defines the basic
23 structure of Business Documents in a syntax and technology neutral way.

24 This document offers guidance to experts involved in the development and
25 standardization of UN/CEFACT standard *Business Document Types*. A *Business*
26 *Document Type* is a container of artifacts that describe the information
27 exchanged in a *Business Interaction*. The CCBDA specification can be employed
28 wherever business information is being shared or exchanged amongst and
29 between enterprises, governmental agencies and/or other organizations in an
30 open environment. This environment can be of a worldwide scope or restricted to
31 a specific *Business Context* (such as an industry or region).

32 The CCBDA specification is developed to identify how to construct *Business*
33 *Documents* from *Core Component* constructs (BIEs) in accordance with a
34 Business Requirements Specification (BRS) and a Requirements Specification
35 Mapping (RSM). CCBDA supports assembling CCTS based data models into
36 syntax independent business information exchange models that may
37 subsequently be rendered as syntax specific business information exchanges.

38 CCBDA forms the basis for standards development work of business analysts,
39 business users and information technology specialists supplying the content of
40 and implementing applications that will employ the UN/CEFACT Core
41 Component Document Library (CCDL).

42

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69 **1 Status of this document**

70 This Technical Specification has being developed in accordance with the
71 UN/CEFACT/TRADE/22 Open Development Process for Technical
72 Specifications and approved for publication by the UN/CEFACT Bureau.

73

74

75 **2 Project Team Participants**

76 We would like to recognize the following for their significant participation to the
77 development of this document.

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84

85 **2.1 Legal Disclaimer**

86 The views and specification expressed in this document are those of the authors
87 and are not necessarily those of their employers. The authors and their
88 employers specifically disclaim responsibility for any problems arising from
89 correct or incorrect implementation or use of this technical specification.

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92

93 **3 Introduction**

94 **3.1 Scope and Focus**

95 This Core Components Business Document Assembly Technical Specification
96 (CCBDA) can be employed wherever business information is being shared or
97 exchanged amongst and between enterprises, governmental agencies and/or
98 other organizations in an open environment. This environment can be of a
99 worldwide scope or restricted to a specific *Business Context* (such as an industry
100 or region). Interoperability supported by this specification covers both interactive
101 and batch exchanges of business data between applications. These applications
102 may use Internet and Web based information exchanges as well as traditional
103 Electronic Data Interchange (EDI) systems. CCBDA compliant models may serve
104 as the computer readable part of an EDI Document Implementation Guideline.
105 The exchanges may be service oriented as in Web Services or be Peer-to-peer.

106 This specification builds on the UN/CEFACT Modeling Methodology (UMM).
107 UMM describes how inter organizational business information systems are
108 designed by means of various views (see Annex A). The CCBDA specification is
109 an elaboration of the UMM Business Information View, and defines how
110 information is structured. CCBDA forms the basis for standards development
111 work of business analysts, business users and information technology specialists
112 supplying the content of and implementing applications that will employ the
113 UN/CEFACT Core Component Message Library (CCML).

114 This specification does not specify a transmission protocol or any mechanisms to
115 circumvent communication failure. Signalling (acknowledgements of receipt or
116 acceptance) is outside the scope of this specification as are application
117 processing considerations.

118 The way the information on envelopes, headers and information entities is
119 represented in some syntax, such as XML or UN/EDIFACT, is outside the scope
120 of this specification.

121 **3.2 Audience**

122 The audience of this technical specification includes but not limited to developers
123 and implementers of e-business systems.

124 **3.3 Structure of this document**

125 Section 4 provides an overview of *Business Document Assembly*.

126 Section 5 provides rules for how a *Message Assembly* is named, defined and
127 structured.

128 Section 6 describes how *Message Assemblies* and the *Business Information*
129 *Entities* they are associated with are defined in a specific *Business Context*.

130 Section 7 explains the use of *Constraints*.

131 Section 8 provides a list of terms and their definitions.

132 Sections 3, 5, 6, 7 and 8 are normative. All other sections are informative.

133 Implementations of this technical specification will be considered to be in full
134 compliance with this technical specification if they comply with the content of the
135 normative sections.
136

137 **3.4 Notation**

138 *Italics* – All words appearing in italics, when not titles or used for emphasis, are
139 special terms defined in Section 8.

140 **Courier** – All words appearing in bolded courier font are rules.

141 The keywords MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD,
142 SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL, when they appear in
143 this document, are to be interpreted as described in Internet Engineering Task
144 Force (IETF) Request For Comments (RFC) 2119.1.

145 **3.5 Related Documents**

- 146 • ISO/TS 15000-5:2005: ebXML Core Components Technical Specification,
147 Version 2.01 (CCTS);
- 148 • UN/CEFACT Modelling Methodology Base Module Version 2.0;
- 149 • UN/CEFACT Modelling Methodology Foundation Module Version 2.0;
- 150 • UN/CEFACT Business Document Header Technical Specification;
- 151 • OMG Unified Modelling Language [UML] Specification, Version 1.4;
- 152 • OMG Object Constraint Language Specification [OCL] Version 1.1;
- 153 • UN/CEFACT Business Requirements Specification (BRS) Documentation
154 Template, Version 2.1 (out for public review);
- 155 • Requirements Specification Mapping (RSM) Documentation Template and
156 Conformity Rules Version 2.1 (out for public review);
- 157 • Key words for use in RFCs to Indicate Requirement Levels - Internet
158 Engineering Task Force, Request For Comments 2119, March 1997
159 <http://www.ietf.org/rfc/rfc2119.txt?number=2119>

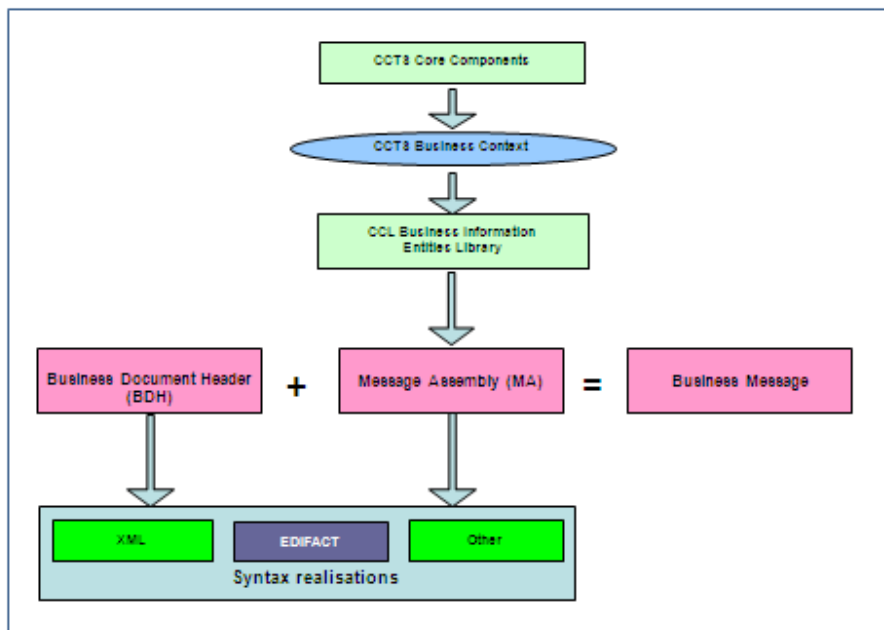
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161 **4 Overview**

162 This specification provides a specific methodology for assembling higher level
 163 semantic *Business Documents* from *Business Information Entities*. *Business*
 164 *Document Types* may be reusable and stored in Core Component Message
 165 Libraries.

166 This technical specification will focus on the business information in a *Business*
 167 *Document*, and will not include the specification of any protocol envelope needed
 168 to transmit this information. The methodology makes use of *Business Information*
 169 *Entities* as specified in the UN/CEFACT Core Component Technical Specification
 170 v2.01 (CCTS) and ISO/TS 15000-5 (ebCCTS).

171 This technical specification defines the structure of *Business Documents* in an
 172 abstract, syntax neutral way, as a data model (a UML Class Diagram) that can
 173 be realised in various concrete syntaxes, such as XML (Extensible Markup
 174 Language, a W3C Recommendation) and UN/EDIFACT (ISO 9735).

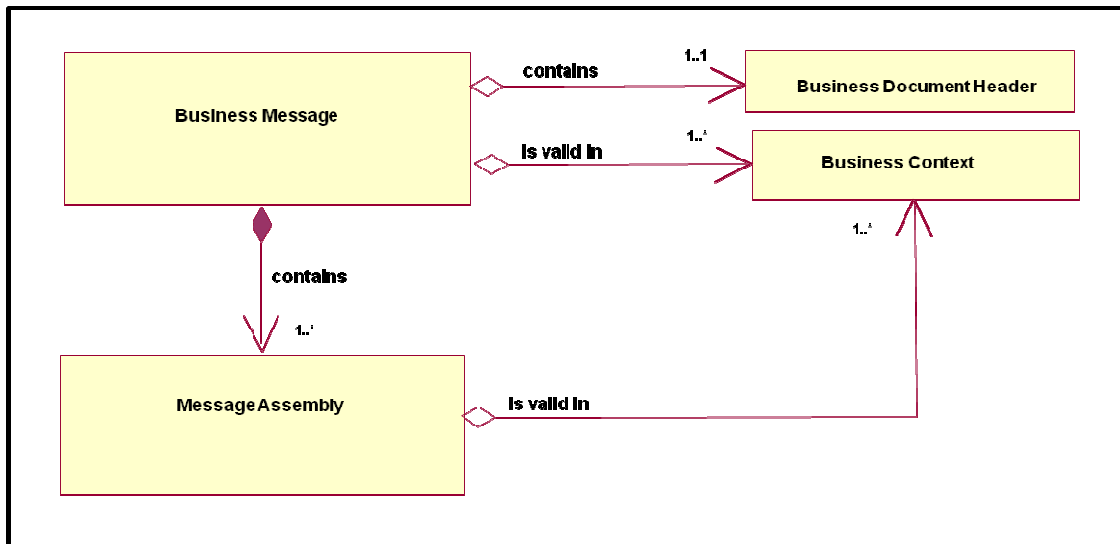


175

176 **Figure 4-1. Business Message Structure**

177 Fig 4.1 describes the components of a CCBDA document assembly and how
 178 they combine with a business document header to form a complete business
 179 message.

180 A *Business Message* is a container of artifacts that describe the information
 181 exchanged in a *Business Interaction*. A *Business Message* consists of a
 182 *Business Document Header* (BDH), and one or more *Message Assemblies*
 183 (MAs). The BDH includes the identification of the sender and receiver, document
 184 type etc. An MA is a collection of business data to be exchanged.

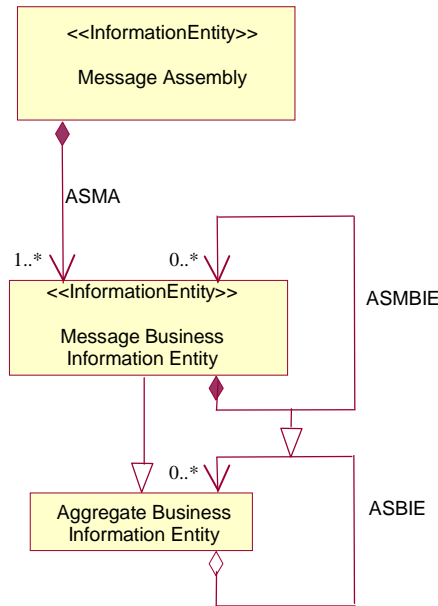


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 186

Figure 4-2. Message Assembly Conceptual Overview

187 An MA is the logical root of a message structure. An MA consists of one or more
 188 ASMAs each of which is an association to an MBIE.

189 MBIEs may have associations to other MBIEs through *Message Association*
 190 *Business Information Entities* (ASMBIEs). MBIEs inherit their name, structure
 191 and definition from *Aggregate Business Information Entities* (ABIEs). All MBIE
 192 properties (ASMBIEs and MBBIEs) inherit their (meta) properties such as
 193 *Names, Definitions* and *Property Terms* from their corresponding property
 194 (ASBIEs and BBIEs) in the inherited ABIE. The cardinality and values of the
 195 ABIE properties (BBIEs and ASBIEs) that the MBIE inherits from the ABIE may
 196 be restricted.



197

198

Figure 4-3. CCBDA Conceptual Overview

199 *Syntax-neutral Business Messages* are implemented in concrete syntaxes and
 200 technical protocols.

201 MAs and ASMAs are not CCTS *Aggregate Business Information Entities* (ABIE)
 202 and do not require corresponding *Aggregate Core Components* (ACC). ASMAs
 203 are the properties of an MA. MAs may be based on more generic MAs, much like
 204 *Aggregate Business Information Entities* may be based on more generic
 205 *Aggregate Business Information Entities*

206 A *Business Message* is exchanged in the course of a *Business Process*. The
 207 *Business Context* in which a *Business Message* is valid must be specified. The
 208 *Business Context* may be a (specific step in a) *Business Process* plus a business
 209 sector and/or a geographical area (amongst others).

210 This section defines the characteristics of an assembled *Business Document* as:

- 211 • **Atomic:**
 212 This means that no constituent element (part), of a *Business Document*,
 213 has any business meaning on its own, and cannot, in isolation, change the
 214 state of any *Business Entity*. In other words before taking any action
 215 whatsoever, the entire *Business Document* must be processed as it is only
 216 then that it will be known exactly what actions are required.
- 217 • **Consistent:**
 218 A *Business Document* in its entirety has business meaning that can
 219 change the state of *Business Entities*. In other words a *Business*

220 *Document*, that affects the state of a *Business Entity*, uniquely identifies
221 the end state of that *Business Entity*..

- 222 • **Isolated:**
223 Each *Business Document* has an individual business meaning. A
224 *Business Document* changes the state of *Business Entities* independent of
225 other *Business Documents*. In other words, a Business Document must
226 not have a dependency on any other Business Document.
- 227 • **Durable:**
228 Once a *Business Document* has been completely processed, the states of
229 all of the *Business Entities* that have been changed, will remain changed
230 until further changes are introduced by a later Business Document. In
231 other words they can only be changed again (or even reverted) by means
232 of a new *Business Document*.
- 233 • **Idempotent:**
234 Processing multiple copies of the same *Business Document* or processing
235 a Business Document more than once has the same effect on *Business*
236 *Entity* states as processing just one copy. For example, if a *Business*
237 *Document* asks to “increment stock of product A with 1 unit” then
238 processing 10 copies of this same *Business Document* will still only result
239 in one increment of one unit of product A. It is important that a copy be
240 recognized as a copy, and not as another original *Business Document*.

241 A collection of business information to be exchanged between *Business Partners*
242 can form a single business document assembly, multiple business document
243 assemblies or be part of another business document assembly.

244 The characteristics described above may be used to determine whether a
245 collection of information, to be communicated with a *Business Partner*, is 1) a
246 complete *Message Assembly*, or 2) needs to be divided into (distinct / separate)
247 *Message Assemblies*, or 3) needs to be combined with other collections to form a
248 (single) *Message Assembly* as follows:

- 249 1) Whenever a collection has all of the characteristics listed, then this
250 collection constitutes a complete *Message Assembly*.
- 251 2) Whenever a part of such a collection has all of the characteristics listed,
252 then this part of the collection constitutes a separate *Message Assembly*.
- 253 3) Whenever a collection only has these characteristics in combination with
254 one or more other collections, then the collections should be combined to
255 form one *Message Assembly*.

256

257 **5 Business Document Structure**

258 **5.1 Message Business Information Entities (MBIEs)**

259 An MA is the logical root of a message structure. An MA consists of one or more
260 ASMAs each of which is an association to an MBIE.

261 [R01] Each MA must have one or more ASMAs each of which
262 associates to an MBIE.

263 An MA may be a subset of another defined MA as long as the context of the
264 subset MA is restricted compared to the parent MA.

265 [R02] If an MA is defined as a subset of another MA
266 then the context values of the subset MA must include
267 at least one restricted context value compared to the
268 context values of the parent MA.

269 [R03] When MAs are restricted no additional MBIEs may
270 be added.

271 An MBIE defines which properties of an ABIE are to be included. The content
272 model of an MBIE may be the same as, or may be a subset of, the content model
273 of an ABIE.

274 An MBIE inherits its name, structure and definition from the ABIE on which it is
275 based.

276 MBIEs are defined within the scope of an MA and do not exist outside that scope.
277 Identical MBIEs may exist in other MAs but they are not reused as such.

278 The structure of an MBIE (e.g. the repetition of its properties i.e. its MBBIEs and
279 ASMBIEs) may be restricted with regard to the underlying ABIE (*Constraints* may
280 also apply; see section 7: Constraints). The following rules apply:

281 [R04] If an MBIE is a restricted form of an ABIE then
282 the restrictions must be specified.

283 [R05] An MBIE inherits its structure from the ABIE on
284 which it is based. The set of properties of an MBIE may
285 be a subset of the set of properties of the ABIE on
286 which it is based.

287 [R06] An MBIE must contain all mandatory properties
288 (BBIEs and/or ASBIEs) of the ABIE on which it is based.
289 These become MBBIEs and/or ASMBIEs.

290 MBIEs have properties which are either basic properties (MBBIEs) or association
291 properties (ASMBIEs).

292 [R07] An MBIE must be identified by means of a unique
293 Identifier.

294 [R08] An MBIE may have zero or more associations with
295 other *MBIEs* through *ASMBIEs*.

296 [R09] An MBIE may have zero or more MBBIEs derived from
297 the ABIE on which it is based.

298 [R10] Each property of an MBIE must be derived from the
299 ABIE on which it is based and an MBIE must contain at
300 least one property

301 [R11] An MBIE property may be a restriction of its
302 inherited ABIE property in any or all of the followings
303 ways:

304 a. A used optional property may be made mandatory

305 b. An optional property may be not used

306 c. A used optional or mandatory property may specify a
307 lower number of maximum occurrences but not lower than
308 the minimum occurrences.

309 [R12] The maximum repetition of an MBIE property must
310 not exceed the maximum repetition that is defined for
311 the ABIE.

312 MBBIEs have Message Data Types (MDTs) that may be a restriction of the
313 underlying qDT.

314 [R13] Restrictions may not be applied to uDTs.

315 [R14] If an MDT is a restricted form of a qDT then all
316 restrictions must be specified.

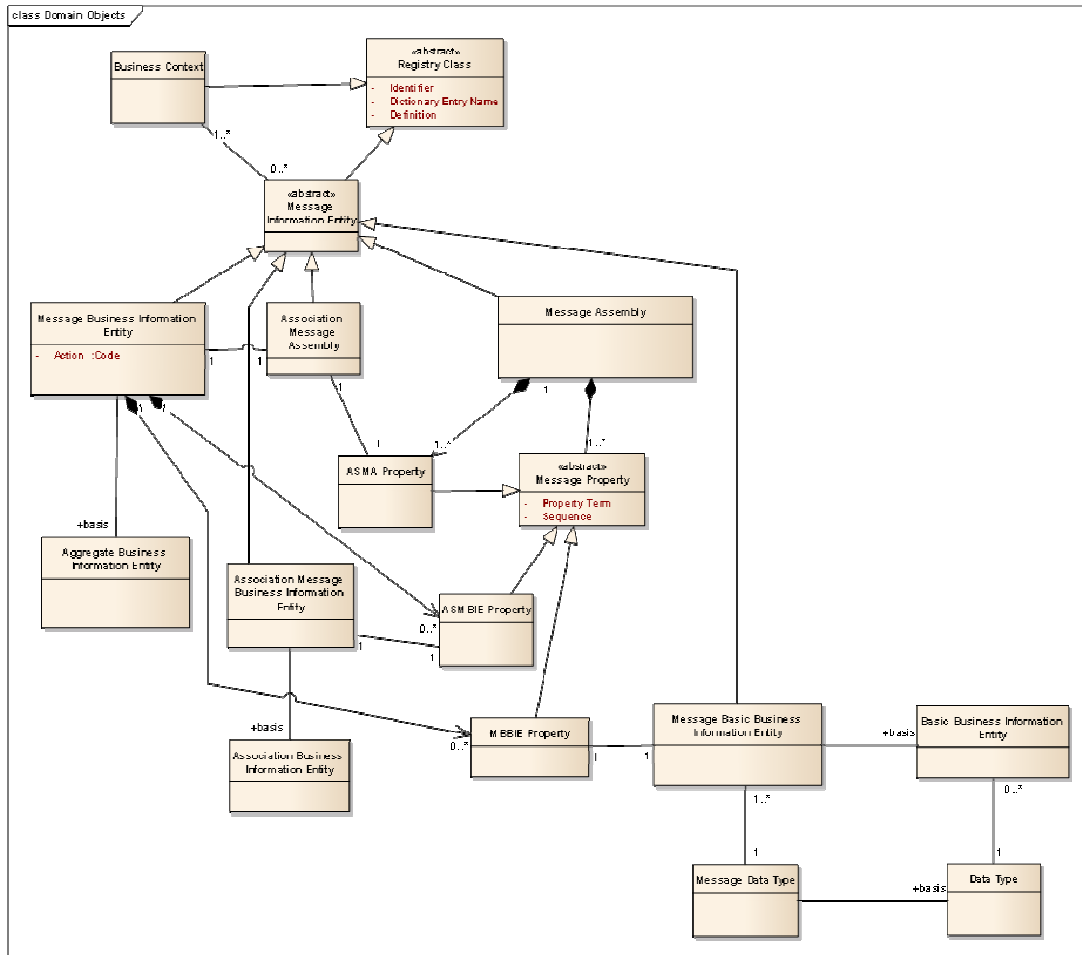
317 [R15] An MDT must not add supplementary components to a
318 Data Type that do not already exist.

319 [R16] An MDT may reduce the maximum cardinality of a
320 supplementary component from 1 to 0. The minimum
321 number of supplementary components is 0.

322 [R17] An MDT may restrict the value domain of a
323 supplementary component or the content component to be
324 more restrictive than the base qDT.

325 An example of a restriction of a value domain would be a restricted set of codes
326 for a code list.

327 [R18] An MDT may restrict the values of the facets of a
 328 supplementary component or the content component to be
 329 more restrictive than the base qDT.
 330



331

332

Figure 5-1. CCBDA Metamodel

333 MAs, MBIEs, ASMBIEs, MBBIEs, and MDTs within a Business Message that are
 334 stored in libraries and registries possess a cohesive set of metadata as defined
 335 in CCTS.

336 *MBIEs* have the same set of metadata that *ABIEs* have.

337 *ASMBIEs* have the same set of metadata as *ASBIEs*.

338 An *ASMA* is an association, without any metadata.

339 Note: The *action code* can define how information defined by the *MBIE* is to be
 340 acted upon (e.g. Create / Refer / Update / Delete).

341 5.2 Names and Definitions

342

343 [R19] The Dictionary Entry Name of an MA shall consist
344 of a meaningful Object Class Term and optionally
345 preceded by an additional Qualifier Term(s) (ref rules
346 B26 and B27 in CCTS 2.01) to represent its specific
347 Business Context, followed by a dot, a space
348 character, and the term Message. The Object Class Term
349 may consist of more than one word. In all other
350 respects the naming of the MA should follow the ABIE
351 naming rules.

352

353 [R20] An MBIE inherits its name and definition from the
354 ABIE on which it is based.

355 [R21] The Dictionary Entry Name of an MBIE, ASMBIE,
356 MBBIE, or MDT shall be unique within its Business
357 Message.

358 [R22] The Dictionary Entry Name of an ASMA follows all
359 the naming rules for an ASBIE except that the Property
360 Term is optional.

361

362 [R23] The definition for an ASMA follows the same rules
363 as for an ASBIE.

364

365 5.3 Sequencing

366 *ASMA*s and the properties of *MBIE*s may be assigned an optional *Sequence*
367 *Number* that may be used in syntax renderings (or in model representations) to
368 present them in some order in the *MA*. However, sequencing does not change
369 the semantics.

370 [R24] Each *MBIE* may be assigned a *Sequence Number* that
371 is used for presentation of the *MA* structure or for
372 representation in a specific syntax.

373 5.4 Business Document Header

374 A Business Message contains a *Business Document Header*. A *Business*
375 *Document Header* **MUST** contain the attributes as defined by the UN/CEFACT
376 Business Document Header (BDH).

377

378 **6 Context**

379 A *Business Document* is exchanged in a certain *Context*. CCTS defines eight
380 context categories or context dimensions: Business Process, Product
381 Classification, Industry Classification, Geopolitical, Official Constraints, Business
382 Process Role, Supporting Role and System Capabilities.

383 The structure of a *Business Document* is dependent on the specific step in the
384 *Business Process* or *Business Process Activity* where the *Business Document* is
385 used. That step further narrows the context.

386 [R25] **The context of the MA must apply to all of the**
387 **objects within the MA structure.**

388 **7 Constraints**

389 Each *Message Business Information Entity* or *Document Assembly* may have
390 *Constraints* associated with it.

391 *Constraints* are used to restrict the content model or business process to satisfy
392 specific business requirements where the constraint is the formal expression of
393 the requirements.

394 Constraints may affect repetition and cardinality, element values, or a mix (e.g. "if
395 the Delivery Term="FOB", a Delivery Term Location must be present").

396 A constraint can be structured or unstructured. An unstructured constraint will be
397 expressed as free form text. A structured constraint is a constraint that is
398 expressed in a formal constraint language such as the UML Object Constraint
399 Language (OCL) or Object Management Group (OMG) Semantics of Business
400 Vocabulary and Usage Rules (SBVR).

401 Constraint condition types may also be specified such as invariant, pre-condition
402 or post-condition. The constraint condition type value is taken from a constraint
403 type code list.

404 [R26] **If an MBIE contains any constraints then each**
405 **constraint must contain one or more of the following:**

- 406 • **the text of the constraint**
- 407 • **a reference identifier to a constraint defined in an**
408 **external list of constraints if applicable**
- 409 • **a code defining the type of the constraint condition**
- 410 • **in the case of structured constraints, a code**
411 **indicating the constraint language in which the**
412 **constraint is expressed**

413 [R27] An unstructured constraint shall have or refer to
414 a free form text expression that fully details the
415 business requirements that it is addressing.
416

417 [R28] A structured constraint shall have or refer to a
418 formal constraint
419 language expression.
420

421 8 Definition of Terms

422 **Aggregate Business Information Entity (ABIE)** – A collection of related pieces
423 of business information that together convey a distinct business meaning in a
424 specific business context. Expressed in modelling terms, it is the representation
425 of an object class, in a specific business context.

426 **Association Business Information Entity (ASBIE)** – A business information
427 entity that represents a complex business characteristic of a specific object class
428 in a specific business context. It has a unique business semantic definition. An
429 Association Business Information Entity represents an Association Business
430 Information Entity property and is therefore associated to an Aggregate Business
431 Information Entity, which describes its structure. An Association Business
432 Information Entity is derived from an Association Core Component.

433 **Aggregate Core Component (ACC)** - A collection of related pieces of business
434 information that together convey a distinct business meaning, independent of any
435 specific Business Context. Expressed in modelling terms, it is the representation
436 of an Object Class, independent of any specific Business Context.

437 **Association Core Component (ASCC)** – A Core Component which constitutes
438 a complex business characteristic of a specific Aggregate Core Component that
439 represents an Object Class. It has a unique Business Semantic definition. An
440 Association Core Component represents an Association Core Component
441 Property and is associated to an Aggregate Core Component, which describes
442 its structure.

443 **Association Message Business Information Entity** – An association between
444 two Message Business Information Entities. An Association Message Business
445 Information Entity is based on an Association Business Information Entity.

446 **Attribute** – A named value or relationship that exists for some or all instances of
447 some entity and is directly associated with that instance.

448 **Business Partner** - A business partner is an organization type, an organizational
449 unit type or a person type that participates in a business process.

450 **Business Context** – The formal description of a specific business circumstance
451 as identified by the values of a set of context categories, allowing different
452 business circumstances to be uniquely distinguished.

453 **Business Information Entity (BIE)** – A piece of business data or a group of
454 pieces of business data with a unique business semantic definition. A business
455 information entity can be a Basic Business Information Entity (BBIE), an
456 Association Business Information Entity (ASBIE), or an Aggregate Business
457 Information Entity (ABIE).

458 **Business Interaction** – Exchange of Business Messages between Business
459 Partners in a Business Context. Business interaction involves communication by
460 one Business Partner to another of a change to at least one BIE of a Business
461 Document.

462 **Business Document** – A collection of information that is exchanged in a step of
463 a Business Process. A Business Document updates information on Business
464 Entities, such as Products, Contracts, Locations, etc. Exchanging a Business
465 Document synchronizes the knowledge on the states of those Business Entities
466 among the Business Partners involved.

467 **Business Message** – A business message (also known as an information
468 envelope) has exactly one business document header (BDH) which serves for
469 identification purposes of technical sender and receiver, document type etc. A
470 business document header is defined in the Business Document Header
471 specification of UN/CEFACT. The body of a business message consists of
472 exactly one element, which is of type message assembly (MA). This single
473 message assembly serves as the root element of a business document definition
474 and is connected to the information envelope using a standard UML aggregation.
475 Message assemblies are used to aggregate different aggregate business
476 information entities (ABIE) to a specific business document. Association
477 message assemblies (ASMA) are used to connect different message assemblies
478 to each other and to connect aggregate business information entities to message
479 assemblies. ABIEs, MAs, and ASMAs are part of the UML Profile for Core
480 Components.

481 **Business Process** – The business process as described using the UN/CEFACT
482 Catalogue of Common business processes.

483 **Business Semantic(s)** – A precise meaning of a concept from a business
484 perspective.

485 **Classification Scheme** – This is an officially supported scheme to describe a
486 given context category.

487 **Constraint** – a constraint is one or more conditions expressed as a business rule
488 used to restrict a content model or business process to satisfy a specific
489 business requirement where the constraint is the formal expression of the
490 requirement.

491 **Context** – Defines the circumstances in which a business process may be used.
492 This is specified by a set of context categories known as business context.

493 **Context Category** – A group of one or more related values used to express a
494 characteristic of a business circumstance.

495 **Core Component Message Library (CCML)** – The library of all Message
496 Assemblies and their constituent parts published by an organization, such as the
497 UN/CEFACT CCML.

498 **Definition** – The unique semantic meaning of a concept, business document,
499 core component, business information entity, business context or data type.

500 **Dictionary** – A collection of Dictionary Entry Names for CCTS conformant
501 artefacts for a specific library.

502 **Document Assembly** – (1) The process whereby Business Information Entities
503 are assembled into a usable document for exchanging business information. (2)

504 A grouping of Message Business Information Entities which does not change the
505 semantics of the MBIEs.

506 **Information Envelope (also known as Business Message)** - An information
507 envelope has exactly one business document header (BDH) which serves for
508 identification purposes of technical sender and receiver, document type etc. A
509 business document header is defined in the Business Document Header
510 specification of UN/CEFACT. The body of an information envelope consists of
511 exactly one element, which is of type message assembly (MA). This single
512 message assembly serves as the root element of a business document definition
513 and is connected to the information envelope using a standard UML aggregation.
514 Message assemblies are used to aggregate different aggregate business
515 information entities (ABIE) to a specific business document. Association
516 message assemblies (ASMA) are used to connect different message assemblies
517 to each other and to connect aggregate business information entities to message
518 assemblies. ABIEs, MAs, and ASMAs are part of the UML Profile for Core
519 Component

520 **Message Business Information Entity** – A part of a Business Document that
521 inherits its definition and structure from an ABIE to represent information to be
522 updated.

523 **Naming Convention** – The set of rules that together comprise how the
524 dictionary entry name for artefacts is constructed.

525 **Object Class** – The logical data grouping (in a logical data model) to which a
526 data element belongs.

527 **Object Class Term** – A component of the name of a core component or
528 business information entity which represents the object class to which it belongs.

529 **Property Term** – A semantically meaningful name for the characteristic of the
530 Object Class that is represented by the core component property. It shall serve
531 as basis for the DEN of the basic and Association Core Components that
532 represents this core component property.

533 **Qualifier Term** – A word or group of words that help define and differentiate an
534 item (e.g. a business information entity or a business data type) from its
535 associated items (e.g. from a core component, a core data type, another
536 business information entity or another business data type).

537 **Registry** – An information system that manages and references artifacts that are
538 stored in a repository. The term registry implies a combination of
539 registry/repository.

540 **Registry class** – The formal definition of all the common information necessary
541 to be recorded in the registry by a registry artefact – core component, a business
542 information entity, a data type or a business context.

543 **Representation Term** – The type of valid values for a Basic Core Component or
544 Basic Business Information Entity.

545 **Sequence Number** – A number identifying the sequence of an item within a
546 collection of related items.

547 **Unique Identifier** – The identifier that references a registry class instance in a
548 universally unique and unambiguous way.

549 **Usage Rules** – Usage rules describe a constraint that describes specific
550 conditions that are applicable to a component in the model.
551 **Version** – An indication of the evolution over time of an instance of a core
552 component, data type, business context, or business information entity.
553 **Web Service** - Web services describes a standardized way of integrating Web-
554 based applications using the XML, SOAP, WSDL and UDDI open standards over
555 an Internet protocol backbone.
556

557 **Intellectual Property Disclaimer**

558 ECE draws attention to the possibility that the practice or implementation of its
559 outputs (which include but are not limited to Recommendations, norms,
560 standards, guidelines and technical specifications) may involve the use of a
561 claimed intellectual property right.

562 Each output is based on the contributions of participants in the UN/CEFACT
563 process, who have agreed to waive enforcement property rights
564 pursuant to the UN/CEFACT ECE/TRADE/C/CEFACT/2010/20/Rev.2
565 available at http://www.unece.org/cefact/cf_docs.html or from the ECE
566 secretariat).

567 ECE takes no position concerning the evidence, validity or applicability of any
568 claimed intellectual property right or any other right that might be claimed by any
569 third parties related to the implementation of its outputs. ECE makes no
570 representation that it has made any investigation or effort to evaluate any such
571 rights.

572 Implementers of UN/CEFACT outputs are cautioned that any third-party
573 intellectual property rights claims related to their use of a UN/CEFACT output will
574 be their responsibility and are urged to ensure that their use of UN/CEFACT
575 outputs does not infringe on an intellectual property right of a third party.
576 ECE does not accept any liability for any possible infringement of a claimed
577 intellectual property right or any other right that might be claimed to relate to the
578 implementation of any of its outputs.

579

580 **Annex A : Non-normative - for information only**

581 **Relation between CCBDA and UMM**

582 UMM defines how to analyze an inter-organizational business process to design
583 the Process Choreography. One of the views, defined in the UMM, is the
584 Business Information View (BIV). The UN/CEFACT CCBDA Technical
585 Specification, in conjunction with the UN/CEFACT CCTS, may be used to model
586 that BIV.

587 UMM also defines a Business Entity View (BEV). In the BEV, the *Business*
588 *Entities* are identified that are affected by the process. *Business Entities* are
589 represented in the Core Components Library (CCL) as *Aggregate Business*
590 *Information Entities* (ABIEs). In the course of the business process the
591 information on *Business Entities* changes and is updated by means of business
592 documents, defined as *Message Assembles* (MA). An MA consists of *Message*
593 *Business Information Entities* (MBIEs).

594 The choreography may define the states and the lifecycles of the *Business*
595 *Entities* and the mechanism to synchronize those states between business
596 partners (who fulfill Authorized Roles). Business Entity State synchronization
597 means that some business entities may be instantiated in a business transaction,
598 while others may only be changed or deleted, e.g., in an Order Confirmation
599 document, order lines might be deleted or changed, but not added. This can be
600 defined in the Action code, which is an optional attribute of an MBIE.

601 Business Context, as defined in the UN/CEFACT Context Methodology (UCM),
602 defines what information needs to be exchanged to synchronize the *Business*
603 *Entity* states. Context is applied in two steps. First, context is applied to Core
604 Components to turn these CC's into *Business Information Entities* (BIE's) that
605 reflect a particular business environment (e.g., the ordering of office supplies).
606 The step from CC to BIE is described in UN/CEFACT CCTS.

607 Second, BIE's are customized to the specific requirements of a particular
608 information exchange in a particular business process (e.g., office supplies order
609 confirmation). This step is described in the UN/CEFACT CCBDA Technical
610 Specification.

611 The second step of context application could be realized by adding constraints to
612 the business document root (the MA). These constraints may be stated in a
613 formal constraint language such as the OMG Object Constraint Language. In
614 many cases cardinalities of BIE's are affected by this second step (e.g., in an
615 order confirmation, order lines may only contain an identifier and no product
616 specification), and it is desirable to present the restricted cardinalities graphically
617 instead of as rule statements. Therefore, instead of using ABIE's directly,
618 *Message Business Information Entities* (MBIE's) are used. MBIE's are based on

619 ABIE's in the same way ABIE's are based on *Aggregate Core Components*
620 (ACC's). The cardinalities of MBIE's may be restricted with regard to the ABIE
621 they are based on and they may graphically be presented in a UML Class
622 diagram.

623