UN/CEFACT
DRAFT
United Nations Centre for Trade Facilitation and Electronic Business

1   # UN/CEFACT – Core Components User's Guide

2

3   **30 October 2003**

4   **Version 1.0**

Table of Contents

99 1.0 Status of this Document

100   This User Guide is being developed in accordance with the UN/CEFACT TMG
101   procedures for User Guides. This user guide is approved after completion of the TMG
102   review process that ended 21 September 2003.

103   This document contains information to guide in the interpretation or implementation of
104   the UN/CEFACT ebXML Core Components Technical Specification.

105   This version: Core Components User's Guide, Version 1.0 of 16 October 2003.

106   **2.0 Overview**

107   **2.1 Introduction**

108   This primer illustrates the discovery and implementation of Core Components by
109   elaborating two real life examples in detail: the Boeing Part Ordering System and the
110   EAN.UCC Delivery Process for Fast Moving Consumer Goods (FMCG).

111   It should be used as a supplemental document to the ebXML Core Components Technical
112   Specification. This primer intends to explain the use of Core Components principles
113   through actual examples.

114   This primer shows how the employment of the Core Components methodology may be
115   used for analysing the needed information flows in cross-organisational processes and
116   how it can lead to information models and communication systems that are usable
117   internationally and cross-industry.
118   This primer should be read by management, responsible for the implementation of
119   information systems. End users, information managers and IT personnel may also find
120   the document usable.

121   This document must be used in conjunction with the set of UN/CEFACT ebXML
122   specifications (see Appendix A for a list of references).

123   **2.2 Core Components in the Big Picture**

124   In the early days of electronic business, systems were tailored to process proprietary data
125   between business partners; a lot of time was spent in getting the right data in and out of
126   systems. The same data was redefined in different systems as the developer wished.
127   This created a nightmare for system integration and maintenance to match the ever
128   changing and growing requirements in the eBusiness environment.

129   Today, we have technology like XML and the Internet, which enables the exchange of
130   business data much easier, the same data can be processed across different systems on
131   different platforms. System interoperability is key for eBusiness success. The overhead
132   cost of data inconsistency needs to be improved.

133   ebXML Core Components enable standardising data across industries. Using
134   standardised data enables consistent data exchange from system to system and industry to
135   industry. The time requirements for interface development are reduced. Industry can
136   focus their time on improving business rather than worry about data flow.

137   By using Core Components, information is being aligned internationally and cross-
138   industry. Meaning, names, structures and definitions of information entities are set up in
139   a way that allows the use of it beyond the scope of the individual project defining them.
140   Investments in such projects are lasting and secure.

141   Results are being stored in internationally maintained registries. No project needs to start
142   from scratch, but instead should use the results of earlier projects in similar
143   environments. The Core Components methods allow, support and manage functional
144   deviations between those environments. This not only secures but also lowers the
145   investment needed when setting up an information system across organisational borders.

146 **2.3 Where and When May Core Components Be Used**

147 Core Components and Business Information Entities are used whenever business
148 processes cross-organizational borders. They define the information that is exchanged
149 between organisations semantically and structurally. Core Components are independent
150 of the syntax the information is cast in, they present an opportunity for information to be
151 transmitted in a variety of formats over any type of communication network.

152 Many technologies exist for exchanging information between automated systems.
153 Technologies may be embedded in integrated business information systems (like
154 Enterprise Resource Planning packages), they may be used in specific middleware or
155 workflow management systems or they may merely be employed to present information
156 through human interfaces to company employees. Core Components are technology
157 neutral. All mentioned technologies, and all usage of these technologies, may (and
158 should) use the Core Component methodology and definitions. This way investments in
159 information systems and in (internal) working procedures are secured, even when the
160 technology is upgraded.

161 Traditionally, structured information between companies is exchanged using Electronic
162 Data Interchange (EDI). Information that needs to be exchanged in the framework of a
163 business process is cast in a syntax (like EDIFACT or ANSI ASC.X12), packaged in
164 messages and transmitted using a communication network (like Internet). The
165 information to be exchanged can and in the future should be defined using the Core
166 Component methodology, and registered for re-use using an ebXML registry.

167 Using the standard eXtensible Markup Language (XML) of the World Wide Web
168 Consortium (W3C) more advanced systems can use the same Core Component
169 definitions. XML is more widely adopted by soft- and middleware vendors. XML can
170 even be interpreted by browsers that are used by the general public to present information
171 to end-users. So communication based on Core Components is not limited to application-
172 to-application systems, but can also be used in application-to-human communication that
173 crosses organisational borders. The illustrations in section D show how the syntax neutral
174 core components can be used in a syntax specific format, such as XML or EDIFACT.

175 XML messages may also be used in information presentation (webforms-like) systems,
176 and in webservices that are offered commercially to either application systems or human
177 users. The information exchanged in the request for a webservice, and in the response
178 given by the service may and should be defined according to the Core Component
179 methodology. That ensures consistency of information semantics and structure among
180 and between webservices and the client applications.

181 Summarising, Core Components are being deployed whenever information is exchanged
182 between information systems of different organisations, regardless of the technology
183 used.

184

185 3.0 Core Component Identification

186 3.1 How is Information Being Modelled in a Class Diagram?

187 There exist many ways to model or structure information that is being stored or
188 exchanged. Core Components are based on Class Diagrams of the Unified Modeling
189 Language (UML) to model information required in a business collaboration. A Class
190 diagram shows object classes, their properties and their relationships. Object classes are
191 the categories of the "things" that are accessed, inspected, manipulated, produced, and
192 worked on in business operations, like products, agreements, parties and events. Object
193 Classes can be tangible or intangible. A Person is a tangible object: "it is of flesh and
194 blood". An Address is an intangible object: one cannot touch an address, it only exists as
195 a piece of information related to a location.

196 Class diagrams show object classes as boxes with (among other things) their names and
197 their properties.

198
199
200
201
202

| Person | +Work Address | Address |
| Person ID: Identifier
First Name: Text
Last Name: Text | +Home Address | Street: Text
City: Text
State/Province: Code |
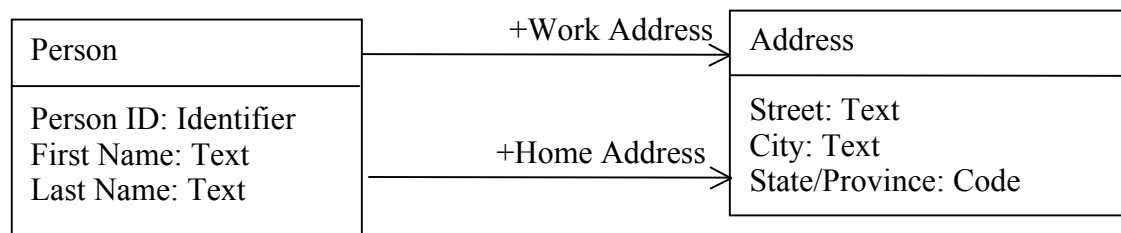
203 **Figure 3-1 Class diagram example**

204

205 In the example in figure 3-1 both Person and Address are object classes. Person has five
206 properties: Person ID, First Name, Last Name, Work Address and Home Address.
207 Address has three properties: Street, City and State/Province.

208 An Object Class can be represented as a box in which the top compartment contains the
209 Object Class name and the bottom compartment contains the properties. The Data Type
210 (kind of information) associated with each property is indicated next to each property
211 separated from it by a colon.

212 Associations between Object Classes are indicated by drawing a line between the object
213 classes. If the association means that one object class is the property of another object
214 class (an address is a property of a person) an arrow point is drawn at the side of the
215 object class that represents the property (Address).

216 3.2 Introduction to Core Components

217 Core Components (CC) are the (standardised) data elements that are used for constructing
218 (electronic) business documents. Data is the core of any business communication. The
219 ability to define data well is crucial to the success of electronic business.
220 The Core Component Technical Specification provides guidelines in identifying,
221 defining, and naming of data elements. Core Components are in fact the generic

222 representations of information on UML object classes. Because UML class diagrams
223 have four categories of elements, there are four categories of core components:

224   Aggregate Core Components (ACC), that represent Object Classes;

225   Basic Core Components (BCC), that represent simple properties of Object Classes;

226   Association Core Components (ASCC), that represent relations between Object
227   Classes, where one Object Class is the (complex) property of another Object Class;

228   Core Component Types (CCT), that define the type of information that a Basic Core
229   Component may contain, like text, a number or a date.

230 Taking as an example the class diagram in figure 3-1, both *Person* and *Address* are
231 representations of Aggregate Core Components. *Person ID*, *First Name*, *Last Name*,
232 *Street*, *City* and *State/Province* are Basic Core Components. *Work Address* and *Home*
233 *Address* are Association Core Components (see figure 3-2).

234 Each Aggregate Core Component, Basic Core Component and Association Core
235 Component is given a unique name, under which the Core Component can be found in a
236 registry or dictionary. This name is therefore called a "Dictionary Entry Name". The
237 Dictionary Entry Name consists in principle of three parts or "terms": the object class
238 term (the name of the object class), the property term (the property the core component is
239 representing) and the representation term (the name of the data type that is derived from
240 the core component type). The conventions for constructing the dictionary entry name are
241 described in detail in section 3.7.

Person. Details	+Person. Work. Address	Address. Details
Person. Identifier Person. First Name. Text Person. Last Name. Text	+Person. Home. Address	Address. Street. Text Address. City. Text Address. State Province. Code
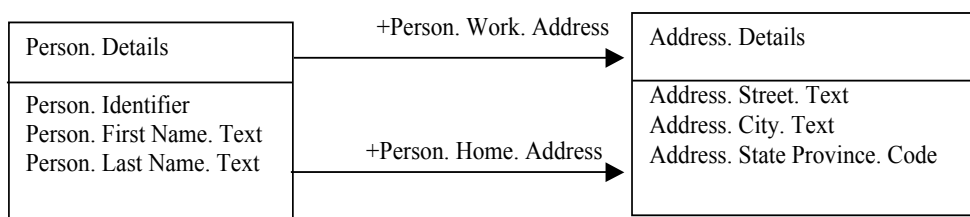
242
243 **Figure 3-2 Dictionary Entry Names**

244 Each core component is also given a definition, that describes the semantics (the
245 meaning) of the Core Component. Other attributes of core components are a unique
246 identifier (a unique meaningless number or string) and a number of "business terms" or
247 synonyms. Business terms are names under which the Core Component is known in some
248 business communities. Business terms do not need to be unique.

249 To understand how data is standardized to form Core Components, it is best to walk
250 through an example. Let us consider the business term name 'Charge Card Expiration
251 Date'. First we analyze the data and give it a definition, then, based on the definition, we
252 identify the data's object class, property term, and representation term as follows:

253   Definition: The expiration date of a payment card that is
254   associated with an account.

255   Object Class: Payment Card

| 256 | Property Term: | Expiration Date |
| 257 | Representation Term: | Date |

258 The description represents the semantically unique business meaning of the core
259 component in a complete and unambiguous way. The sentences in the description must
260 be clear and concise.

261 Furthermore, the description should:

262   a) be unique (within any data dictionary in which it appears)

263   b) be stated in the singular

264   c) state what the concept is, not only what it is not

265   d) be stated as a descriptive phrase or sentence(s)

266   e) contain only commonly understood abbreviations

267   f) be expressed without embedding definitions of other data elements or underlying
268   concepts

269 These rules were taken from ISO 11179-4 (Rules and guidelines for the formulation of
270 data definitions).

271 The dictionary entry name is derived from the description. This means that the
272 expressions of a dictionary entry name must be included in the description. Any
273 abbreviations or acronyms used in the dictionary entry name must be described in the
274 description.

275 After the data is analysed and classified, concatenating the Object Class, Property Term,
276 and Representation Term can generate the Dictionary Entry Name. In the "Charge Card
277 Expiration Date" example, the Core Component name is "Payment Card. Expiration.
278 Date" (see section 3.7 for naming and truncation rules).

279

280
```
+---------------------------+
|      Payment Card         |
+---------------------------+
|   Expiration Date: Date   |
|                           |
+---------------------------+
```
281

282

283
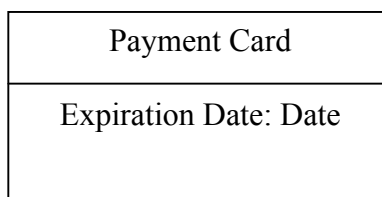
284 **Figure 3-3 Class diagram**

285

286 **3.3 Introduction to Core Component Types and Data Types**

287 An important element in the core component construct is the Core Component Type
288 (CCT). Each Basic Core Component is of a Core Component Type.

289 Defined are ten Core Components Types. They are listed in table 3-1.

290 The Core Component Types come with some extra features, called supplementary
291 components, e.g. amounts have a supplementary component that is used to define the

292 currency identifier. So the currency is implied by the Core Component Type, and does
293 not need to be a separate property in the Class Diagram. The table below shows the
294 supplementary components belonging to the ten Core Component Types.

295

CCT	Explanation	SupplementaryComponents
Amount. Type	Monetary amounts	Amount Currency. Identifier Amount Currency. Code List Version. Identifier
Binary Object. Type	Binary objects like pictures or sounds	Binary. Format. Text Binary Object. Mime. Code Binary Object. Encoding. Code Binary Object Character set. Code Binary Object. Uniform Resource. Identifier Binary Object Filename. Text
Code. Type	Codes	Code List. Identifier Code List. Agency. Identifier Code List. Agency Name. Text Code List. Name. Text Code List. Version. Identifier Code. Name. Text Language. Identifier Code List. Uniform Resource. Identifier Code List Scheme. Uniform Resource. Identifier
Date Time. Type	Dates, times or combinations of date and time.	Date Time. Format. Text
Identifier. Type	Identifiers	Identification Scheme. Identifier Identification Scheme. Name. Text Identification Scheme Agency. Identifier Identification Scheme. Agency Name. Text Identification Scheme. Version. Identifier Identification Scheme Data. Uniform Resource. Identifier Identification Scheme. Uniform Resource. Identifier
Indicator. Type	Yes/no, on/off, present/not present kind of indication	Indicator. Format. Text
Measure. Type	All kinds of measurements	Measure Unit. Code Measure Unit. Code List Version. Identifier
Numeric. Type	Numeric values.	Numeric. Format. Text

CCT	Explanation	SupplementaryComponents
Quantity. Type	Countable quantities	Quantity. Unit. Code Quantity Unit. Code List. Identifier Quantity Unit. Code List Agency. Identifier Quantity Unit. Code List Agency Name. Text
Text. Type	Text	Language. Identifier Language. Locale. Identifier

296
297

Table 3-1 Core Component Types

298 The values of the content and/or of the supplementary components can be restricted by
299 defining Data Types. For example the data type Country_ Code. Type is based on the
300 Core Component Type Code. Type, but restricts the code values to country codes only. A
301 Data Type can be used for multiple Core Components.

302 A Data Type defines the set of valid values that can be used for a particular Property of a
303 BBIE or BCC. It is defined by specifying restrictions on the CCT from which the Data
304 Type is derived. Where necessary, a Data Type restricts the set of valid values allowed
305 by the CCT on which it is based, by imposing restrictions on the Content Component
306 and/or Supplementary Component.

307 Each Data Type shall be given a Dictionary Entry Name and a Definition using the rules
308 specified in 3.7.2.1.
309

310 **3.4 Introduction to Business Information Entities**

311 The actual information exchanged in business collaborations is not defined as Core
312 Components, but as Business Information Entities (BIE) that reflect the business context.
313 For each Core Component category, there is a corresponding BIE category. So there is
314 the Aggregate Business Information Entity (ABIE) corresponding to the Aggregate Core
315 Component (ACC), the Association Business Information Entity (ASBIE) corresponding
316 to the Association Core Component (ASCC), and the Basic Business Information Entity
317 (BBIE) corresponding to the Basic Core Component (BCC). Each individual Business
318 Information Entity must be based on a corresponding Core Component.

319 Business Information Entities are derived from their corresponding Core Component by
320 applying context (see Section 3.5 for contexts) to the generic (or "context free") Core
321 Component. The context refines the Core Component. The definition is narrowed, the
322 number of properties may be less and the allowed values of the properties may be
323 restricted (e.g., by means of data typing).

324 Business Information Entities can be identified during Business Process Modeling. If,
325 when analyzing the business information, a Business Information Entity is found that has
326 no corresponding Core Component, a generic Core Component must be defined.
327

328 A Business Information Entity may be distinguished from its corresponding Core
329 Component by adding "qualifiers" to the Core Component name. Qualifiers can be added

330   to the Object Class names and to the property terms. For the example about personal
331   information, Business Information Entities may be specified for applications exchanging
332   personal information of a person living in the US, using the Core Components in figure
333   3-2. The Agregate Core Component Person. Details, used in the context of the United
334   States, gets the qualifier US. Therefore the Aggregate Business Information Entity is
335   called US_ Person. Details. Figure 3-4 illustrates this example.

US_ Person. Details	+US_ Person. Work.	US_ Address. Details
	US_ Address	US_ Address. Street. Text
US_ Person. Identification. US SSN_ Identifier US_ Person. First Name. Text US_ Person. Last Name. Text	+US_ Person. Home. US_ Address	US_ Address. City. Text US_ Address. State Province. US State_ Code
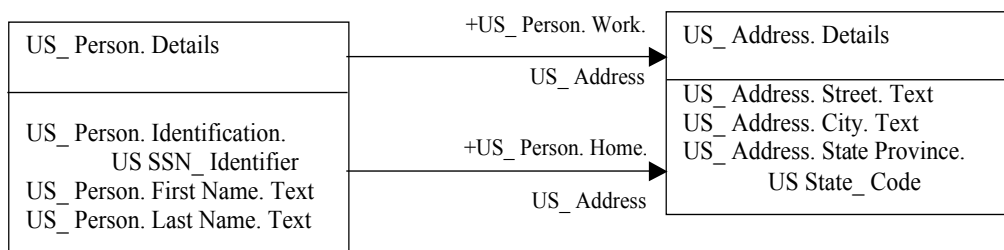
336

337   **Figure 3-4 Examples of Business Information Entities**

338

339 3.5 What is 'Context'?

340   The concept of Core Components is based on the assumption that there exist many
341   commonalities in the business information exchanged in different environments. Still
342   differences exist. To manage commonalities and differences in definition and structure of
343   business information the concept of Context was introduced.

344   The Context of a business relationship defines the environment in such detail, that the
345   specific Business Information Entities can be derived from the more generic Core
346   Components. Core Components are said to be valid in all contexts (they are context free),
347   whereas Business Information Entities, being derived from Core Components, are context
348   specific.

349   Context is defined using eight categories:

Context category	Description	Example
Business Process	The type of business process	Ordering Delivery
Product Classification	The type of products that the collaboration is about	Parts Consumer Goods
Industry Classification	The type of industry in which the collaboration takes place	Aerospace Fast Moving Consumer Goods (FmCG)
Geopolitical	The location of the partners	International

		Europe
Official constraints	The legislation that applies	US law EU law
Business Process Role	The role the partners play in the process	Buyer Seller
Supporting Role	Roles of relevant parties outside the collaboration	Shipping Agent
System Capabilities	Specific system requirements	EAN.UCC System SAP Intuit

350 By specifying the business context of a collaboration, the exact structure of the
351 information that is exchanged by means of Business Information Entities in business
352 documents (or otherwise) can be derived. The context is the filter that changes Core
353 Components into the Business Information Entities.

3.5.1 Use of Context in Core Component Normalization

355 Qualifiers that are used in the naming of Business Information Entities associate a
356 context specific semantic with the Core Component.   These qualifiers make up a
357 controlled vocabulary that can have unique semantic within a specific context. For
358 instance, "reserved" used as a qualifier has an order process context semantic, as well as a
359 travel industry context semantic. Rigor in the construction of the controlled vocabularies
360 for qualifiers is as important as rigor in the construction of the controlled vocabulary for
361 core components. A qualifier should be used consistently across the library of core
362 components. The qualifier context category, semantic, and control vocabulary source
363 should be noted.

3.6 Modeling the Business Collaboration

365 The Business Information Entity and Core Component discovery process, that is
366 described in detail in section 3.8, starts with the Class diagram that shows the Business
367 Entities that are the subject of the business collaboration process. This high level Class
368 diagram does contain Object Classes and only a few attributes. It defines the scope and
369 boundaries of the information relating to the collaboration. The purpose of the high level
370 Class Diagram is *not* to model the business documents. So the high level Class Diagram
371 is a picture of the Object Classes the communication will be about. It does not model the
372 communication itself.

373 At this time, the Object Classes and their associations should be taken as much as
374 possible from the standardised and harmonised repository (if available).

375 The structure of the High Level Class diagram, the manner in which the Object Classes
376 are associated with each other, is derived from the REA model. REA stands for Resource,
377 Event, and Agent. According to the REA model, a business collaboration can be
378 described as an *Event* of transferring *Resources* **from** a Trading Partner *("Agent")* **to**
379 another Trading Partner, resulting in a *dual Economic Event* of transferring *Economic*

380 *Resources* in the reverse direction. For example, a Supplier (Agent) transfers ownership
381 of an Automobile (Resource) to a Customer (Agent) in return for which the Customer
382 will provide Money (Resource) to the Supplier.

383 This basic REA structure is shown in Figure 3-5. The structure models the basic
384 semantics of a business collaboration.

385

386
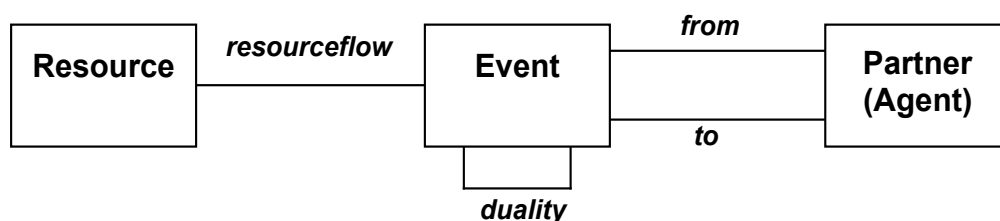
387 **Figure 3-5 Basic REA Ontology**

388

389
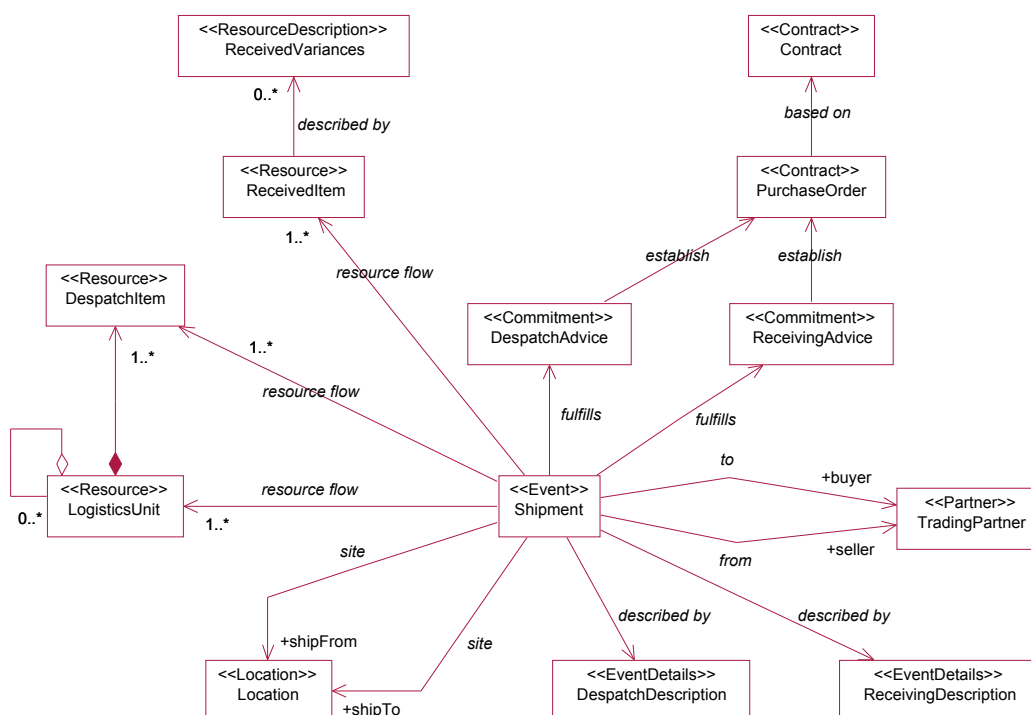
390 **Figure 3-6 The EAN.UCC example of a high level class diagram for Goods Delivery**

391 Steps for modelling the business collaboration include: 1) modelling a high-level class
392 diagram capturing Object Classes in the collaboration (Figure 3-6), 2) modelling
393 transactional class diagrams involved in the collaboration (Figure 3-7), and 3) combining
394 transactional class diagrams to model a detail class diagram (Figure 3-8). The following
395 paragraphs describe this further. The structure of the information to be exchanged is a
396 subset of the structure that was modeled in the high level Class diagram. By interviewing

397 business experts the precise meaning of the information entities is determined, including
398 the Business Entity properties.

399 So for each Transaction or Document the information to be exchanged is defined in a
400 separate detailed Class Diagram, using Business Information Entities.

401
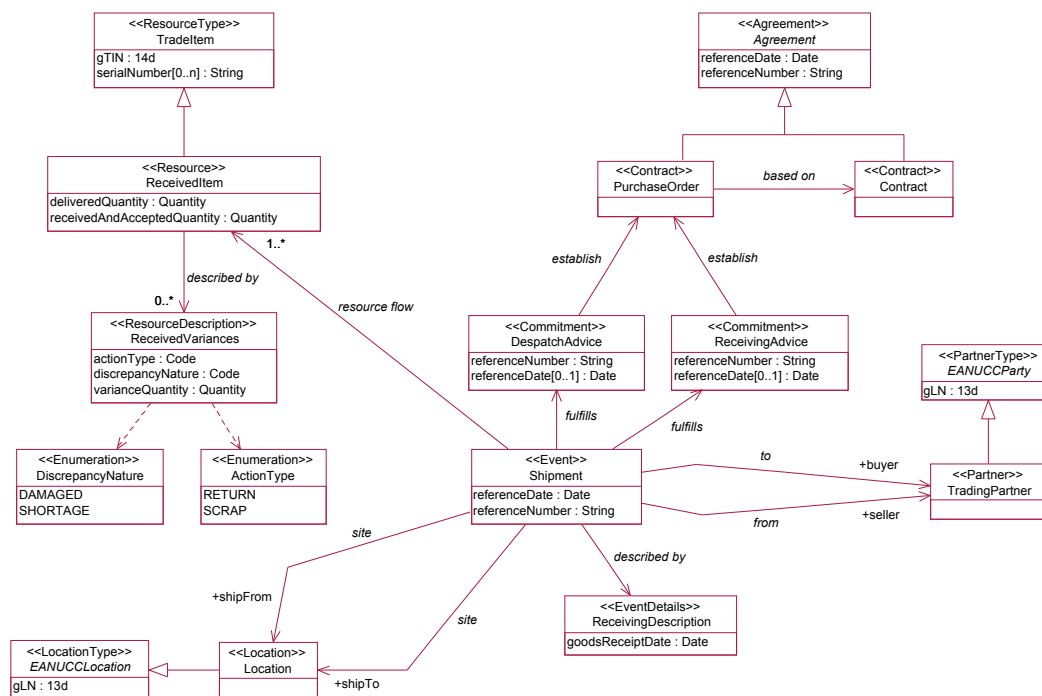
Figure 3-7 The EAN.UCC example of a transactional class diagram for Receive Advice

402

403 When the Transactional Class Diagrams are being developed, no reference should yet be
404 made to the registry or dictionary. The *actual* information requirement should be
405 modelled, not all information that possibly might be needed. The high level Class
406 Diagram only serves to offer structure, it should not be used as an inspiration to include
407 information in documents to be exchanged that is probably not needed.

408 After all Transactional Class Diagrams in the Collaboration have been modeled, the
409 Diagrams are combined (but without the Document Object Classes) into the overall
410 detailed Class Diagram (Figure 3-8) that contains *all* information that is exchanged
411 within the collaboration, and *only* the information that is being exchanged. This diagram
412 is input to the Business Information Entity and Core Component discovery process. The
413 output of that process leads to an update of the overall detailed Class Diagram with the
414 proper names of the Business Information Entities that were discovered.

415
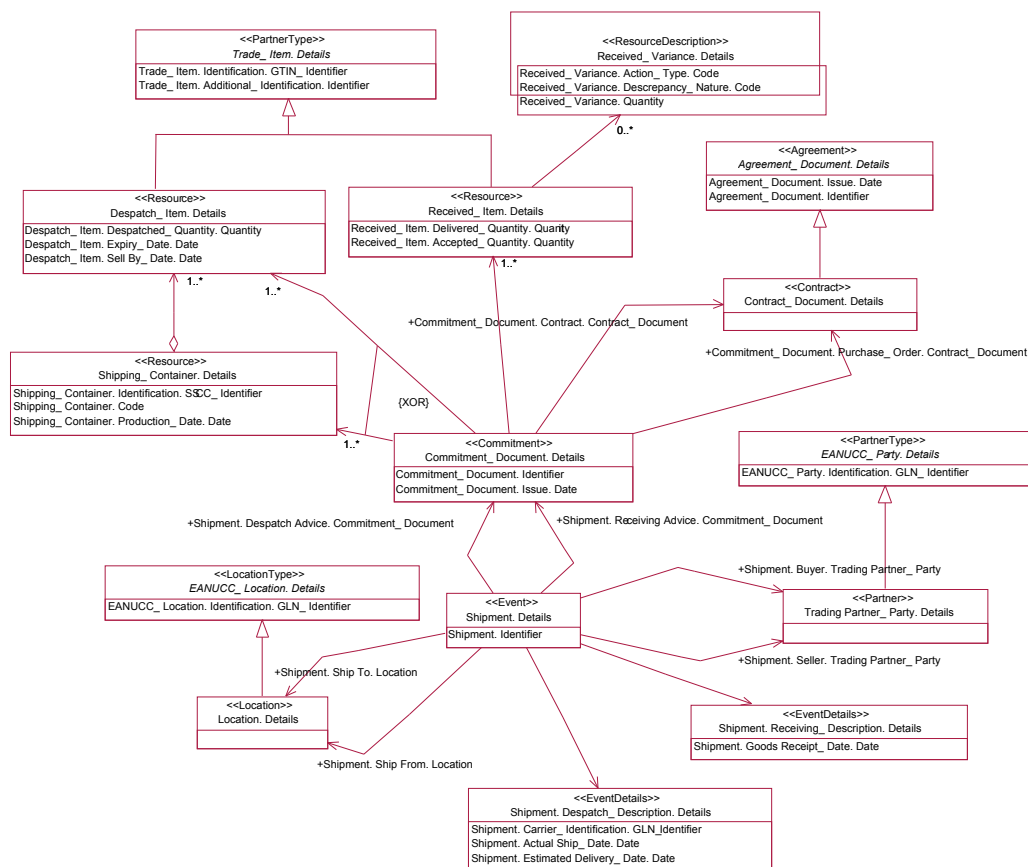
Figure 3-8 The EAN.UCC example of an overall detailed class diagram for Goods Delivery

Summarising the steps to follow when discovering Core Components:

1. Determine the scope and the boundaries of the information to be exchanged in the business process

2. Draw a high level Class Diagram, using the existing object class associations in the ebXML registry

3. For each transaction, define a subset from the high level Class Diagram

4. Investigate what detailed information needs to be exchanged in the transaction

5. Look up in the registry which Core Components and Business Information Entities fulfil these information requirements

6. Reuse where applicable existing Core Components and Business Information Entities.

7. Define where necessary new Business Information Entities and submit them for inclusion in the registry

8. Draw per transaction a detailed transactional Class Diagram

9. Combine the transactional Class Diagrams into an overall detailed Class Diagram.

432   Discovery of Core Components is defined and expanded upon later in this document in
433   section 3.8 and illustrated in the examples of Boeing and EAN.UCC in section 3.

3.7 Naming Rules for Core Components and Business Information Entities
434

3.7.1 Introduction
435

436   The names for Core Components and Business Information Entities should adhere to a
437   set of rules. The dictionary entry name is derived from the description of the Core
438   Component or Business Information Entity.
439

440   The dictionary entry name is unique. The dictionary entry name must be in English,
441   preferably using the spelling in the Oxford English Dictionary. The dictionary entry
442   names must be clear and concise, and not contain any sequences of redundant words.

443   The individual names of the dictionary entry names must be singular, except when the
444   concept is specifically intended for plurals. The names of the dictionary entry names
445   should consist of letters only. The words in the names can be verbs, nouns, or adjectives.
446   Abbreviations and acronyms in the dictionary entry name can be used, however they
447   must be explained in the description.

448   A dictionary entry name in principle consists of a number of terms, that each may consist
449   of multiple words. Each word in a term is separated from the others by space character (
450   ). Each word within a term must start with an uppercase letter.

3.7.2 Dictionary Entry Names for Core Components (CCT, BCC, ACC and ASCC)
451

452   The dictionary entry name of a Core Component consists of the following terms:

453   Object class term –The name of an object class.

454   Property term – Represents the property of the object class.

455   Representation term – Specifies the representation type of the component.

456   The terms in the dictionary entry name are separated by a period (.) and a space character
457   ( ).

3.7.2.1 Dictionary Entry Names for Core Component Types and Data Types
458

459   Each Core Component Type (CCT) has its own representation terms. The following table
460   is a list of primary and secondary representation terms for the Core Component Types. A
461   Core Component Type in the dictionary entry name is represented by its primary or by
462   one of its secondary representation terms.

Core Component Type	Primary Representation Term	Secondary Representation Terms
Amount. Type	Amount	
Binary Object. Type	Binary Object	Graphic, Picture, Sound, Video
Code. Type	Code	
Date Time. Type	Date Time	Date, Time

Core Component Type	Primary Representation Term	Secondary Representation Terms
Identifier. Type	Identifier	
Indicator. Type	Indicator	
Measure. Type	Measure	
Numeric. Type	Numeric	Value, Rate, Percent
Quantity. Type	Quantity	
Text. Type	Text	Name

463

464 The dictionary entry name of a Core Component Type consists of a primary
465 representation term, followed by a period, a space character, and the expression **Type**.

466 Example:

467 Representation term: **Date Time**

468 Term: **Type**

469
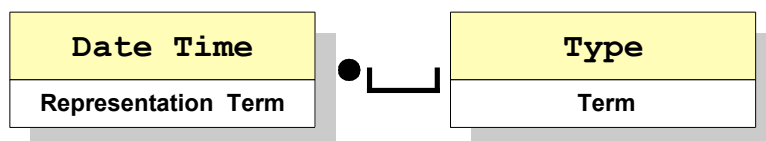
470

471

472 Dictionary Entry Name: **Date Time. Type**

473

474 More specific restrictions or distinctions for data types can be applied by adding a
475 qualifier term to the relevant secondary or primary representation term. The dictionary
476 entry name of the restricted data type then consists of a qualifier term, a primary or
477 secondary representation term, and the term **Type**.

478 An underscore (_) and a space character are placed between the qualifier term and the
479 representation term. A period (.) and a space character are placed between the
480 representation term and the term **Type**.

481 Example:

482 Qualifier term: **Language**

483 Representation term: **Code**

484 Term: **Type**

485

486

487
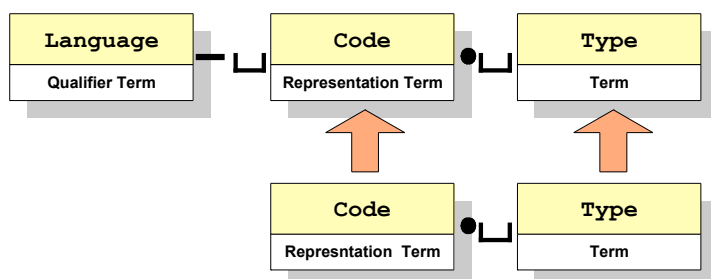
488   Dictionary Entry Name: **Language_ Code. Type**

489   **3.7.2.2 Dictionary Entry Names for Basic Core Components**

490   The dictionary entry name of a Basic Core Component (BCC) consists of an object class
491   term, a property term, and a representation term.

492   The representation term usually consists of a primary or secondary representation term.
493   In certain cases, data types can be used to restrict Core Component values. The
494   representation term for a data type consists of a qualifier and the representation term of
495   the Core Component Type the data type is based on. The qualifier in the representation
496   term is separated from the primary or secondary representation term of the Core
497   Component Type by an underscore and a space character.

498   If the dictionary entry name of a Basic Core Component consists of a representation term
499   that is equivalent to the last word(s) of the property term, then those last words can be
500   deleted from the property term in the dictionary entry name. This rule is called the
501   Truncation rule.

502

503   Example:

504   Object class term: **Goods**

505   Property term: **Delivery Date Time**

506   Representation term: **Date Time**

507

508

509   The dictionary entry name would be:

510   **Goods. Delivery Date Time. Date Time**

511

512   But becomes as a result of the truncation rule:

513   **Goods. Delivery. Date Time**

514

515   Another example of the application of the truncation rule would be:

516   **Party. Identification. Identifier**

517

518   That becomes:

519   **Party. Identifier**

520

521   **3.7.2.3 Dictionary Entry Names for Aggregate Core Components**

522   The Aggregate Core Components (ACC) consist only of an object class term and a
523   representation term.

524   The expression **Details** is used as the representation term.

525   Example:

526   Object class term: **Address**

527   Representation term: **Details**

Address		**Details**
Object Class Term	●⌐	**Representation Term**
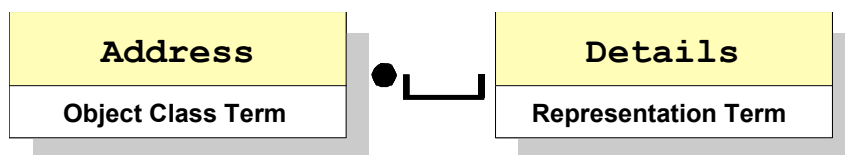
528
529   Dictionary Entry Name: **Address. Details**

530   **3.7.2.4 Dictionary Entry Names for Association Core Components**

531   Dictionary entry names for Association Core Components (ASCC) consist of the
532   following:

533   Object class term of the Aggregate Core Component that contains the Association
534   Core Component

535   Property term that represents the property of the Association Core Component

536   Another object class term of the Aggregate Core Component that describes the
537   structure of the Association Core Component.

538   The Truncation rule of dictionary entry names of Basic Core Components is also valid for
539   Association Core Component's.

540   Example:

541   Object class term: **Person**

542   Property term: **Residence**

543   Object class term: **Address**

544

Person		Residence		Address
Object Class Term		Property Term		Object Class Term

545
546

547 Dictionary Entry Name: **Person. Residence. Address**

548

3.7.3 Dictionary Entry Names for Business Information Entities (BBIE, ABIE, ASBIE)

551 The dictionary entry name for Business Information Enities also consists of an object
552 class term, a property term, and a representation term, but in addition may contain
553 qualifier terms that qualify the object class term or the property term to define the
554 Business Information Entity in a specific business context.

555 The qualifier term is placed before the object class term or property term. An underscore
556 (_) and a space character ( ) separate the qualifier term from the object class term or
557 property term.

558 Multiple qualifier terms can be placed before an object class term or property term. Each
559 qualifier term is separated by an underscore and a space character.

560 A different sequence of qualifier terms does not make the dictionary entry name unique.
561 For example **Stored_ Partial_ Goods. Details** and **Partial_ Stored_**
562 **Goods. Details** consist of the same qualifier terms, but in a different order. The two
563 expressions do have different semantics, but that does not make them unique.

3.7.3.1 Dictionary Entry Names for Basic Business Information Entities

565 The dictionary entry name of a Basic Business Information Entity (BBIE) consists of an
566 object class term and its qualifier terms, a property term and its qualifier terms, and
567 finally the Data Type qualifier and the appropriate representation term. The truncation
568 rule applies, but may not be used when either the property term or the representation term
569 is qualified.

570 The representation term represents the data type of the Basic Business Information
571 Entity. This data type may be further restricted and qualified. For the representation term
572 the same rules apply as for Basic Core Components.

573 Example:

574 Qualifier term: **Partial**

575 Object class term: **Cost**

576 Qualifier term: **Period**

577 Property term: **Total Amount**

578 Representation term: **Amount**

579

580

581

582
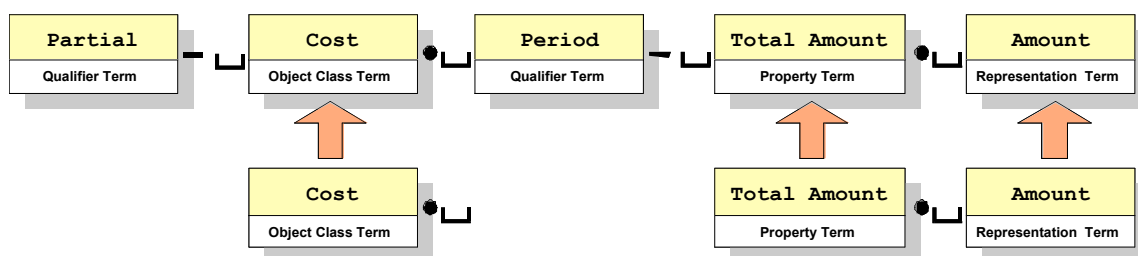
583 Dictionary Entry Name:
584 **Partial_ Cost. Period_ Total Amount. Amount**

585

586 An example of a BBIE in which the representation term is qualified with a Data Type
587 qualifier is:
588 **Despatch_ Shipment Information. Carrier_ Identification. GLN_ Identifier**

589

590 **3.7.3.2 Dictionary Entry Names for Aggregate Business Information Entities**

591 The dictionary entry name of an Aggregate Business Information Entity (ABIE) consists
592 of an object class term and its qualifier terms and the appropriate representation term,
593 which is indicated by **Details**.

594 The object class term and representation term are copied exactly from the corresponding
595 Aggregate Core Component, on which the Aggregate Business Information Entity is
596 based.

597 Example:

598 Qualifier term: **Temporary**

599 Object class term: **Address**

600 Representation term: **Details**

601

602

603 Dictionary Entry Name: **Temporary_ Address. Details**

604 **3.7.3.3 Dictionary Entry Names for Association Business Information Entities**

605 The dictionary entry name of an Association Business Information Entity (ASBIE)
606 consists of the following:

607   Object class term and its qualifier terms

608   Property term and its qualifier terms

609   Another object class term of the Aggregate Business Information Entity that describes
610   the structure

611 Association Business Information Entities are always based on Association Core
612 Components.

613 The object class term, the property term, and the second object class term and
614 representation term are copied exactly from the corresponding Association Core
615 Component, on which the Association Business Information Entity is based.

616 The dictionary entry name has the following structure:

617 Qualifier term: **Important**

618 Object class term: **Person**

619 Qualifier term: **Temporary**

620 Property term: **Residence**

621 Object class term: **Address**

622
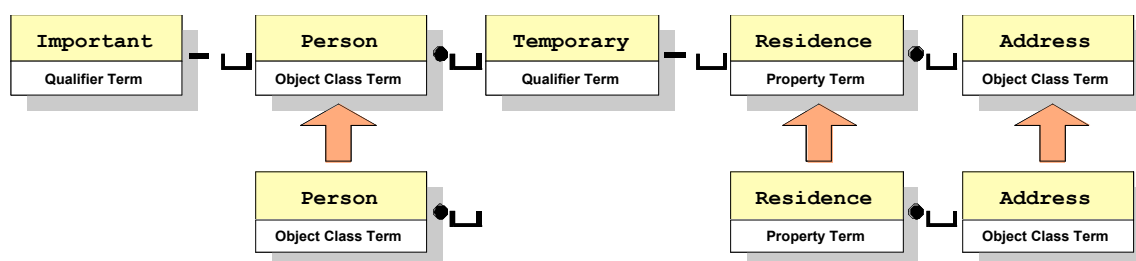
623
624
625 Dictionary Entry Name:
626 **Important_ Person. Temporary_ Residence. Address**

627 **3.7.4 Business Terms**

628 A business term represents a synonym of a Core Component or Business Information
629 Entity. Various business terms can exist for different Core Components and Business
630 Information Entities. The business term can be the preferred everyday business or
631 industry term. A Core Component can contain multiple business terms.

632 The business terms need not to be based on any naming rule.

3.8 Discovery of Core Components

Discovery and design are a series of steps that utilize the business process definitions and result in standard business documents. The Core Components Technical Specification (CCTS) outlines the discovery and design process at a high-level. This description is supplemented and expanded upon in this primer, with inputs from the Core Components Supplementary Documents (CCSD) team and other business process experts and users.

3.8.1 The Discovery Process

A business process should be modeled using a standard approach, the UN/CEFACT Modeling Methodology (UMM), with one of the results being a class diagram. The class diagram shows the business information and inter-relationships.

The high-level steps from business process to Core Component discovery are:

1. Determine the scope and the boundaries of the information to be exchanged in the business process

2. Draw a high level Class Diagram, using the existing object class associations in the ebXML registry

3. For each transaction, define a subset from the high level Class Diagram

4. Investigate what detailed information needs to be exchanged in the transaction

5. Look in the registry for Core Components and Business Information Entities which fulfil these information requirements

6. Reuse where applicable existing Core Components and Business Information Entities.

7. Define where necessary new Business Information Entities and Core Components and submit them for inclusion in the registry

8. Draw per transaction a detailed transactional Class Diagram

9. Combine the transactional Class Diagrams into an overall detailed Class Diagram.

An explanation of steps 1-3 can be found in sections 3.1 and 3.6. The search of the registry/repository (3.8.3.1) is a process that may be re-used throughout these detailed steps for discovery of each element.

3.8.2 Detailed Core Component Identification Steps

This section explains in detail the steps that should be taken in core component discovery and development. The steps outlined are graphically represented in process flow diagrams. Template examples of the resulting Business Information Entities and Core Components in a spreadsheet are also included to show the progress in executing the process steps. Additional details are defined to assist in this process where appropriate.

The Business Information Entities and Core Components that result from this process can be documented in a spreadsheet prior to submission to the registration and harmonisation process. It is recommended that a spreadsheet with the columns shown in the template examples be used to capture the data during the discovery process to ensure that all data

672   needed is completed. The process steps are described in a logical manner, although it is
673   recognized that the step order can depend on the business information compiled, library
674   availability, and other business needs. The basic steps are:

675   Identify detailed information
676   Identify Business Information Entities
677   Identify Core Components
678

679 3.8.2.1 Identify Detailed Information

680   The first step is to investigate and compile the relevant business information in the
681   context of the business process. Analyze each piece of data to determine if it is a Basic
682   Business Information Entity (BBIE), Aggregate Business Information Entity (ABIE) or
683   Association Business Information Entity (ASBIE).
684
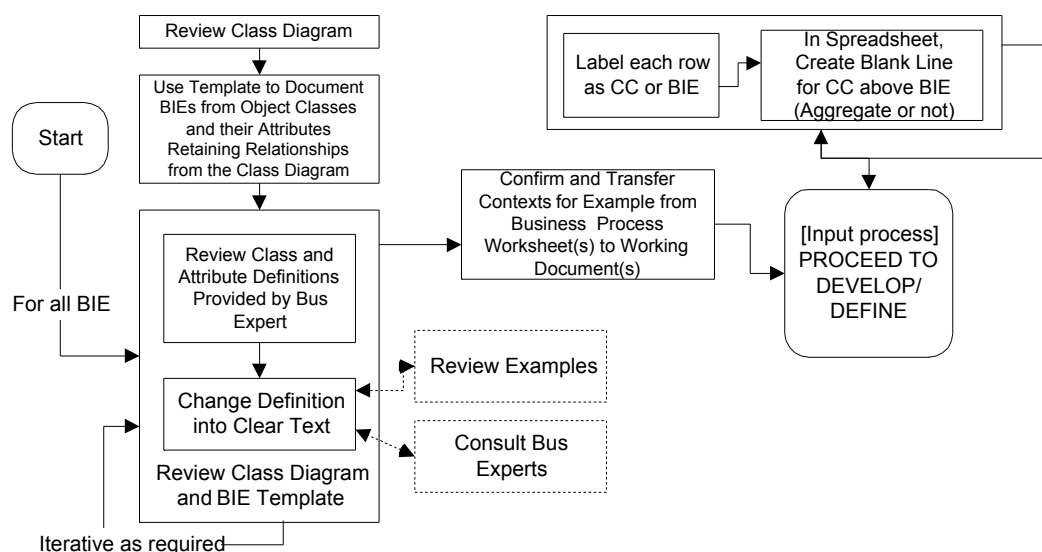
685   **Figure 3-8 Review Class Diagram to Identify Detailed Information**

686

687   The template below (Table 3-2) provides an example of a Basic Business Information
688   Entity, an Aggregate Business Information Entity, and an Association Business
689   Information Entity that were identified during the review of the following part of the
690   class diagram.
691
692
693
694
695
696

697
698

Busine ss Term	Object Class Qualifi er	Object Class	Propert y Term Qualifi er	Propert y Term	Data Type Qualifi er	Repres entatio n Term	Dictionary Entry Name	ACC/B CC/ABI E/BBIE /ASBIE /ASCC	Semantic Description	Comments
Part								ABIE	A subject part, assembly, kit or material.	
Part Number								BBIE	The manufacturer's , supplier's or industry standard identity for the subject part, assembly, kit or material.	
Seller								ASBIE	The seller of the part.	
Seller								ABIE	Party selling spare parts to a buyer.	

699

700 **Table 3-2**

701 **3.8.2.2 Refine Business Information Entities**

702 Once the detailed information has been collected in the spreadsheet, the next step is to
703 refine the definition and name of each BIE and to discover or define the CC's on which
704 to base the BIE. The diagram below shows the process for completing this step.
705
706
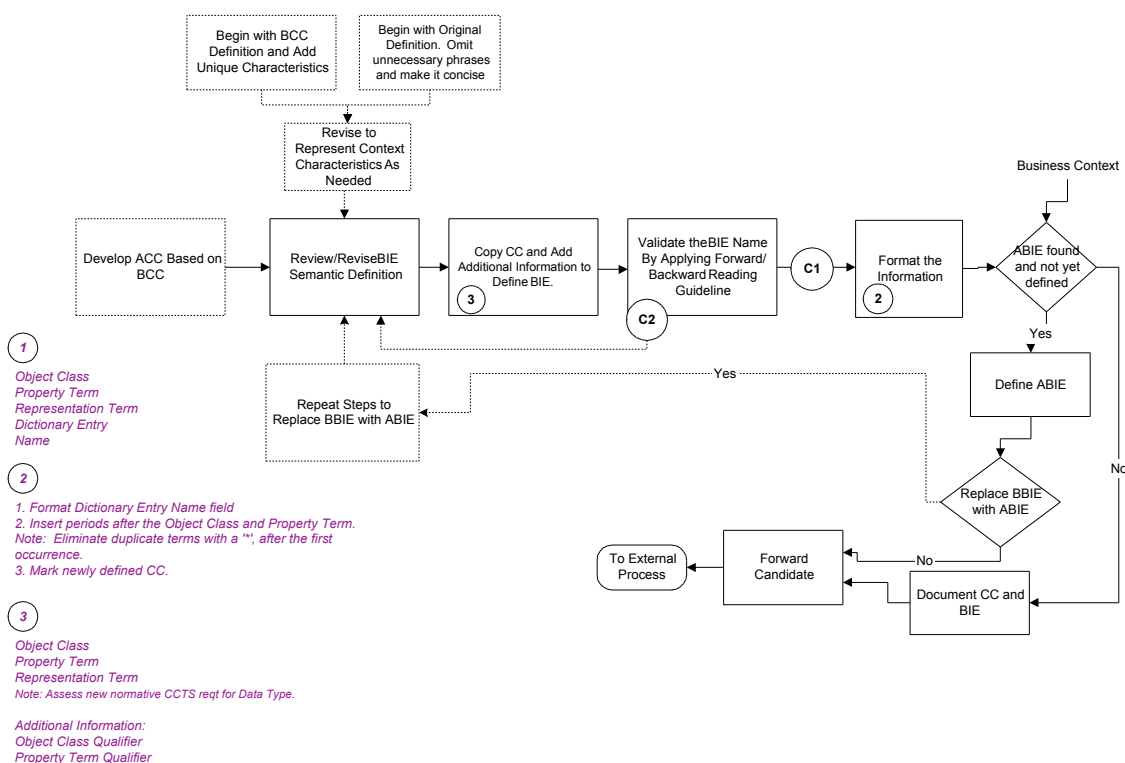
Figure 3-9 Refine BIE's and define CC's

Note: References are given to other diagrams in this section, with following alphabetical keys:

        A: Create CC or BIE.

        B: Use the Forward-Backward Reading Guideline (entry).

        C1: Exit the guideline successfully.

        C2: Exit the guideline and rework the CC or BIE in order to apply the guideline again.

This process primarily involves reviewing and revising the definitions of each BIE to ensure that it has a unique semantic business meaning and that the context characteristics are clear. Whenever possible the applicable Core Component Technical Specification defined context parameters should be documented. The qualifier used in naming a BIE associates a context semantic to a Core Component to create the BIE. If a CC exists on which to base the BIE, one approach to defining the BIE is to start with the CC definition and add any unique characteristics. The other approach is to take the extensive definition of the BIE (business term) and delete phrases/terms that are not meaningful.

Once the definition is completed, then the name is created. Some helpful hints in completing the spreadsheet for either an ABIE or a BBIE or an ASBIE:

        If a CC has been found on which to base the BIE, then in a blank row above the BIE, copy the Object Class and Representation Term of the CC into the appropriate columns. If a BBIE, then also copy the Property Term.

        When naming an ASBIE the Object Class, Property Term and Representation Term should be consistent with the ABIE on which it is based.

        Add any appropriate qualifiers for the Object Class and Property Term.

734	If an ABIE, then concatenate Object Class Qualifier(s), Object Class, and
735	Representation Term.
736	If a BBIE or ASBIE, then concatenate Object Class Qualifier(s), Object Class,
737	Property Term Qualifier(s), and Representation Term.
738	An underscore followed by a space should be inserted between a qualifier and the
739	term. The Object Class and Property Term are followed by a period and a space.
740	Eliminate duplicate terms per the truncation rule in 3.7.2.2.
741	The name may then be validated by applying the Forward/Backward Reading
742	Guideline (see 3.8.3.2)
743	
744	The template (Table 3-3) below shows BIE's that have been properly defined and named.
745	

Business Term	Object Class Qualifier	Object Class	Property Term Qualifier	Property Term	Data Type Qualifier	Representation Term	Dictionary Entry Name	ACC/BCC/ABIE/BBIE/ASBIE/ASCC	Semantic Description	Comments
Part	Spare Part	Item				Details	Spare Part_ Item. Details	ABIE	A subject part, assembly, kit or material.	
Part Number	Spare Part	Item	Manufacturer	Identification		Identifier	Spare Part_ Item. Manufacturer _ Identification. Identifier	BBIE	Revise – The manufacturers identification of a spare part item	Was: The manufacturer's, supplier's or industry standard identity for the subject part, assembly, kit or material
Seller	Spare Part	Item	Spare Part	Seller	Spare Part	Seller	Spare Part_ Item. Spare Part_ Seller. Spare Part_ Seller	ASBIE	The seller of the part.	
Seller	Spare Part	Seller				Details	Spare Part_ Seller. Details	ABIE	Party selling spare parts to a buyer.	Merchandise Seller_Party. Details

| 746 |
| 747 |

Table 3-3

748 **3.8.2.3 Identify and Create Core Components**

749 If no existing CC's were found during the initial search of the registry/repository, then
750 new CC's need to be created for the BIE's that were defined. The diagram below
751 identifies the steps that should be taken for Basic Core Components (BCC), Aggregate
752 Core Components (ACC), and Association Core Components (ASCC).
753
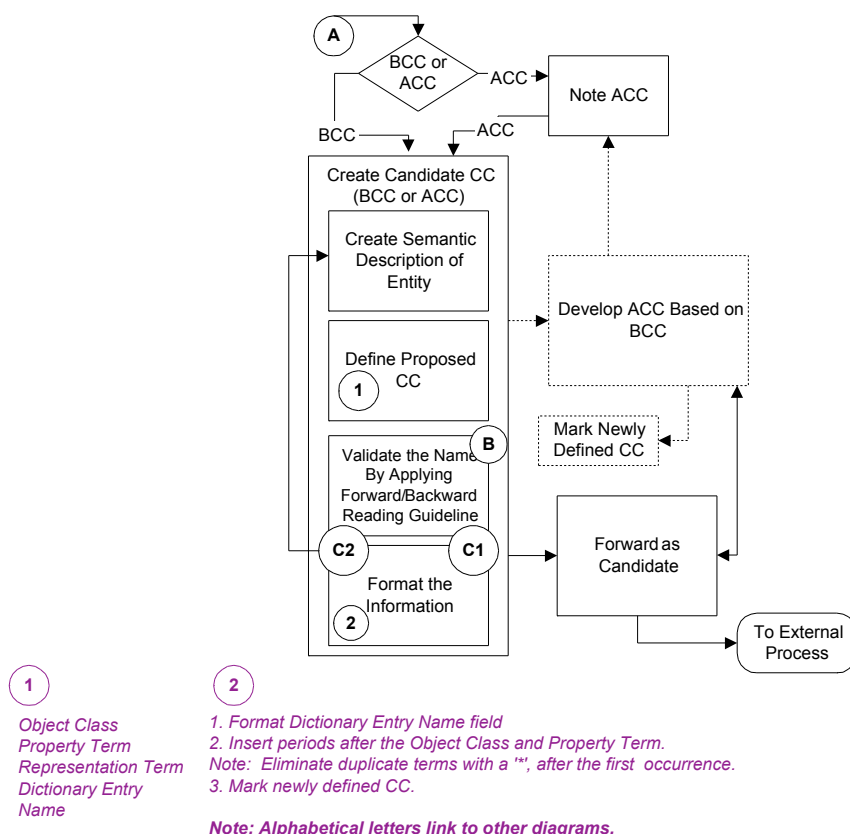
Figure 3-10: Create CC's

754
755 *Note: References are given to other diagrams in this section, with following alphabetical keys:*
756 *A: Create CC or BIE.*
757 *B: Use the Forward-Backward Reading Guideline (entry).*
758 *C1: Exit the guideline successfully.*
759 *C2: Exit the guideline and rework the CC or BIE in order to apply the guideline again.*
760 **Figure 3-10: Create CC's**
761
762 The process of creating and naming CC's is similar to that of a BIE except that the goal is
763 to define reusable CC's that can then be used to create additional BIE's by applying
764 context.
765
766 The definition should be developed first and then the name is extracted from the
767 definition. Some helpful hints in completing the spreadsheet for either an ACC or a BCC
768 or an ASCC:
769 After filling in the definition in the spreadsheet, then add the Object Class,
770 Property Term and Representation Term for a BCC and an ASCC.
771 If an ACC, then only the Object Class and Representation Term columns are
772 completed.
773 Concatenate the Object Class, Property Term (for BCC's and ASCC's) and
774 Representation Term to form the Dictionary Entry Name. A period and a space
775 should be inserted between each of the terms.
776 Eliminate duplicate terms per the Truncation rule in 3.7.2.2.
777 The name may then be validated by applying the Forward/Backward Reading
778 Guideline (see 3.8.3.2)

779
780   The template (Table 3-4) below gives examples of new CC's.
781
782

Business Term	Object Class Qualifier	Object Class	Property Term Qualifier	Property Term	Data Type Qualifier	Representation Term	Dictionary Entry Name	ACC/BCC/ABIE/BBIE/ASBIE/ASCC	Semantic Description	Comments
Part		Item				Details	Item. Details	ACC	An item of merchandise	
Part	Spare Part	Item				Details	Spare Part_ Item. Details	ABIE	A subject part, assembly, kit or material.	
Item		Item		Identification*		Identifier	Item. Identifier	BCC	The manufacturers identification of an item	
Part Number	Spare Part	Item	Manufacturer	Identification		Identifier	Spare Part_ Item. Manufacturer_ Identification. Identifier	BBIE	Revise – The manufacturers identification of a spare part item	Was: The manufacturer's, supplier's or industry standard identity for the subject part, assembly, kit or material
Part Number	Spare Part	Item	Manufacturer	Identification		Identifier	Spare Part_ Item. Manufacturer_ Identification. Identifier	BBIE	Revise – The manufacturers identification of a spare part item	Was: The manufacturer's, supplier's or industry standard identity for the subject part, assembly, kit or material
Seller		Item		Seller		Seller	Item. Seller	ASCC	The seller of the item.	
Seller	Spare Part	Item	Spare Part	Seller	Spare Part	Seller	Spare Part_ Item. Spare Part_ Seller. Spare Part_	ASBIE	The seller of the part.	

							Seller			
Seller		Seller				Details	Seller. Details	ACC	Party selling merchandise to a buyer.	
Seller	Spare Part	Seller				Details	Spare Part_ Seller. Details	ABIE	Party selling spare parts to a buyer.	Merchandise Seller_Party. Details

783 **Table 3-4**
784

3.8.3 Processes Applicable to Multiple Steps

3.8.3.1 Searching the Registry / Repository for Core Components

787 In step 5 the registry is searched on the Aggregate Business Information Entity/Aggregate
788 Core Component level. Searching starts once the relevant business information has been
789 compiled.
790
791   Searching on ABIE level:

792   Search the registry for an appropriate ABIE.

793   If an ABIE is found that fully meets requirements, register re-use.

794   If a similar ABIE is found that could meet the requirements with modification, prepare a change
795   request to submit to the harmonization and approval process.

796   If no ABIE is found, search for an ACC that meets the business needs.

797   If an ACC is found that fully meets requirements, register its re-use and create an ABIE.

798   If similar ACC is found that could meet the requirements with modification, prepare a change
799   request to submit to the harmonization and approval process.

800   If no ACC is found, define and submit an ACC and ABIE that meet the business needs.

801   Suggestion - in searching the repository:

802   Compare the Object Classes of the Class Diagram with the Object Class terms.

803   Compare the Properties identified in the Class Diagram with known property terms of BBIE's,
804   BCC's, ASBIE's and ASCC's.

805
806

BIE Found

No

Compare Class with Known ABIE or BBIE

FormulateStds Changes

[Input process] PROCEED TO DEVELOP/ DEFINE

Check Registry List or Candidates for CC and BIE

Yes

CC Found

No

Compare Properties with Known ACC and BCC

Forward Changes

Yes

1

1. Format Dictionary Entry Name field.
2. Insert periods after the Object Class and Property Term.
Note: Eliminate duplicate terms with a '*', after the first occurrence.
3. Mark newly defined CC.

CC-Yes

Do Existing BIE and CC fully meet reqt here?

Add and Complete Fields to Spreadsheet (as applicable)

1

To External Process

Align BIE that is actually a CC

BIE-Yes

No

A

Note: Expand process with ABIE, BBIE, BCC and ACC once team steps through this process. There are mulltiple branches that MAY occur.

B

Align Definitions Among BBIE Derived from BCC

Complete Spreadsheet

Submit Proposed Changes to the Registry [(1) Forward with new or existing context and (2) Registry]

To External Process

Note: References are given to other diagrams in this section, with following alphabetical keys:
  A: Create CC or BIE.
  B: Use the Forward-Backward Reading Guideline (entry).
  C1: Exit the guideline successfully.
  C2: Exit the guideline and rework the CC or BIE in order to apply the guideline again.

Figure 3-11 Searching the Registry/Repository

Following the search and discovery process, submissions should be prepared for the harmonization and approval process.

819   **3.8.3.2   Forward/Backward Reading Guideline**

820   This guideline should be used to validate the name of each CC and BIE.

821

822

823   *Note: References are given to other diagrams in this section, with following alphabetical keys:*
824   *A: Create CC or BIE.*
825   *B: Use the Forward-Backward Reading Guideline (entry).*
826   *C1: Exit the guideline successfully*
827   *C2: Exit the guideline and rework the CC or BIE in order to apply the guideline again.*
828   **Figure 3-12 Forward/Backward Reading Guideline**

829 # 4. Examples

830 This primer contains two implementation examples of the Core Components Technical
831 Specification. These examples show how the guidelines and steps, as elaborated in the
832 previous chapters of this primer, may be applied in real business situations.
833
834 The two examples have been prepared by two independent teams. One example was
835 prepared by a team from Boeing company, the other by a team of EAN International /
836 Uniform Code Council. As the teams operated separately from each other, the approach
837 taken differs somewhat and the outcomes are different.
838
839 The examples are only meant as illustration. The resulting Business Information Entities
840 and Core Components have not been harmonised. The approaches were the interpretation
841 of the respective teams, and are not normative in any way.
842
843 Note: Due to concurrent development of this document and the UMM User's Guide,
844 there are differences in the diagrams, worksheets, etc.
845

846 **4.1 The Boeing Company Spare Parts Procurement Example**

847 The Boeing Spare Parts Procurement example is an implementation of the UN/CEFACT
848 Core Components Technical Specification. Traditionally, the airline industry has used
849 the Air Transport Association (ATA) standard in Electronic Interchange format to
850 describe this business process. In order to capture the business and data requirements of
851 this process for the purpose of discovering the core components, the UN/CEFACT
852 Modeling Methodology (UMM) was used.
853
854 The original Boeing example contains a number of use cases and the documents (BDV,
855 BRV, and BTV) to support the different use case processes, but for the purpose of
856 inclusion of an example in the Primer, only the Place Order Process is shown. The
857 Activity Diagram in 4.1.1.2 shows the other use case activities and how the Place Order
858 relates to the other activities. The Sequence Diagram for the procurement activities is
859 also shown in 4.1.2.

860 **4.1.1 Business Requirements View (BRV)**

861 **4.1.1.1 Business Process Use Case Description**

862 One of these worksheets is filled out for each detail business process.

Form: Business Process Use Case	
Form Id	**Procure Spare parts**
Business Process Name	[Provide a name for the business process. This should be a name identified on the form "Identify Business Process" and on a "Describe Process Area" form. If you are starting with this form, you may wish to refer to the ebXML Catalog of Business Processes that provides a normative list of business processes.]

	Spare parts Ordering on-line.
Form Id	
Identifier	
Description	[A set of simple sentences that state the actions performed as part of the use case. Include references to use cases at extension points.] 1. **Parts Ordering System has identified that required spare parts should be ordered from the Order Management System.** 2. **Order Management System evaluates the order information and either acknowledges the order or rejects the order.** 3. **Order Management System notifies Parts Ordering System when the part is shipped by the supplier.**
Actors	[List the actors involved in the use case.] **Parts Ordering System** **Order Management System**
Performance Goals	[A specification of the metrics relevant to the use case and a definition of their goals. Non-functional requirements may be a source of performance goals. For each performance goal, provide a name of the performance goal and a brief description of the performance goal.] **Completed the spare parts purchase order transaction.**
Preconditions	[Preconditions are constraints that must be satisfied starting the use case.] **Customer identifies a need for a spare part. Parts Ordering System is the system for placing an order to procure this part. The Order Management System has links to the suppliers of this spare part.**
Begins When	[Describe the initial event from the actor that starts a use case.] **Parts Ordering System submits a spare parts purchase order transaction to the Order Management System.**
Ends When	[Describe the condition or event that causes normal completion of the use case.] **Order Management System sends a final shipped transaction to Parts Ordering System**
Exceptions	[List all exception conditions that will cause the use case to terminate before its normal completion.]

	none
Postconditions	[Post-conditions are states that must be satisfied ending the use case.] **Parts Ordering System received shipment notification from Order Management System.**
Traceability	[These are the requirements covered (as shown in Annex 4, Use Case Specification Template, in the UMM).] PRD-SC-6.5.4 (meaning requirement 6.5.4 of the Product Requirements Document for the Supply Chain project). **Reference to the source requirements documents from Parts Ordering System**
Supporting Business Collaborations and Business Processes	[List the business collaborations and business processes that support (are part of) this use case.] **TBD**

863

864 **4.1.1.2 Business Process Activity Diagram**
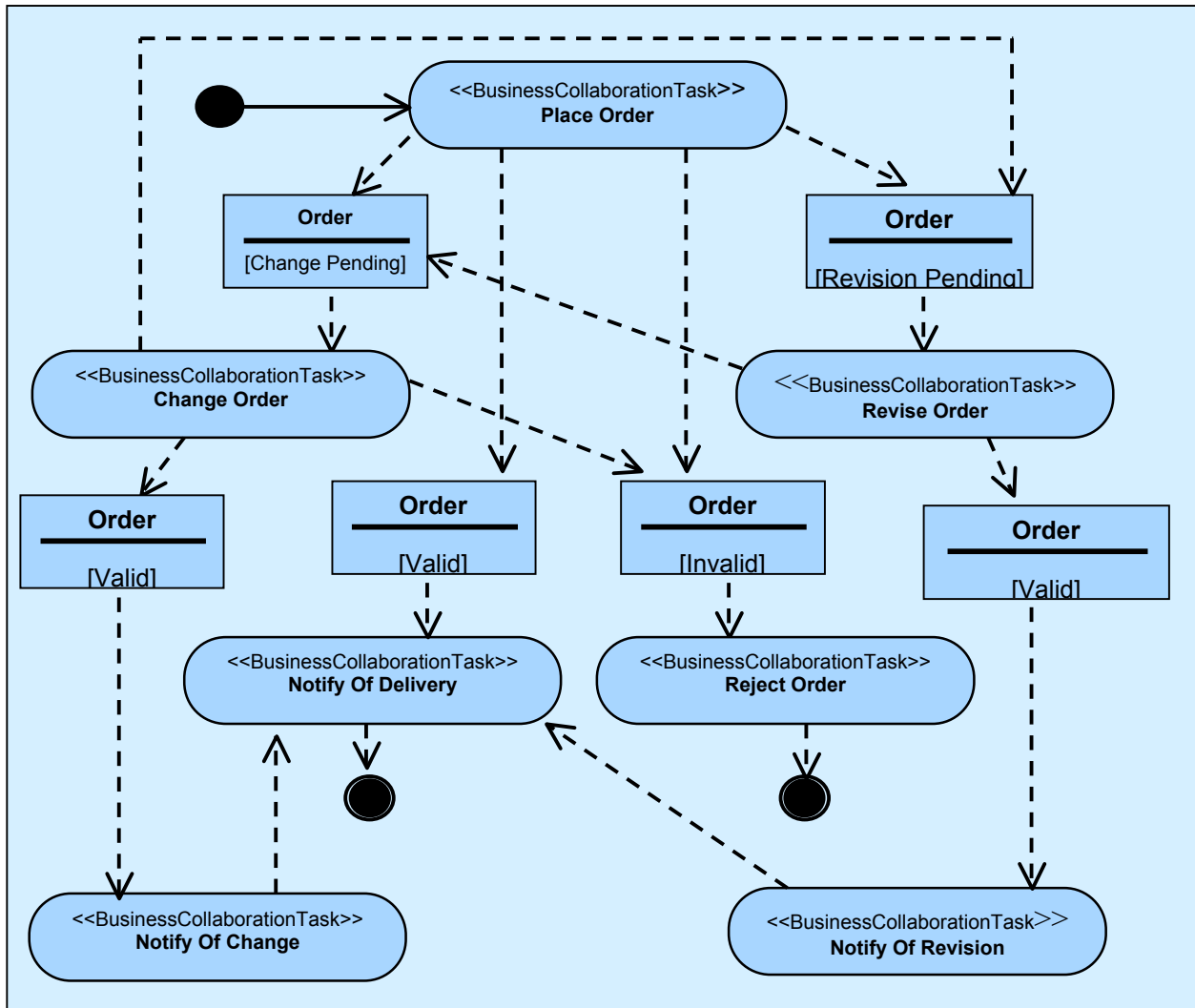
865 **Figure 4-1 Business Process Activity Diagram**

866

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872

873

874 **4.1.1.3 Business Collaboraton Protocol**

Relationship Setup → Place Order → Termination Relationship

(Diagram: Business Collaboration Protocol activity diagram showing start node → `<<businessTransactionActivity>>` **Relationship Setup** → `<<businessTransactionActivity>>` **Place Order** → `<<businessTransactionActivity>>` **Termination Relationship** → end node)
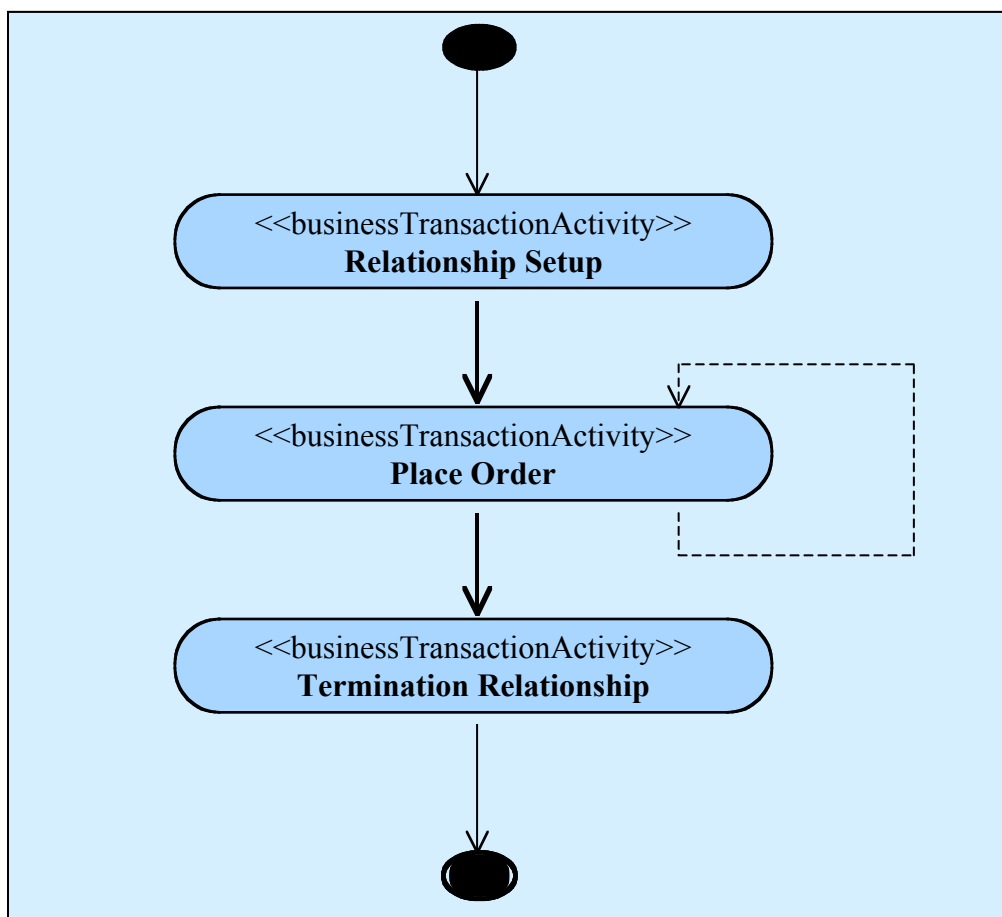
875 **Figure 4-2 Business Collaboration Protoco**

876

877 **4.1.1.4 Document Content Description**

878 The Content Description worksheet captures the initial business data. The worksheet
879 template below shows sample data entered. The complete business data supporting the
880 class diagram can be found in Boeing CC Discovery Work Sheets V1.1 .
881
882 Describe each element or group of elements in the document. Logically related elements
883 can be placed in separate forms (For example, a document may have logically three parts,
884 a header**,** body, and summary. The body may have further logical partitioning.). Possible
885 values for Occurs include: 1 (one instance), 0..1 (zero on one instance), 0..* (zero or more
886 instances), 1..* (one or more instances), or n..m (n to m instances where n is less than m).
887 Information "looping" is specified through appropriate occurs values. Possible values for
888 Data Type include primitive data types – such as integer, string, date-type – or a Form Id
889 of another Content Description Form. Referencing another Content Description Form Id
890 represents information hierarchy and nesting. If you happen to know the name of a
891 reusable component from a domain library or the Catalogue of Core Components, then

892   you MAY reference it. The Semantic Description SHALL be stated in business terms
893   and SHALL be unambiguous.

Form Content Description					
Content Description Name	Purchase Order - Spec2000 EDI (S1BOOKED)				
Form Id					
Element/Component Name	**Occurs**	**Data Type**	**Field Width**	**Semantic Description**	**Notes**
Command Code	1	String	8	Command Code identifies the specific type of telecommunication message or supplemental information used in (1) updating on-line files, (2) initiating procurement and quotation actions, and (3) transmitting inquiry, response and advisory messages.	
Part Number	1	String	1..15	Part Number is the manufacturer's, supplier's or industry standard identity for the subject part, assembly, kit or material.	
Unit Price Amount	1	Float	1..13	Unit Price Amount is the sell price for one unit of the subject part conforming to the Currency Code, Unit of Measure, and when applicable, Price Break Quantity range.	
Specified Shipping Method	0..1	String	3	Specified Shipping Method Code specifies the method to be used for transporting a given shipment from the supplier's facility plus the method for paying the transportation costs.	

894

895   **4.1.2 Business Transaction View (BTV)**

896   **4.1.2.1 Business Transaction Activity Diagram**

Place Order

897
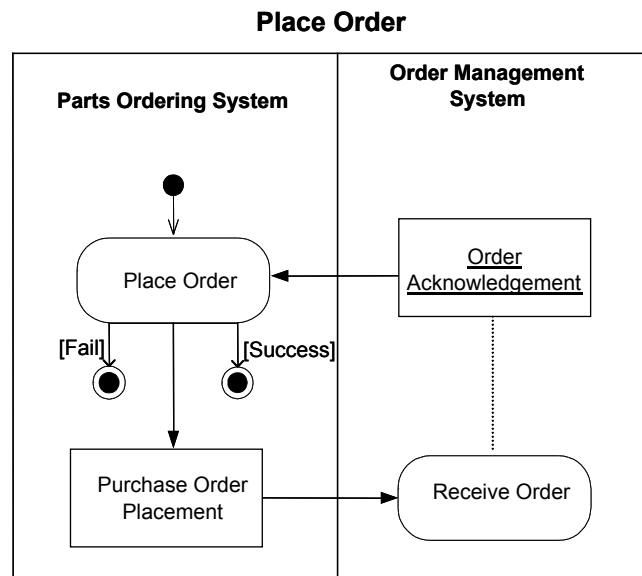
898   **Figure 4-3 Business Transaction View of Place Order**

899   **4.1.2.2 Object Class Diagram**
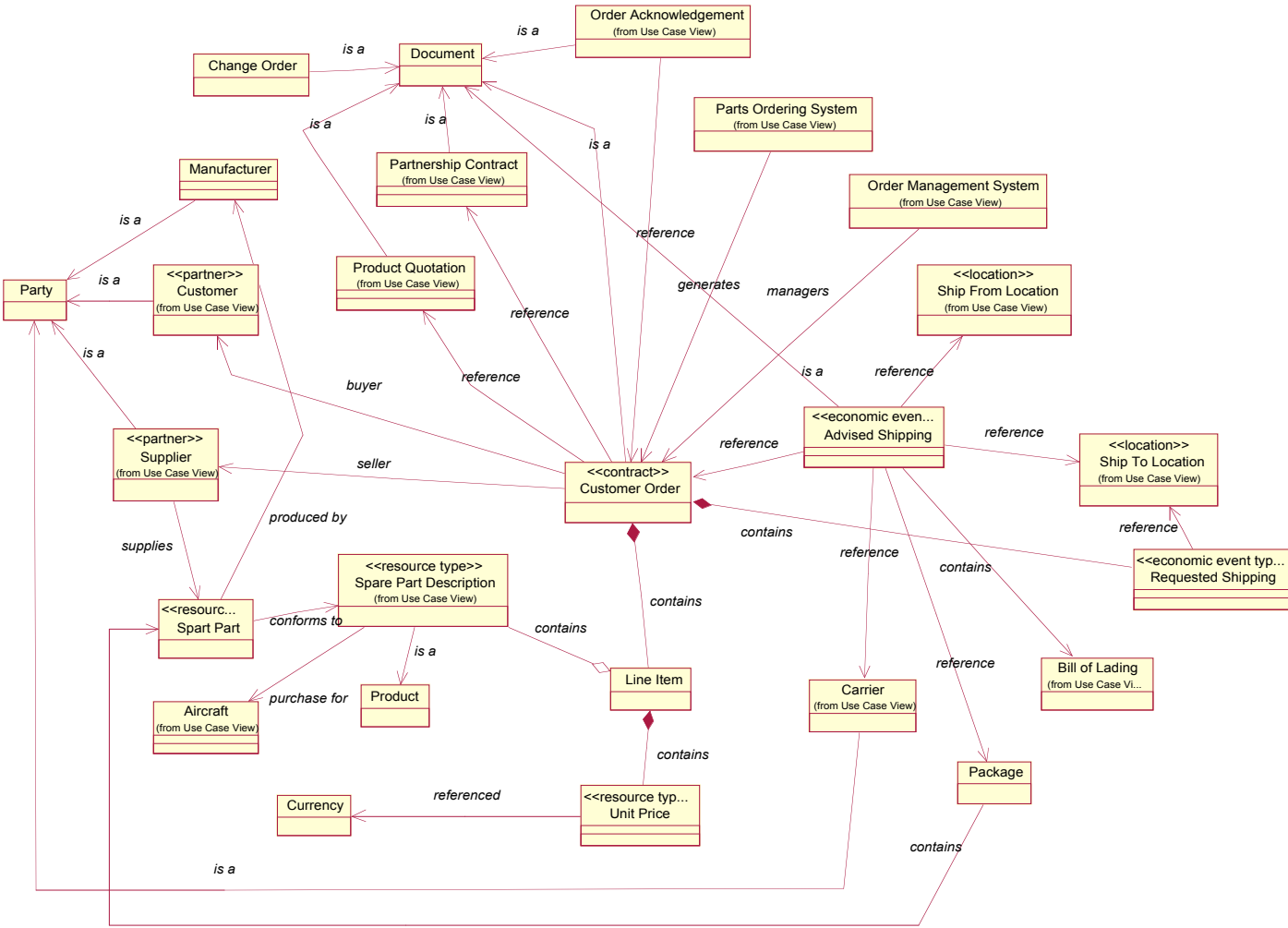
900   **Figure 4-4 Object Class Diagram**

901 ### 4.1.3 Business Service View (BSV)

902 ### 4.1.3.1 Sequence Diagram
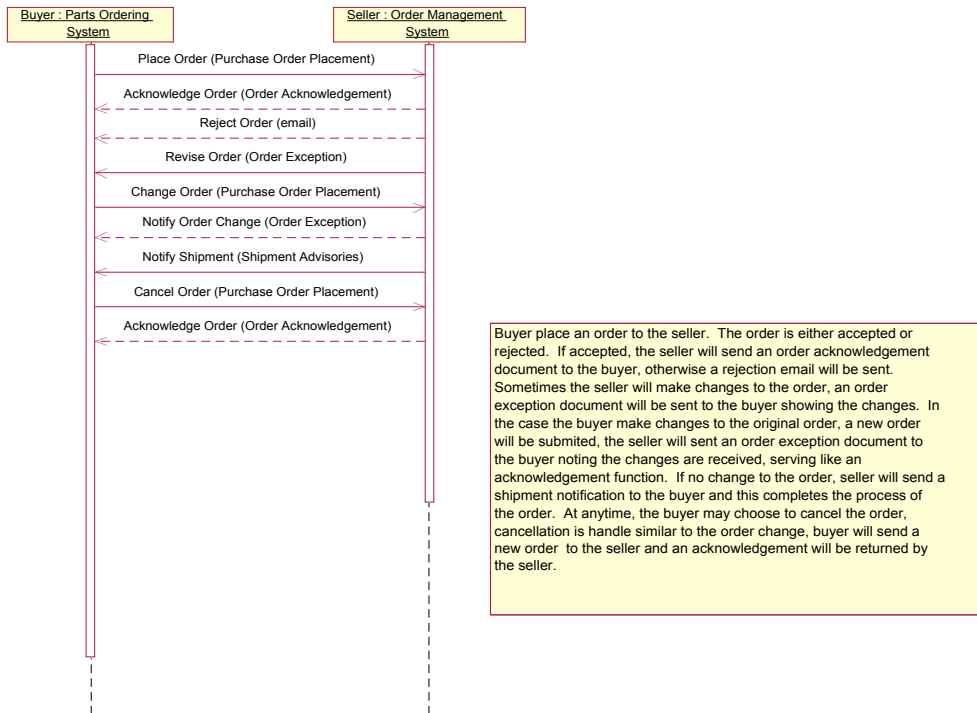
903 **Figure 4-5 Sequence Diagram**

904

905 ### 4.1.3.2 Business Information Context

906 The Business Information Context form is provided as convenience for aggregating contextual
907 values that affect the analysis of business information. It is intended that this information be
908 obtained from other forms. For example, Industry Segment is specified in the Business
909 Reference Model form. If there is no value for an entry, enter NOT APPLICABLE or NONE
910 which ever is appropriate.
911

Form: Business Information Context	
Business Information Context Name	[Provide a name for the business information context. Typically this is the name of the associated business transaction. However, it may be appropriate to name it after the name of the associated business collaboration, or higher-level business process construct.]
Form Id:	
Business Process	**Spare Parts Order Fulfillment.**

Product Classification	**Aircraft Spare Parts**
Industry Classification	**Aerospace Manufacturing Procurement**
Geo-Political	**International**
Official Constraints	**Air Transport Association, Federal Aviation Administration**
Business Process Role	**Purchaser and Manufacturer of Aircraft Spare Parts**
Supporting Role	**Carrier**
System Capabilities	**Spare Parts Procurement System**

912   **4.1.3.3 Document Class View**

913
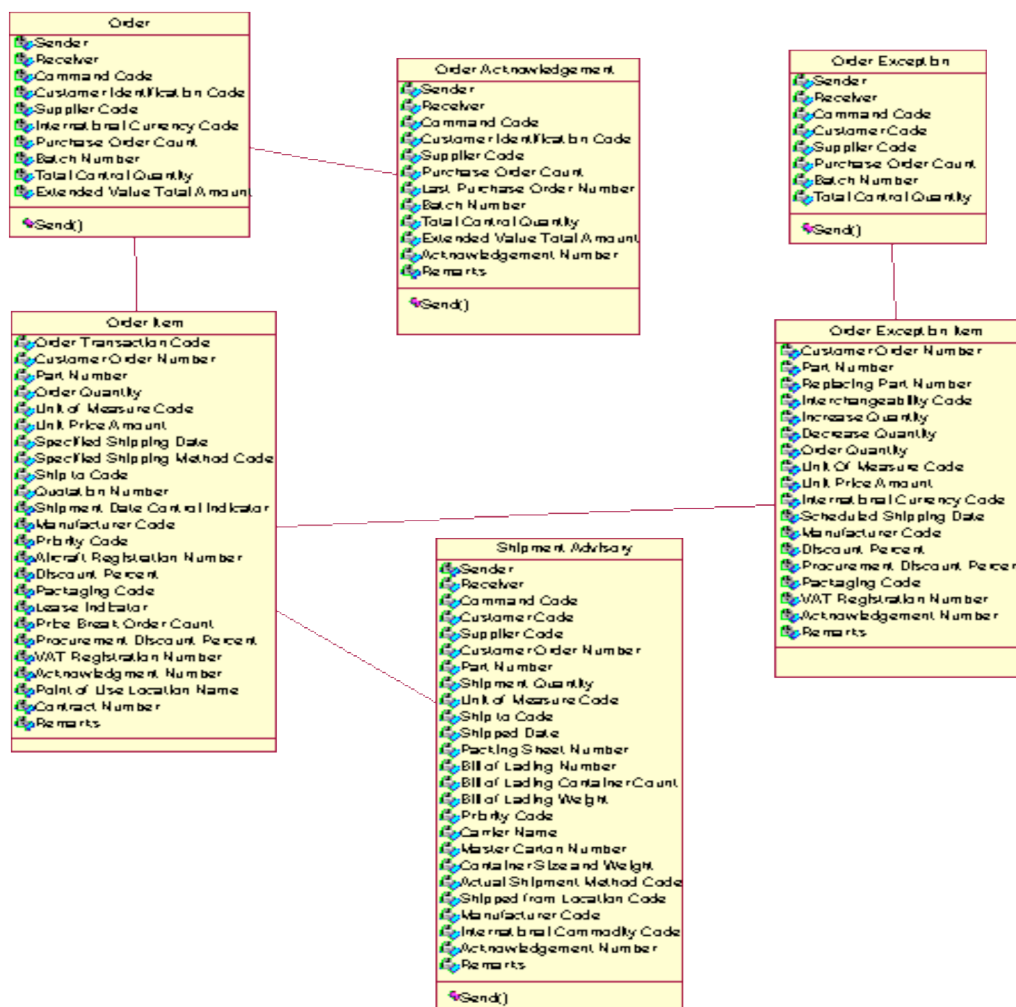
914   **Figure 4-6 Document Class View**

915
916

917 **4.1.4 Completing the Core Component Model**

918 Apply the core component identification process for each of the business term on the spreadsheet. The following tables
919 show the results of the data analysis. It is important to note that data that is outside of the business process boundary is
920 discarded (i.e. command code)

Business Term	Object Class Qualifier	Object Class.	Property Term Qualifier	Property Term.	Data Type Qualifier	Representation Term	Dictionary Entry Name	BCC/ACC/BBIE/ABIE/ ASCC/ ASBIE	Semantic Description	Comments
Command Code									Command Code identifies the specific type of telecommunication message or supplemental information used in (1) updating on-line files, (2) initiating procurement and quotation actions, and (3) transmitting inquiry, response and advisory messages.	Not PO Content Data
International Currency Code									International Currency Code specifies the national currency corresponding to the Unit Price Amount or Repair Price Amount.	
Purchase Order Count									Purchase Order Count specifies the number of individual purchase orders contained in S1BOOKED.	Not PO Content Data
Batch Number									Batch Number identifies a transmission grouping of part orders (S1BOOKED).	Not PO Content Data
Total Control Quantity									Total Control Quantity is the sum of all Order Quantities in an S1Booked order transmission.	Not PO Content Data Not use
Extended Value Total Amount									Extended Value Total Amount is a transmission control for the S1Booked Command and computed by summing the products of Unit Price Amount times Order Quantity subtracting the discount (DIS) or procurement discount percentage (PDP) for each order transaction within a given S1BOOKED Command.	Not PO Content Data Not use

Order Transaction Code									Order Transaction Code specifies the type, category and condition of a customer purchase order (S1BOOKED transactions)	See TNC file. Not useful as aggregate data.
		Docu ment				Details	Document. Details	ACC	The details of a document	
		Docu ment		Processi ng		Code	Document. Processing. Code	BCC	The code specifying the document processing type	
Type of Order	Purchase Order	Docu ment		Processi ng		Code	Purchase Order_ Document. Processing. Code	BBIE	The code specifying the order processing type	
		Docu ment		Type		Code	Document. Type. Code	BCC	The code specifying the type of a document	
Category of Order	Purchase Order	Docu ment		Type		Code	Purchase Order_ Document. Type. Code	BBIE	The code specifying the type of order	
		Docu ment		Purpose		Code	Document. Purpose. Code	BCC	The code specifying the document purpose	
Condition of Order	Purchase Order	Docu ment		Purpose		Code	Purchase Order_ Document. Purpose. Code	BBIE	The code specifying the order purpose	
Contract Number	Purchase order	Docu ment	Sales contra ct	Identifica tion		Identifier	Purchase Order_ Document. Sales Contract_ Identification. Identifier	BBIE	revise - an identifier of a sales contract between parties original - Contract Number is a reference number mutually agreed upon between the supplier and customer that represent a Special Business Agreement.	A reference number refers to a sales contract between parties.
Quotatio n Number	Purchase order	Docu ment	Suppli er Quotat ion	Identifica tion		Identifier	Purchase Order_ Document. Supplier Quotation_ Identification. Identifier	BBIE	revise - The identification assigned by the supplier to a quotation original - Quotation Number is the identity assigned by the supplier to his quotation of price and Lead Time for the subject part.	Price and Lead Time for the subject part.
Custome r Order Number	Purchase Order	Docu ment	Custo mer	Identifica tion		Identifier	Purchase Order_ Document. Customer_	BBIE	revise - The identification assigned by the customer to an order original - Customer Order Number is the customer's identity number	

						Identfication. Identifier			assigned to a specific order for a given part or a specific order for repair/overhaul services for a given part.	
	Purchase Order	Docu ment		Custome r	Custome r	Party	Purchase Order_ Document . Customer. Customer_ Party	ASBIE		
	Purchase Order	Docu ment		Contract	Contract	Docume nt	Purchase Order_ Docment. Contract. Contract_Doc ument	ASBIE		
	Purchase Order	Docu ment		Quote	Quotatio n	Docume nt	Purchase Order_ Document. Quote. Quotation_ Document	ASBIE		
		Item				Details	Item. Details	ACC	The details of a spare part	
		Item		Leasing		Indicator	Item. Leasing. Indicator	BCC	An indicator specifying if an item is for leasing	
	Spare Part	Item		Manufact urer	Manufact urer	Party	Spare Part_ Item. Manufacturer. Manufacturer_ Party	ASBIE		
	Spare Part	Item		Aircraft	Aircraft	Equipme nt	Spare Part_ Item. Aircraft. Aircraft_Equip ment	ASBIE		
Part Number	Spare Part	Item	Manuf acturer	Identifica tion		Identifier	Spare Part_ Item. Manufacturer_ Identification. Identifier	BBIE	revise - The manufacturer's identification of a spare part item original - Part Number is the manufacturer's supplier's or industry standard identity for the subject part, assembly, kit or material. Part Number when linked with its Manufacturer Code provides a unique identity for the given item. (note: serial number will be used in the future to replace mfg. code to give uniqueness to the part number)	Part Number when linked with its Manufacturer Code provides a unique identity for the given item.

Lease Indicator	Ordered	Item	Onward	Leasing		Indicator	Ordered_ Item. Onward_ Leasing. Indicator	BBIE	revise - An indicator specifying if an item is ordered for onward leasing Original - Lease Indicator denotes that subject order is placed for lease of the referenced part number.	Example from ATA: Yes or No code to indicate part is bought for lease or not. The lease indicator on the PO signifies that the part ordered is designated for a lease project or lease inventory.
		Line item				Details	Line Item. Details	ACC	The details of a line item	line item needs to be in the control vocabulary that represents a logical grouping of information such as part number, quantity, price, etc.
Order Quantity		Line item		Ordered quantity*		Quantity	Line Item. Ordered. Quantity	BBIE	revise - The quantity ordered of a line item original - Order Quantity is the quantity (conforming to the Unit of Measure) originally ordered by the customer or subsequently revised for the specified Customer Order Number, Part Number, Specified Shipping Date and Ship To Code.	
		Line Item		Purchase Order	Purchase Order	Document	Line Item. Purchase Order. Purchase Order_ Document	ASBIE		
		Base charge price		Quantity*		Quantity	Base Charge Price. Quantity	BCC	The base quantity of the charge / price unit amount	please consider dictionary name: Unit Price. Base. Quantity
Unit of Measure Code		Base charge price		Quantity*		Quantity	Base Charge Price. Quantity	BBIE	revise - The base quantity of the unit price original - Unit of Measure Code specifies the type of count, measurement, container or form of the subject part and correlates to the Unit Price Amount.	
		Unit charge price		Amount*		Amount	Unit Charge Price. Amount	BCC	The charge/price amount per unit.	unit price needs to be defined in the control vocabulary or in an aggregate
Unit		Unit		Amount*		Amount	Unit Charge	BBIE	revise - The charge/price amount	

Price Amount		charge price					Price. Amount		per unit. original - Unit Price Amount is the sell price for one unit of the subject part conforming to the Currency Code, Unit of Measure, and when applicable, Price Break Quantity range.	
		Transport		Method		Code	Transport. Method. Code	BCC	The method of transport used for the conveyance of goods or person	Harmonisation please consider the difference between transportation method and transportation mode
Specified Shipping Method		Transport		Method		Code	Transport. Method. Code	BBIE	revise - The method of transport used for the conveyance of goods or person original - Specified Shipping Method Code specifies the method to be used for transporting a given shipment from the supplier's facility plus the method for paying the transportation costs.	First 2 characters identify method of shipment. Last character identifies payment method.
		Transport		Timeframe		Indicator	Transport. Timeframe. Indicator	BCC	The indicator that specifies a timeframe in relation to the transport date	
Shipment Date Control Indicator		Transport	Not before fifteen days	Timeframe		Indicator	Transport. Not Before Fifteen Days_ Timeframe. Indicator	BBIE	revise - The indicator that specifies that an item cannot be transported earlier than fifteen days before the transport date original - Shipment Date Control Indicator specifies that subject order is not to be shipped earlier than fifteen days prior to customer's Specified Shipping Date.	
		Payment		Method		Code	Payment. Method. Code	BCC	The code specifying how payment is made	
	Transport	Payment		Method		Code	Transport_ Payment. Method. Code	BBIE	revise - The code specifying how payment is made for transport costs original - Specified Shipping Method Code specifies the method to be used for transporting a given shipment from the supplier's facility plus the method for paying the transportation costs.	
		Proces		Priority		Code	Processing.	BCC	The code specifying the priority of	

		sing					Priority. Code		a process	
Priority Code	Purchase Order	Processing	Response	Priority		Code	Purchase Order_ Processing. Response_ Priority. Code	BBIE	revise - The code specifying the priority of the response to the order original - Priority Code is a precedence rating (assigned by the customer) designation the urgency for processing and responding to the subject quotation or purchase order.	
		Equipment		Identification*		Identifier	Equipment. Identifier	BCC	The identification of a unit of an equipment	
Aircraft Registration Number	Aircraft	Equipment	Aviation Authority Assigned	Identification		Identifier	Aircraft_ Equipment. Aviation Authority Assigned_ Identification. Identifier	BBIE	revise - The registration identifier assigned to each individual aircraft by the applicable aviation authority. original - Aircraft Registration Number is the registration identity assigned to each individual aircraft by the cognizant national authority.	
Discount Percent									Discount Percent specifies the trade discount applicable to Unit Price Amount.	See Procurement Discount Percent
		Packaging		Instruction		Code	Packaging. Instruction. Code	BCC	A code providing a packaging instruction	Packaging is the process of putting the material around the item
Packaging Code	Aircraft part	Packaging		Instruction		Code	Aircraft Part_ Packaging. Instruction. Code	BBIE	revise - A code specifying a packaging instruction for an aircraft part original- Packaging Code specifies the type of container, packaging requirements or material handling devices to be used when shipping subject parts per specified Customer Order Number.	Example from ATA: Reference to ATA SPEC300, Packaging Code defines packing condition, material, and container for shipping aircraft part. Specific condition for aircraft regulation on packaging condition so part will not bend or contaminated, i.e. "2" = part container is also build when the part is build. Could have more than one BCC
		Packaging		Spart Part	Spare Part	Item	Packaging. Spare Part. Spare Part_ Item	ASBIE		

		Unit Price				Details	Unit Price. Details	ACC, ABIE	The details of unit price	
		Unit price discount		Base quantity*		Quantity	Unit Price Discount. Base. Quantity	BCC	The base quantity when calculating a unit price discount	
Price Break Order Count		Unit price discount	Order	Base quantity		Quantity	Unit Price Discount. Order_ Base Quantity. Quantity	BBIE	revise - number of individual purchase orders to be considered when calculating an item price discount original - Price Break Order Count specifies the number of individual purchase orders for a common part number within a group of orders which are to be combined for an applicable quantity price break.	Not aircraft Industry specific. For evaluation of price vs quantity. What is more economical. Buy 3 will get a discount verses buy 2 at regular price.
		Unit price discount		Percent*		Percent	Unit Price Discount. Percent	BCC	The percentage of a unit price discount.	
Procurement Discount Percent		Unit price discount		Percent*		Percent	Unit Price Discount. Percent	BBIE	revise - The percentage of a unit price discount. original - Procurement Discount Percent specifies the trade discount percent (to two decimal places) applicable to the Unit Price Amount and Repair Price Amount. The associated price break information is discounted also.	
		Unit Price		Line Item		Line Item	Unit Price. Line Item. Line Item.	ASBIE		
		Organization		Tax identification*		Identifier	Organisation. Tax. Identifier	BCC	The registered national tax identification of an organisation.	CCC harmonisation - is this a party or an organisation, Should it be an identification or a registration? Organisation.tax registration.identifier
VAT Registration Number	Customer	Organisation	VAT	Tax identification		Identifier	Customer_ Organisation. VAT_ Tax Identification. Identifier	BBIE	revise - The Value Added Tax (VAT) registration number of the Customer Original - VAT Registration Number is the tax registration	European tax apply to import and export comply at placing an order

								number of the Customer	
		Transa ction		Referenc e		Identifier	Transaction. Reference. Identifier	BCC	An identifier to enable reference to a transaction	Note: Obtain BP definition of the word 'transaction'
Acknowl edgment Number		Transa ction		Referenc e		Identifier	Transaction. Reference. Identifier	BBIE	revise - an identifier that is sent in a message to ensure transaction traceability. original - acknowledgement Number is a value associated with a particular command, sent to ensure traceability.	Unique number generated when creating a PO, for tracking.
		Locati on		Identifica tion		Code	Location. Identification. Code	BCC	the identifier of a location	Based on CCSD discussion on Code vs Identifier, we recommend this should be location. Identifier.
Point of Use Location Name	Receivin g Storage	Locati on		Identifica tion		Code	Receiving Storage_ Location. Identification. Code	BBIE	revise - an identifier of the receiving location for storage original - Point of Use Location Name identifies specific stocking/binning location in a user's facility.	Define 'stocking/binning' ATA definition - Location for placing the inventory in a warehouse, the place is called a bin.
		Locati on		Identifica tion*		Identifier	Location. Identifier	BCC	The identification of a location	suggested revision to 000061 location identification code, should be an identifier not code
Ship to Code	Shipment destinati on	Locati on		Identifica tion*		Identifier	Shipment Destination_ Location. Identifier	BBIE	revise - The identifier of the shipment destination location original - Ship To Code identifies the shipment destination address including required marks and information that must be displayed on shipping containers. Ship To Code may also convey applicability or exclusion of specific taxes or charges relating to the shipment destination.	
		Inform ation		Text*		Text	Information. Text	BCC	A text providing information	
Remarks Text	Miscellan eous	Inform ation		Text*		Text	Miscellaneous _ Information. Text	BBIE	revise - A text providing miscellaneous information original - Remarks Text provides miscellaneous information not otherwise provided for by dedicated Text Element Identifiers	

									(TEI's) in variable record systems.	
		Party				Details	Party. Details	ACC	Details of an individual, a group or a body having a role in a business function.	
Manufacturer Code	Manufacturer	Party		Identification*		Identifier	Manufacturer_ Party. Identifier	BBIE	revise - The identification of the manufacturer of an item original - Manufacturer Code identifies the manufacturer, government agency or other organization controlling the design and the part number assignment of the subject part.	ATA definition - Manufacturer is the creator of the part, and the assigner of the part number. Manufacturer code is not part of the part number, although it might be.
Supplier Code	Vendor	Party		Identification*		Identifier	Vendor_ Party. Identifier	BBIE	revise - The identifier of the vendor original - Supplier Code identifies the originator of Procurement Data and a source of supply for the subject part in Procurement Planning, Provisioning V File and Delivery configuration Data application.	Note: Supplier usually refers to parties who supply data information, "Vendor" is used by ATA for supplier who supplies products like spare parts. Distributor vs supplier. Airlines can be a supplier if they want to sell parts, they will have a supplier code, and parts has airline's part number. ATA suggest using Vendor Party. Identifier
Customer Identification Code	Customer	Party		Identification*		Identifier	Customer_ Party. Identifier	BBIE	revise - The identifier of the buyer of goods and services. Original - Customer Identification Code identifies the airline customer plus the office and or individual receiving or transmitting S1BOOKED and several other transactions.	First 2 characters identify an airline. Last character is for product identification. Harmonization of synonyms (Customer/Buyer)
	Vendor	Party		Spare Part	Spare Part	Item	Vendor_ Party. Spare Part. Spare Part_ Item	ASBIE		
Currency									Currency of the associated amount	does not stand alone, rather it is the CCT aligned with an amount
		Package				Details	Package. Details	ACC, ABIE	The details of a package	
		Package		Spart Part	Spare Part	Item	Package. Spare Part.	ASBIE		

						Spare Part_ Item			
		Ship to Locati on				Details	Ship to Location. Details	ACC, ABIE	The details of ship to location	
		Shippi ng				Details	Shipping. Details	ACC	The details of shipping	
		Shippi ng		Date*		Date	Shipping. Date	BCC	a date when the shipping from a facility takes place	
Specified Shipping Date	Custome r required	Shippi ng		Date*		Date	Customer Required Shipping. Date	BBIE	revise - The date the customer requires material to be shipped from the supplier's facility original - Specified Shipping Date is the date the customer requires material to be shipped from the supplier's facility for a given purchase order.	
	Custome r Required	Shippi ng		Purchase Order	Purchase Order	Docume nt	Customer Requied_ Shipping. Purchase Order. Purchase Order_ Document	ASBIE		
	Custome r Required	Shippi ng		Ship to Location	Shipment Destinati on	Location	Customer Required_ Shipping. Ship to Location. Shipment Destination_ Location	ASBIE		
	Advised	Shippi ng				Details	Advised_ Shipping. Details	ABIE	The details of advised shipping	
	Advised	Shippi ng		Purchase Order	Purchase Order	Docume nt	Advised_ Shipping. Purchase Order. Purchase Order_ Document	ASBIE		
	Advised	Shippi ng		Purchase Order	Purchase Order	Docume nt	Advised_ Shipping. Purchase Order. Purchase	ASBIE		

						Order_ Document			
	Advised	Shippi ng		Ship to Location	Shipment	Location	Advised _ Shipping. Ship to Location. Shipment_ Location	ASBIE	
	Adviced	Shippi ng		Package		Package	Adviced_ Shipping. Package. Package	ASBIE	
	Request ed	Shippi ng				Details	Requested_ Shipping. Details	ABIE	The details of requested shipping
	Custome r Required	Shippi ng		Ship to Location	Shipment Destinati on	Location	Customer Required_ Shipping. Ship to Location. Shipment Destination_ Location	ASBIE	

921   **4.1.4.1 Detailed Class Diagram with Core Components**
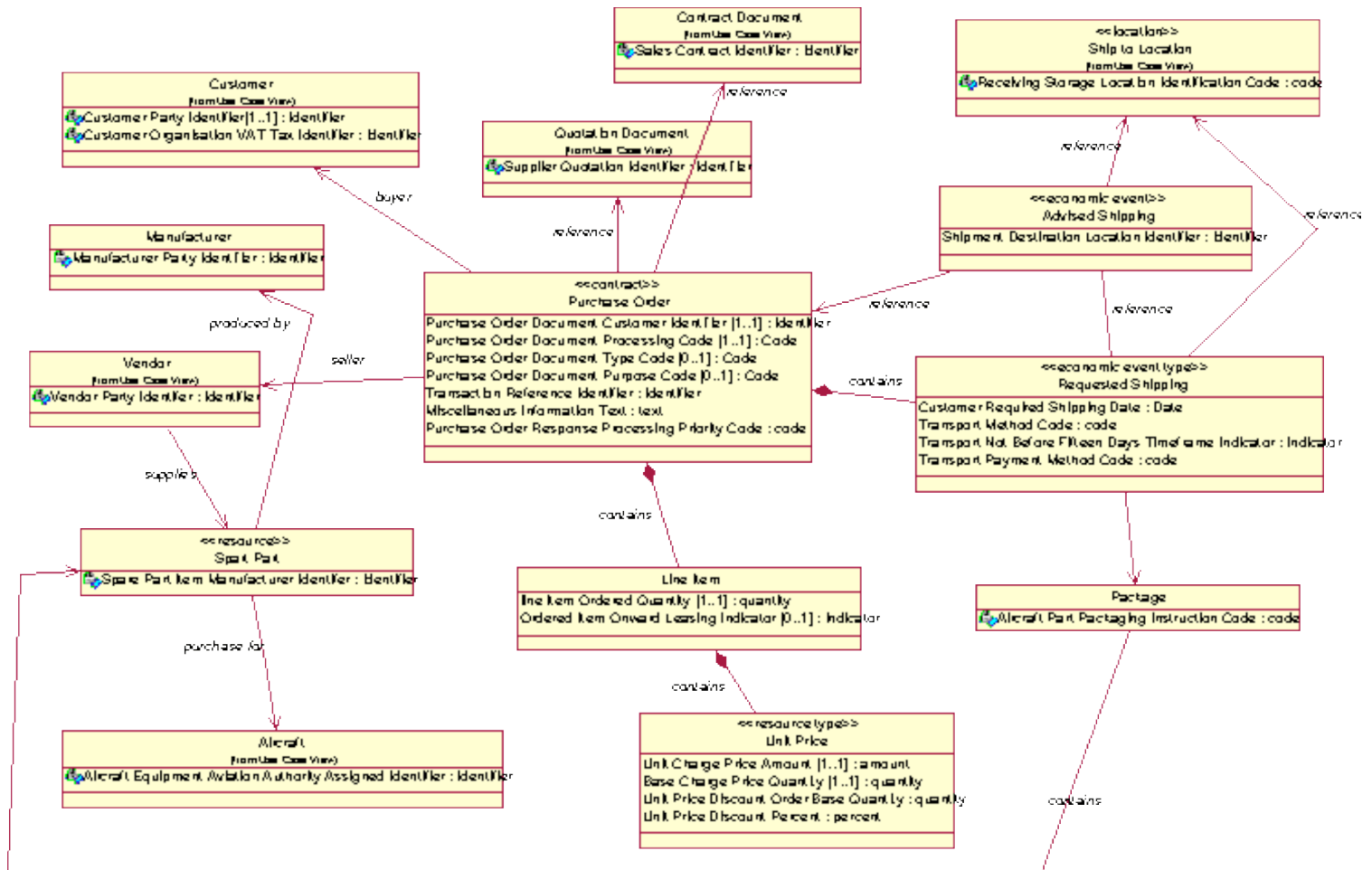
922   **Figure 4-7 Detailed Class Diagram**

923   The Purchase Order Class Diagram is now updated to show the names of the BIE's that were
924   discovered.
925

926   **4.1.5 Examples Using Core Components to Build Business Documents**

927   Examples of applying the same Core Components on an ATA Purchase Order Placement
928   document and an EDIFACT document is shown below.
929
930
931

932 **4.1.5.1 Example of an ATA Purchase Order Placement Document**

933
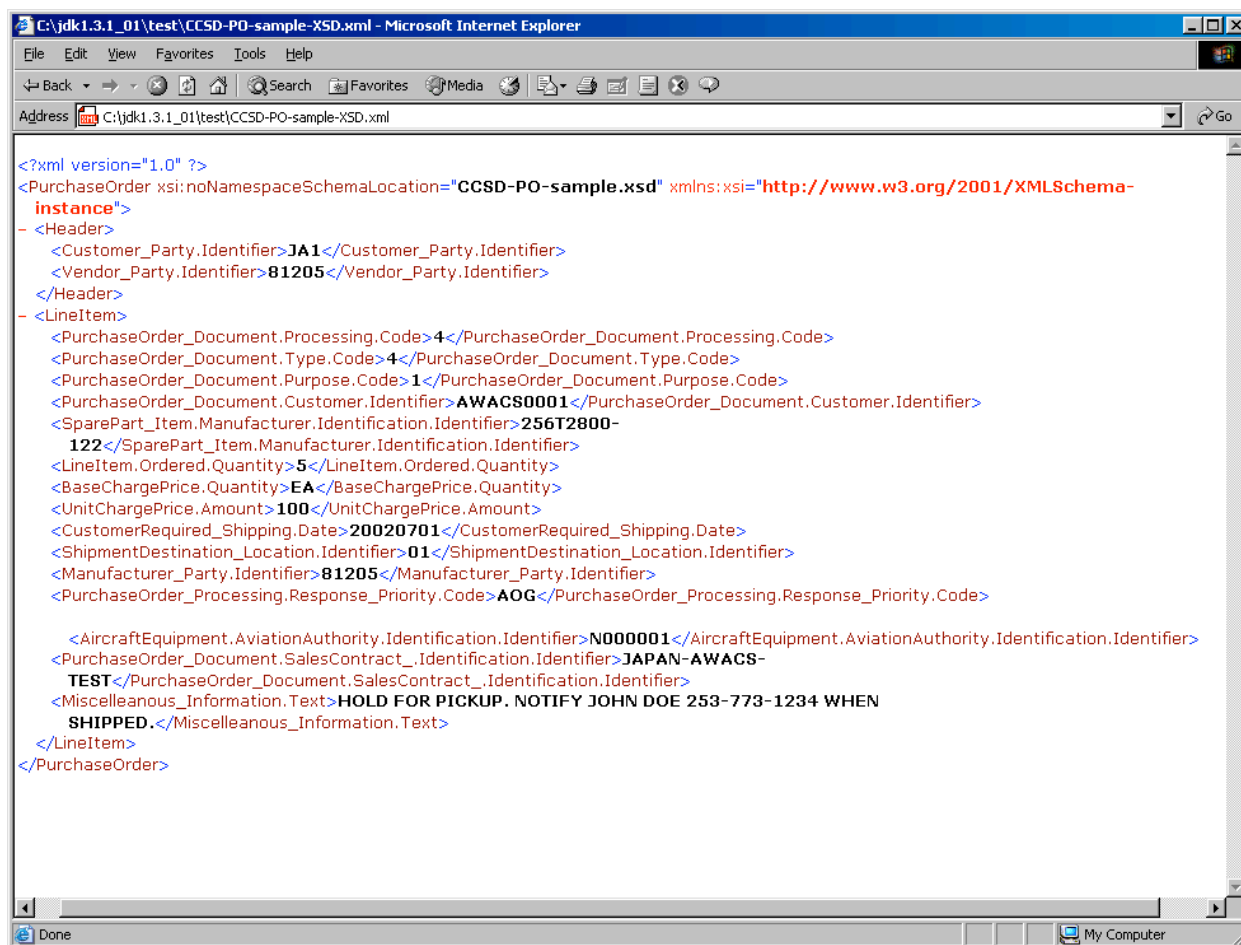
934
<center>**Figure 4-8 ATA Purchase Order Placement document**</center>

935 This example shows the use of Core Components as XML metadata tag.

4.1.5.2 The Document Type Definition (DTD) File Describes the Document Data Structure Requirements

```
<!ELEMENT BaseChargePrice.Quantity (#PCDATA)>
<!ELEMENT Customer_Party.Identifier ( #PCDATA ) >
<!ELEMENT CustomerRequired_Shipping.Date ( #PCDATA ) >
<!ELEMENT Header ( Customer_Party.Identifier, Vendor_Party.Identifier ) >
<!ELEMENT LineItem ( PurchaseOrder_Document.Processing.Code,
PurchaseOrder_Document.Type.Code,
PurchaseOrder_Document.Purpose.Code,
PurchaseOrder_Document.Customer.Identifier,
SparePart_Item.Manufacturer.Identification.Identifier, LineItem.Ordered.Quantity,
BaseChargePrice.Quantity, UnitChargePrice.Amount,
CustomerRequired_Shipping.Date, ShipmentDestination_Location.Identifier,
Manufacturer_Party.Identifier,
PurchaseOrder_Processing.Response_Priority.Code,
AircraftEquipment.AircraftAuthority Identification.Identifier,
PurchaseOrder_Document.SalesContract_.Identification.Identifier,
Miscelleanous_Information.Text ) >
<!ELEMENT LineItem.Ordered.Quantity ( #PCDATA ) >
<!ELEMENT Manufacturer_Party.Identifier ( #PCDATA ) >
<!ELEMENT Miscelleanous_Information.Text ( #PCDATA ) >
<!ELEMENT PurchaseOrder_Document.Customer.Identifier ( #PCDATA ) >
<!ELEMENT PurchaseOrder_Document.Processing.Code ( #PCDATA ) >
<!ELEMENT PurchaseOrder_Document.Purpose.Code ( #PCDATA ) >
<!ELEMENT PurchaseOrder_Document.Type.Code ( #PCDATA ) >
<!ELEMENT PurchaseOrder_Processing.Response_Priority.Code ( #PCDATA) >
<!ELEMENT PurchaseOrder ( Header, LineItem ) >
<!ELEMENT PurchaseOrder_Document.SalesContract_Identifier.Identifier ( #PCDATA) >
<!ELEMENT ShipmentDestination_Location.Identifier ( #PCDATA ) >
<!ELEMENT SparePart_Item.Manufacturer.Identification.Identifier ( #PCDATA ) >
<!ELEMENT Transaction.Reference.Identifier ( #PCDATA ) >
<!ELEMENT UnitChargePrice.Amount ( #PCDATA ) >
<!ELEMENT Vendor_Party.Identifier ( #PCDATA ) >
```

970   **4.1.5.3 The XML Schema File Describes the Document Data Structure and Data Type**
971   **Requirements**

972
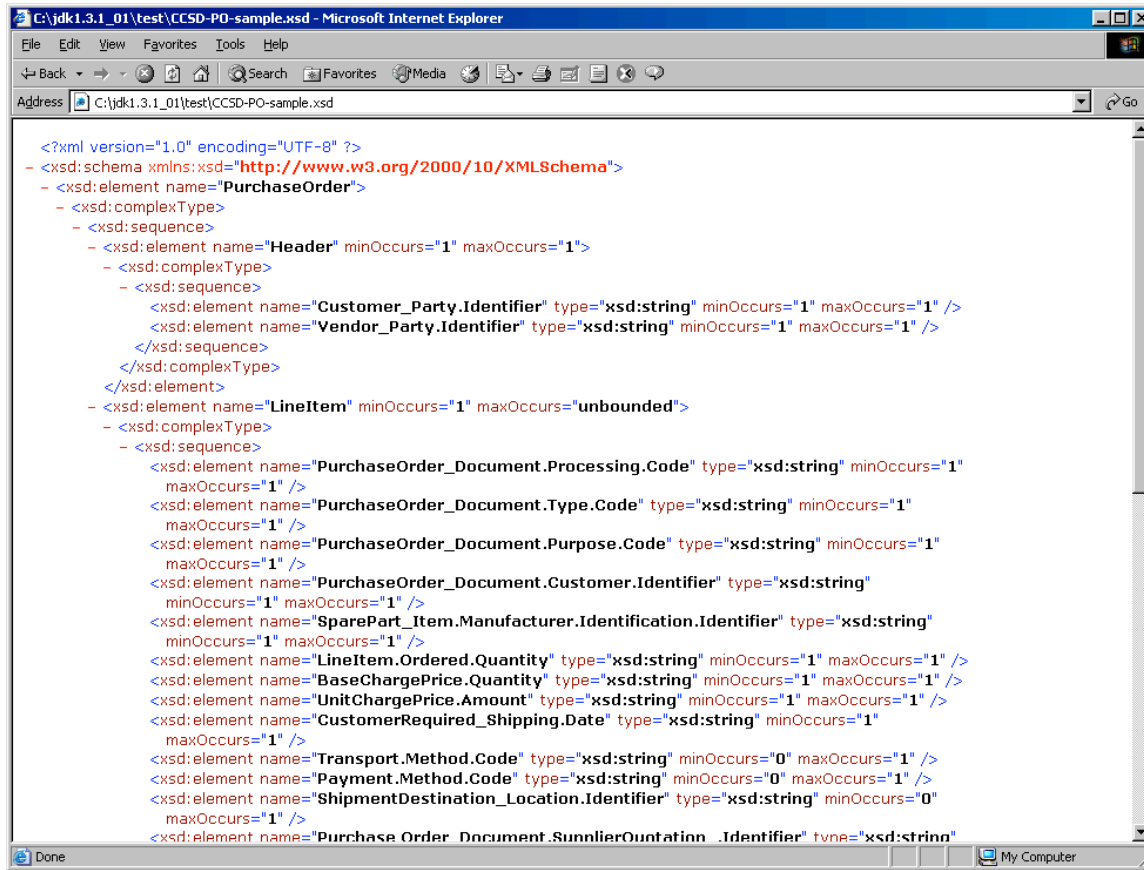
973   **Figure 4-9 XML Schema (1)**

974
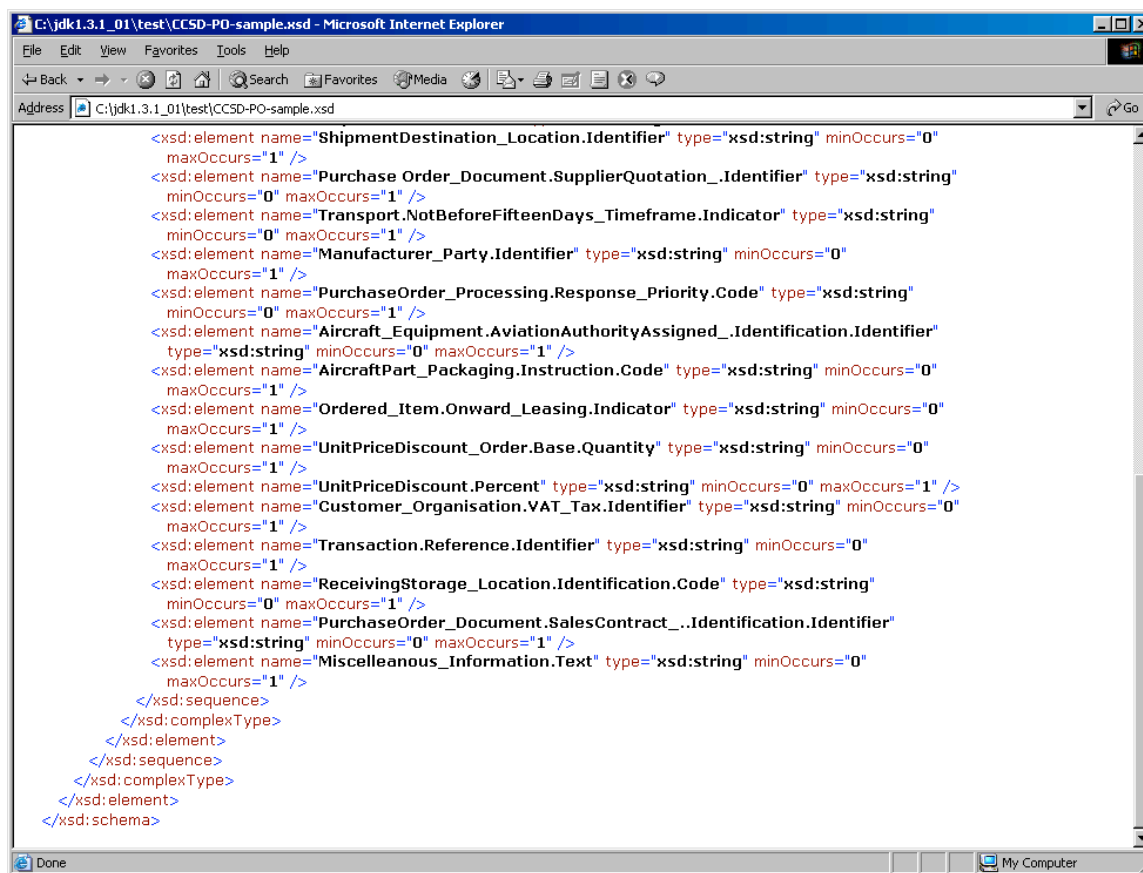
975 **Figure 4-10 XML Schema (2)**

976

977 **4.1.5.4 A Browser View of the Purchase Order**

978
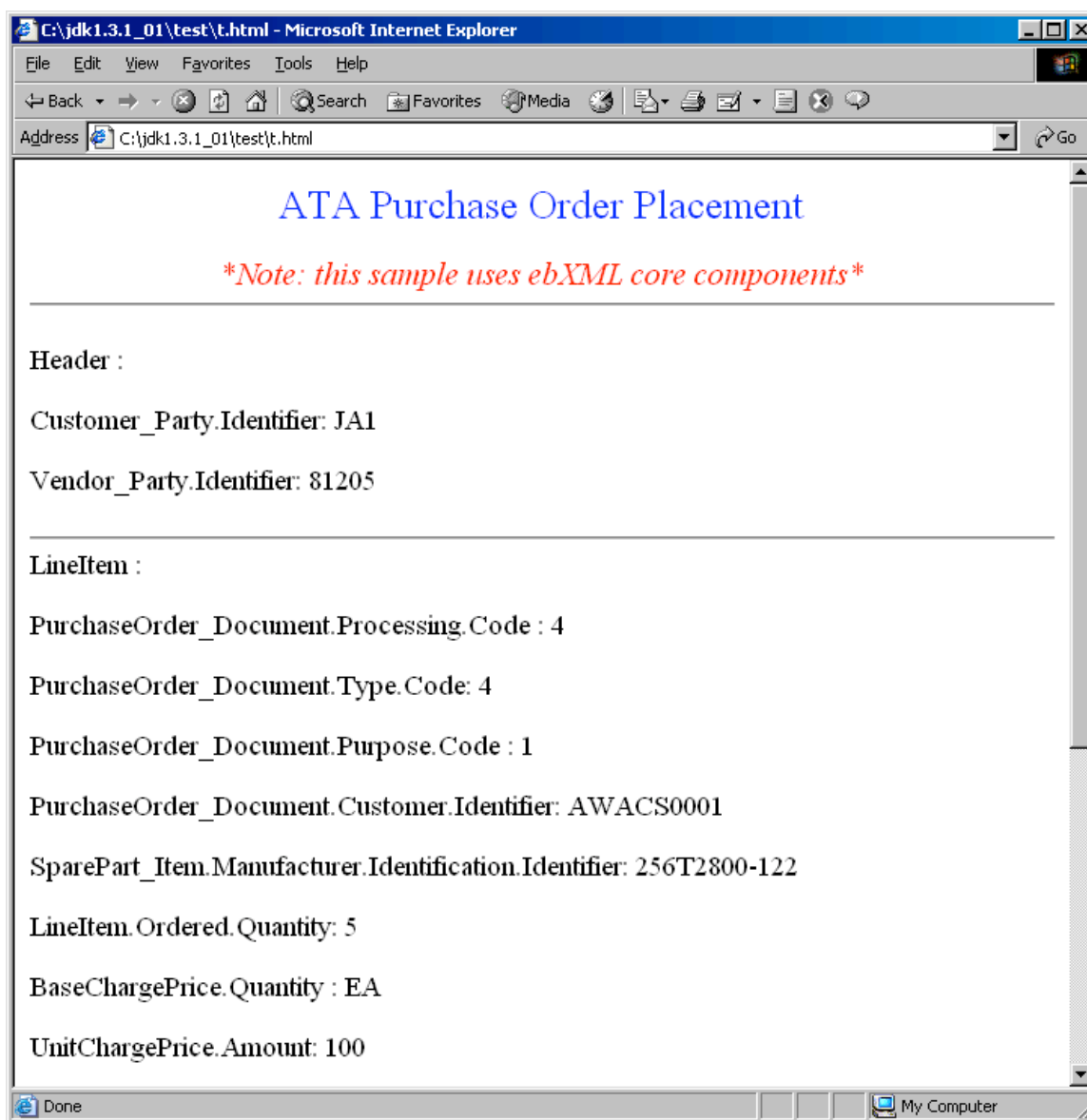
979 **Figure 4-11 Browser view (1)**

980
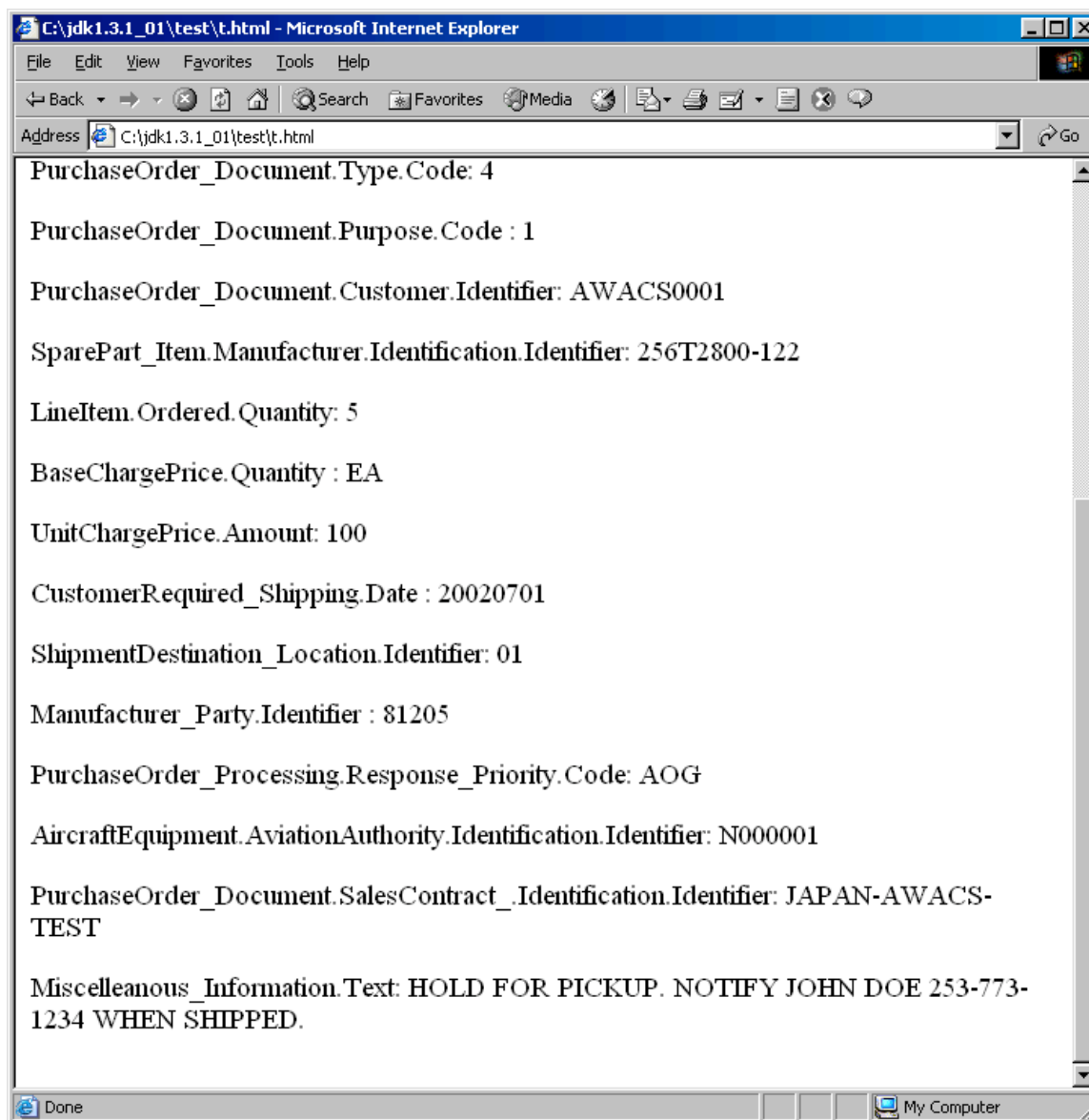
Figure 4-12 Browser view (2)

The browser view shows:

PurchaseOrder_Document.Type.Code: 4

PurchaseOrder_Document.Purpose.Code : 1

PurchaseOrder_Document.Customer.Identifier: AWACS0001

SparePart_Item.Manufacturer.Identification.Identifier: 256T2800-122

LineItem.Ordered.Quantity: 5

BaseChargePrice.Quantity : EA

UnitChargePrice.Amount: 100

CustomerRequired_Shipping.Date : 20020701

ShipmentDestination_Location.Identifier: 01

Manufacturer_Party.Identifier : 81205

PurchaseOrder_Processing.Response_Priority.Code: AOG

AircraftEquipment.AviationAuthority.Identification.Identifier: N000001

PurchaseOrder_Document.SalesContract_.Identification.Identifier: JAPAN-AWACS-TEST

Miscelleanous_Information.Text: HOLD FOR PICKUP. NOTIFY JOHN DOE 253-773-1234 WHEN SHIPPED.

981

982

983

984 **4.1.5.5 EDIFACT Example**

985 **4.1.5.5.1 Introduction**

986 The CCSD project identified the Business Information Entities that are to be exchanged in the
987 Aerospace Parts Order Document. As an example, in this document a rendering of that order
988 document in the EDIFACT syntax has been performed.
989
990 Rendering in EDIFACT is a manual process, as long as no cross-reference mapping is available
991 between the semantics of EDIFACT segments, elements and codes and BIE's that have been
992 discovered through the process as defined in the Core Components Technical Specification. Still
993 the rendering has been performed as an activity as straightforward as possible. The BIE
994 definitions should contain sufficient information so that it should not be necessary to go back to
995 the business experts.
996
997 This has been achieved for approximately 90% of the BIE's. The remaining 10% uncertainty has
998 been worded in remarks, that may be used to improve the discovery process in general or to
999 clarify the way the process should be carried out.
1000

1001 **4.1.5.5.2 Table**

1002 The following table shows the mapping of the BIE's to EDIFACT qualified segments and
1003 elements. The BIE's are mapped to the segments and elements present in the EDIFACT
1004 ORDERS message, as the functional definition of that message ("A message specifying details
1005 for goods or services ordered under conditions agreed between the seller and the buyer.")
1006 matches the description of the document as it is used in the Aerospace industry.
1007
1008 Most BIE's have been mapped to data elements present in qualified segments. The "EDIFACT
1009 name" column in such case lists both the name of the qualified segment and the data element.
1010
1011 Most data in electronic messages is coded. The code values have not been discovered in the
1012 CCTS process. When the code values, used in this specific context, are not present in EDIFACT
1013 code lists, either they should be requested to be added, or a private code list (identified in the
1014 message) should be used.
1015

1016

Dictionary Entry Name	BCC/ BBIE	Semantic Description	EDIFACT Segment-Qualifier	EDIFACT element	EDIFACT name
	ABIE ???	Order Transaction Code specifies the type, category and condition of a customer purchase order (S1BOOKED transactions)	UNH	0065	Message Type = ORDERS
Purchase Order_ Document. Processing. Code	BBIE	The code specifying the order processing type	?	?	Remark: Definition is not clear enough without examples. May be placed in envelope (UNB/UNH), in BGM or in GIS.
Purchase Order_ Document. Type. Code	BBIE	The code specifying the type of order	BGM	1001	Document name code
Purchase Order_ Document. Purpose. Code	BBIE	The code specifying the order purpose	BGM	1225	Message function code
Purchase Order_ Document. Sales Contract_ Identification. Identifier	BBIE	An identifier of a sales contract between parties	RFF-CT	1154	Contract number
Purchase Order_ Document. Supplier Quotation_ Identification. Identifier	BBIE	The identification assigned by the supplier to a quotation	RFF-AGG	1154	Offer number
Purchase Order_ Document. Customer_ Identification. Identifier	BBIE	The identification assigned by the customer to an order	BGM	1004	Document Identifier

1017

Spare Part_ Item. Manufacturer_ Identification. Identifier	BBIE	The manufacturer's identification of a spare part item	LIN-BZ	7140	Item identifier Original equipment number Remark: Qualifier = 7143
Line Item. Ordered. Quantity	BBIE	The quantity ordered of a line item	QTY-21	6060	Ordered quantity
Base Charge Price. Quantity	BBIE	The base quantity of the charge / price unit amount	PRI-CAL	5284	Unit price basis value
	Supp. Compon.ent	The base quantity of the unit price	PRI-CAL	6411	Measurement unit code Remark: In CC-spec defined as supplementory component. In EDIFACT separate element.
Unit Charge Price. Amount	BBIE	The charge/price amount per unit.	PRI-CAL	5118	Price amount
Customer Required Shipping. Date	BBIE	The date the customer requires material to be shipped from the supplier's facility	DTM-10	2380	Shipment date/time, requested
Transport. Method. Code	BBIE	The method of transport used for the conveyance of goods or person	TDT	8067	Transport mode name code. Remark: only the 10 UN/ECE Rec.19 codes are allowed here. Probably more options are needed, indicating the transport service requested rather than the mode.
Payment. Method. Code	BBIE	The code specifying how payment is made for transport costs	TOD-5	4215	Transport charges payment method code
Shipment Destination_ Location. Identifier	BBIE	The identifier of the shipment destination location	NAD-ST	3039	Ship to party identifier
Transport. Not Before Fifteen Days Timeframe. Indicator	BBIE	The indicator that specifies that an item cannot be transported earlier than fifteen days before the transport date	SCC-1	4493	Firm Delivery instruction code
Purchase Order_ Processing. Response_ Priority. Code	BBIE	The code specifing the priority of the response to the order	GIS	7365	Processing indicator description code Remark: This segment will be removed effective with directory D.02B. The GIS segment is only present on detail level
Aircraft_ Equipment. Aviation	BBIE	The registration identifier assigned to each individual aircraft by the applicable	GIR-?	7402	Related identification number, object identifier

Authority Assigned_ Identification. Identifier		aviation authority.			Remark: New code to be requested for 7297:Set type code qualifier E.g.: "Target equipment"
Aircraft Part_ Packaging. Instruction. Code	BBIE	A code specifying a packaging instruction for an aircraft part	PAC	7073 7065	Packaging terms and conditions code Package type description code
Ordered_ Item. Onward_ Leasing. Indicator	BBIE	An indicator specifying if an item is ordered for onward leasing	ALI	4183	Special condition code Remark: If code 104: Rental does not apply, a new code must be requested (e.g. "Item is ordered for onward leasing")
Unit Price Discount. Order_ Base. Quantity. Quantity	BBIE	Number of individual purchase orders to be considered when calculating an item price discount	ALC-H QTY-398	6060	Line item allowance Maximum number of purchase orders allowed
Unit Price Discount. Percent	BBIE	The percentage of a unit price discount.	ALC-H PCD-1	5482	Line item allowance
Customer_ Organisation. VAT_ Tax Identification. Identifier	BBIE	The Value Added Tax (VAT) registration number of the Customer	NAD-OY RFF-VA	1154	Ordering customer VAT registration number
Transaction. Reference. Identifier	BBIE	An identifier that is sent in a message to ensure transaction traceability.	RFF-AIH	1154	Common transaction reference number
Receiving Storage_ Location. Identification. Code	BBIE	An identifier of the receiving location for storage	NAD-ST LOC-88	3225	Ship to party identifier Place of receipt
Miscellaneous_ Information. Text	BBIE	A text providing miscellaneous information	FTX-AAJ	4440	General information
Manufacturer_ Party. Identifier	BBIE	The identification of the manufacturer of an item	NAD-MF	3039	Manufacturer of goods
Vendor_ Party. Identifier	BBIE	The identifier of the vendor	NAD-VN	3039	Vendor
Customer_ Party. Identifier	BBIE	The identifier of the buyer of goods and services.	NAD-OY	3039	Ordering customer
	Supp. Compon ent	Currency of the associated amount	CUX-2	6345	Reference currency Remark: In CC spec this is a supplementory component, belonging to an Amount. Type. In EDIFACT the CUX segment may be placed in the header of the message as default currency, but also in CUX

					segments under the applicable segments that carry the amounts.

1018
1019

1020 4.1.5.5.3 Segment Table

1021 In the following table the BIE's have been mapped to the EDIFACT ORDERS message.
1022
1023

```
1024   Pos     Tag Name                                           S    R

1025

1026           HEADER SECTION

1027

1028   0010    UNH Message header                                 M    1
1029               0065 = "ORDERS"

1030

1031   0020    BGM Beginning of message                           M    1
1032               1001 = Purchase Order_ Document. Type. Code
1033               1004 = Purchase Order_ Document. Customer_
1034                      Identification. Identifier
1035               1225 = Purchase Order_ Document. Purpose. Code

1036

1037   0030    DTM Date/time/period                               M    1
1038               2005 = 10 Shipment date/time, requested
1039               2380 = Customer Required Shipping. Date

1040

1041   0070    FTX Free text                                      C    99
1042               4451 = AAI General information
1043               4440 = Miscellaneous_ Information. Text

1044

1045   0090    ----- Segment group 1  ----------------- C   3-----|
1046   0100    RFF Reference                                      C    1      |
1047               1153 = CT Contract number                             |
1048               1154 = Purchase Order_ Document. Sales Contract_  |
1049                      Identification. Identifier                     |
1050                                                                     |
1051   0100    RFF Reference                                      C    1      |
1052               1153 = AGG Offer number                               |
1053               1154 = Purchase Order_ Document. Supplier        |
1054                      Quotation_Identification. Identifier            |
1055                                                                     |
1056   0100    RFF Reference                                      C    1      |
1057               1153 = AIH Common transaction reference number    |
1058               1154 = Transaction. Reference. Identifier -------|

1059

1060   0120    ----- Segment group 2  ----------------- C   4-----|
```

```
1061    0130    NAD Name and address                            C    1      |
1062            3035 = OY Ordering customer                                  |
1063    0160    ----- Segment group 3  ------------------ C    1----||
1064    0170    RFF Reference                                   M    1      ||
1065            1153 = VA VAT registration number                          ||
1066            1154 = Customer_ Organisation. VAT_ Tax                    ||
1067                   Identification. Identifier --------------||
1068                                                                        |
1069    0130    NAD Name and address                            C    1      |
1070            3035 = ST Ship to party                                     |
1071            3039 = Shipment Destination_ Location. Identifier |
1072                                                                        |
1073    0140    LOC Place/location identification               C    1      |
1074            3227 = 88 Place of receipt                                  |
1075            3225 = Receiving Storage_ Location.                         |
1076                   Identification. Code                                 |
1077                                                                        |
1078    0130    NAD Name and address                            C    1      |
1079            3035 = MF Manufacturer of goods                            |
1080            3039 = Spare Part_ Item. Manufacturer_                     |
1081                   Identification. Identifier                          |
1082                                                                        |
1083    0130    NAD Name and address                            M    1      |
1084            3035 = VN Vendor                                           |
1085            3039 = Vendor_ Party. Identifier -----------------|
1086
1087    0410    ----- Segment group 10 ------------------ C    1-----|
1088    0420    TDT Details of transport                        M    1      |
1089            8051 = 20 Main-carriage transport                         |
1090            8067 = Transport. Method. Code ------------------|
1091
1092    0460    ----- Segment group 12 ------------------ C    1-----|
1093    0470    TOD Terms of delivery or transport             M    1      |
1094            4055 = 5 Transport charges payment method code   |
1095            4215 = Payment. Method. Code --------------------|
1096
1097    0490    ----- Segment group 13 ------------------ C    1-----|
1098    0500    PAC Package                                     M    1      |
1099            7073 = Aircraft Part_ Packaging. Instruction. Code|
1100                   (conditions)                                        |
1101            7065 = Aircraft Part_ Packaging. Instruction. Code|
1102                   (description)----------------------------|
1103
1104    0620    ----- Segment group 16 ------------------ C    1-----|
1105    0630    SCC Scheduling conditions                      M    1      |
1106            4017 = 1 Firm delivery instruction code                    |
1107            4493 = Delivery instruction code                          |
```

```
1108                    (= ? Transport. Not Before Fifteen Days Timeframe.  |
1109                       Indicator)              --------------------------|
1110
1111              DETAIL SECTION
1112
1113   1030       ----- Segment group 28 ----------------- M   1-----|
1114   1040   LIN Line item                                  M   1     |
1115              7140 = Spare Part_ Item. Manufacturer_            |
1116                     Identification. Identifier                |
1117              7143 = BZ Original equipment number               |
1118               (= Original equipment number allocated           |
1119                to spare parts by the manufacturer.)            |
1120                                                               |
1121   1080   QTY Quantity                                   M   1     |
1122              6063 = 21 Ordered quantity                        |
1123              6060 = Line Item. Ordered. Quantity               |
1124                                                               |
1125   1100   ALI Additional information                     C   1     |
1126              4183 = 10 Ordered_ Item. Onward_ Leasing.         |
1127                        Indicator                              |
1128                                                               |
1129   1130 X GIS General indicator                          C   1     |
1130              7365 = ? Order_ Processing. Response_ Priority.   |
1131                        Code                                    |
1132                                                               |
1133   1150   GIR Related identification numbers             C   1     |
1134              7297 = ? Target equipment                         |
1135              7402 = Aircraft_ Equipment. Aviation Authority    |
1136                        Assigned_ Identification. Identifier    |
1137                                                               |
1138   1320----------- Segment group 32 ----------------- M   1----||
1139   1330   PRI Price details                             M   1    ||
1140              5125 = CAL Calculation price                      ||
1141              5118 = Unit Charge Price. Amount                  ||
1142              5284 = Base Charge Price. Quantity                ||
1143              6411 = Measurement Unit. Code                     ||
1144                                                               ||
1145   1340   CUX Currencies                                M   1    ||
1146              6347 = 2 Reference currency                       ||
1147              6345 = Currency identification code--------------||
1148                                                               |
1149   1780       ----- Segment group 43 ----------------- C   1----||
1150   1790   ALC Allowance or charge                       M   1    ||
1151              5463 = H Line item allowance                      ||
1152                                                               ||
1153   1820       ----- Segment group 44 ----------------- C   1---|||
1154   1830   QTY Quantity                                  M   1   |||
```

```
1155                6063 = 398 Maximum number of purchase orders   |||
1156                       allowed                                  |||
1157                6060 = Unit Price Discount. Order_ Base.        |||
1158                       Quantity. Quantity ----------------------|||
1159                                                                 ||
1160   1850      ----- Segment group 45 ----------------- C   1---|||
1161   1860  PCD Percentage details                        M   1    |||
1162                5245 = 1 Allowance                               |||
1163                5482 = Unit Price Discount. Percent ------------|||
1164
1165            SUMMARY SECTION
1166
1167   2330  UNS Section control                            M   1
1168   2400  UNT Message trailer                            M   1
1169
1170
1171
```

4.1.5.5.4 Steps

Steps that were followed to render the Spare Parts Order Message in the EDIFACT syntax:

1. Compare the functional definition of the document with the definitions of EDIFACT messages. If a definition matches or matches satisfactory, take the message as a basis and request extension of the EDIFACT functional definition with the missing functions. Otherwise, request a new message.
2. For each assembly construct and ABIE, find a segment of which the definition matches, possibly at a more generic level of abstraction. If no segment matches, request a new (generic) segment.
3. If the segment found is qualified, look in the segment's qualifier code list for a qualifier that matches the specific definition of the ABIE. If none is found, request a new one. If the definition of an existing qualifier may be slightly adapted, request a change.
4. Check the structure of the segment. In many cases the structure will not match the structure of the ABIE. Assess whether the BBIE's contained in the ABIE can be accommodated by using in a segment group, and by finding segments for each (cluster of) BBIE('s). If the element and sub-element structure of the segment match the BBIE structure, and if the definitions also match, use the elements. Request changes and additions to the segment structure where appropriate.
5. In matching BBIE's and elements, do not forget to assess the supplementory components as well. They may need to be represented by separate elements or even by separate segments.

Note that these steps and the resulting EDIFACT message is only an example to illustrate that Core Components may be used to define messages in various syntaxes. They are by no means normative. UN/CEFACT may later publish real guidelines and rules on how EDIFACT rendering of Core Components should take place.

1200 **4.1.6 Conclusion**

1201 In this example, we did a walk thru of identifying Core Components from business terms based
1202 on the CC Technical Specification V1.9. When the CC is initially identified, it does not contain
1203 any business context or syntax, therefore it can map to any industry's business data.
1204
1205 In the Boeing example, the CC is mapped to the ATA standard. The EDIFACT example in
1206 4.1.5.5 demonstrates how the same CC can be mapped to another message standard format. The
1207 mapping demonstrates that different industries using different terms to represent the same idea
1208 make business communication and data integration difficult. Core Components can be
1209 used/reused for the same data terms/concept defined in different industries.
1210
1211 Using CC's to define business documents or system data improves the overall business process,
1212 the data is thus understood by more people in the supply chain, which can result in more business
1213 opportunities.
1214

1215 **4.2 The EAN.UCC FMCG Retail Delivery Example**

1216 Currently, there are no standard global eBusiness models and message sets that cover the
1217 Delivery business process in the FMCG Retail business area. In order to improve efficiency and
1218 business information interoperability for the FMCG Retail delivery process and to support syntax
1219 neutral eBusiness solutions, the business process was modeled using UML. As a result of the
1220 creation of the detailed class diagram, Core Components were discovered using the Core
1221 Components Technical Specification.
1222

1223 **4.2.1 Business Requirements View (BRV)**

1224 **4.2.1.1 Business Process Use Case Description**

1225

Use Case Name	Delivery
Traceability ID	BP2.Delivery-DUDE1
Actors	Buyer, Seller, ShipTo, ShipFrom and Carrier
Use Case Description	The seller needs to supply specified goods as per the accepted order to the buyer at a given location and date/time.
Preconditions	Order has been accepted and goods/documentation have been prepared for despatch. One order relates to one delivery. Goods are available to fulfil the order. Location and date/time for delivery are known to the Carrier and Seller. Seller has prepared goods for delivery. Carrier collects goods for delivery.
Postconditions	Buyer/ShipTo – Accepts the delivery Carrier – Has delivered the goods and notified the seller of the delivery acceptance by the Buyer Buyer/ShipTo – Has verified goods delivered against the order Buyer/ShipTo - Has informed the seller what materials were received / not received against the original order and what materials were accepted / not accepted Seller - Is ready to prepare the invoice for the buyer
Main Scenario	**Begins when,** Seller creates despatch advice Seller advises ShipTo party of the despatch of goods Buyer receives despatch of goods notification Carrier delivers goods to specified location on specified date/time Buyer/ShipTo receives and accepts goods Buyer/ShipTo verifies delivery against despatch advice Carrier informs the Seller that the goods have been delivered **Ends when,** Buyer/ShipTo has informed the seller what materials were received / not received against the original order and what materials were accepted / not accepted
Alternative Scenarios	N/A
Special Requirements	
Extension Points	
Requirements covered	Req# 1 - 17

1226

1227   **4.2.1.2 Business Process Activity Diagram**

1228
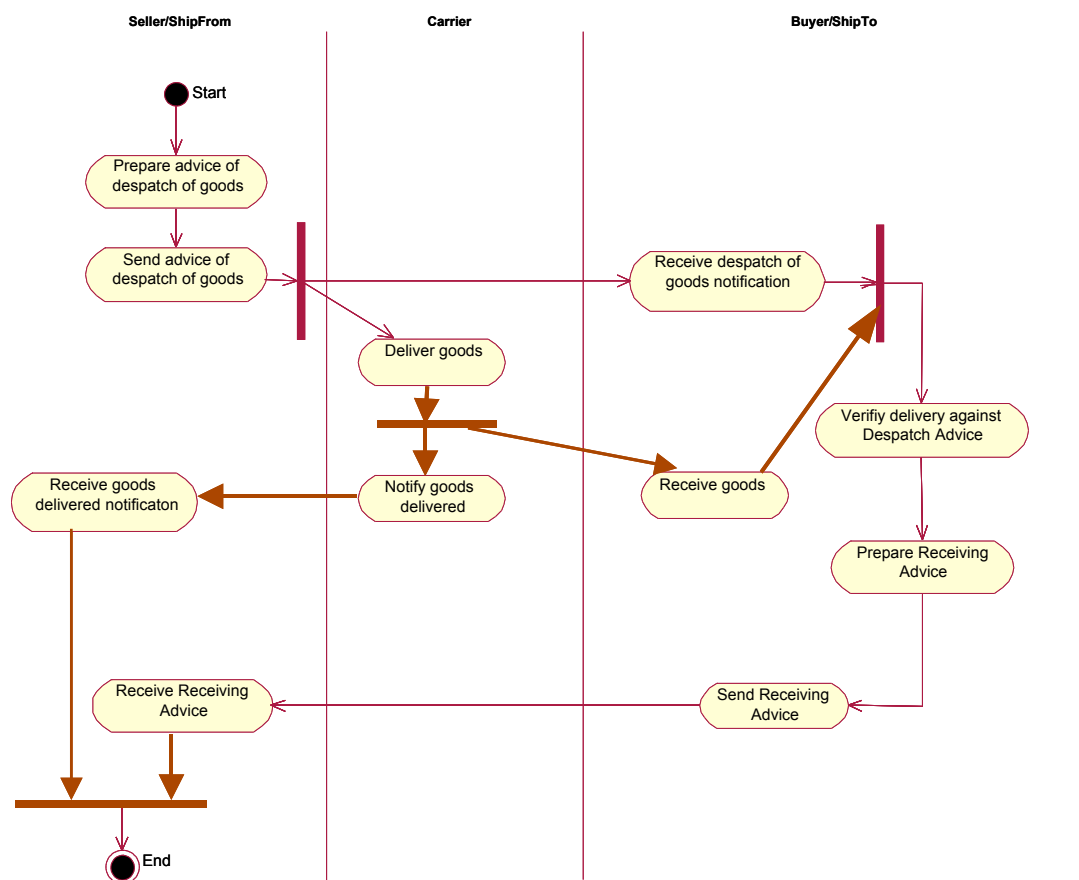
1229   **Figure 4-13 Activity Diagram**

1230

1231   **4.2.1.3 Use-case Realisation**

1232

1233
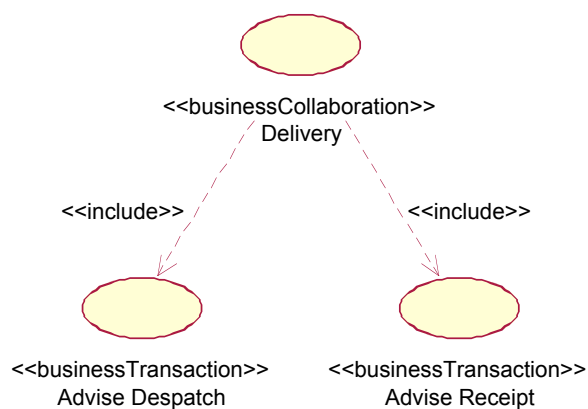
1234   **Figure 4-14 FMCGDelivery-BC2.Delivery**

1235   In the activity diagram each time control is handed from one actor to another some kind of
1236   collaborative activity takes place. The Business Collaboration depicted above does describe the
1237   Business Transactions that will be developed in order to support these collaborative activities.
1238

1239   Note: It does not contain all required Business Transactions. For example the transactions
1240   between Carrier and Seller are not included in the business model.
1241

1242

1243   **4.2.1.4   Business Process Use-case Diagram**
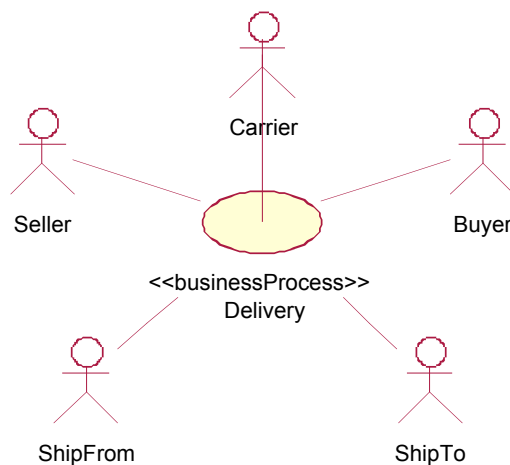
1244   **Figure 4-15 Use Case**

1245

1246 **4.2.1.5 Requirements List**

1247

Req. #	Statement	Source	Date	Status
1	The seller MUST send a despatch advice for each shipment.	Example	11/7/2002	To be included in MIG
2	The seller MUST send the despatch advise prior to delivery of the goods on the Ship-to location.	Example	11/7/2002	Included in activity diagram.
3	The despatch advise MUST contain a identifier that is unique for the seller.	Example	11/7/2002	Included in detailed class diagram, in Document class.
4	Each party MUST be identified using a GLN.	Example	11/7/2002	Included in detailed class diagram.
5	A despatch advise advice MAY reference a maximum of one order.	Example	11/7/2002	Included in detailed class diagram
6	A despatch advise advice MAY reference a maximum of one contract.	Example	11/7/2002	Included in detailed class diagram
7	Each despatch advise MUST indicate the date or datetime of its issue.	Example	11/7/2002	Included in detailed class diagram
8	The despatch advice MUST indicate the buyer and seller, and SHALL indicate the ship-to and/or ship-from where these differ from the buyer and / or seller.	Example	11/7/2002	Included in detailed class diagram, also to be included in MIG.
9	The despatch advise MAY indicate the carrier.	Example	11/7/2002	Add further explanation. Already included in detailed class diagram.
10	A despatch advise advice CAN reference a maximum of one delivery note.	Example	11/7/2002	Included in detailed class diagram
11	A despatch advise advice CAN reference a maximum of one consignment number.	Example	11/7/2002	Included in detailed class diagram
12	Parties agree to use only ISO pallets.	Example	11/7/2002	Requirement needs to be refined. Included in detailed class diagram
13	Parties agree to use only cartons.	Example	11/7/2002	Requirement needs to be refined.
14	Each logistic unit MUST be identified using an SSCC.	Example	11/7/2002	Included in detailed class

					diagram
15	Each item MUST be identified using a GTIN.	Example		11/7/2002	Included in detailed class diagram
16	The despatch advice SHOULD enable a hierarchical description of the shipment, starting with the pallet level and ending with the item level.	Example		11/7/2002	Included in detailed class diagram
17	The despatch advice MUST indicate the items and quantities that have been shipped. Optionally the expiry date and sell by date MAY be included.	Example		11/7/2002	Included in detailed class diagram

1248

1249 **4.2.1.6 Business Information Objects Glossary**

1250 *(This section details the initial BIOs, which meet the requirements specified by the use case)*

1251 **(Record the business information objects in the glossary below)**

Business Term	GDD key	UID ebXML	Dictionary Entry Name	Definition	Remarks
Buyer	00000001	999960	Buyer Party. Details	Trading partner to which merchandise is sold.	
Seller	00000002	999959	Seller Party. Details	Trading partner selling merchandise to a buyer.	
Carrier	00000003	999956	Carrier Party. Details	Third party undertaking or arranging transport of goods between named points.	
Ship To	00000004	999957	Receiver Party. Details	Identification of the location to where goods will be or have been shipped.	
Ship From	00000005	999958	Ship From Party. Details	Identification of the location from where goods will be or have been shipped.	
Purchase Order	00000006	999999	Related Purchase. Details	Document/message by means of which a buyer initiates a transaction with a seller involving the supply of goods or services as specified, according to conditions set out in an offer, or otherwise known to the buyer	
Delivery Note				Paper document attached to a consignment informing the receiving party about contents of this consignment.	
Logistics Unit				An item of any composition established for transport and/or storage that needs to be	

				managed through the supply chain.	
Despatch Advice				Document/message by means of which the supplier or consignor informs the buyer or consignee about the despatch of goods.	
Receiving Advice				Message addressing the business needs related to the goods receipt or advising discrepancies between despatched or ordered/planned goods.	
Consignment				Consignment is a logical grouping of goods (one or more physical entities) that has been consigned to a freight forwarder and is intended to be transported as a whole.	
Shipment				Shipment is the event that moves the goods between trading partners.	
Contract				Formal agreement between two or more parties. (Definition still to be approved)	
Despatch Item				The individual despatched item.	
Trade Item				Any item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced, or ordered, or invoiced at any point in any supply chain.	
Party				Organisation or entity within an organisation playing a specific role in a business process. (Definition still to be approved)	

1252

4.2.2 Business Transaction View (BTV)

4.2.2.1 Business Transaction Activity Diagrams

A business transaction activity is a business collaboration protocol activity that executes a specified business transaction. A business transaction is a set of business information and business signal exchanges between two business partners that must occur in an agreed format, sequence and time period.

1259

1260

1261 **NOTIFICATION PATTERN FOR ADVISE DESPATCH**
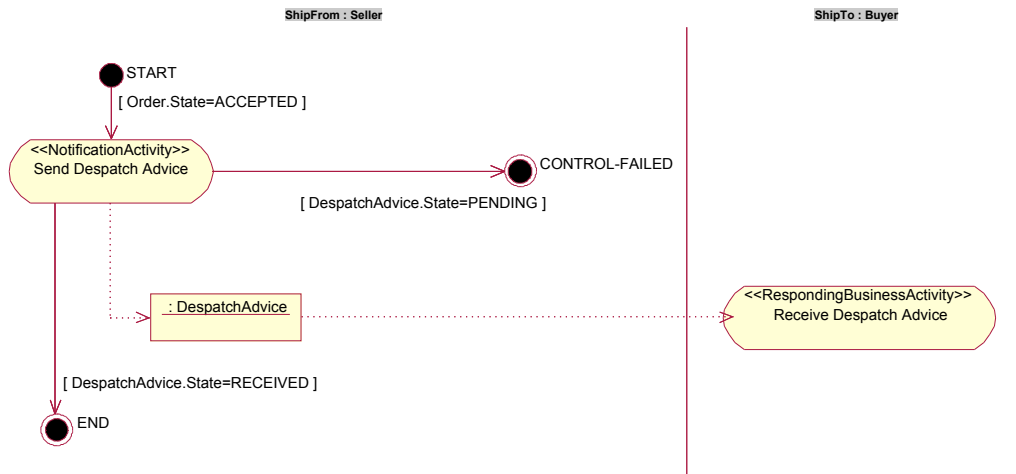
1262
1263 **Figure 4-16**

1264
1265 NOTIFICATION PATTERN FOR ADVISE RECEIPT

1266
1267 **Figure 4-17**

1268
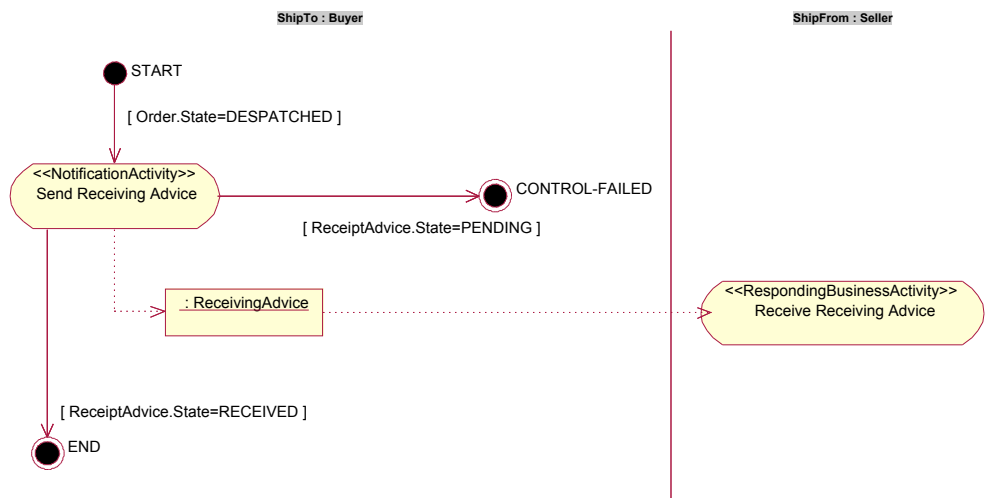
1269 **4.2.2.2 High-level Class Diagrams**

1270 Business information objects from the glossary (see 4.2.1.5) are used to create the high-level
1271 class diagram. Business information objects contained in the GDD are also used to discover
1272 candidates for classes and attributes in the high-level class diagram.
1273

1274 **4.2.2.2.1 Delivery Business Process**

1275
1276   **Figure 4-18**
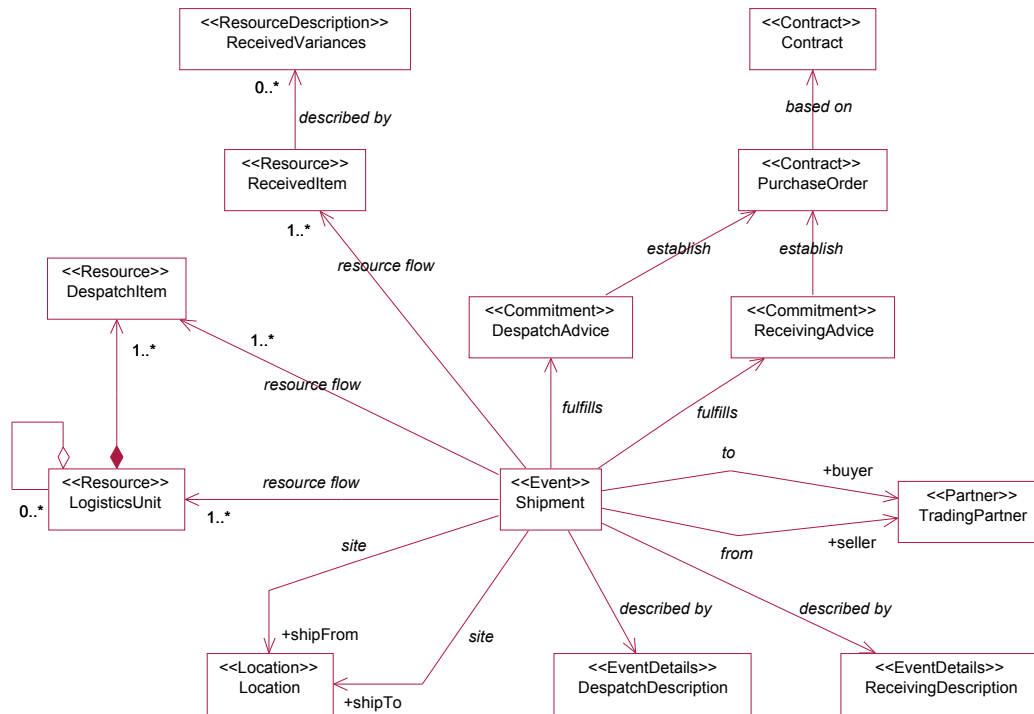
4.2.2.2.2 Despatch Advice Business Document

1277

1278

1279
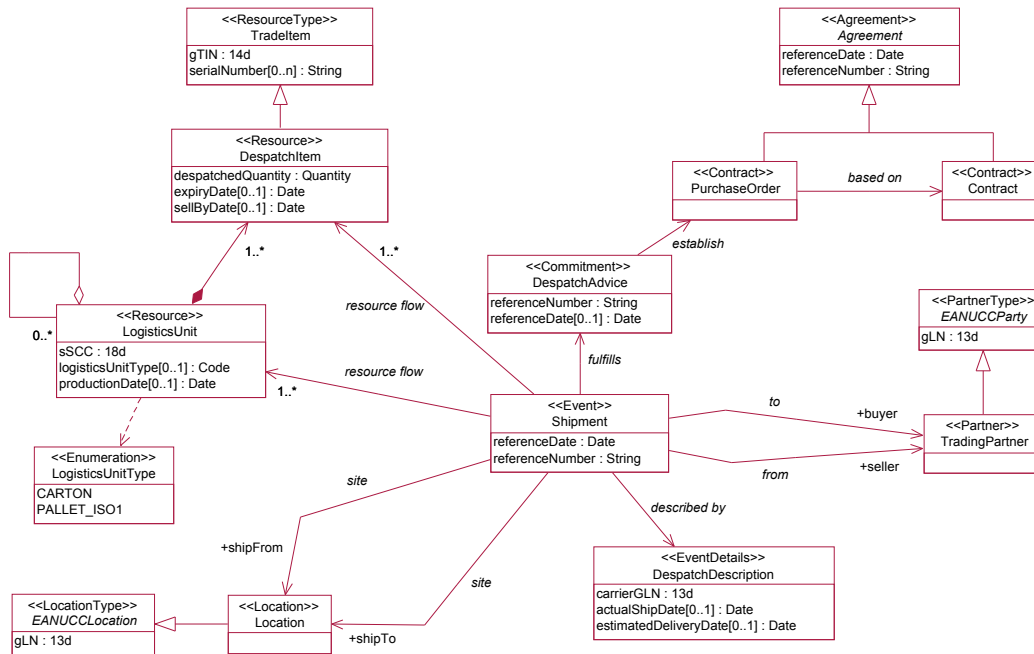
Figure 4-19

4.2.2.2.3 Receiving Advice Business Document

1280

1281

1282
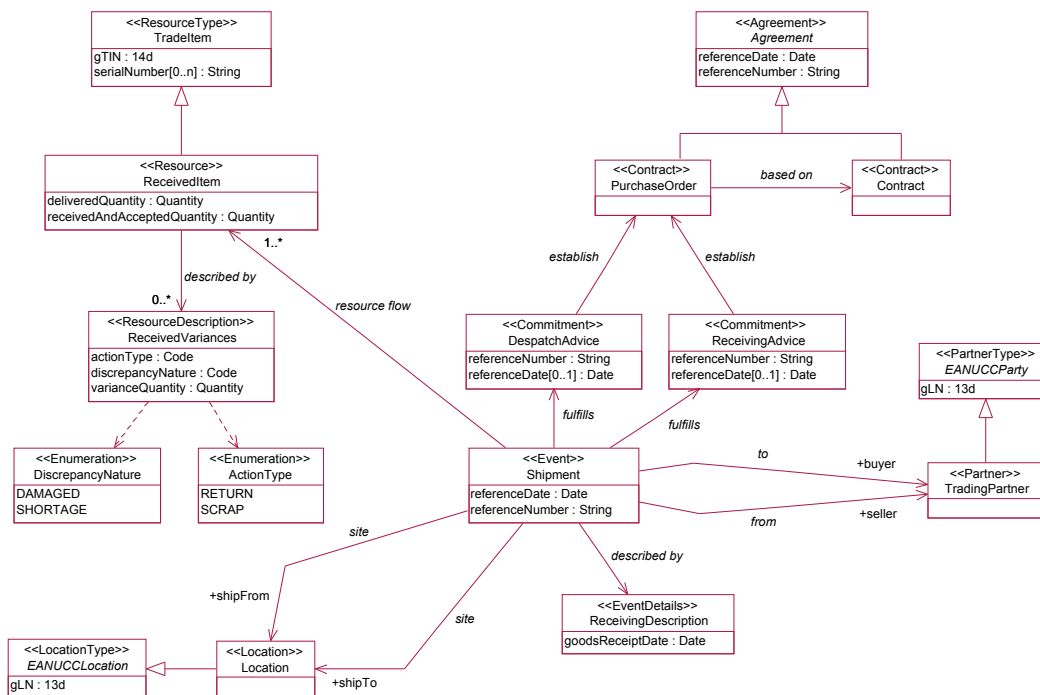
Figure 4-19

1283 **4.2.3 Business Service View (BSV)**

1284 **4.2.3.1 Sequence Diagram**

1285 A service interaction is a mutually binding interaction between an initiating service and a
1286 responding service.

1287

1288

1289
1290
1291
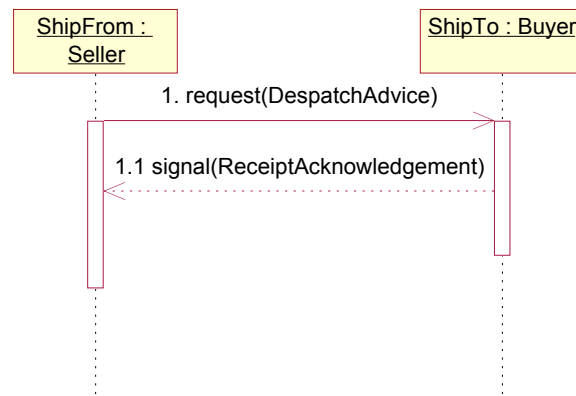
1292 **Figure 4-20 BC2.Delivery-BT1.AdviseDespatch-SI1.AdviseDespatch**

1293
1294 Note: Service-to-Service interaction pattern E is used to design SI1.AdviseDespatch
1295

1296
1297
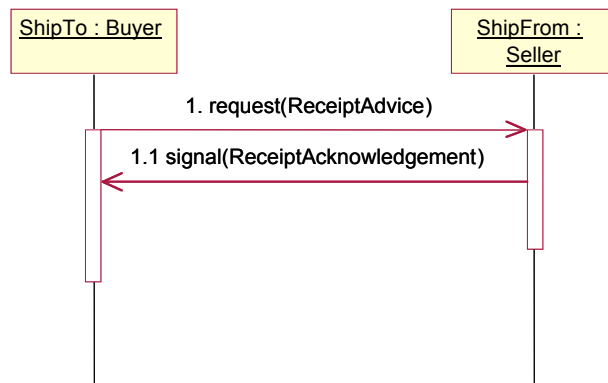
1298 **Figure 4-21 BC2.Delivery-BT1.AdviseDespatch-SI2.AdviseReceipt**

1299 Note: Service-to-Service interaction pattern E is used to design SI2.AdviseReceipt

1300 **4.2.3.2 Context Classification Scheme**

1301 This is the final scheme to specify the values of the 8 context categories of the business process.

1302

Context Categories	Values
Business Process	Delivery
Product Classification	Consumer Goods, Trade Items
Industry Classification	FMCG Retail
Geopolitical	Global
Official Constraint	None
Business Process Role	In All Contexts
Supporting Role	In All Contexts
System Capabilities	EAN.UCC System

1303

1304 **4.2.3.3 Detailed Class Diagram**

<<PartnerType>>
Trade_ Item. Details
Trade_ Item. Identification. GTIN_ Identifier
Trade_ Item. Additional_ Identification. Identifier

<<ResourceDescription>>
Received_ Variance. Details
Received_ Variance. Action_ Type. Code
Received_ Variance. Descrepancy_ Nature. Code
Received_ Variance. Quantity

<<Agreement>>
Agreement_ Document. Details
Agreement_ Document. Issue_ Date. Date
Agreement_ Document. Identifier

0..*

<<Resource>>
Despatch_ Item. Details
Despatch_ Item. Despatched_ Quantity. Quantity
Despatch_ Item. Expiry_ Date. Date
Despatch_ Item. Sell By_ Date. Date

<<Resource>>
Received_ Item. Details
Received_ Item. Delivered_ Quantity. Quantity
Received_ Item. Accepted_ Quantity. Quantity

<<Contract>>
Contract_ Document. Details

+Commitment_ Document. Contract. Contract_ Document

1..*   1..*   1..*

+Commitment_ Document. Purchase_ Order. Contract_ Document

<<Resource>>
Shipping_ Container. Details
Shipping_ Container. Identification. SSCC_ Identifier
Shipping_ Container. Code
Shipping_ Container. Production_ Date. Date

<<Commitment>>
Commitment_ Document. Details
Commitment_ Document. Identifier
Commitment_ Document. Issue_ Date. Date

+Shipment. Receiving Advice. Commitment_ Document

{XOR}

1..*

+Shipment. Despatch Advice. Commitment_ Document

<<PartnerType>>
EANUCC_ Party. Details
EANUCC_ Party. Identification. GLN_ Identifier

<<LocationType>>
EANUCC_ Location. Details
EANUCC_ Location. Identification. GLN_ Identifier

<<Event>>
Shipment. Details
Shipment. Identifier

+Shipment. Buyer. EANUCC_ Trading Partner_ Party

<<Partner>>
Trading Partner_ Party. Details

+Shipment. Ship To. EANUCC_ Location

+Shipment. Seller. EANUCC_ Trading Partner_ Party

<<Location>>
Location. Details

<<EventDetails>>
Receiving_ Shipment Information. Details
Receiving_ Shipment Information. Goods Receipt_ Date. Date

+Shipment. Ship From. EANUCC_ Location

<<EventDetails>>
Despatch_ Shipment Information. Details
Despatch_ Shipment Information. Carrier_ Identification. GLN_ Identifier
Despatch_ Shipment Information. Actual Ship_ Date. Date
Despatch_ Shipment Information. Estimated Delivery_ Date. Date

1305

1306   **Figure 4-22 Detailed Class Diagram**

1307 **4.2.3.4 Sub-set Business Document Class Diagram (detailed)**

1308 The detailed class diagram from the BSV (see 4.2.3.3) is used as a base to create the subset class
1309 diagram for each business document)

1310 **4.2.3.4.1 Despatch Advice Business Document (Class Diagram):**

1311
1312 **Figure 4-23 Document Class Diagram**

1313   **4.2.3.4.2 Receiving Advice Business Document (Class Diagram)**

1314

1315   **Figure 4-24 Document Class Diagram**

1316 4.2.4 Core Component Reference Lists

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		Document				Details	Document. Details	ACC	Details of a document.
Commitment	Commitment	Document				Details	Commitment_ Document. Details	ABIE	Details of a commitment document.
		Document		(Identification)		Identifier	Document. Identifier	BCC	A character string used to uniquely identify a document.
Reference Number	Commitment	Document		(Identification)		Identifier	Commitment_ Document. Identifier	BBIE	A character string used to uniquely identify a commitment.
		Document		(Date)		Date	Document. Date	BCC	A date relevant to a document.
Reference Date	Commitment	Document	Issue	Date		Date	Commitment_ Document. Issue_ Date. Date	BBIE	The date on which the commitment is issued.
Purchase Order	Commitment	Document	Purchase	Order	Contract	Document	Commitment_ Document. Purchase_ Order. Contract_ Document	ASBIE	Document by means of which a buyer initiates a transaction with a seller involving the supply of goods or services as specified, according to conditions set out in an offer, or otherwise known to the buyer.
Contract	Commitment	Document		Contract	Contract	Document	Commitment_ Document. Contract. Contract_ Document	ASBIE	Formal agreement between two or more parties.
		Shipment				Details	Shipment. Details	ACC	Details of a shipment event.
Shipment		Shipment				Details	Shipment. Details	ABIE	Shipment is the event that moves the goods between trading partners.
		Shipment		(Identification)		Identifier	Shipment. Identifier	BCC	A character string used to uniquely identify a shipment.
Reference Number		Shipment		(Identification)		Identifier	Shipment. Identifier	BBIE	A character string used to uniquely identify a shipment.
Buyer		Shipment		Buyer	EANUCC Trading Partner	Party	Shipment. Buyer. EANUCC_ Trading Partner_ Party	ASBIE	Party to which the goods are sold.
Seller		Shipment		Seller	EANUCC Trading Partner	Party	Shipment. Seller. EANUCC_ Trading Partner_ Party	ASBIE	Party selling goods to a buyer.
Ship To		Shipment		Ship To	EANUCC	Location	Shipment. Ship To. EANUCC_ Location	ASBIE	Location to where goods will be or have been shipped.
Ship From		Shipment		Ship From	EANUCC	Location	Shipment. Ship From. EANUCC_ Location	ASBIE	Location from where goods will be or have been shipped.
Despatch Advice		Shipment		Despatch Advice	Commitment	Document	Shipment. Despatch Advice. Commitment_ Document	ASBIE	Document by means of which the seller informs the buyer and/or the carrier about the despatch of goods.
Receiving Advice		Shipment		Receiving Advice	Commitment	Document	Shipment. Receiving Advice. Commitment_ Document	ASBIE	Document addressing the business needs related to the goods receipt or advising discrepancies between despatched or ordered/planned goods.
		Shipment Information				Details	Shipment Information. Details	ACC	Details of shipment information.
Despatch Description	Despatch	Shipment Information				Details	Despatch_ Shipment Information. Details	ABIE	Details of despatch information.
Receiving Description	Receiving	Shipment Information				Details	Receiving_ Shipment Information. Details	ABIE	Details of receiving information.
		Shipment Information		(Identification)		Identifier	Shipment Information. Identifier	BCC	A character string used to uniquely identify a shipment.
Carrier GLN	Despatch	Shipment Information	Carrier	Identification	GLN	Identifier	Despatch_ Shipment Information. Carrier_ Identification. GLN_ Identifier	BBIE	The EAN.UCC Global Location Number (GLN) using the EAN.UCC-13 Data Structure to identify a carrier.
		Shipment Information		(Date)		Date	Shipment Information. Date	BCC	A date related to a shipment.
Actual Ship Date	Despatch	Shipment Information	Actual Ship	Date		Date	Despatch_ Shipment Information. Actual Ship_ Date. Date	BBIE	The actual date of the shipment of the goods.
		Shipment Information		(Date)		Date	Shipment Information. Date	BCC	A date related to a shipment.
Estimated Delivery Date	Despatch	Shipment Information	Estimated Delivery	Date		Date	Despatch_ Shipment Information. Estimated Delivery_ Date. Date	BBIE	The estimated date of the delivery of the goods.
		Shipment Information		(Date)		Date	Shipment Information. Date	BCC	A date related to a shipment.
Goods Receipt Date	Receiving	Shipment Information	Goods Receipt	Date		Date	Receiving_ Shipment Information. Goods Receipt_ Date. Date	BBIE	The date of the receipt of the goods.

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Dictionary Entry	Qualifier	Object Class	Property Qualifier	Property Term	Repr. Qualifier	Representation	Dictionary Entry Name	Type	Definition
		Item				Details	Item. Details	ACC	Details of an item.
Trade Item	Trade	Item				Details	Trade_ Item. Details	ABIE	Any trade item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced, or ordered, or invoiced at any point in any supply chain.
		Item		(Identification)		Identifier	Item. Identifier	BCC	A character string used to uniquely identify an item.
GTIN	Trade	Item		Identification	GTIN	Identifier	Trade_ Item. Identification. GTIN_ Identifier	BBIE	The EAN.UCC Global Trade Item Number (GTIN) using the EAN.UCC-8, UCC-12, EAN.UCC-13 or EAN.UCC-14 Data Structure.
		Item		(Identification)		Identifier	Item. Identifier	BCC	A character string used to uniquely identify an item.
Serial Number	Trade	Item	Additional	Identification		Identifier	Trade_ Item. Additional_ Identification. Identifier	BBIE	A serial number used to refer to a trade item.
		Item				Details	Item. Details	ACC	Details of an item.
Despatch Item	Despatch	Item				Details	Despatch_ Item. Details	ABIE	The individual despatched item.
		Item		(Quantity)		Quantity	Item. Quantity	BCC	The quantity of an item.
Despatched Quantity	Despatch	Item	Despatched	Quantity		Quantity	Despatch_ Item. Despatched_ Quantity. Quantity	BBIE	The despatched quantity of a despatched item.
		Item		(Date)		Date	Item. Date	BCC	A date related to an Item.
Expiry Date	Despatch	Item	Expiry	Date		Date	Despatch_ Item. Expiry_ Date. Date	BBIE	The date of a despatched item on which the item expires.
Sell By Date	Despatch	Item	Sell By	Date		Date	Despatch_ Item. Sell By_ Date. Date	BBIE	The date of a despatched item on which the item needs to be sold.
		Item				Details	Item. Details	ACC	Details of an item.
ReceivedItem	Received	Item				Details	Received_ Item. Details	ABIE	The individual received item.
		Item		(Quantity)		Quantity	Item. Quantity	BCC	The quantity of an item.
Delivered Quantity	Received	Item	Delivered	Quantity		Quantity	Received_ Item. Delivered_ Quantity. Quantity	BBIE	The quantity of a received item which is delivered.
Received And Accepted Quantity	Received	Item	(Receipt And) Accepted	Quantity		Quantity	Received_ Item. Accepted_ Quantity. Quantity	BBIE	The quantity of a received item, which is accepted.
		Container				Details	Container. Details	ACC	Details of a container.
Logistics Unit	Shipping	Container				Details	Shipping_ Container. Details	ABIE	A container of any composition established for transport and/or storage that needs to be managed through the supply chain.
		Container		(Identification)		Identifier	Container. Identifier	BCC	A character string used to uniquely identify a container.
SSCC	Shipping	Container		Identification	SSCC	Identifier	Shipping_ Container. Identification. SSCC_ Identifier	BBIE	The Serial Shipping Container Code (SSCC), which is a unique identification of a logistic unit (I.e. shipping container) using an 18-digit data structure.
		Container		(Code)		Code	Container. Code	BCC	A code related to a container.
Logistics Unit Type	Shipping	Container	Type	Code		Code	Shipping_ Container. Type_ Code. Code	BBIE	The code for the type of a shipping container.
		Container		(Date)		Date	Container. Date	BCC	The date related to a container.
Production Date	Shipping	Container	Production	Date		Date	Shipping_ Container. Production_ Date. Date	BBIE	The production date related to a container.
		Variance				Details	Variance. Details	ACC	Details of a variance.
Received Variances	Received	Variance				Details	Received_ Variance. Details	ABIE	Details of a received variance.
		Variance		Type		Code	Variance. Type. Code	BCC	A type code of a variance.
Action Type	Received	Variance	Action	Type		Code	Variance. Action_ Type. Code	BBIE	The action type code of a received variance.
Discrepancy Nature	Received	Variance	Discrepancy	Type		Code	Variance. Descrepancy_ Type. Code	BBIE	The discrepancy type code of a received variance.
		Variance				Quantity	Variance. Quantity	BCC	A quantity of a variance.
Variance Quantity	Received	Variance				Quantity	Received_ Variance. Quantity	BBIE	A quantity of a received variance.

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1325 **4.2.5 Core Component Overview**

1326 The Core Component overview provides a graphical presentation of the structure of the ABIE's
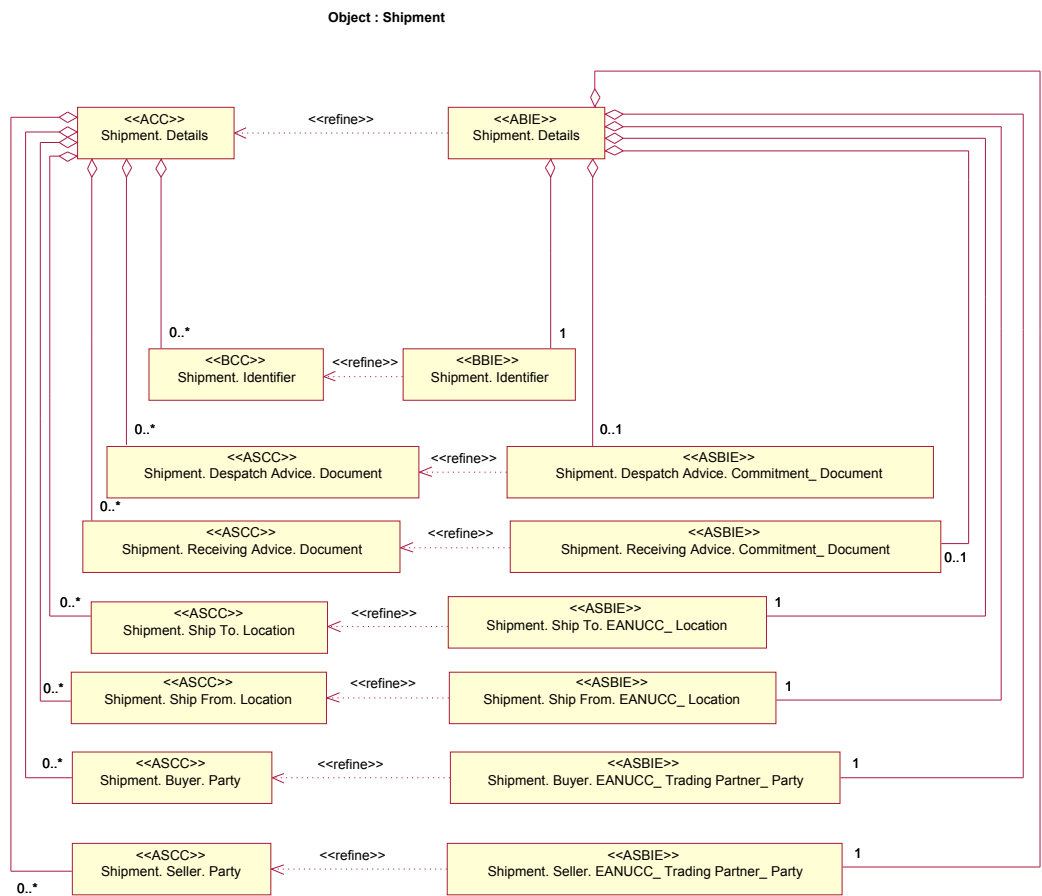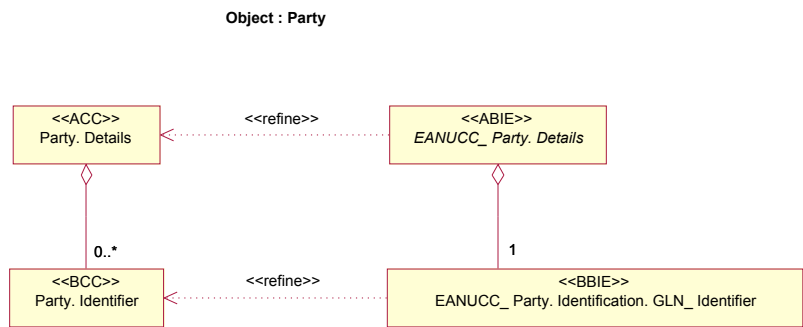1327 and their associated BBIE's and ASBIE's. It also shows on which CC's the BIE's are based.

Object : Shipment

1328 **Figure 4-25**

Object : Party

1329

1330 **Figure 4-26**

Object : Party

1331   **Figure 4-27**

Object : Party

1332   **Figure 4-28**

Object : Location

1333   **Figure 4-29**

Object : Shipment Information

1334   **Figure 4-30**

Object : Document

```
<<ACC>>                              <<refine>>                  <<ABIE>>
Document. Details          ◁┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄        Commitment_ Document. Details
(from Document)
```

```
<<BCC>>               <<refine>>        <<BBIE>>
Document. Date      ◁┄┄┄┄┄┄     Commitment_ Document. Issue_ Date. Date
(from Document)
0..*                                                              0..1
```

```
<<BCC>>               <<refine>>        <<BBIE>>
Document. Identifier   ◁┄┄┄┄┄    Commitment_ Document. Identifier
(from Document)
0..*                                                              1
```

```
<<ASCC>>              <<refine>>        <<ASBIE>>
Document. Order. Document  ◁┄┄┄┄  Commitment_ Document. Purchase_ Order. Contract_ Document
(from Document)
0..*                                                             0..1
```

```
<<ASCC>>              <<refine>>        <<ASBIE>>
Document. Contract. Document  ◁┄┄┄  Commitment_ Document. Contract. Contract_ Document
(from Document)
0..*                                                             0..1
```

1335

1336 **Figure 4-31**

Object : Document

```
<<ACC>>                 <<refine>>              <<ABIE>>
Document. Details   ◁┄┄┄┄┄┄┄┄┄┄┄┄    Contract_ Document. Details
```

```
<<BCC>>               <<refine>>        <<BBIE>>
Document. Identifier   ◁┄┄┄┄┄    Contract_ Document. Identifier
0..*                                                              0
```

```
<<BCC>>               <<refine>>        <<BBIE>>
Document. Date      ◁┄┄┄┄┄     Contract_ Document. Issue_ Date. Date
0..*                                                              0
```

1337

1338 **Figure 4-32**

Object : Document

```
<<ACC>>                 <<refine>>              <<ABIE>>
Document. Details   ◁┄┄┄┄┄┄┄┄┄┄┄┄    Agreement_ Document. Details
```

```
<<BCC>>               <<refine>>        <<BBIE>>
Document. Identifier   ◁┄┄┄┄┄    Agreement_ Document. Identifier
0..*                                                              1
```

```
<<BCC>>               <<refine>>        <<BBIE>>
Document. Date      ◁┄┄┄┄┄     Agreement_ Document. Issue_ Date. Date
0..*                                                              1
```

1339 **Figure 4-32**

Object : Item

1340
1341
Figure 4-33

Object : Item
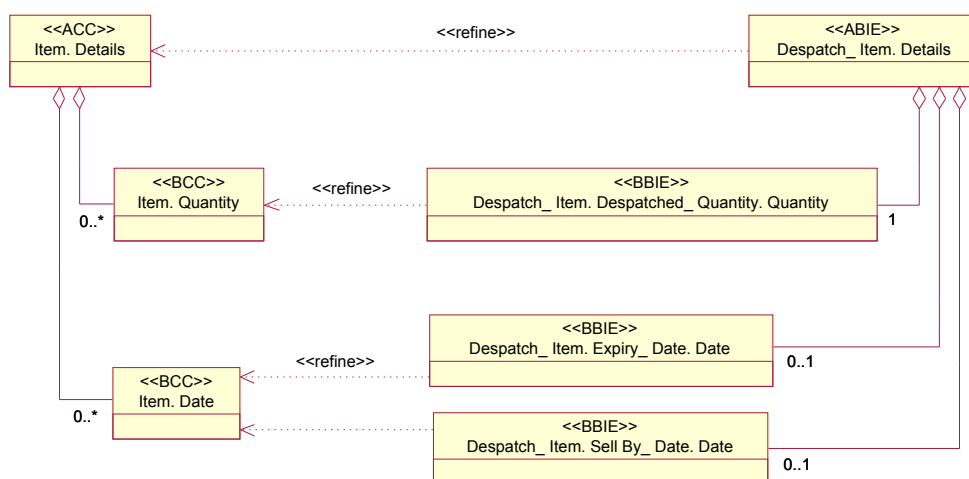
1342
1343
Figure 4-34

Object : Item
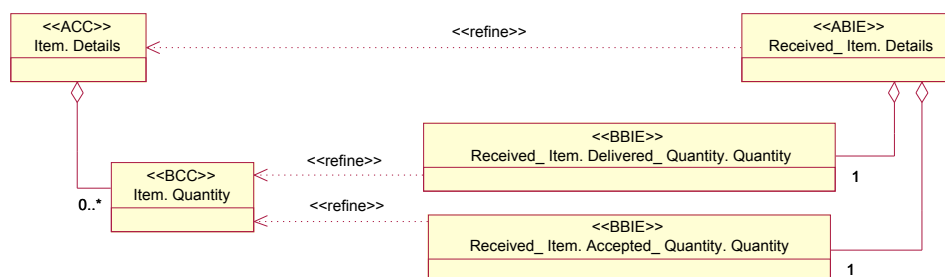
1344
1345
Figure 4-35

Object : Container

1346
1347
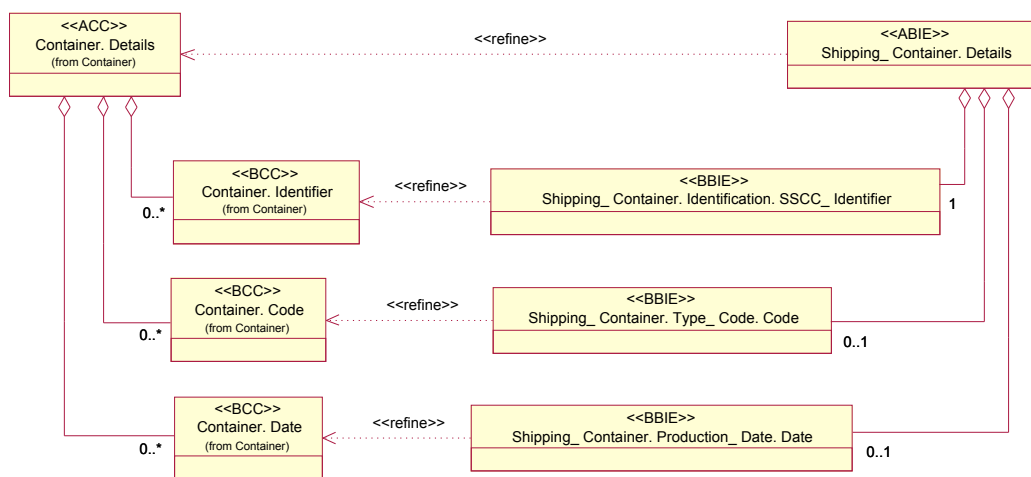
Figure 4-36

Object : Variance

1348
1349
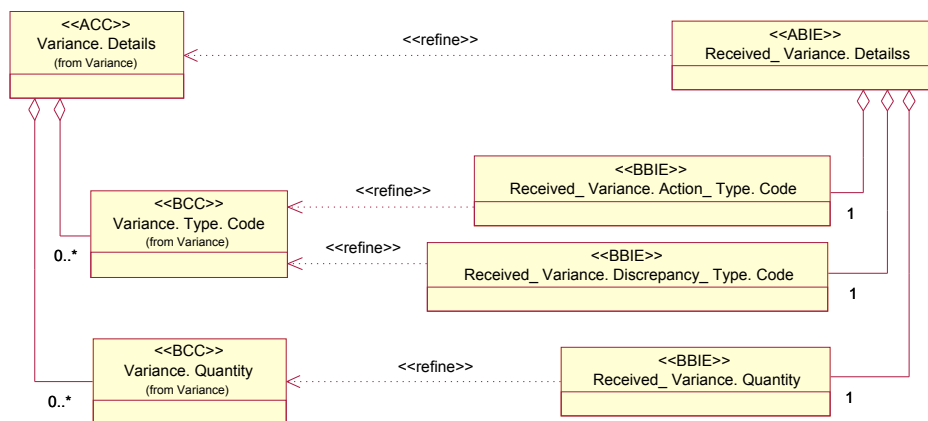
Figure 4-37

1350 **5. Glossary**

1351	ABIE	Aggregate Business Information Entity
1352	ACC	Aggregate Core Component
1353	ANSI	American National Standards Institute
1354	ASBIE	Association Business Information Entity
1355	ASC	Accredited Standards Committee
1356	ATA	Air Transport Association
1357	BBIE	Basic Business Information Entity
1358	BCC	Basic Core Component
1359	CC	Core Component
1360	CCSD	Core Component Supplemental Document
1361	CCTS	Core Component Technical Specification
1362	EbXML	Electronic Business Extensible Markup Language
1363	EDI	Electronic Data Interchange
1364	UMM	UN/CEFACT Modeling Methodology
1365	UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
1366	OASIS	Organization for the Advancement of Structured Information Standards
1367	XML	Extensible Markup Language

Appendix A

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1404 Appendix B - Administrative Information

1405

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1412

Contact Information

1414

1415 **TMG Chair:**
1416 Klaus-Dieter Naujok
1417 Global e-Business Advisory Council
1418 e-mail: klausn@attglobal.net
1419

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