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United Nations Centre for Trade Facilitation and Electronic Business

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Core Components Technical Specification, Part 1

15 January 2002
Version 1.75



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United Nations Centre for Trade Facilitation and Electronic Business

14 **1 Status of This Document**

15 This Technical Specification is being developed in accordance with the
16 UN/CEFACT/TRADE/22 Open Development Process. It has been approved by the
17 eBTWG *Core Component* Project Team for final eBTWG release for comment as
18 defined in Step 4 of the Open Development Process.

19 This document contains information to guide in the interpretation or implementation
20 of ebXML concepts.

21 Distribution of this document is unlimited.

22 The document formatting is based on the Internet Society's Standard RFC format.

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24 2002

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26 October 2001

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

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178 **4 Introduction**

179 This *Core Components* technical specification describes and specifies a new approach
180 to the well-understood problem of the lack of information interoperability between
181 applications in the e-business arena. Traditionally, standards for the exchange of
182 business data have been focused on static message definitions that have not enabled a
183 sufficient degree of inter-operability or flexibility. A more flexible and inter-operable
184 way of standardising business semantics is required. The UN/CEFACT *Core*
185 *Component* solution described in this technical specification presents a methodology
186 for developing a common set of semantic building blocks that represent the general
187 types of business data in use today.

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

192 **4.1 Scope and Focus**

193 This *Core Components Technical Specification* can be employed wherever business
194 information is being shared or exchanged amongst and between enterprises,
195 governmental agencies, and/or other organisations in an open and world wide
196 environment. The prime users are business people, business process modelers, and
197 application developers of different organisations that require interoperability of
198 business information. This interoperability covers both interactive and batch
199 exchanges of business data between applications through the use of Internet and Web
200 based information exchanges as well as traditional Electronic Data Interchange (EDI)
201 systems.

202 This document will form the basis for standards development work of business
203 analysts, business users and information technology specialists supplying the content
204 of and implementing applications that will employ the UN/CEFACT *Core Component*
205 *Library* (CCL).

206 Due to the evolving nature of the UN/CEFACT *Core Component Library*, the
207 specification includes material that focuses on the business community doing further
208 discovery and analysis work. Some of the contents of this specification are not typical
209 of this type of technical document. However, they are critical for successful adoption
210 and standardisation in this area to move forward.

¹ *Key words for use in RFCs to Indicate Requirement Levels* - Internet Engineering Task Force, Request For Comments 2119, March 1997, <http://www.ietf.org/rfc/rfc2119.txt?number=2119>

211 4.2 Structure of this Specification

212 Due to the diversity of the intended audience, this document has been divided into
213 four main Sections.

- 214 • Section 5: Working Process and Methodology for Business
215 Users—Discovery, Harmonisation, Assessment and How to Use
216 [informative]
- 217 • Section 6: Technical Details—*Core Components* and Context [normative]
- 218 • Section 7: Technical Details—Storage and Metadata [normative]
- 219 • Section 8: Technical Details—Approved *Core Component Type*, Content,
220 and *Supplementary Components* [normative]
- 221 • Section 9: Definition of Terms [normative]

222 Sections 5, 6, 7 and 8 are complementary, but may also be used independently of each
223 other. Section 5 is informative. A business audience may choose to read through the
224 working process and methodology section (Section 5) and only reference the
225 Technical Details (Sections 6, 7 and 8) as needed. Sections 6, 7 and 8 are normative.
226 A technical audience may choose to focus on the technical details (Sections 6, 7, and
227 8), referring to the methodology (Section 5) and example (Part 2 a separate document)
228 sections as appropriate, using the current approved *Core Component Type, Content,*
229 and *Supplementary Components* (Section 8) and the glossary (Section 9).

230 In addition, the *Core Components* Team has prepared the *Core Components Technical*
231 *Specification*, Parts 2 and 3. *Part 2—Core Components Primer* details how the
232 contents of Sections 5, 6, and 7 would be used. *Part 3—Catalogue of Discovered*
233 *Core Components* represents the work of various organisations working in a joint
234 endeavour to develop a beginning catalogue of *Core Components*.

235 4.2.1 Notation

236 [Definition] - a formal definition of a term. Definitions are normative.

237 [Ed. Note] - A note from the editing team indicating where additional work is required
238 before the document becomes final. Ed. Notes are informative.

239 [Example] - A representation of a definition or a rule. Examples are informative.

240 [Issue] - A recorded issue. Issues are informative.

241 [Note] – Explanatory information. Notes are informative.

242 [Rn] - Identification of a rule that requires conformance to ensure discovered *Core*
243 *Components* are properly discovered, named and stored. The value R is a prefix to
244 categorize the type of rule where R=B for Business Information rule, R=C for *Core*
245 *Component* rule, or R=S for Storage rule; and n (1..n) indicates the sequential number
246 of the rule]. Rules are normative.

247 **4.3 Related Documents**

248 The following documents provided significant levels of influence in the development
249 of this document:

- 250 — ebXML Technical Architecture Specification v1.04ebXML Business Process
251 Specification Schema v1.01
- 252 — ebXML Registry Information Model v1.0
- 253 — ebXML Registry Services Specification v1.0
- 254 — ebXML Requirements Specification v1.06
- 255 — ebXML Collaboration-Protocol Profile and Agreement Specification v1.0
- 256 — ebXML Message Service Specification v1.0ebXML Technical Reports
- 257 — Business Process and Business Information Analysis Overview v1.0Business
258 Process Analysis Worksheets & Guidelines v1.0 -
- 259 — E-Commerce Patterns v1.0
- 260 — Catalog of Common Business Processes v1.0*Core Component* Overview v1.05
- 261 — *Core Component* Discovery and Analysis v1.04
- 262 — Context and Re-Usability of *Core Components* v1.04
- 263 — Guide to the *Core Components* Dictionary v1.04
- 264 — Naming Convention for *Core Components* v1.04
- 265 — Document Assembly and Context Rules v1.04
- 266 — Catalogue of Context Categories v1.04
- 267 — *Core Component* Dictionary v1.04
- 268 — *Core Component* Structure v1.04
- 269 — Information Technology — Metadata registries: Framework for the
270 Specification and Standardization of Data Elements, International
271 Standardization Organization, ISO 11179-1
- 272 — Information Technology — Metadata registries: Classification of Concepts for
273 the Identification of Domains, International Standardization Organization, ISO
274 11179-2
- 275 — Information Technology — Metadata registries: Registry Metamodel,
276 International Standardization Organization, ISO 11179-3
- 277 — Information Technology — Metadata registries:Rules and Guidelines for the
278 Formulation of Data Definitions, International Standardization Organization,
279 ISO 11179-4

- 280 — Information Technology — Metadata registries: Naming and Identification
281 Principles for Data Elements, International Standardization Organization, ISO
282 11179-5
- 283 — Information Technology — Metadata registries: Framework for the
284 Specification and Standardization of Data Elements, International
285 Standardization Organization, ISO 11179-6

286 **4.4 Overview**

287 This *Core Components Technical Specification* provides a way to identify, capture
288 and maximize the reuse of business information to support and enhance information
289 interoperability across multiple business situations. The specification focuses both on
290 human-readable and machine-processible representations of this information.

291 The *Core Components* approach described in this document is more flexible than
292 current standards in this area because the semantic standardisation is done in a syntax-
293 neutral fashion. UN/CEFACT can guarantee that two trading partners using different
294 syntaxes (e.g. XML and EDIFACT) are using business semantics in the same way on
295 condition that both syntaxes have been based on the same *Core Components*. This
296 enables clean mapping between disparate message definitions across syntaxes,
297 industry and regional boundaries.

298 UN/CEFACT *Business Process* and *Core Component* solutions capture a wealth of
299 information about the business reasons for variation in message semantics and
300 structure. In the past, such variations have introduced incompatibilities. The *Core*
301 *Components* mechanism uses this rich information to allow identification of exact
302 similarities and differences between semantic models. Incompatibility becomes
303 incremental rather than wholesale, i.e. the detailed points of difference are noted,
304 rather than a whole model being dismissed as incompatible.

305 **4.5 Core Component Key Concepts**

306 The key concepts in the *Core Components Technical Specification* are:

- 307 • *Core Component* — The *Core Component* is a semantic building block
308 that is used as a basis to construct all electronic business messages. A
309 technical specification for creating a *Core Component* library is provided.

310 [Definition] *Core Component* (CC)

311 A building block for the creation of a semantically correct and meaningful
312 information exchange ‘parcel’. It contains only the information pieces necessary to
313 describe a specific concept.

- 314 • *Business Context* – *Business Context* is a mechanism for qualifying and
315 refining *Core Components* according to their use within a particular

316 process. Once business contexts are identified, the appropriate *Core*
317 *Components* can be selected or created and differentiated to indicate any
318 necessary qualification and refinement needed to support the business
319 process in a given business context.

320 [Definition] *Business Context*

321 The formal description of a specific business circumstance as identified by the values
322 of a set of context categories, allowing different business circumstances to be
323 uniquely distinguished.

324 • *Business Information Entity* –When a *Core Component* is used in a real
325 business situation it is used to define a *Business Information Entity*. The
326 *Business Information Entity* is the result of using a *Core Component*
327 within a specific business context.

328 [Definition] *Business Information Entity (BIE)*

329 A piece of business data or a group of pieces of business data with a unique business
330 semantic definition. A *Business Information Entity* can be either a *Basic Business*
331 *Information Entity (BBIE)* or an *Aggregate Business Information Entity (ABIE)*.

332 There are three different categories of *Core Components*: *Basic Core Component*,
333 *Core Component Type* and *Aggregate Core Component*. The following definitions
334 explain each of these:

335 [Definition] *Basic Core Component (BCC)*

336 A *Core Component* that represents a singular business concept with a unique business
337 semantic definition. A *Basic Core Component* is constructed by using a *Core*
338 *Component Type*. *Basic Core Components* are used in developing *Aggregate Core*
339 *Components*.

340

341 [Definition] *Core Component Type (CCT)*

342 This is a *Core Component* that has no business meaning on its own. For example, *date*
343 on its own has no business meaning, whereas the *date of birth*, the *contact date* and
344 the *delivery date* do express business meaning.

345 Each *Core Component Type* contains one *Content Component* that carries the actual
346 content value. It will also contain *Supplementary Component(s)* that provide essential
347 definition to the content.

348

349 [Example] *Core Component Types*

350 If the *Content Component* carries *12* this has no meaning on its own. But *12*
351 *Kilometers* or *12 Euro*, where *Kilometers* or *Euro* are *Supplementary Components* that
352 give essential extra definition, do have meaning.

353

354 [Definition] *Aggregate Core Component*

355 A collection of pieces of business information that together form a single business
356 concept (e.g. postal address). Each *Aggregate Core Component* has its own unique
357 business semantic definition and can contain either:

358 ◆ two or more *Basic Core Components*, or

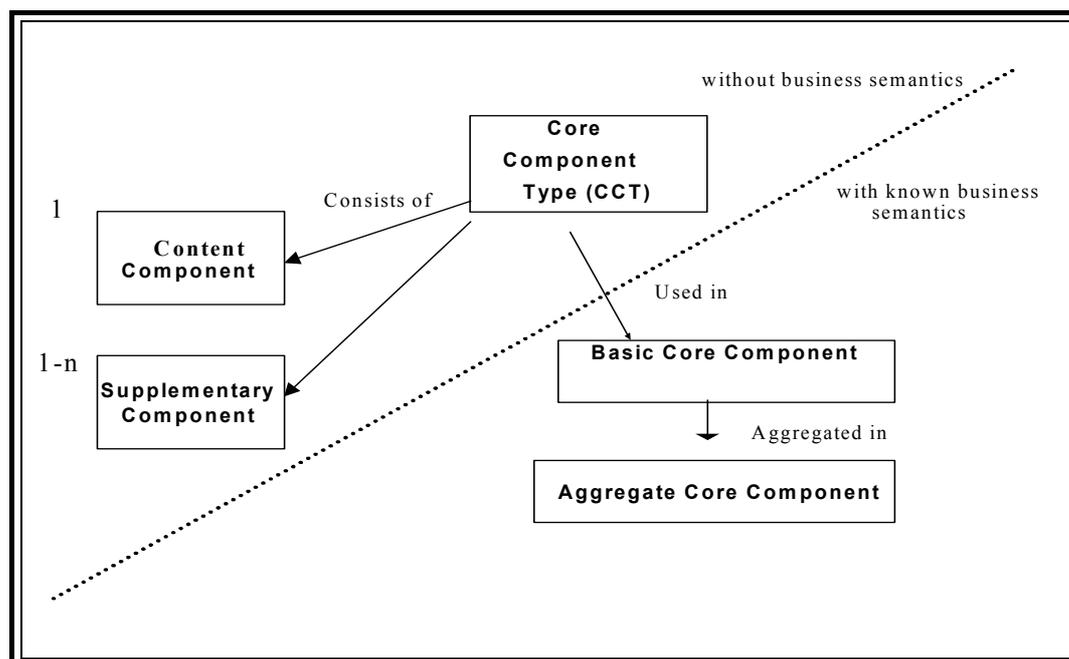
359 ◆ at least one *Basic Core Component* plus one or more *Aggregate Core*
360 *Components*

361

362 [Example] - *Aggregate Core Components*

363 *Account. Details; Party. Details*

364 Figure 4-1 shows the relationships between these three categories.

365 **Figure 4-1. Core Component Overview**

366

367 A specific relationship exists between *Core Components* and *Business Information*
 368 *Entities*. Core and business elements are complementary in many respects. *Core*
 369 *Components* are intended to be the linchpin for creating interoperable business
 370 process models and business documents using a controlled vocabulary.

371 [Definition] *Basic Business Information Entity*

372 A *Core Component* used in a specific business context. A *Basic Business Information*
 373 *Entity* is derived from a *Basic Core Component*.

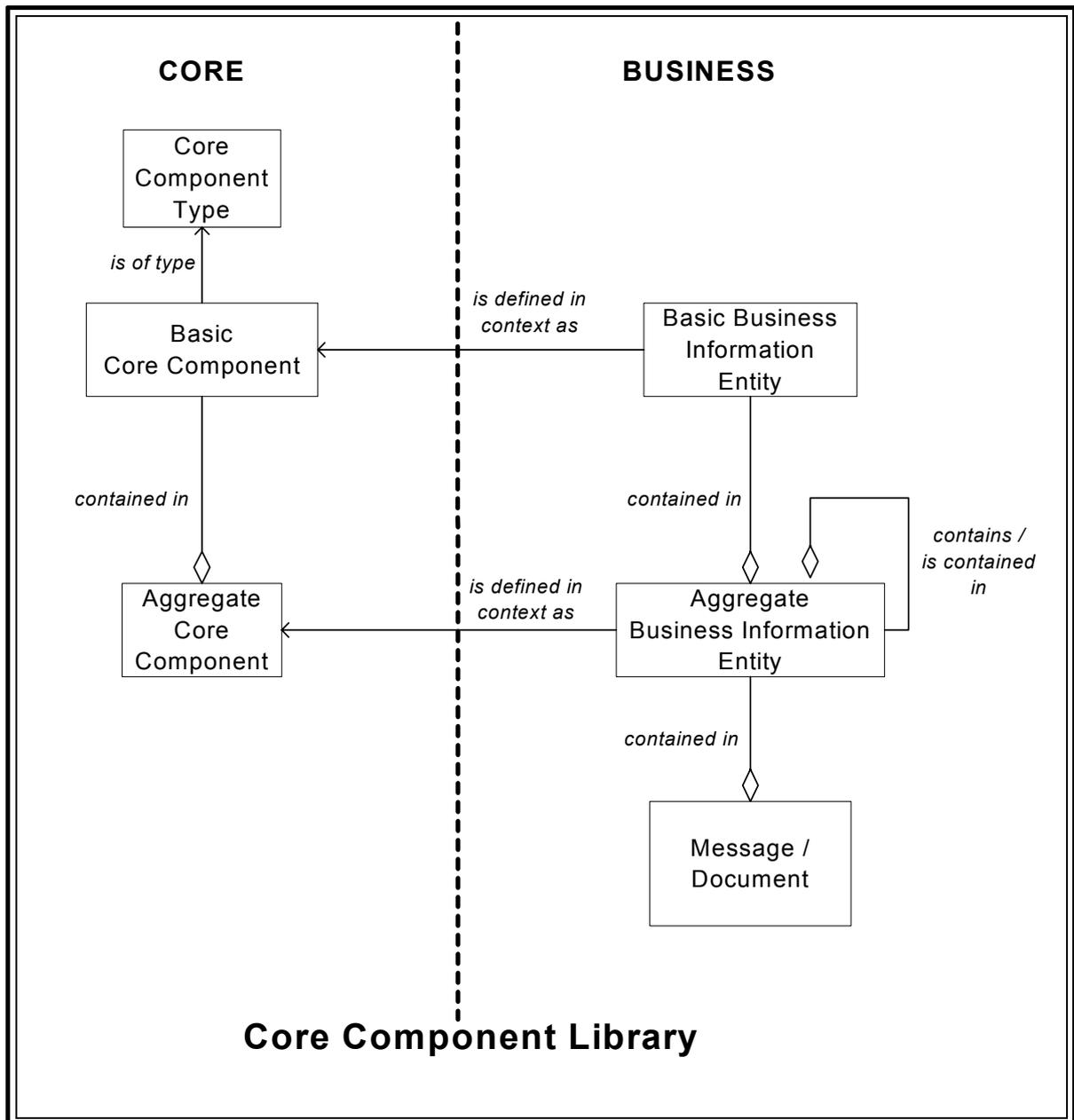
374

375 [Definition] *Aggregate Business Information Entity*

376 A collection of related pieces of business information that together convey a distinct
 377 business meaning in a specified business context.

378 The features of the relationship between *Core Components* and business information
 379 entities are described in Figure 4-2.

380 **Figure 4-2. Relationships between Core Components and Business Information**
 381 **Entities**



382
 383

384

[Note]

385 From previous words it should be clear that the term *Core Component* is used as a
 386 generic term that encompasses *Basic Core Components* and *Aggregate Core*
 387 *Components*. Equally the term *Business Information Entity* is used as a generic term
 388 encompassing *Basic Business Information Entities* and *Aggregate Business*
 389 *Information Entities*.

390

390 **5 Working Process and Methodology**

391 This chapter identifies aspects of *Core Component* working processes and
392 methodologies for use. It includes an overview of the discovery and use
393 characteristics of *Core Components*. In addition, it includes detailed recommendations
394 for conducting discovery, storage, approval, and application of context.

395 **5.1 Overview**

396 The analysis of business processes builds a picture of requirements, identifying the
397 business collaboration, i.e. timing and purpose of each process step. Detailed
398 examination of the business processes at this level reveals the individual pieces of
399 business information that are used and at what stage they are exchanged.

400 **5.1.1 Discovery**

401 A business process should be modeled using a standard approach. UN/CEFACT
402 requires the *UN/EDIFACT Modeling Methodology* (UMM) as the approach.³ One of
403 the results is a model (e.g. a class diagram) that shows the business information and
404 its inter-relationships. *Business Information Entities* can be identified from the class
405 diagram.

406 For example, if a domain team has modeled the publication of catalogue data to
407 trading partners, the result will be a *Business Information Entity* representing the
408 distributed catalogue data which is made up of a set of smaller *Business Information*
409 *Entities* that are its component parts. Thus, the description of an item is identified as a
410 *Business Information Entity* for this business process.

411 Ultimately, *Business Information Entities* must be based on a basic library of clearly
412 defined semantic constructs to help ensure that they will inter-operate. This library
413 must include a set of globally agreed semantic definitions such as those which will be
414 contained in the *UN/CEFACT Core Components Library*.

415 A *Business Information Entity* is a *Core Component* used in a specific business
416 context and given its own unique name. As *Basic Core Components* are single pieces
417 of business information, when they are used directly in specific business contexts, the
418 structure (components) does not change.

³ The UN/CEFACT Modeling Methodology (UMM) is a methodology for business process and information modeling that is based on the Unified Modeling Language.

419 [Example]

420 An invoicing business process may need to send/receive an explicit piece of
421 information such as *Pre-tax Sub-total Amount*. This is a *Basic Business Information*
422 *Entity* that uses the generic *Amount*, which is a *Basic Core Component*. It uses the
423 generic *Amount* in a specific business context and adds a specialised definition, but in
424 all other respects it is the same as *Amount*, i.e. it has the same structure and data type.

425

426 [Issue]

427 The preceding example may not adequately convey the intended information. Based
428 on comments received during the final eBTWG review cycle, it may be reworked.

429 Just as each *Business Information Entity* must ultimately be based on *Basic Core*
430 *Components*, each *Aggregate Business Information Entity* must ultimately be based on
431 an existing *Aggregate Core Component*. The underlying *Aggregate Core Component*
432 identifies the generic, standard definition of business information that is being used in
433 the *Aggregate Business Information Entity*. The *Aggregate Business Information*
434 *Entity* inherits the generic description, which is then modified and enhanced to be
435 specific to the business process in which the *Aggregate Business Information Entity* is
436 used. An *Aggregate Business Information Entity* is thus directly tied to a specific
437 business process, or to a *Business Context*. (See Section 5.7 for a fuller understanding
438 of context.)

439 An important aspect of information interoperability is that each *Business Information*
440 *Entity* inherits a *Core Component* structure and associated semantic definitions
441 derived from the *Core Component Library*.

442 The following section describes the procedures by which the UN/CEFACT ebXML
443 compliant library may be developed and maintained.

444 **5.1.2 How to use UN/CEFACT Core Components**

445 This section, 5.1.2, provides a procedure for the technical user who wants to
446 understand how to implement *Core Components*. It assumes the user is dealing with
447 an established set of *Core Components*, context categories and metadata/storage. The
448 established set of *Core Components* being used should be based on those discovered,
449 harmonised, and published by recognised standards groups. It is further assumed that
450 the recognised standards group(s) and other business association group(s) have also
451 made available sets of *Business Information Entities* for use in a published set of
452 business processes.

453 **5.1.2.1 Core Components and Semantic Interoperability**

454 Today, the e-business community generally agrees on the definition of a standard
455 message structure expressed as an UN/EDIFACT *Message Implementation Guide*

456 (MIG), an XML Schema, or similar syntax specific representation. UN/CEFACT will
457 produce standards based representations of these artefacts for implementation.

458 Under the *Core Components* concept, defining and storing *Core Components* and
459 associated context mechanisms occur prior to the creation of a MIG or a Schema. In
460 this manner, the focus of the user changes from examining the MIG or DTD, and
461 moves to an examination of the semantic models. Accordingly, interoperability
462 between syntaxes no longer depends on analysing specific instances, but naturally
463 occurs during the business process model definition phase.

464 5.1.2.2 Steps for Use

465 The overall discovery and document creation process can be thought of as a series of
466 steps that starts with determining the availability of existing business process
467 definitions and ultimately results in standard business documents. Figure 5-1
468 illustrates this process. Specific steps to be followed are further described below.
469

470 Step 1: Search the registry/repository— A search should be made in the registry on
471 all available published business processes in the repository to find an inter-
472 operable business process that meets the business requirement.

473 • If no existing business process is found to be appropriate, then the new
474 business process should be modelled and submitted to the registry. The
475 process includes conducting a thorough analysis of the business
476 information requirements by following the *Core Component Discovery*
477 *Steps* (Section 5.2.2).

478 • If an existing business process is located that will be used, the new use
479 should be identified to the registry. If the searcher does not have access
480 to the registry, the *Catalogue of Common Business Processes* (CCBP)
481 can be substituted. The searcher continues with Step 2.

482 Step 2: Identify relevant context categories - Access the registry interface and
483 identify the relevant context categories of the selected business process by
484 determining the following:

485 • *Product Classification Context* – Determine the goods or services
486 concerned in the collaboration.

487 • *Industry Classification Context* – Determine the relevant trading partner
488 industries.

489 • *Geopolitical Context* – Determine where the business process is to be
490 conducted. Determine if the business process crosses international
491 boundaries.

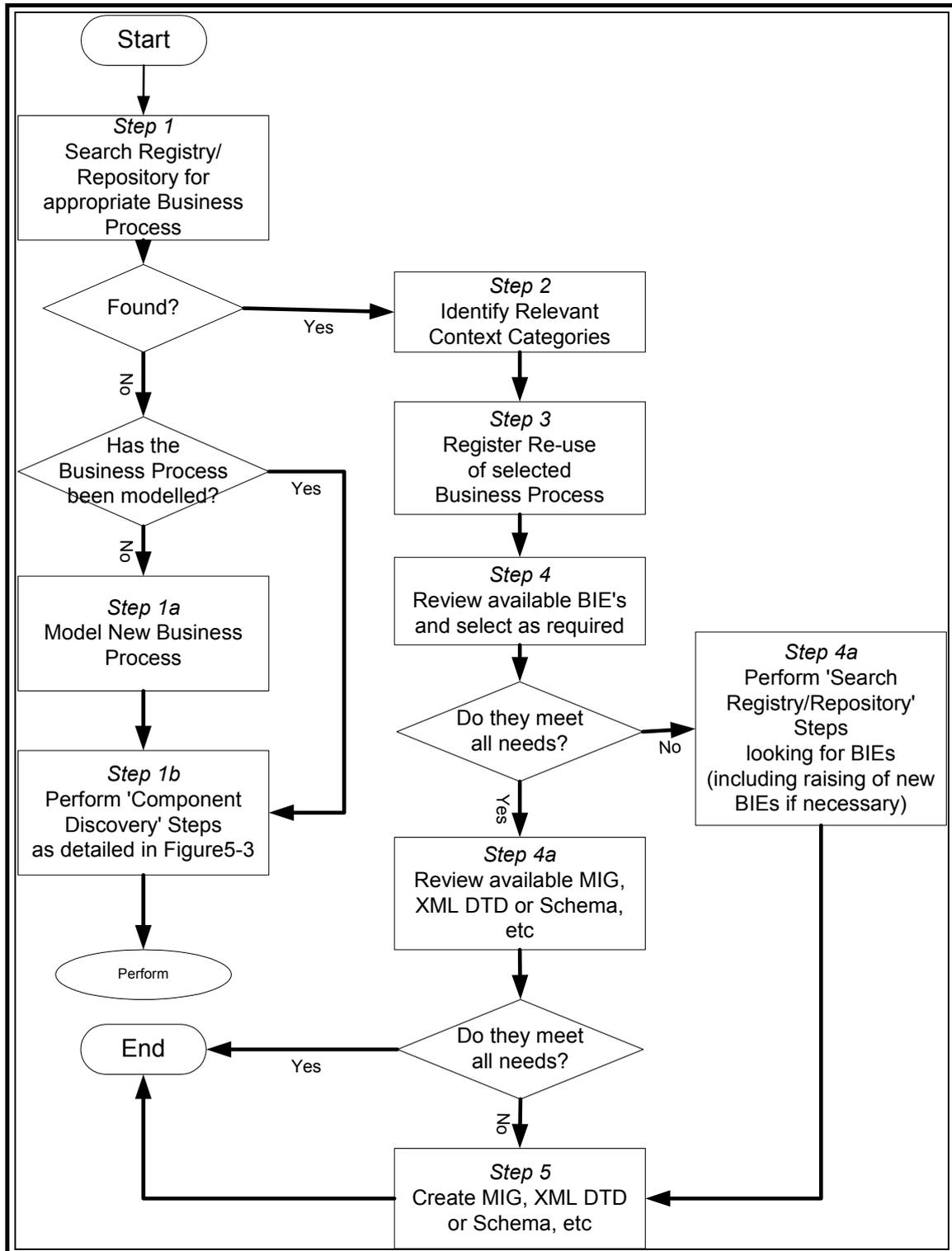
492 • *Official Constraints Context* – Determine any legal restrictions or
493 requirements on this business process.

494
495

- *Business Process Role Context* – Identifies the roles played by the user and their trading partners. These can be derived from the business process.

496

Figure 5-1. Steps from Business Process Discovery to Core Component Discovery



497

498

[Issue]

499

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501

The next edition of this document may have a modified version of the above diagram and the step descriptions that follow, to allow harmonisation and seamless knitting together of the *Business Process* and *Core Component* specifications.

502

503

- *Supporting Role Context* – Determine what other significant parties will be using the data in the messages. Determine their role in the overall process.

504

505

- *System Capabilities Context* – Determine any major restrictions derived from legacy systems. Identify the type of system.

506

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The registry will provide a list of pre-defined *Business Information Entities* that are available to the selected business process, and which meet the context criteria specified. These will come with links to the *Core Components* that they are based on and the constraint rules/values that fully qualify them. The registry should also return partial matches with an indication of how closely they match the specified context.

512

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Step 3: Register re-use of selected *Business Process* in the set of contexts in which it is being used. Registration of each re-use ensures the gradual development of a library of re-uses that will be available to the widening user base.

515

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Step 4: Review the available *Business Information Entities* and select the appropriate subset for use that meets the needs of the business process requirement that is being developed.

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If the *Business Information Entities* available for the specific business process do not address all of the data requirements, the repository of all *Business Information Entities* should be searched to see if the appropriate *Business Information Entities* already exist. The procedure for this is described under Search Repository (Section 5.2) which includes the steps to raise any new *Business Information Entities* required because no appropriate *Business Information Entities* can be found.

526

527

528

529

Step 4a: If all required *Business Information Entities* are already available, review the available MIG, XML Document Type Definition or Schema, etc and select the appropriate one(s) for use that meet the technical implementation/solution requirements identified.

530

531

If no appropriate technical implementation/solution is already available, continue with Step 5 to create new ones.

532

533

534

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536

Step 5: Create MIG, XML DTD or Schema, etc. – The resulting semantic model (the set of *Business Information Entities*) is manually or programmatically rendered into a syntax-specific message description. The resulting MIG, DTD or Schema is submitted to the repository where it is associated with the *Business Information Entities* it represents.

537 [Note]

538 When selecting a business process and defining the required messages, searches may
539 be made against potential trading partners' data requirements and processes. The
540 context rules and *Business Information Entities* represent useful metadata in
541 determining the best possible match between the user and their partners. The fact that
542 the rules can be made available in processable formats means that the comparison
543 itself could be automated and made available as a feature of the repository
544 implementation.

545 **5.2 Core Components Discovery**

546 The steps in *Core Component* discovery are preparation and search. In order to
547 properly define the *UN/CEFACT Core Component Library*, domain or project groups
548 must follow the prescribed preparation and search steps as outlined in the following
549 subsections. See **Part 2—Core Components Primer** for a detailed end-to-end example
550 of discovering *Core Components*.

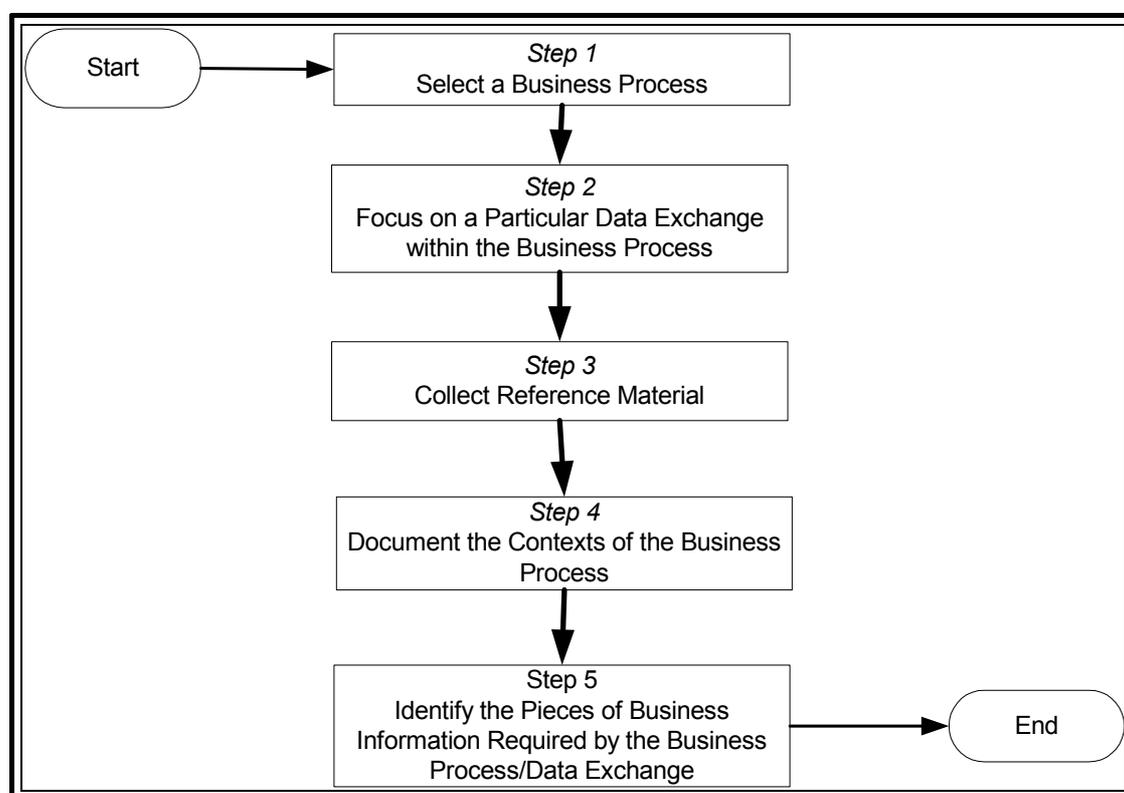
551 **5.2.1 Core Component Discovery – Preparation Steps**

552 These steps identify pieces of business information such as *Basic* and *Aggregate*
553 *Business Information Entities*. An analysis of *Business Information Entities* from a
554 variety of similar business processes leads to the underlying core structures and
555 semantics of the *Core Components*. Figure 5-2 graphically portrays the prescribed
556 preparation steps that are described below.

- 557 Step 1. Select the *Business Process* that provides the widest range of business
558 information content within the domain being addressed. (e.g. *Make a*
559 *Payment, Place an Order, Issue an Invoice*)
- 560 Step 2. Focus on a particular data exchange within the *Business Process* that
561 contains key business information (e.g. *Payment Order, Purchase Order,*
562 *Invoice*).
- 563 Step 3. Collect all the business information and associated details that are relevant to
564 the chosen business exchange for the previously identified business process.
565 Use a cross section of *Message Implementation Guides*, *RosettaNet Partner*
566 *Interface Process (PIP)*, *Business Process Information Models (BPIMs)* or
567 similar domain-specific artefacts as sources of information about the
568 business exchange.
- 569 Step 4. Document the context(s) of the business process being analysed. Identify
570 what is applicable for each category of context, i.e. whether it is *none*, *in all*
571 *contexts*, or *one or multiple specific context value(s)*. (See Section 5.6 for a
572 more detailed explanation of how to determine context). The context
573 categories are:
- 574 • *Business Process Context*

- 575 • *Product Classification Context*
- 576 • *Industry Classification Context*
- 577 • *Geopolitical Context*
- 578 • *Official Constraints Context*
- 579 • *Business Process Role Context*
- 580 • *Supporting Role Context*
- 581 • *System Capabilities Context*

582 **Figure 5-2 Preparation Steps**



583
584

585 Step 5. Compile a list of the pieces of information required for the business process.

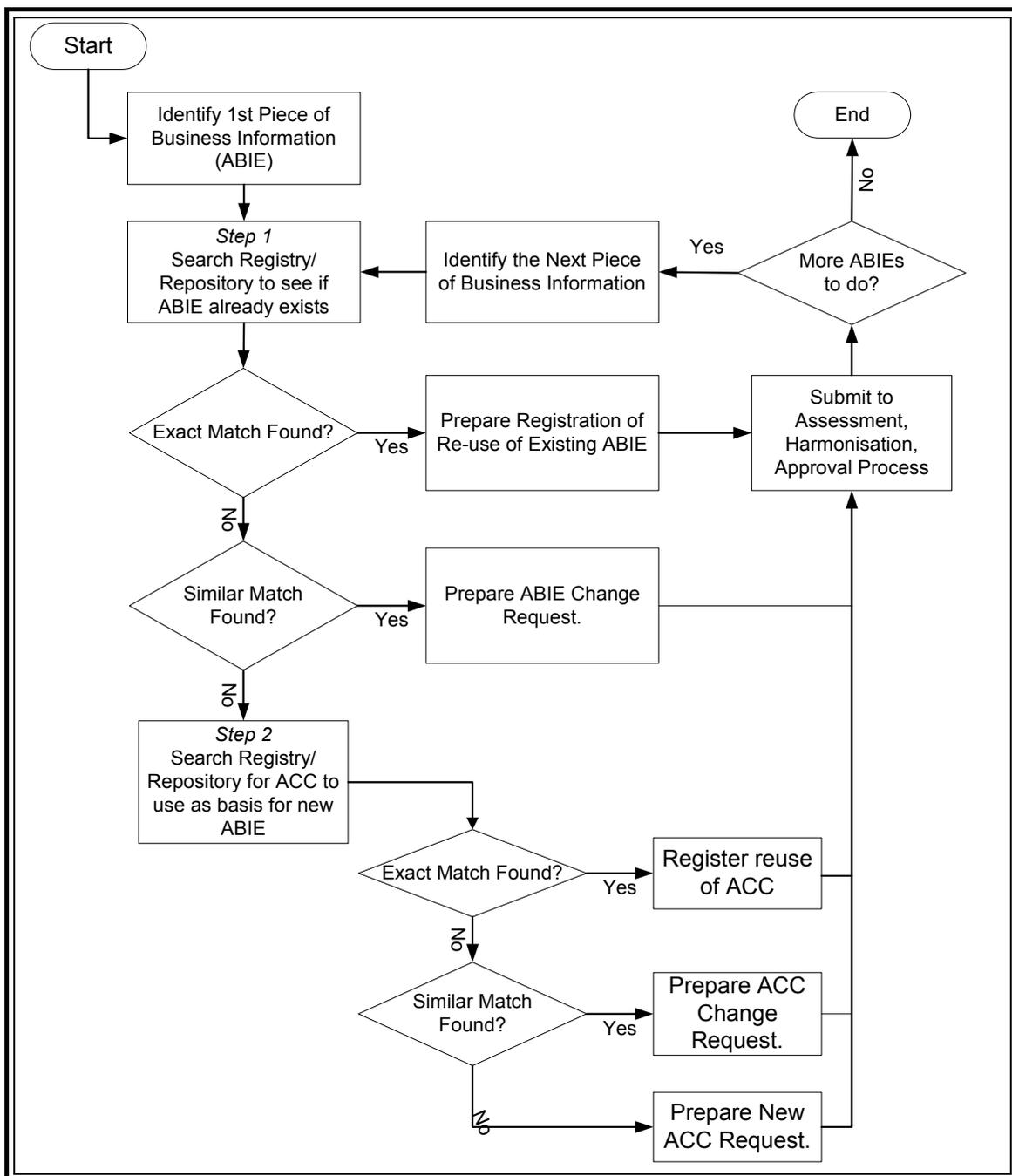
- 586 • If starting from a model (UN/CEFACT recommends UMM models of
587 business processes), identify the objects (*Aggregate Business Information*
588 *Entities*) that are needed.
- 589 • If not starting from a model, collect the pieces of information into object-
590 like groups (*Aggregate Business Information Entities*). It is important to
591 recognise and avoid pieces of information that are purely used for legacy
592 system or syntax purposes.

- 593 • For each *Aggregate Business Information Entity*, capture its semantic
594 definition, any *Business Terms* by which it is commonly known, and other
595 information identified in the previous steps.

596 **5.2.2 Core Components Discovery – Search Registry/Repository**

597 Having discovered a number of *Aggregate Business Information Entities* in the
598 preparation Step 5 identified in Section 5.2.1 above, repeat the following steps for
599 each *Aggregate Business Information Entities* as shown in Figure 5-3.

600 **Figure 5-3 Search Steps**



601

602 Step 1 We recommend starting with *Aggregate Business Information Entities* at the
603 highest level of aggregation. Search the Catalogue of *Aggregate Business*
604 *Information Entities* for an existing *Aggregate Business Information Entity*
605 that has the same definition.

606 • If there is an *Aggregate Business Information Entity* with a definition that
607 meets the business need, register the re-use including business context and
608 any business terms. (Go to next *Aggregate Business Information Entity*)

609 • If there is an *Aggregate Business Information Entity* with a definition that
610 potentially could be modified to meet the business need, prepare an
611 *Aggregate Business Information Entity* change request for submission to
612 the harmonisation and approval process. Proposed changes need to be
613 assessed to ensure that any adaptation is sensible, reasonable and applied
614 in the most appropriate way. This, together with registration of re-uses,
615 will ensure the availability of a real and usable pool of material to a
616 widening user base. Include re-use, business context and any business
617 terms. (Go to next *Aggregate Business Information Entity*)

618 [Note]

619 Proposed changes need to be assessed to ensure that any adaptation is sensible,
620 reasonable and applied in the most appropriate way. This, together with registration of
621 re-uses, will ensure the availability of a real and usable pool of material to a widening
622 user base.

623 • If there is not an *Aggregate Business Information Entity* with a suitable
624 definition, go to Step 2.

625 Step 2 Search the *Catalogue of Core Components* for an existing *Aggregate Core*
626 *Component* that has the appropriate generic definition and structure from
627 which the new required *Aggregate Business Information Entity* can be
628 formed.

629 • If there is an existing *Aggregate Core Component* with a definition and
630 structure that meets the business needs³, register the re-use of the
631 *Aggregate Core component* as an *Aggregate Business Information Entity*
632 including the business context and any business terms. (Go to next
633 *Aggregate Business Information Entity*)

634 • If there is an *Aggregate Core Component* with a definition and structure
635 that potentially could be modified to meet the business need, prepare an
636 *Aggregate Core Component* change request for submission to the
637 harmonisation and approval process. Include the re-use of the *Aggregate*
638 *Core Component* as an *Aggregate Business Information Entity*, the
639 business context and any business terms. (Go to next *Aggregate Business*
640 *Information Entity*)

- 641 • If there is not an *Aggregate Core Component* with a suitable definition and
642 structure, prepare a new *Aggregate Core Component* request for
643 submission to the harmonisation and approval process. Include the re-use
644 of the *Aggregate Core Component* as an *Aggregate Business Information*
645 *Entity*, the business context and any business terms. (Go to next *Aggregate*
646 *Business Information Entity*)

647 **5.2.3 Core Component Discovery – Basic Business Information Entities**

648 This procedure is exactly the same as that described in Section 5.2.2, except that the
649 reader should read *Basic Business Information Entity for Aggregate Business*
650 *Information Entity* and *Basic Core Component for Aggregate Core Component*.

651 **5.3 Preparation for Submission**

652 Following the search of the *Core Component Library*, there may be a need to prepare
653 submissions for the harmonisation and approval process.

- 654 • Preparation of submissions will be carried out by the business domain or
655 project group making the discovery.
- 656 • Harmonisation and approval will be conducted by appropriate Assessment,
657 Harmonisation and Approval teams to be set up as part of the
658 UN/CEFACT electronic business standards forum.

659 The different types of submissions that may be required are detailed below.

660 The following submissions are simple documented requests, following procedures to
661 be established by the Assessment, Harmonisation and Approval teams.

- 662 • To register a Re-use of an Existing *Aggregate Business Information Entity*
- 663 • To make a Change Request for an *Existing Aggregate Business*
664 *Information Entity*
- 665 • To make a Change Request for an Existing *Aggregate Core Component*

666 The following submissions require more significant preparation, as part of the *Core*
667 *Component* working methodology, to be carried out by the business domain or project
668 group making the discovery and analysis.

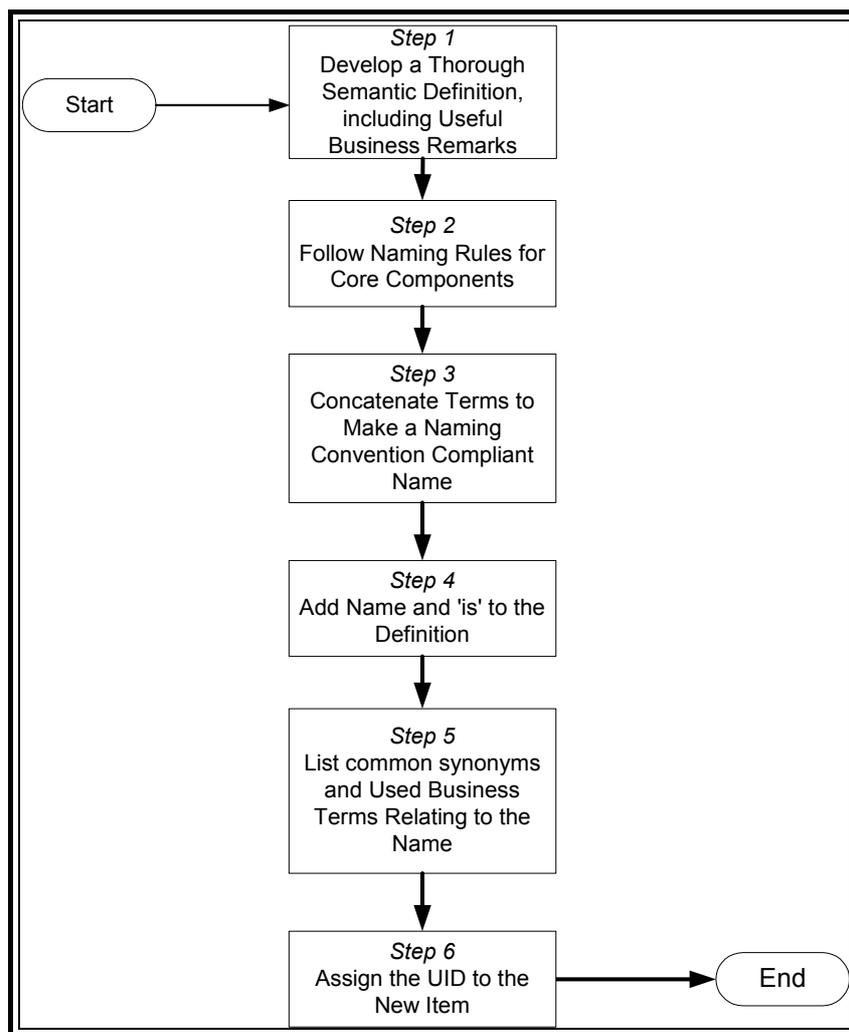
- 669 • Preparation for Requesting a new *Aggregate Core Component*
- 670 • Preparation for Requesting a new *Core Component*
- 671 • Preparation for Requesting a new *Aggregate Business Information Entity*
672 which re-uses an Existing *Aggregate Core Component*

673 Each of these needs to initially follow the same steps in applying the *Naming*
 674 *Convention* (Section 6.1.3) to arrive at the name of the new item.

675 **5.3.1 Applying the Naming Convention to a New Item**

676 For all new items, the *Naming Convention* and associated rules that are defined in
 677 Section 6.1.3 must be applied. Figure 5-4 shows the steps that must be taken, each of
 678 which is described in the accompanying text.

679 **Figure 5-4 Applying the Naming Convention**



680

681 Step 1. Develop a thorough semantic definition and include any useful business
 682 comments as remarks. Semantic definitions should:

- 683 • use words different to those being defined *provided* that no ambiguity is
 684 thereby introduced,
- 685 • be globally applicable,
- 686 • be generic (i.e. able to cover the same business concept for different
 687 products/services),

- 688 • be applicable across multiple industries or domains, and
- 689 • be simple and clear to enable unambiguous translation to other languages
- 690 Step 2. Follow the *Naming Rules for Core Components* (Section 6.1.3) to assign:
- 691 • *Representation Type*
- 692 • *Property Term*
- 693 • *Object Class*
- 694 Step 3. Concatenate the terms to create a *Naming Convention* compliant name.

695 [Note]

696 The resultant name may seem artificial in that it might not be the same as any of the
697 business terms used for that concept. However, rigor of the *Naming Conventions*
698 enables future translation of the name into other languages.

699 Step 4. Check the quality of the definition by adding the words “[*Dictionary Name*]
700 is” to the front of the definition, where [*Dictionary Name*] is the agreed
701 name.

702 Step 5. List common synonyms or *Business Term(s)* that are used within the domain
703 to identify the piece of business information (e.g. *Account Number*, *Account*
704 *Identifier*).

705 [Note]

706 Some *Business Terms* are used for several different pieces of business information. It
707 is perfectly acceptable to have the same business term listed as a synonym for two or
708 more pieces of business information. For example, as shown in Figure 5-5, *Account*
709 *Number* is a synonym for *Financial Account Identifier* and for *Sales Account*
710 *Identifier*.

711 Step 6. Assign a temporary UID to the new item in the form of a 6 digit
712 alphanumeric string, chosen at the discretion of the user.

713 **Figure 5-5 Core Component Catalogue Extract**

| Temp UID | Definition | Remarks | Business Terms | CCT | Dictionary Entry Name | | | Representation Term |
|----------|--|---|----------------|-----|----------------------------|-------------------|--|---------------------|
| | | | | | Name | Object Class | Property Term *to be suppressed according to rule 5 | |
| T00010 | A Financial Account is a service through a bank or other organisation through which funds are held on behalf of a client or goods or services are supplied on credit | Not a general ledger. | Account | n/a | Financial Account. Details | Financial Account | Details | |
| T00012 | A Sales Account is a relationship between a vendor and a customer. | Usually includes a contract specifying the terms of business. | Account | n/a | Sales Account. Details | Sales Account | Details | |

Same Business Term

714
715716 **5.3.2 Preparation for Submitting New Aggregate Core Components**

717 The development of a new aggregate requires adherence to the *Naming Convention*
 718 rules for naming and definition. Once named, the new aggregate's constituent parts
 719 need to be individually examined. The following diagram and text describes the
 720 procedure that is to be followed.

721 Step 1. Apply the *Naming Convention* and Rules to arrive at the name of the new
 722 *Aggregate Core Component*

723 Step 2. Identify all of the components within the new *Aggregate Core Component*.

724 Repeat the following step for each constituent component identified in step 2:

725 Step 3. Search the Registry for an existing *Core Component* that has the appropriate
 726 generic definition and structure.

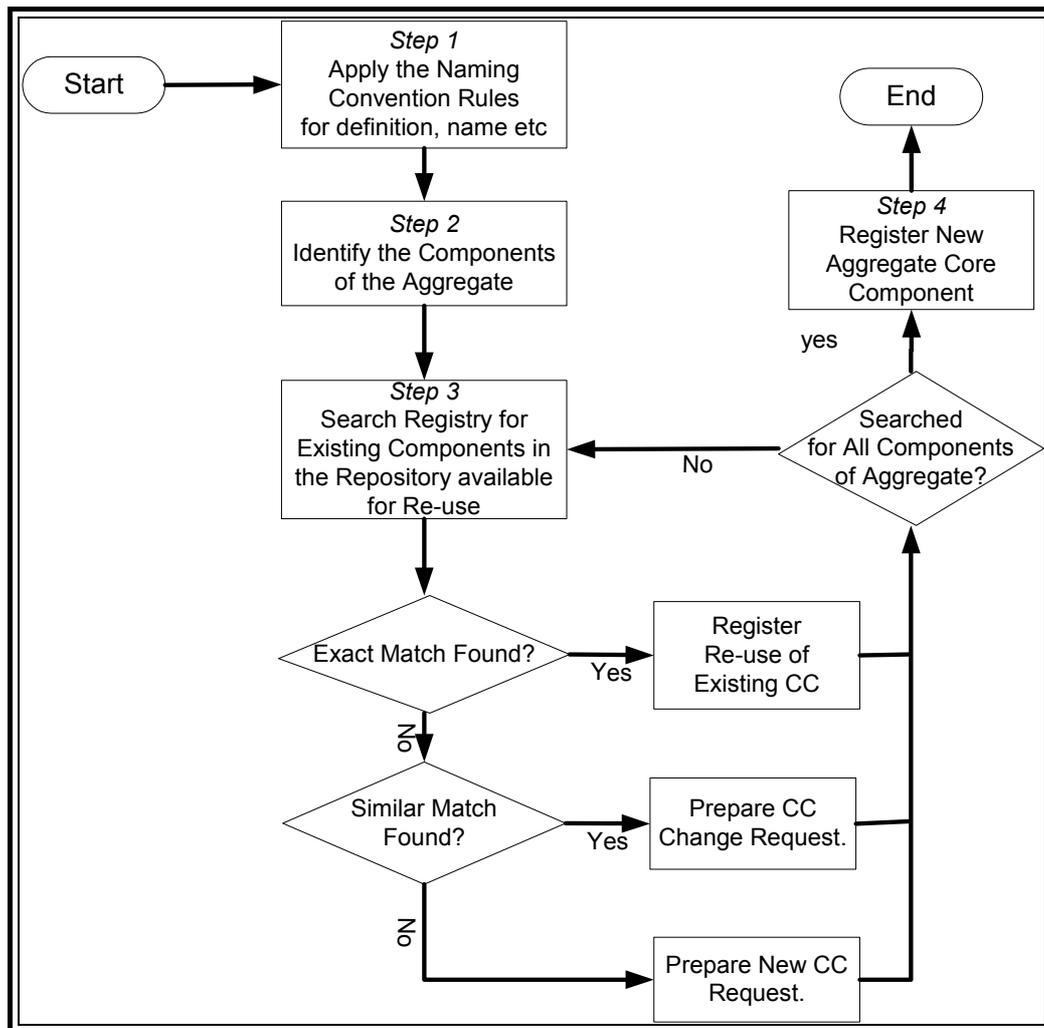
- 727
- 728 • If there is an existing *Core Component* with a definition and structure that
 729 meets the requirement, register this re-use of the *Core Component*
 including the context in which it is used.
 - 730 • If there is an existing *Core Component* with a definition and structure that
 731 potentially could be modified to meet the requirement, prepare an *Core*
 732 *Component* change request for submission to the harmonisation and
 733 approval process, including the re-use of the *Core Component* and the
 734 context in which it is used.
 - 735 • If there is not an existing *Core Component* with a suitable definition and
 736 structure, prepare a new *Core Component* request for submission to the
 737 harmonisation and approval process, including the re-use of the *Core*
 738 *Component* and the context.

739 When all the constituent components identified in step 2 have been checked as
 740 described in Step 3, then:

741 Step 4. Register new *Aggregate Core Component*.

742 Prepare the new *Aggregate Core Component* request for submission to the
 743 harmonisation and approval process.

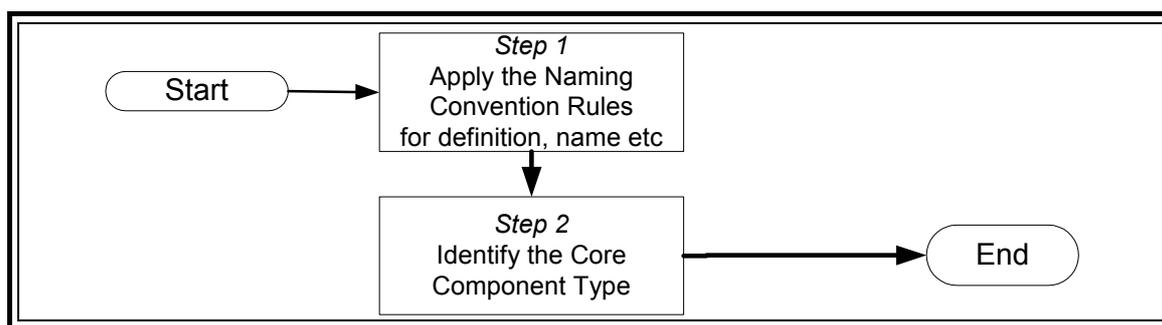
744 **Figure 5-6 Preparation for requesting a new Aggregate Core Component**



745

746 5.3.3 Preparation Steps for Requesting a New Basic Core Component

747 As shown in Figure 5-7, there are two steps necessary to prepare for requesting a new
 748 *Basic Core Component*. These two steps are:

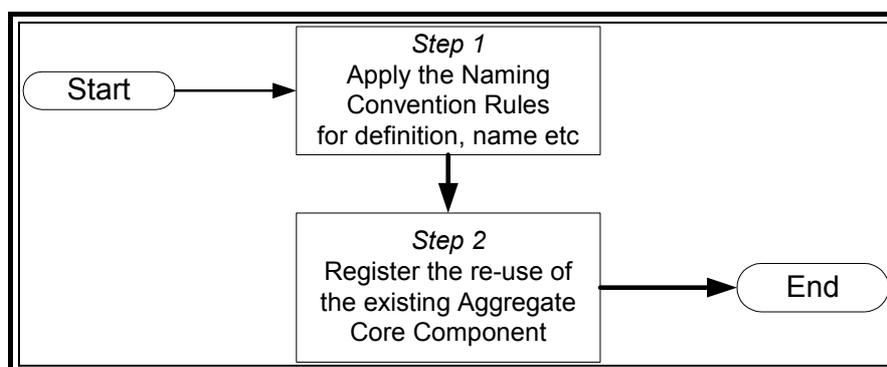
749 **Figure 5-7 Preparation Steps for Requesting a New Core Component.**

751 Step 1. Apply the *Naming Convention and Rules* to arrive at the name of the new
752 *Basic Core Component*

753 Step 2. Select the appropriate *Core Component Type*. (See Section 6.1.1 for an
754 explanation and listing of *Core Component Types*).

755 **5.3.4 Preparation for Requesting a New Aggregate Business**
756 **Information Entity which re-uses an Existing Aggregate Core**
757 **Component**

758 As shown in Figure 5-8, there are two steps necessary to prepare for requesting a new
759 *Aggregate Business Information Entity* that re-uses an existing *Aggregate Core*
760 *Component*. These two steps are:

761 **Figure 5-8 Preparation Steps for Requesting a New ABIE using Existing ACC**

763 Step 1. Apply the *Naming Convention and Rules* to arrive at the name of the new
764 *Aggregate Business Information Entity*.

765 Step 2. Register the re-use of the existing *Aggregate Core Component* by this new
766 *Aggregate Business Information Entity*.

767 **5.4 Harmonisation**

768 The purpose of harmonisation is to take a set of proposed *Core Components* or
769 *Business Information Entities* from different domains, identify differences and

770 similarities between the various submissions, and produce a single, complete cross-
771 domain set of *Core Components*. Harmonisation is a critical step in the overall *Core*
772 *Component* procedures. The following describes the recommended areas that
773 harmonisation procedures should cover.

774 1. Evaluate each submitted *Core Component* for consistent application of the
775 Discovery methodology. Resolve any questions or issues by discussion with the
776 submitting groups.

777 2. Compare the definition and structure of each submitted *Core Component* with
778 what already exists in the *Core Component Library*.

779 • If the submitted *Core Component* is the same or similar, compare the
780 properties of each to identify any differences. If the submitted *Core*
781 *Component* has properties missing in the existing one, enforce a
782 harmonised form that contains the properties of each. If the submitted
783 *Core Component* is a subset of the existing *Core Component* definition,
784 then recommend the use of the existing one.

785 • If the definition of the *Core Component* does not match any existing ones,
786 then go to 3.

787 3. Publish the results of harmonisation to the submitting groups for review and
788 finalisation.

789 [Note]

790 When submissions are received from different domains simultaneously, they are each
791 processed in their own right against the full cross-domain library. The submissions are
792 not compared against each other before comparison with existing library entries. In
793 other words, all submissions are processed separately and serially against the full
794 cross-domain library.

795 Once the submitted material has passed the harmonisation procedure, it may now be
796 submitted for assessment and approval.

797 **5.5 Technical Assessment and Approval**

798 Technical assessment must be done in close coordination with the discovery teams
799 and the harmonisation process in order to minimise domain re-working after
800 *Technical Assessment* and *Harmonisation* review. This section, 5.5, defines a
801 recommended process for conducting technical assessment and approval of all newly
802 submitted and changed *Core Components*.

803 Technical assessment procedures define the processing that shall be followed by the
804 joint development groups, the *Harmonisation* group, submission entry points, the
805 *Technical Assessment* group, and the secretariat as related to the review of *Core*

806 *Components*. The result of this process is the final publication of approved *Core*
807 *Components*.

808 These procedures were developed in order to facilitate the process of reviewing and
809 approving submissions to the *Core Component* library. In order to minimise the
810 requirements for technical assessment and harmonisation, and to expedite the review
811 and approval process, *Core Component* development groups should work with the
812 *Technical Assessment* group, and the *Harmonisation* group during the early
813 development stages of component discovery.

814 In outline, the procedures cover:

815 1) Submission of *Core Component* work that is ready to be reviewed to a designated
816 secretariat.

817 2) Recording of all *Core Component* submissions and distribution to the
818 Harmonisation Group members.

819 3) Review procedures and criteria followed by the *Harmonisation* group.

820 4) Return of harmonised *Core Component* submissions for *Technical Assessment*.

821 5) Review procedures and criteria followed by the *Technical Assessment* group.

822 6) Registration of the approved *Core Component(s)* in the appropriate *Core*
823 *Component Registry*.

824 [Issue]

825 The *UN/CEFACT Technical Review and Approval Procedures* need to be developed
826 and published as soon as possible by the appropriate working group.

827 **5.6 Context in the Discovery Process**

828 Information that is needed by a business process is used in a context that is defined by
829 how and where the business process can be used. The initial analysis will be
830 performed on a set of *Business Information Entities*, i.e. both *Basic* and *Aggregate*
831 *Business Information Entities*, and not on a set of *Core Components* (See Figure 5-1).
832 The analysis that produces *Core Components* is, among other things, a process of
833 identifying the various context categories and values, to determine those properties
834 that exist in all possible contexts.

835 The guidelines presented here facilitate the analysis of *Business Information Entities*
836 to determine core business semantics, or provide a mechanism to describe *Business*
837 *Information Entities* when they are published in a repository.

838 When doing analysis, there is a key question: “Is a particular property of a *Business*
839 *Information Entity* derived from its contextual business use, or is it a core property of
840 the component?”

841 The answer to this question can be found by looking at as many different instances of
842 that *Business Information Entity* as possible. If there is a single semantic property of
843 that *Business Information Entity* that is found in every example available for analysis,
844 then it can be assumed that the property in question is in fact a core semantic, and is
845 not derived from the contextual business use.

846 If there are any instances of the *Business Information Entity* in which the property in
847 question is not present, then this raises the issue of identity: Is the *Business*
848 *Information Entity* which lacks that property really the same *Business Information*
849 *Entity*, just used in a different context?

850 If the answer to this question is *yes*, then that property is not part of the *Core*
851 *Component*, but is derived contextually, and the property should be removed from the
852 *Basic Core Component* or *Aggregate Core Component* being discovered. If the
853 answer is *no*, then it is possible that a second, different *Core Component* has been
854 discovered.

855 [Issue]

856 There is a question regarding properties. A counter position held by some members of
857 the team is that the process that is described by two different *Business Information*
858 *Entities*) will have all properties. They are just not used in all contexts (or they are
859 specialisations). Under this alternate position, all properties would be stored and
860 *Business Information Entity* would only be derived by restrictions. This issue will be
861 resolved based on input during the comment period.

862 **5.6.1 Context Categories**

863 Context categories are introduced here and are followed by a brief description. After
864 which the various guidelines used to determine context are introduced:

865 • *Business Process Context*: This is the classification of the business
866 process, business collaboration, or business transaction as described in the
867 *Catalogue of Common Business Processes*. It is the primary context
868 category, and provides many useful distinctions in the analysis of *Core*
869 *Components*.

870 • *Product Classification Context*: There are many types of information that
871 are specific to products or services being traded or referred to in a business
872 process.

873 • *Industry Classification Context*: Traditionally, business vocabularies are
874 divided up into industry verticals. This *Context Category* specifies a
875 particular industry vertical.

876 • *Geopolitical Context*: Specifies the semantic and structural variation. This
877 is often the result of regional or cultural factors.

- 878 • *Official Constraints Context*: Specifies the legal or contractual influences
879 upon business semantics.
- 880 • *Business Process Role Context*: Every partner in a business process data
881 exchange has a particular role – buyer, seller, etc. These roles are
882 described in the *Catalogue of Common Business Processes* and in other
883 *Business Libraries* (libraries of business process models). Depending on
884 the business process, the nature of these roles may require that certain
885 semantics and data be employed in the messages exchanged. In any
886 *Business Process Role Context*, one must either be a sender or receiver of
887 data in that particular exchange – otherwise, role is described by the
888 *Supporting Role Context*.
- 889 • *Supporting Role Context*: Parties in a business process who are neither
890 senders nor receivers of data in a particular exchange, may place
891 requirements on the data exchanged by partners who are sending or
892 receiving of data in that exchange. These non-sending, non-receiving
893 parties in this exchange play a supporting role, and are described by the
894 *Supporting Role Context*.

895 [Issue]

896 The decision to split the underlying concept behind *Business Process* and *Supporting*
897 *Role Context* into two separate context drivers needs to be verified with the current
898 *Business Process Team* approach.

- 899 • *System Capabilities Context*: When a particular semantic or structure is
900 primarily the result of system constraints, or compliance with a standard,
901 then it is attributable to the *System Capabilities Context*.

902 **5.6.2 Guidelines for Analyzing Business Information Entities in Context**

903 Using the criteria given in section 5.6.1 for determining that a particular property of a
904 *Business Information Entity* is in fact the product of its use in context, the analyst
905 must ascertain and document the applicable context categories. To accomplish this,
906 the analyst should list all the context categories, and assign a value or values to each
907 category for that component. If a context category has no particular value or values,
908 then the Analyst should assign a value of *In All Contexts* (for all contexts except
909 *Official Constraints*) or *None* (for *Official Constraints*). As this analysis is conducted,
910 different context categories might appear to be in competition for application. The
911 analyst must ascertain which context category is responsible. This section provides
912 some guidelines for answering this question in a systematic and consistent fashion, by
913 examining the typical ambiguities that arise.

914 It is possible that a particular property of a *Business Information Entity* may be the
915 result of several context factors. These context factors are identified by analysis of
916 differences and similarities across particular contexts. For example, comparing the
917 same *Business Information Entity* as used in different regions of the world, variation

918 will probably be the result of a geopolitical context or official constraints context (see
919 below). If a single *Business Information Entity* differs between business processes,
920 then the business process context is probably the cause. For each non-core property of
921 every *Business Information Entity* analysed the relevant influences and hence context
922 factors should be identified.

923 The following guidelines apply:

924 1) *Geopolitical Context* versus *Official Constraints Context*

925 If a property can be traced to a specific body of law or international treaty then it is
926 the result of an official constraint. For example, if a warning about hazardous
927 goods is required as part of a goods description, and it is required on all uses of that
928 goods description within the United States, then both *Geopolitical* and *Official*
929 *Constraints* are involved. The value of an *Official Constraint Context* should
930 always be the body of law or treaty that is being cited. The value of a *Geopolitical*
931 *Context* always expresses the region or regions that are relevant.

932 2) *Product Classification Context* versus *Industry Classification Context*

933 When a particular variation on a given product or service is specific to a particular
934 industry, then the *Industry Classification Context* is adequate to specify the
935 context. If all examples of the particular product or service are described by the
936 same unique set of properties across industries, then only a *Product Classification*
937 *Context* is required. In other cases, a value or values should be supplied for both
938 context categories.

939 3) *Business Process Context* versus *Business Role Context*

940 *Business Role Context* is employed when one actor in the business process has an
941 information requirement and the other does not. If both actors have the same
942 information requirement, then it is a *Business Process Context*.

943 4) *System Capability Context* categories

944 This context is the result of system or classes of systems that *primarily* influence
945 data variation. For example, if a specific Enterprise Resource Planning (ERP)
946 provider's proprietary data formats use a particular field, and no other applications
947 use that field, then the presence of the data can be attributed to the processing
948 capabilities of that specific system.

949 The following detailed example illustrates the process of assigning values for all
950 context categories as part of the *Business Information Entity* analysis process:

951 [Example]

952 Case: A buyer address *Business Information Entity* is taken from a standard that is
953 used across all industry boundaries and in all processes within the United States. The
954 *Business Information Entity* also contains a child field that holds the *State*
955 information.

956 The following set of values could be ascribed to this child field for this *Business*
957 *Information Entity*:

958 *Business Process = In All Contexts*

959 *Product Classification = In All Context*

960 *Industry Classification = In All Contexts*

961 *Geopolitical = United States*

962 *Official Constraint = None*

963 *Business Process Role = In All Contexts*

964 *Supporting Role = In All Contexts*

965 *System Capabilities = In All Contexts*

966 These values were selected based on the following analysis:

967 The *Business Information Entity* construct is the same in every business process
968 covered by the standard in question – the address always contains a *State* field.
969 Therefore, for the range of business processes covered by the *Business Information*
970 *Entity* being analysed, – the *Business Process Context* category is marked *In All*
971 *Contexts*.

972 The products that might be described in the same business message do not affect the
973 address. Since the standard from which the *Business Information Entity* has been
974 extracted is horizontal across industry boundaries, it is equally valid in all *Industry*
975 *Classification Contexts*.

976 As a child element of *Buyer Address*, it is clear that the *State* field is intended to hold
977 a value specific to United States geopolitical demarcations. Therefore the *Geopolitical*
978 *Context Category* is properly assigned the value *United States*.

979

980 [Example] (Continued)

981 No specific law can be cited that requires the presence of the *State* field in the address.
982 Therefore, a value of *None* is given to the *Official Constraint Context* category.

983 On inspection of *Business Process Role*, it appears that all addresses in the standard in
984 question are required to provide the *State* information, regardless of what role they
985 play in the transaction. The fact that a buyer role is being analysed has no effect on
986 this field: all types of addresses have the same semantics. Therefore, all roles provide
987 the data equally when giving an address. A value of *In All Contexts* is applicable here.

988 The same reasoning holds for the *Supporting Role Context*.

989 Finally, considering the *System Capabilities Context*, there are no specific systems
990 that act as the primary reason for the presence or absence of the semantic. Instead, the
991 primary existence of the field can be ascribed to the fact that in common usage, US
992 addresses include the *State* field. Therefore, we can provide the value *In All Contexts*
993 here. Note that as wide a range of values as possible should be provided to ensure
994 completeness.

995

996 If, in the above example, the address was taken from a French standard, it might be
997 that some child elements are common across a number of countries in the same
998 region, and perhaps even in multiple regions. Providing the value *France* as a
999 *Geopolitical Context* here would be incomplete – every known valid value should be
1000 given.

⁴ The UN/CEFACT Modeling Methodology (UMM) is a methodology for business process and information modeling that is based on the Unified Modeling Language.

1001 **6 Technical Details**

1002 This section provides a detailed technical explanation of the *Core Component*,
1003 *Business Process* integration, storage and metamodel elements of the UN/CEFACT
1004 *Core Components* concept.

1005 **6.1 Core Components and Business Information Entities**

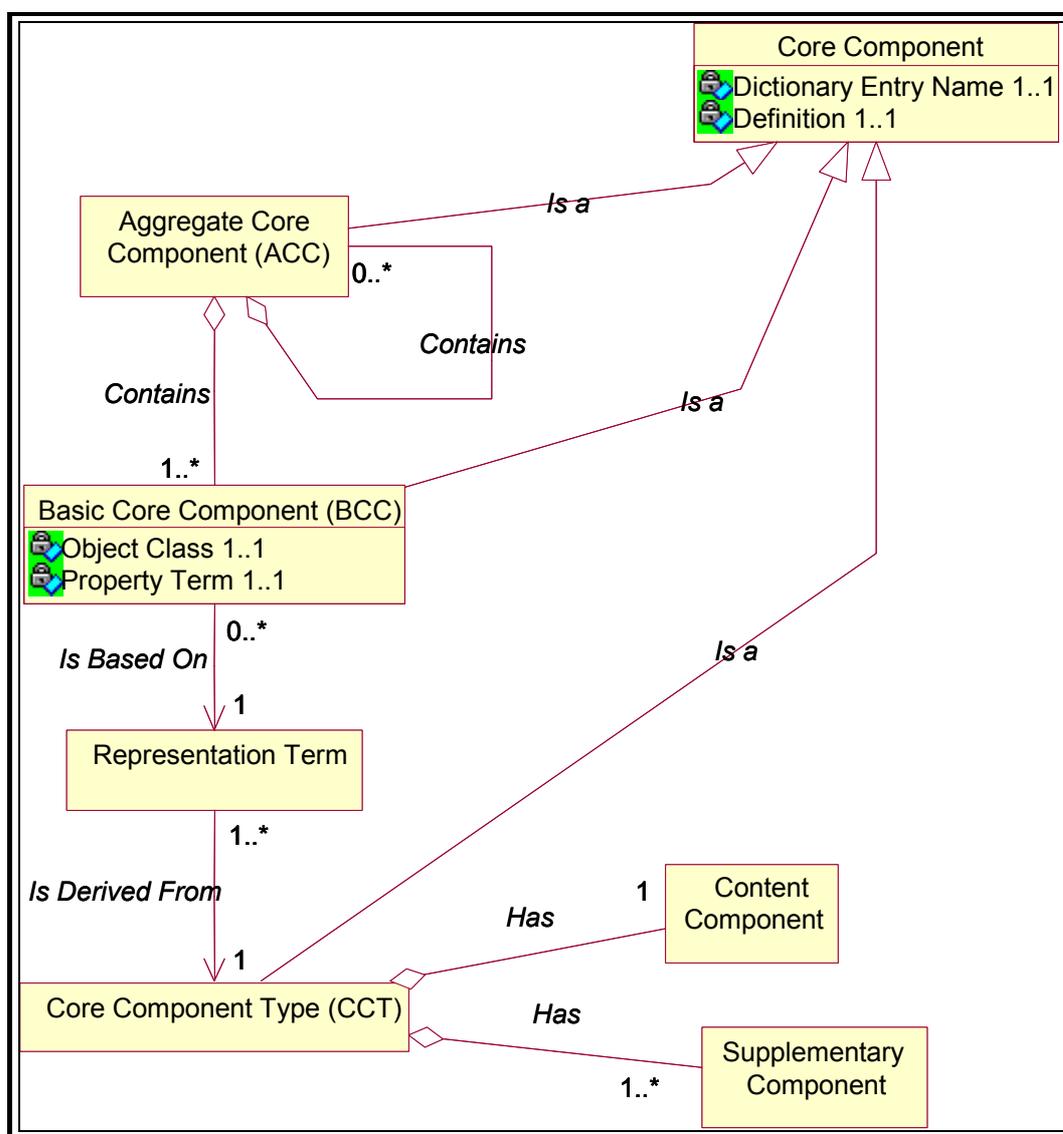
1006 This section defines the following:

- 1007 • *Core Component* rules
- 1008 • *Naming Conventions*,
- 1009 • allowable *Core Component Types*
- 1010 • *Content* and *Supplementary Component* types, and
- 1011 • *Representation Terms*.

1012 This section also specifies relationships for *Core Components* and *Business*
1013 *Information Entities* and includes details required for constructing the *Core*
1014 *Components Catalogue* and a larger *Core Component Library*.

1015 **6.1.1 Core Components**

1016 A *Core Component* is a building block for the creation of a semantically correct and
1017 meaningful business information exchange ‘parcel’, containing the information pieces
1018 needed to describe a specific concept. There are three categories of *Core Components*:
1019 *Basic Core Component*, *Core Component Type* and *Aggregate Core Component*.
1020 Figure 6-1 illustrates these three categories and their relationships.

1021 **Figure 6-1. Core Components Basic Definitions**

1022 The following general rules must be followed in discovering and documenting the
 1023 three types of *Core Components*:

1024 [C1] Each *Core Component Type*, *Basic* or *Aggregate Information Entity* must have
 1025 its own business semantic definition. The definition shall be developed first
 1026 and the *Dictionary Entry Name* shall be extracted from it. Remarks can be
 1027 used to further clarify the definition, to provide examples and/or to reference a
 1028 recognised standard.

1029 [C2] Within an *Aggregate Core Component*, all embedded entities shall be related
 1030 to the concept of the aggregate.

1031 [C3] There shall be no semantic overlap between the *Core Components* embedded
1032 within the same *Aggregate Core Component*.

1033 [C4] The representation of the information in a *Core Component* of the *Core*
1034 *Component Type Code* should use a standard issued by a recognised standards
1035 body, whenever a standard exists. If international standards are not used a
1036 business driven justification shall be provided.

1037 [C5] An *Aggregate Information Entity* must contain at least one *Basic Core*
1038 *Component*.

1039 [Issue]

1040 The issue of allowing aggregates without at least one *Basic Core Component* was
1041 discussed in detail and the majority opinion is that problems with infinite loops and
1042 miscast aggregates would arise without the restriction to have at least one *Basic Core*
1043 *Component* in each aggregate. There is a minority opinion that we may discover there
1044 are valid technical reasons where occurrences of *Aggregate Core Components* may
1045 only be comprised of other aggregates. A final position on this issue will be developed
1046 based on the comments received during the final eBTWG review period.

1047

1048 [Note]

1049 For the purpose of exchanging information a practical compromise on the level of
1050 detail of a *Basic Core Component* is required. This compromise shall be based on the
1051 Business Need. It is not necessary to have absolute detail, which decomposes a piece
1052 of information down to its lowest level.

1053 [C6] The *Core Component Type* shall be one of the approved *Core Component*
1054 *Types*

1055 [Note]

1056 Table 8-1 provides a complete list of the currently approved *Core Component Types*.
1057 This Table will subsequently be published separately to facilitate maintenance outside
1058 the body of this specification.

1060 [C7] The *Content Component* shall be one of the approved *Content Components*

1061 [C8] The *Supplementary Component* shall be one of the approved *Supplementary*
1062 *Components*

1063

[Note]

1064

Table 8-3 provides a complete list of the currently approved *Content Components* and *Supplementary Components*. This Table will subsequently be published separately to facilitate maintenance outside the body of this specification.

1065

1066

1067

1069 6.1.2 Business Information Entities

1070

A *Business Information Entity* is a piece of business data or a group of pieces of business data with a unique business semantic definition. A *Business Information Entity* can be either a *Basic Business Information Entity* (BBIE) or an *Aggregate Business Information Entity* (ABIE). A *Basic Business Information Entity* is derived from a *Basic Core Component* (BCC). An *Aggregate Business Information Entity* is a re-use of an *Aggregate Core Component* (ACC) in a specified business context. Figure 6-2 describes the *Business Information Entity* types and shows relationships to the *Core Component* counterparts.

1071

1072

1073

1074

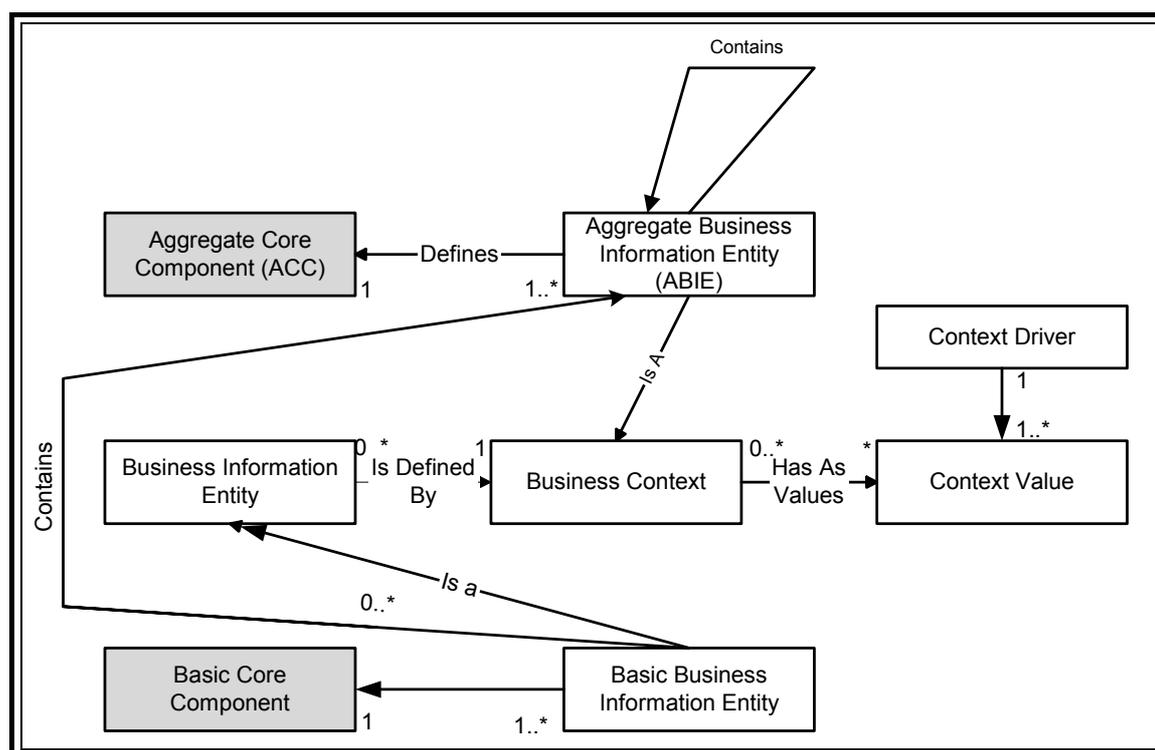
1075

1076

1077

1078

Figure 6-2. Business Information Entities Basic Definition Model



1079

1080

1081

[B1] A *Business Information Entity* shall always be either a *Basic Business Information Entity* or an *Aggregate Business Information Entity*.

1082

1083

[B2] All *Basic Business Information Entities* that relate to the same context-free concept shall form the basis of the definition of a *Basic Core component*.

1084

1085 [B3] All *Aggregate Business Information Entities* that relate to the same context-
1086 free concept form the basis of the definition of an *Aggregate Core component*.

1087 [B4] An *Aggregate Business Information Entity* will consist of two or more *Basic*
1088 *Business Information Entities* and/or *Aggregate Business Information Entities*.

1089 **6.1.3 Naming Convention**

1090 A naming convention is necessary to gain consistency in the naming and defining of
1091 all *Core Components* and *Business Information Entities*. The resulting consistency
1092 facilitates comparison during the discovery and analysis process, and precludes
1093 ambiguity, such as the creation of multiple *Core Components* with different names
1094 that have the same semantic meaning.

1095 The naming rules are derived from the guidelines and principles described in
1096 document ISO 11179 Part 5 -- *Naming and Identification Principles For Data*
1097 *Elements*. In certain instances, these guidelines have been adapted to the *Core*
1098 *Component* environment. In particular, the guidelines have been extended to cover the
1099 naming and defining of *Aggregate Business Information Entities* and *Core*
1100 *Component Types*.

1101 In order to ensure absolute clarity and understanding of the names and definitions it is
1102 essential to use words from the *Oxford English Dictionary*. A supplementary
1103 *Controlled Vocabulary* will be developed to define uniquely any words that are
1104 potentially ambiguous. This will ensure that each word within any of the names and
1105 definitions is used in a consistent and unambiguous way. The resultant semantic
1106 integrity will also mean that translation into other languages retains the precise
1107 original meaning.

1108 [Issue]

1109 The *Naming Convention* needs to be examined to see if the rules adequately cover the
1110 naming of *Basic Business Information Entities* and *Aggregate Business Information*
1111 *Entities*, particularly in combining context and core naming. This will be resolved by
1112 the *Core Component* Team based on inputs received during the final eBTWG review
1113 process.

1114 **6.1.3.1 Dictionary Information**

1115 Each *Core Component* contains the following dictionary information that is impacted
1116 by the naming rules:

1117 • **Dictionary Entry Name** (Mandatory). This is the unique official name of
1118 the *Core Component* in the dictionary.

1119 • **Definition** (Mandatory). This is the unique semantic business meaning of
1120 that *Core Component*.

- 1121 • **Business Term** (Optional). This is a synonym term under which the *Core*
 1122 *Component* is commonly known and used in the business. A *Core*
 1123 *Component* may have several business terms or synonyms.

1124 [Example]

1125 *Dictionary Entry Name* (e.g. *Charge. Price. Amount; Currency Exchange. Rate;*
 1126 *Financial. Account. Identifier*)

1127 *Business Term* (e.g. *Price Amount; Conversion Rate; Account Number*)

1128

1129 [Example]

1130 *Dictionary Entry Name – Person. Tax. Identifier*

1131 Definition – The registered national tax identification of a person

1132 *Business Term – Social security number, national insurance number*

1133 The naming rules are also based on the following concepts as defined in ISO 11179:

1134 • **Object Class**. This represents the logical data grouping or aggregation (in a
 1135 logical data model) to which a data element belongs. The *Object Class*
 1136 thus is the part of a *Core Component's Dictionary Entry Name* that
 1137 represents an activity or object in a specific context.

1138 • **Property Term**. This represents the distinguishing characteristic or
 1139 property of the dominant area of interest and shall occur naturally in the
 1140 definition.

1141 • **Representation Term**. This defines the type of valid values for an
 1142 information entity.

1143 6.1.3.2 Rules

1144 The following subsections define all naming convention rules.

1145 6.1.3.2.1 General Rules

1146 [C9] The dictionary content shall be in *English Language* following the
 1147 primary *Oxford Dictionary* English spellings to assure unambiguous
 1148 spelling.

1149 [Note]

1150 There may be restrictions in specific languages, which need to be applied when
1151 transforming the *Core Component* dictionary into other languages. These restrictions
1152 shall be formulated as additional rules and added as separate language specific
1153 annexes to this document.

1154 6.1.3.2.2 Rules for Definitions

1155 [C10] The definition shall be consistent with the requirements of ISO 11179-4
1156 Section 4.4 and will provide an understandable meaning, which should also be
1157 translatable to other languages.

1158 [C11] The definition shall take into account the fact that the users of the *Core*
1159 *Component Dictionary* are not necessarily native English speakers. It shall
1160 therefore contain short sentences, using normal words. Wherever synonym
1161 terms are possible, the definition shall use the preferred term as identified in
1162 the *Core Components Glossary of Terms*.

1163 [C12] The definition of a *Core Component* shall use a structure that is based on the
1164 existence of the *Object Class*, the *Property Term*, and its *Representation Term*.

1165 [C13] Whenever both the definite (i.e. *the*) and indefinite article (i.e. *a*) are
1166 possible in a definition, preference shall be given to the indefinite article (i.e.
1167 *a*).

1168 [Note]

1169 To check the quality of the definition, place the *Dictionary Entry Name* followed by *is*
1170 before the definition to ensure that it is not simply a repetition of the *Dictionary Entry*
1171 *Name*.

1172 6.1.3.2.3 Rules for Dictionary Entry Names

1173 [C14] The *Dictionary Entry Name* shall be unique.

1174 [C15] The *Dictionary Entry Name* shall be extracted from the *Core Component*
1175 definition.

1176 [C16] The *Dictionary Entry Name* shall be concise and shall not contain consecutive
1177 redundant words.

1178 [C17] The *Dictionary Entry Name* and all its components shall be in singular form
1179 unless the concept itself is plural.

1180

[Example]

1181

Goods

1182

[C18] The *Dictionary Entry Name* shall not use Non-letter characters unless required by language rules.

1183

1184

[C19] The *Dictionary Entry Name* shall only contain verbs, nouns and adjectives (i.e. no words like *and, of, the*, etc.). This rule shall be applied to the English language, and may be applied to other languages as appropriate.

1185

1186

1187

[C20] Abbreviations and acronyms that are part of the *Dictionary Entry Name* shall be expanded or explained in the definition.

1188

1189

[C21] The *Dictionary Entry Name* of a *Core Component* shall consist of the name of an *Object Class*, the name of a *Property Term* and the name of a *Representation Term*.

1190

1191

1192

[Example]

1193

Tax. Description. Text

1194

[C22] The components of a *Dictionary Entry Name* shall be separated by dots. The space character shall separate words in multi-word *Object Classes* and/or multiword *Property Terms*. Every word shall start with a capital letter. To allow spell checking of the *Directory Entry Names'* words, the dots after *Object Class* and *Property Terms* shall be followed by a space character.

1195

1196

1197

1198

1199

[Note]

1200

The use of CamelCase for *Dictionary Entry Names* has been considered, but has been rejected for following reasons:

1201

1202

- ◆ Use of CamelCase will not allow the use of spell checkers

1203

- ◆ Strict use of CamelCase makes it impossible to use separators (“.”) and therefore doesn't allow an unambiguous identification of the composing parts of the *Dictionary Entry Name*

1204

1205

1206

[C23] The name of an *Object Class* refers to an activity or object within a *Business Context*. It shall be unique throughout the dictionary and may consist of more than one word.

1207

1208

1209 [C24] The name of a *Property Term* shall occur naturally in the definition and may
1210 consist of more than one word. A name of a *Property Term* shall be unique
1211 within the context of an *Object Class* but may be reused across different
1212 *Object Classes*.

1213 [Example]

1214 *Car. Colour. Code* and *Shirt. Colour. Code* may both exist

1215 [C25] If the name of the *Property Term* uses the same word as the *Representation*
1216 *Term* (or an equivalent word), this *Property Term* shall be removed from
1217 *Dictionary Entry Name*. The *Representation Term* word in this case only will
1218 remain.

1219 [Example]

1220 If the *Object Class* is *Goods*, the *Property Term* is *Delivery Date*, and *Representation*
1221 *Term* is *Date*, the *Dictionary Entry Name* is *Goods. Delivery. Date*; the *Dictionary*
1222 *Entry Name* for an identifier of a party (*Party. Identification. Identifier*) will be
1223 truncated to *Party. Identifier*.

1224 [C26] The name of the *Representation Term* shall be one of the terms specified in the
1225 *List of Representation Terms* as included in this document (See section
1226 6.1.3.3).

1227 [C27] The name of the *Representation Term* shall not be truncated in the *Dictionary*
1228 *Entry Name*.

1229 [C28] The *Dictionary Entry Name* of a *Core Component Type* shall consist of a
1230 meaningful type name followed by a dot and the term *Type*.

1231 [Example]

1232 *Amount. Type; Date Time. Type*

1233 [C29] The *Dictionary Entry Name* of an *Aggregate Core Component* shall consist of
1234 a meaningful aggregate name followed by a dot and the term *Details*. The
1235 aggregate name may consist of more than one word.

1236 [Example]

1237 *Postal Address. Details, Party. Details*

1238

1239 6.1.3.2.4 Rules for Business Terms

1240 *Business Terms* are those terms that are commonly used for day-to-day information
 1241 exchanges within a given domain. As such, no specific naming rules apply to *Business*
 1242 *Terms*. Interoperability of *Business Terms* will be given by linking them to *Core*
 1243 *Component* dictionary entries.

1244 6.1.3.3 List of Representation Terms

1245 The *Representation Term* is the part of a *Core Component* name that describes the
 1246 form of valid values in which the business information is expressed in a data item. For
 1247 instance all basic *Core Components* representing a monetary amount shall be named
 1248 *[Name]. Amount* where *[Name]* represents a specialisation of the generic amount and
 1249 *Amount* is the *Representation Term*. Table 6-3 lists the permissible *Representation*
 1250 *Terms*.

1251 [C30] The *Representation Term* shall be one of the list of permissible *Representation*
 1252 *Terms*

1253 **Table 6-3 Permissible Representation Terms**

| Representation Term | Definition | Links to Core Component Type |
|----------------------------|---|-------------------------------------|
| Amount | A number of monetary units specified in a currency where the unit of currency is explicit or implied. | Amount. Type |
| Code | A character string (letters, figures or symbols) that for brevity and / or language independence may be used to represent or replace a definitive value or text of an attribute. Codes usually are maintained in code lists per attribute type (e.g. colour). | Code. Type |
| Date | A day within a particular calendar year (ISO 8601). | Date Time. Type |
| Date Time | A particular point in the progression of time (ISO 8601). | Date Time. Type |
| Graphic | A diagram, graph, mathematical curves, or similar representation | Graphic. Type |

| Representation Term | Definition | Links to Core Component Type |
|----------------------------|--|-------------------------------------|
| Identifier | A character string used to establish the identity of, and distinguish uniquely, one instance of an object within an identification scheme from all other objects within the same scheme. [Note: Type shall not be used when a person or an object is identified by its name. In this case the <i>Representation Term</i> "Name" shall be used.] | Identifier. Type |
| Indicator | A list of two, and only two, values which indicate a condition such as on/off; true/false etc. (synonym: "Boolean"). | Indicator. Type |
| Measure | A numeric value determined by measuring an object. Measures are specified with a unit of measure. The applicable unit of measure is taken from UN/ECE Rec. 20. | Measure. Type |
| Name | A word or phrase that constitutes the distinctive designation of a person, place, thing or concept. | Text. Type |
| Percent | A rate expressed in hundredths between two values that have the same unit of measure. | Numeric. Type |
| Picture | A visual representation of a person, object, or scene | Picture. Type |
| Quantity | A number of non-monetary units. It is associated with the indication of objects. Quantities need to be specified with a unit of quantity. | Quantity. Type |
| Rate | A quantity or amount measured with respect to another measured quantity or amount, or a fixed or appropriate charge, cost or value e.g. US Dollars per hour, US Dollars per EURO, kilometre per litre, etc. | Numeric. Type |
| Text | A character string generally in the form of words of a language. | Text. Type |
| Time | The time within a (not specified) day (ISO 8601). | Date Time. Type |
| Value | Numeric information that is assigned or is determined by calculation, counting or sequencing. It does not require a unit of quantity or a unit of measure | Numeric. Type |

1254 In addition to permissible representation terms for *Core Components*, there are also
1255 permissible representation terms for *Aggregate Core Components* and *Core*
1256 *Component Types*. Table 6-4 contains the permissible representation terms that apply
1257 to *Aggregate Core Components* or *Core Component Types*.

1258 [C31] The *Representation Term* for *Aggregate Core Components* or *Core*
 1259 *Component Types* shall be one of the list of permissible *Aggregate Core*
 1260 *components* or *Core Component Type Representation Terms*

1261 **Table 6-4 Permissible Representation Terms for Aggregate Core Components or**
 1262 **Core Component Types**

| Representation Term | Definition | Links to Core Component Type |
|----------------------------|--|--|
| Details | The expression of the aggregation of <i>Core Components</i> to indicate higher levelled information entities | Not Applicable |
| Type | The expression of the aggregation of <i>Core Components</i> to indicate the aggregation of lower levelled information entities to become <i>Core Component Types</i> . All <i>Core Component Types</i> shall use this <i>Representation Term</i> | Not Applicable |
| Content | The actual content of an information entity. <i>Content</i> is the first information entity in a <i>Core Component Type</i> | Used with the <i>Content Components</i> of <i>Core Component Types</i> |

1263 6.1.4 Catalogue of Core Components

1264 As originally articulated in the ebXML architecture concept and perpetuated in the
 1265 developing UN/CEFACT architecture concept, all *Core Components* will be recorded
 1266 in an ebXML compliant registry and stored in a related repository. However, small
 1267 and medium enterprise (SME) organisations may not be able to readily access such
 1268 architecture. As such, it is important that the full range of *UN/CEFACT Core*
 1269 *Components* be published in a freely available catalogue. This catalogue must convey
 1270 the full details of each *Core Component* consistent with how those components are
 1271 stored as UML objects in the repository. Table 6-5 identifies a proper format for the
 1272 catalogue and contains representative entries from the existing *UN/CEFACT Core*
 1273 *Components Catalogue*.

1274 The catalogue is intended to be part of a larger *Core Component Library*. The *Core*
 1275 *Component Library* will consist of the following parts:

- 1276 • *Core Component Types*
- 1277 • *Catalogue of Core Components*, including *Basic Core Components*, *Basic*
 1278 *Business Information Entities*, and *Aggregate Core Components*
- 1279 • *Catalogue of Aggregate Business Information Entities*

1280

1280 **Table 6-5. Core Component Catalogue**

| UID | Dictionary Entry Name | CCT Used | Basic or Aggregate | Definition | Remarks | Object Class | Property Term | Representation Term | Business Terms | Core Component Children |
|--------|--------------------------------|--------------------|--------------------|--|--|-------------------|---------------|---------------------|----------------|-------------------------|
| 000024 | Address. Type. Code | Code. Type | Basic | The type of the address. | For example a business address or a home address. Not the Role of the address. | Address | Type | Code | | |
| 000147 | Base Charge Price. Quantity | Quantity. Type | Basic | The base quantity of the charge/price unit amount. | For example, for a charge of \$5/day for 10 days, the charge base quantity is 1 day. | Base Charge Price | Quantity* | Quantity | | |
| 000139 | Base. Currency. Code | Code. Type | Basic | The currency that is on the 'one unit' side of the rate of exchange. | The base currency amount divided by the currency exchange rate gives the second currency amount. | Base | Currency | Code | | |
| 000012 | Birth. Date | Date Time. Type | Basic | The date on which a person was born. | Applies only to parties being natural persons. | Birth | Date* | Date | | |

1281

1282 **6.1.5 Catalogue of Business Information Entities**

1283 For the same reasons that a *Catalogue of Core Components* is necessary, a *Catalogue*
1284 *of Business Information Entities* is also required. Predefined BIEs are not provided.
1285 Rather, the working registries and the groups defining business messages will be
1286 responsible for developing a *Catalogue of Business Information Entities* that is
1287 comparable to the *Catalogue of Core Components*.

1288 **6.2 Context**

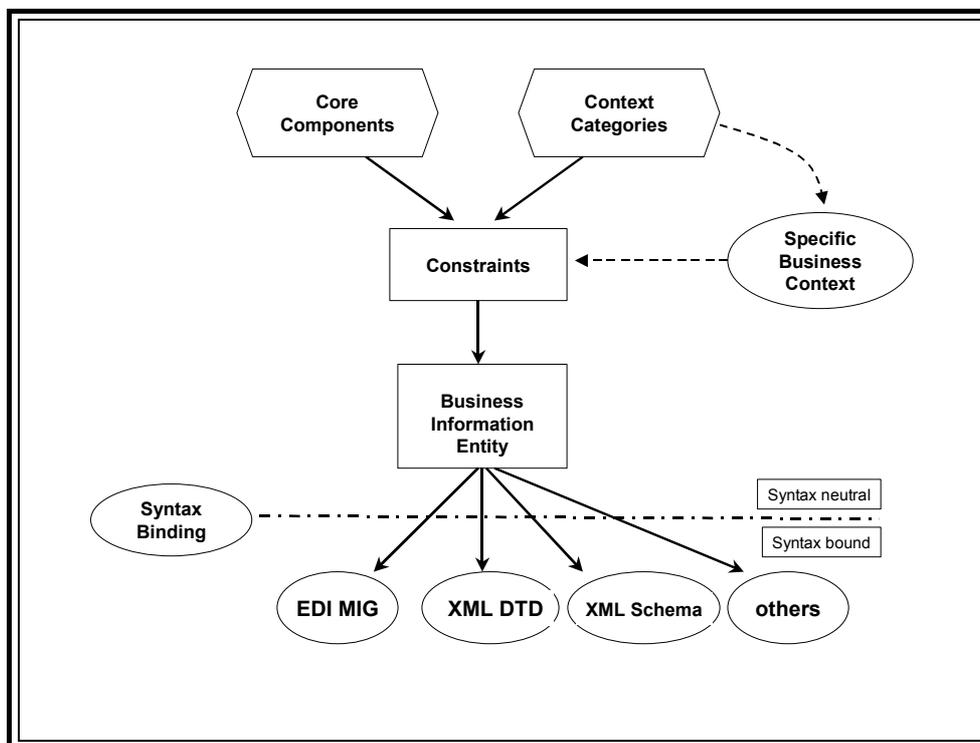
1289 This section fully describes applicable rules and applications for the use of context in
 1290 *Core Component* discovery, analysis, and use to include context categories and their
 1291 values, and the *Constraint Language*.

1292 **6.2.1 Overview of Context Specification**

1293 Whenever business collaboration takes place between specific trading partners, data is
 1294 exchanged in the form of business messages. That data exists in a particular business
 1295 context. In its simplest form, this is the idea of *context* as used in ebXML. The context
 1296 in which the business collaboration takes place can be specified by a set of categories
 1297 and their associated values.

1298 The *Core Components* have no context independent of their use. The *Context*
 1299 mechanism provides a full semantic qualification for the *Core Component* used in a
 1300 business process. Figure 6-3 shows how the constraint language applies *Business*
 1301 *Context* categories and specific business context(s) to *Core Components* to create
 1302 *Business Information Entities*. The *Business Information Entity* resulting from this
 1303 process can be manifested as a model, which in turn can be used as the basis of a
 1304 syntax-bound business message description (an EDI message implementation guide,
 1305 an XML DTD or schema, etc.)

1306 The following sections address the context categories, and the constraint language
 1307 more closely.

1308 **Figure 6-3. Operation of The Context Mechanism**

1309

1310 6.2.1.1 Context Categories

1311 *Context Categories* exist to allow users to uniquely identify and distinguish between
1312 different business contexts. Eight context categories have been identified. Each of the
1313 identified categories – unless otherwise stated - uses a standard classification to
1314 provide values for the category. Constraint rules – and therefore, BIEs – are tied to a
1315 particular set of standard classifications for identifying and distinguishing contexts.

1316

1317 6.2.1.2 Constraint Language

1318 A *Constraint Language* is used to express the relationship between specific *Business*
1319 *Contexts* and how semantics are applied to the *Core Components* to produce *Business*
1320 *Information Entities*. The scope of this language covers two functional parts:

- 1321 • *Assembly* of a large aggregate (the *Document*);
- 1322 • Refinement of the assembly as appropriate. Refinement is both the
1323 addition of semantics specific to the business process, and the restriction
1324 and extension of the semantic model.

1325 This separation is a convenience for implementation (it simplifies the creation of
1326 processing tools) and creation of *standard* assemblies that can then be refined by
1327 specific users (a process that resembles how EDI standards and message
1328 implementation guides function today).

1329 Both *Constraint Language* parts allow, for example, simple commands indicating
1330 how *Core Components* will be used, how they will be named for these specific uses,
1331 and how to refine the cardinality (if necessary). Further, conditional relationships can
1332 be expressed. Specific context values or sets of values can be tied to the actions
1333 performed on *Core Components* to produce *Business Information Entities*.

1334 [Example]

1335 If the *Geopolitical Process Context* has a value of *Anywhere in the European Union*,
1336 and the specific *Business Context Value* indicates that the business process occurs in
1337 France, then the context-appropriate *Business Information Entity* can be assembled by
1338 modifying the correct *Core Component*.

1339 The constraint language would say—If the *Geopolitical Process Context* equals the
1340 *European Union*, then take the core *NameAddress* component and rules to provide the
1341 correct names, cardinality, and arrangement to the fields. To do business in France,
1342 the specific context value for that process will trigger this rule, giving a set of
1343 appropriate business semantics (*Business Information Entities*).

1344 6.2.1.3 Syntax Binding

1345 The *Business Information Entity* is a model that has no relationship to a specific
 1346 syntax. It is intended that any given *Business Information Entity* can be expressed in
 1347 any number of syntaxes. This process is called *syntax binding*, and is independent of
 1348 (has no relationship to) a specific syntax. It may be possible to express *syntax binding*
 1349 in an algorithm.

1350 **6.2.2 Approved Context Categories**

1351 Table 6-6 contains the eight approved *Context Categories*.

1352 [C32] When describing a specific *Business Context*, a set of values will be assigned
 1353 to the business situation being formally described.

1354 [C33] Applied *Business Context* will be from the list of approved context categories.

1355 **Table 6-6. Approved Context Categories**

| Context Category | Description |
|-------------------------|---|
| Business Process | The business process as described using the ebXML Catalogue of Common Business Processes and an extension mechanism. |
| Product Classification | Factors influencing semantics that are the result of the goods or services being exchanged, handled, or paid for, etc. (e.g. the buying of consulting services as opposed to materials) |
| Industry Classification | Semantic influences related to the industry or industries of the trading partners (e.g., product identification schemes used in different industries). |
| Geopolitical | Geographical factors that influence business semantics (e.g., the structure of an address). |
| Official Constraints | Legal and governmental influences on semantics (e.g. hazardous materials information required by law when shipping goods). |
| Business Process Role | The actors conducting a particular business process, as identified in the Catalogue of Common Business Processes. |
| Supporting Role | Semantic influences related to non-partner roles (e.g., data required by a third-party shipper in an order response going from seller to buyer.) |
| System Capabilities | This context category exists to capture the limitations of systems (e.g. an |

| Context Category | Description |
|------------------|--|
| | existing back office can only support an address in a certain form). |

1356 6.2.2.1 Business Process Context

1357 In describing a business situation, generally the most important aspect of that situation
 1358 is the business activity being conducted. *Business Process Context* provides a way to
 1359 unambiguously identify the business activity. To ensure consistency with business
 1360 process activities, it is important to use a common point of reference. The definitive
 1361 point of reference for international standards is the UN/CEFACT *Catalogue of*
 1362 *Common Business Processes*.

1363 [C34] Assigned *Business Process Contexts* shall be from the standard hierarchical
 1364 classification: provided as part of the UN/CEFACT *Catalogue of Common*
 1365 *Business Processes*.

1366 [C35] *Business Process Context* values may be expressed as a single business
 1367 process at any level, or may be expressed as a set of business processes at any
 1368 level.

1369 [C36] *Business Process Context* values may be taken from extensions to the business
 1370 processes described in the *Catalogue of Common Business Processes* as
 1371 provided for in that document.

1372 [C37] When business process extensions are used, they shall include full information
 1373 for each value sufficient to unambiguously identify which extension is
 1374 providing the value used.

1375 6.2.2.2 Product Classification Context

1376 The *Product Classification Context* describes those aspects of a business situation
 1377 related to the goods or services being exchanged by, or otherwise manipulated, or
 1378 concerned, in the business process. Recognized code lists exist that provide
 1379 authoritative sources of product classification contexts.

1380 [C38] A single value or set of values may be used in a *Product Classification*
 1381 *Context*.

1382 [C39] If a hierarchical system of values is used for *Product Classification Context*,
 1383 then these values may be at any level of the hierarchy.

1384 [C40] If more than one classification system is being employed, an additional value
 1385 specifying which classification scheme has supplied the values used shall be
 1386 conveyed.

1387 [C41] Product classification context code values shall be taken from recognized code
1388 lists to include:

- 1389 • *Universal Standard Product and Service Specification (UNSPSC)*
 - 1390 - Custodian: Electronic Commerce Code Management Association
1391 (ECCMA)
- 1392 • *Standard International Trade Classification (SITC Rev .3)*
 - 1393 - Custodian: United Nations Statistics Division (UNSD)
- 1394 • *Harmonized Commodity Description and Coding System (HS)*
 - 1395 - Custodian: World Trade Organization (WTO)
- 1396 • *Classification Of the purposes of non Profit Institutions serving*
1397 *households (COPI)*
 - 1398 - Custodian: UNSD (This provides a mapping between the first three.)

1399 6.2.2.3 Industry Classification Context

1400 The *Industry Classification Context* provides a description of the industry or sub-
1401 industry in which the business process takes place.

1402 [C42] An *Industry Classification Context* may contain a single value or set of values
1403 at any appropriate level of the value hierarchy.

1404 [C43] The *Industry Classification Context* value hierarchy must be identified.

1405 [C44] *Industry Classification Context* code values shall be taken from recognized
1406 code lists to include:

- 1407 • *International Standard Industrial Classification (ISIC)*
 - 1408 - Custodian: UNSD
- 1409 • *Universal Standard Product and Service Specification (UNSPSC) Top-*
1410 *level Segment [digits 1 and 2] used to define industry.*
 - 1411 - Custodian: ECCMA

1412 [Note]

1413 There are many other industry classification schemes that may be used for *Industry*
1414 *Classification Context*.

1415 6.2.2.4 Geopolitical Context

1416 *Geopolitical Contexts* allow description of those aspects of the business context that
1417 are related to region, nationality, or geographically based cultural factors.

1418 [C45] *Geopolitical Context* shall consist of appropriate continent, economic region,
1419 country, and region identifiers.

1420 [C46] *Geopolitical Regional Classification* may associate one or more values with
1421 any business message or component.

1422 [C47] *Geopolitical Regional Classification* shall employ the following hierarchical
1423 structure:

1424 Global

1425 [Continent]

1426 [Economic Region]

1427 [Country] - ISO 3166.1

1428 [Region] - ISO 3166.2

1429 [C48] At any level of the *Geopolitical Regional Classification* hierarchy, a value
1430 may be a single value, a named aggregate, or cross-border value.

1431 [C49] *Geopolitical Regional Classification* hierarchy values shall structured as
1432 follows:

- 1433 • **Single Value:** A single value indicating a single continent, economic
1434 region, country, or region, depending on position within the hierarchy.
- 1435 • **Named Aggregate:** A related group of values (which may themselves be
1436 single values, named aggregates, or cross-border constructions), which
1437 have been related and assigned a name. A named aggregate contains at
1438 least two values.
- 1439 • **Cross-Border:** One or more pairs of values, designated *To*, *From*, or *Bi-*
1440 *directional*, indicating the direction of cross-border context. Values may be
1441 named aggregates or single values.

1442 [Example]

1443 The following example shows an extract of the basic, single-value hierarchy of
1444 recommended values, based on the common ISO 3166.1 *Country Codes*. (The value at
1445 the top of any hierarchy is always understood to be *Global*.)

1446 Europe

1447 Eastern Europe

1448 AL – ALBANIA

1449 AM – ARMENIA

1450 [C50] Points in the *Geopolitical Regional Classification* hierarchy shall be specified
1451 by the use of the node value, or by the full or partial path.

1452 [C51] The full path of the *Geopolitical Regional Classification* hierarchy must be
1453 used to understand the hierarchy when complex constructs are employed.

1454 [C52] A single-point specification is understood to inherit all of the properties of the
1455 single-value hierarchy except where otherwise specified.

1456 [C53] *Geopolitical Values* will be taken from ISO 3166.1 and 3166.2

1457 6.2.2.5 Official Constraints Context

1458 The *Official Constraints Context* category describes those aspects of the business
1459 situation that result from legal or regulatory requirements and similar *official*
1460 categories. This category contains two distinct parts:

1461 • Regulatory and Legislative. These are normally unilateral in nature and
1462 include such things as customs.

1463 • Conventions and Treaties (These are normally bi- or multilateral
1464 agreements and as such are different from regulatory and legislative
1465 constraints.

1466 [C54] The *Official Constraints Context* will consist of at least two values:

1467 • Identification of the legal or other classification used to identify the
1468 context values.

1469 • Identification of the official constraint itself. These values may represent a
1470 hierarchical structure depending on the official constraints system being
1471 referenced.

1472 Because there is no known global classification of all *Official Constraints Contexts* as
1473 used here, any implementation must provide a set of recognized official constraints
1474 classifications for use within the appropriate *Core Components* Registry
1475 implementation.

1476 [C55] Individual *Core Component* implementations shall register used official
1477 constraint classification schemes with the appropriate supporting *Core*
1478 *Components* Registry implementation.

1479 6.2.2.6 Business Process Role Context

1480 The *Business Process Role Context* describes those aspects of a business situation that
1481 are specific to an actor or actors within the business process. Its values are taken from
1482 the set of *Role* values provided by the *Catalogue of Common Business Processes*. A

1483 *Business Process Role Context* is specified by using a value or set of values from this
1484 source.

1485 [C56] *Business Process Role Context* values shall be taken from an approved list
1486 provided by the business process model library being employed.

1487 [C57] The UN/CEFACT *Catalogue of Common Business Processes* shall be the
1488 definitive source of *Business Process Role Context* values for all
1489 UN/CEFACT *Business Information Entities*.

1490 [Issue]

1491 A normative dictionary of role values is expected and is considered the responsibility
1492 of the library where the business process models are stored.

1493 6.2.2.7 Supporting Role Context

1494 The *Supporting Role Context* identifies those parties that are not active participants in
1495 the business process being conducted but who are interested in it. A *Supporting Role*
1496 *Context* is specified with a value or set of values from a standard classification.

1497 [C58] *Supporting Role Context* values shall be taken from the UN/EDIFACT *Code*
1498 *List for DE 3035 Party Roles*.

1499 [Note]

1500 Users are cautioned that duplication exists in the current version of the required code
1501 list. UN/CEFACT will review this code list to clarify duplicates and identify non-
1502 *Supporting Role Context* values.

1503 6.2.2.8 System Capabilities Context

1504 This category identifies a system, a class of systems or standard in the business
1505 situation. The *System Capabilities Context* requires a least one pair of values: an
1506 identification of the classification scheme being used and a value from that scheme. A
1507 valid *System Capabilities Context* may include more than one such pair of values.

1508 [C59] *Systems Capabilities Context* values shall consist of pairs of values. Each pair
1509 shall be comprised of an identification of the referenced classification scheme
1510 and the value(s) being employed.

1511 [Note]

1512 There is no known classification of all types of information systems and standards. It
1513 is recommended that a mechanism for the registration of system and standard names
1514 be provided by the ebXML registry, as valid values for the *System Capabilities*
1515 *Context*.

1516 **6.2.3 Context Values**

1517 A specific business context is formally described using a set of context values. Every
1518 context category must have a valid value, even if this value is *In All Contexts* or *None*.
1519 The value *None* is appropriate for *Official Constraints Context* because there will be
1520 instances where there are no official constraints.

1521 [C60] The *In All Contexts* value shall be a valid value for every context category
1522 except for *Official Constraints Context*.

1523 [C61] The value *None* shall be a valid value for *Official Constraints Context*.

1524 **6.2.4 Core Components Context Constraints Language**

1525 The *Core Components Context Constraints Language* consists of a set of values (See
1526 Table 6-7) that allow users to express the relationships between specific business
1527 situations and the specific structure and meaning of business data used in that
1528 situation. The constraints language refers to specific contexts as described in the
1529 *Context Categories* specification and uses UIDs to refer to *Core Components*
1530 semantic models. The constraints applied to *Core Components* in specific business
1531 contexts to generate *Business Information Entities* are expressed using the constraints
1532 language.

1533 [C62] The *Core Components Context Constraints Language* shall be used to describe
1534 the constraints being applied to *Core Components* to create *Business*
1535 *Information Entities*.

1536 An *Assembly* is the overall expression of a single set of *Assembly Rules*, which groups
1537 a set of unrefined *Business Information Entities* in to a larger structure. When working
1538 with pre-assembled standard document sets, it should not be necessary for users to
1539 create *Assembly* constraints.

1540 [C63] *Assembly* shall be the top level construct in any set of *Assembly Rules*.

1541 [Ed. Note]

1542 The next version will have two UML class diagrams inserted here, one for *Assembly*
1543 and one for *ContextRules*.

1544 The *ContextRules* construct is the overall expression of a single set of *Context Rules*.
 1545 These add the full semantic and structural refinement to the *Core Components* to
 1546 produce *Business Information Entities* .

1547 [C64] A single set of context rules shall be described using the *Context Rules*
 1548 expression.

1549 **Table 6-7 Core Components Context Constraints Language**

| Construct | Component Constructs | Description |
|--------------------|----------------------|--|
| Assembly | | An Assembly contains at least one Assemble, optionally either an @id or an @idref, and optionally one @version Note: An Assembly is the top level construct in a set of Assembly Rules |
| | Assemble | List of assembled <i>Core Components</i> to be grouped together to form BIEs |
| | @id | ID of an Assembly |
| | @idref | Reference to an Assembly id |
| | @version | Version of the Assembly Rules document. |
| Assemble | | An Assemble contains at least either a CreateBIE or a CreateGroup, optionally either an @id or an @idref, and one @name |
| | CreateBIE | List of <i>Core Components</i> |
| | CreateGroup | Create a group of BIEs |
| | @name | Name of the highest-level BIE being assembled |
| | @id | ID of an Assemble rule |
| | @idref | Reference to an Assemble id |
| CreateGroup | | A CreateGroup contains at least one of CreateGroup or CreateBIE or UseBIE or Annotation, optionally an @id or an @idref, and one @type |
| | @type | Type of group to be created (the only permitted values are 'sequence' and 'choice') |
| | @id | ID of a CreateGroup rule |
| | @idref | Reference to CreateGroup id |
| | CreateGroup | Create a group of BIEs |
| | CreateBIE | Create a BIE |
| | UseBIE | Use the named BIE from among the children of the BIE being created. |
| | Annotation | Insert Annotation |
| CreateBIE | | A CreateBIE rule contains an optional Name followed by an optional Type followed by a MinOccurs followed by a |

| Construct | Component Constructs | Description |
|---------------------|----------------------|--|
| | | MaxOccurs followed by zero or more CreateGroup or Rename, or UseBIE, or Condition or Annotation, optionally an @id or an @idref, and an optional @location |
| | Type | Type of BIE to be created – a reference to a <i>Core Component</i> |
| | MinOccurs | Minimum occurrences for the BIE created |
| | MaxOccurs | Maximum occurrences for the BIE created. One possible value (other than integer) is ‘unbounded’. |
| | @id | Id of the created BIE |
| | @idref | Reference to the ID of another created BIE |
| | Name | Name of the BIE to be assembled |
| | @location | Location of the BIE to be assembled (i.e. query to the registry) |
| | Rename | Renames children of the created BIE |
| | Condition | Condition under which this rule should apply |
| | Annotation | Insert Annotation |
| Name | | A Name contains only a string of characters |
| Type | | A Type contains only a string of characters. It represents a type in the output – representation class or <i>Core Component</i> , depending on where used. |
| Rename | | A Rename rule contains optionally an @id or an @idref, and one @from and one @to |
| | @id | Id of the Rename rule |
| | @idref | Reference to the ID of another Rename rule |
| | @from | Original name of the child BIE being renamed |
| | @to | New name of the child being renamed |
| ContextRules | | ContextRules contains one or more Rules Note: A ContextRules is the top level construct in a set of Context Rules |
| | Rule | List of refinement and qualification rules to be applied |
| | @id | Id of the ContextRules rule |
| | @idref | Reference to the ID of another ContextRules rule |
| | @version | Version of the ContextRules document. |

| Construct | Component Constructs | Description |
|------------------|-----------------------------|---|
| Rule | | A Rule contains one or more Taxonomy, followed by one or more Condition, one @apply, and an optional @order. |
| | @apply | (See note below) |
| | Condition | When rule should be run |
| | @order | Defines order for running rules. Rules with lower value for order are run first |
| | Taxonomy | List of taxonomies used in a Rule that employs hierarchical conditions. |
| Taxonomy | | A Taxonomy contains a @context and a @ref, and optionally an @id or an @idref |
| | @ref | Pointer to a taxonomy. |
| | @context | Name of the context category to which this Taxonomy applies |
| | @id | Id of the Taxonomy rule |
| | @idref | Reference to the ID of another Taxonomy rule |
| Condition | | A Condition contains at least one of Action or Condition or Occurs, one @test, and optionally an @id or an @idref |
| | Action | What happens when rule is run |
| | Condition | A nested condition |
| | Occurs | Specify number of occurrences |
| | @id | Id of the Condition rule |
| | @idref | Reference to the ID of another Condition rule |
| | @test | Boolean expression testing whether the rule should be run. |
| Action | | An Action contains at least one of Add or Occurs or Subtract or Condition or Comment or Rename, one @applyTo and optionally an @id or an @idref |
| | @applyTo | Node to apply action to |
| | Add | Add a component to the content model |
| | Subtract | Subtract a component from the content model |
| | Occurs | Constrain or expand the number of occurrences of the component |
| | Condition | When rule should be run |
| | Comment | Add a comment |
| | Rename | Rename a component |
| | @id | Id of the Condition rule |
| | @idref | Reference to the ID of another Condition rule |

| Construct | Component Constructs | Description |
|------------------|-----------------------------|---|
| | @applyTo | Name of the component to apply this rule to |
| Add | | Add contains a MinOccurs followed by a MaxOccurs followed by at least one of an optional BIE or an optional Attribute, or a CreateGroup or an Annotation, optionally an @id or an @idref, an optional @before or an optional @after |
| | MinOccurs | Minimum number of times that the new instance must occur |
| | MaxOccurs | Maximum number of times that the new instance can occur |
| | @before | Specifies before which component the addition should occur. |
| | @after | Specifies after which component the subtraction should occur. |
| | CreateGroup | Create a group of BIEs |
| | BIE | Adds a new BIE to the content model. |
| | Attribute | Adds a new non-BIE property to the content model |
| | Annotation | Insert Annotation |
| | @id | Id of the Add rule |
| | @idref | Reference to the ID of another Add rule |
| Subtract | | Subtract contains one or more of BIE or Attribute, and optionally an @id or an @idref |
| | BIE | Removes a BIE from the content model. |
| | Attribute | Removes a non-BIE property from the content model |
| | @id | Id of the Subtract rule |
| | @idref | Reference to the ID of another Subtract rule |
| Occurs | | Occurs contains a MinOccurs, followed by a MaxOccurs, followed by one or more BIEs, and optionally an @id or an @idref |
| | BIE | Changes an optional BIE to required. |
| | MinOccurs | Overrides the minimum number of occurrences for this BIE |
| | MaxOccurs | Overrides the maximum number of occurrences for this BIE |
| | @id | Id of the Occurs rule |
| | @idref | Reference to the ID of another Occurs rule |
| BIE | | A BIE contains a Name, followed by an optional Type, followed by zero or more Attribute, followed by zero or more |

| Construct | Component Constructs | Description |
|-------------------|-----------------------------|--|
| | | Annotation, and optionally an @id or an @idref |
| | Name | Name of BIE to be modified |
| | Type | Type of BIE – the <i>Core Component</i> - required only if contained in an Add tag |
| | Attribute | Attribute(s) of this BIE |
| | Annotation | Insert Annotation |
| | @id | Id of the BIE rule |
| | @idref | Reference to the ID of another BIE rule |
| Attribute | | An Attribute contains an optional Name followed by an optional Type, followed by an optional Use, followed by an optional Value, followed by zero or more Annotation, and optionally an @id or an @idref, and an optional @applyTo |
| | Name | Name of attribute to be modified |
| | Type | Type of the attribute (representation class) |
| | Use | Indicates whether required or optional, and if the latter whether fixed or defaulted |
| | Value | Indicates a fixed or defaulted value, or a value to be modified |
| | @id | Id of the Attribute rule |
| | @idref | Reference to the ID of another Attribute rule |
| UseBIE | | A UseBIE contains zero or more of Annotation or CreateGroup or UseBIE, and optionally an @id or an @idref |
| | @name | Name of the BIE being used |
| | CreateGroup | Create a group of BIEs |
| | UseBIE | Use the named BIE from among the children of the BIE being created. |
| | Annotation | Insert Annotation |
| | @id | Id of the UseBIE rule |
| | @idref | Reference to the ID of another UseBIE rule |
| Comment | | Ubiquitous. Records comments about the rules document at the location it appears. It is not intended to be output in the resulting semantic model. |
| MinOccurs | | Minimum number of occurrences in the output |
| MaxOccurs | | Maximum number of occurrences in the output |
| Annotation | | An Annotation contains zero or more of either Documentation or Appinfo, and |

| Construct | Component Constructs | Description |
|----------------------|----------------------|---|
| | | optionally an @id or an @idref |
| | Documentation | Used to include documentation |
| | Appinfo | Used to include application specific information |
| | @id | Id of the Annotation |
| | @idref | Reference to the ID of another Annotation |
| Documentation | | Documentation contains optionally an @id or an @idref |
| | @id | Id of the Documentation |
| | @idref | Reference to the ID of another Annotation |
| Appinfo | | Documentation contains optionally an @id or an @idref |
| | @id | Id of the Appinfo |
| | @idref | Reference to the ID of another Appinfo |

1550

1551 [Note]

1552 Table Key: @ indicates properties of the construct being defined (@id, @idref and
1553 @version are properties of Assembly.

1554 6.2.4.1 Assembly Construct

1555 The *MinOccurs* and *MaxOccurs* constructs in the *CreateBIE* construct specify the
1556 occurrence that the created *Business Information Entity* will have in the resulting
1557 semantic model.

1558 [C65] A *Business Information Entity* created with *MinOccurs* = 1 and *MaxOccurs* =
1559 1 shall be specified in the resulting semantic model as occurring only once.

1560 [C66] An *Assembly* may contain more than one assembled top-level semantic model.

1561 6.2.4.2 ContextRule Construct

1562 Several built-in variables are used to access context information. These variables
1563 correspond to the identified context categories. All of these variables have string
1564 values.

1565 [C67] The *Apply* attribute of the *ContextRule* construct type shall be used for
1566 determining the behaviour of rules that use hierarchical values.

1567 [C68] Allowed *Apply* attribute values are:

- 1568 • *exact* - match only if the value in the provided context is precisely the
1569 same as that specified in the rule
- 1570 • *hierarchical* - match if the value provided is the same or a child of that
1571 specified in the rule.

1572 [Example]

1573 If the *ContextRule* specifies the region *Europe*, the value *France* would match only if
1574 the *Apply* attribute is set to *hierarchical* (*exact* being the default).

1575 [C69] The *Attribute* construct has four optional children in its content model, of
1576 which at least one must be present.

1577 [C70] When the *Attribute* construct is used to refine an existing *Attribute*, then a
1578 value must be specified for @*applyTo* on that *Attribute* construct.

1579 [C71] *ContextRules* must refer to the names of the *Core Components*, and not the
1580 names given to the resulting *Business Information Entities* elsewhere in the
1581 Rules.

1582 [Example]

1583 Given a source that contains an optional child type named 'X', a rule can be applied to
1584 rename 'X' to 'Y', but a rule to make 'Y' required, rather than 'X', would be illegal.

1585 6.2.4.3 Output Constraints

1586 [C72] Semantic models and document definitions produced through the application
1587 of *Assembly* and *Context Rules* must contain the metadata about the rules and
1588 context that produced them.

1589 6.2.4.4 Ordering and Application

1590 There is an explicit *Order* property on the *Rule* construct that applies a sequence to
1591 the application of a set of rules. It is an error for two *Rule* constructs to have the same
1592 value for the property *Order*. In a single set of *ContextRules*, users should be careful
1593 not to sequence rules in a way that would preclude their execution—such as adding an
1594 attribute to a business Information Entity that has not been added yet by the rules.

1595 [C73] The *Order* property on the *Rule* construct will determine the sequence for the
1596 application of the applicable set of rules.

1597 [C74] Two *Rule* constructs must not have the same value for the property *Order*.

1598 **7 Technical Details - Core Component Repository** 1599 **Storage**

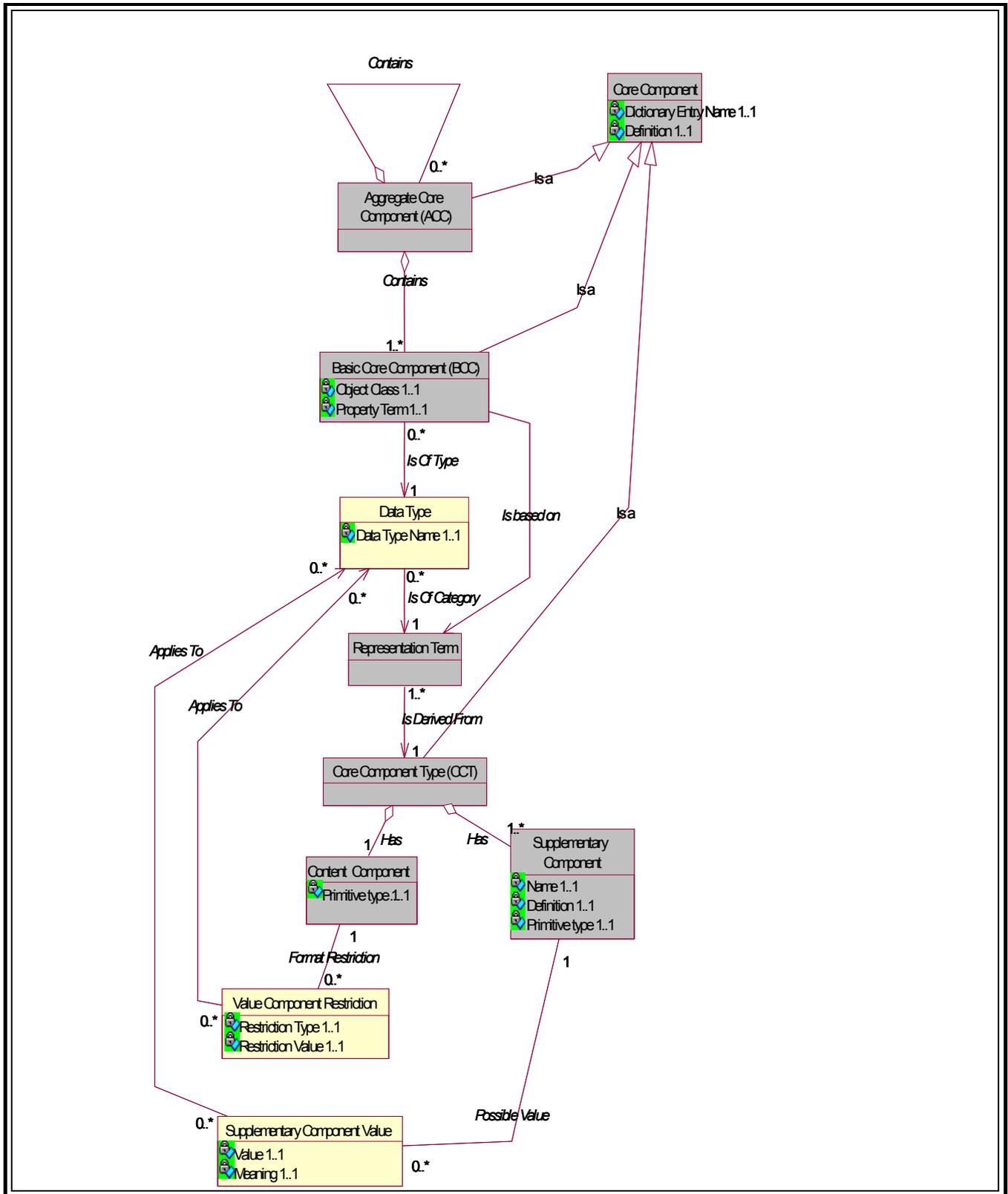
1600 Section 6.1 specifies the *Core Component* basic definition. This section details exact
1601 information required for creation of *Universal Modelling Language* objects to store *Core*
1602 *Components* in the repository and to store relevant metadata about the *Core Components*.
1603 Both parts contain requirements that must be addressed by developers of *Core*
1604 *Components* and users of *Core Components*. Further, both parts contain requirements that
1605 must be satisfied in the supported registry and repository suite of technical specifications
1606 and any corresponding overarching information technology framework that uses *Core*
1607 *Components* as the linchpin between process modelling and trade.

1608 **7.1 Storing Core Components**

1609 This section fully describes *Core Component* storage details. Figure 7-1 is the *Universal*
1610 *Modelling Language* model of all aspects of *Core Components* and fully describes the
1611 types of *Core Components* and their relationships as a requirement of storage.

1612

1612 **Figure 7-1. Core Components - Full Definition**



1613 7.1.1 Stored Core Components

1614 [S1] Stored *Core Components* shall always be defined as one of the three recognized
1615 types—*Basic Core Component*, *Aggregate Core Component*
1616 or *Core Component Type*.

1617 [S2] Stored *Core Components* shall include the following attributes:

- 1618 • *Dictionary Entry Name 1..1*: where the *Dictionary Entry Name* is the unique
1619 official name of the *Core Component* in the dictionary.
- 1620 • *Definition 1..1*: where the *Definition* is the unique semantic business
1621 meaning of the *Core Component*.

1622 7.1.2 Stored Basic Core Components

1623 [S3] Stored *Basic Core Components* shall always be based on three elements: (1) an
1624 *Object Class*, which defines the overall business concept to which the *Basic Core*
1625 *Component* belongs, (2) a *Property Term*, which defines the specific characteristic
1626 of the business concept that is covered by the *Basic Core Component* and (3) a
1627 *Data Type* as expressed as the *Representation Term*.

1628 [S4] Stored *Basic Core Components* shall include the following Attributes:

- 1629 • ***Object Class 1..1***: where the *Object Class* represents the logical data
1630 grouping (in a logical data model) to which a data element belongs
1631 (ISO11179). The *Object Class* is the part of a *Core Component's Dictionary*
1632 *Entry Name* that represents an activity or object in a specific context.
- 1633 • ***Property Term 1..1***: where the *Property Term* identifies one of the
1634 characteristics belonging to the Object (Class)

1635 [S5] Stored *Basic Core Components* shall reflect association with a stored *Core*
1636 *Component Type*.

1637 [S6] Stored *Basic Core Component Data Types* shall be based on a *Representation*
1638 *Term* derived from a *Core Component Type*.

1639 7.1.3 Stored Core Component Types

1640 [S7] Stored *Core Component Types* shall include one *Content Component* that defines
1641 the primitive type and one or more *Supplementary Components* that give meaning
1642 to the *Content Component*.

1643 [S8] Stored *Core Component Types* shall not reflect business meaning.

1644 **7.1.4 Stored Aggregate Core Components**

1645 [S9] *Stored Aggregate Core Components* shall consist of two or more *Basic Core*
1646 *Components*, or at least one *Basic Core Component* plus one or more *Aggregate*
1647 *Core Components*.

1648 [Note]

1649 As shown in Figure 7-1, when the *Core Component Type* is used as the basis for a
1650 particular data type, the content component and supplementary components can be
1651 restricted. This is expressed in the diagram through the existence of the classes
1652 *Supplementary Component Value* and *Content component Restriction* and their *Applies*
1653 *To relation with Data Type*.

1654 [S10] *Stored Aggregate Core Components* shall reflect relationships between the *Basic*
1655 *Core Components* and *Aggregate Core Components* from which it is constructed.

1656 **7.1.5 Stored Content Components and Supplementary Components**

1657 [S11] Restrictions on *Stored Content Components* and *Supplementary Components*
1658 shall be identified when the *Core Component Type* is used as basis for a
1659 particular *Data Type*.

1660 **7.1.6 Stored Data Types**

1661 [S12] *Stored Data Types* shall define the full range of valid values that can be used for a
1662 particular *Basic Core Component* and will include the following attribute:

- 1663
- ***Data Type Name 1..1***: Official name of the *Data Type*.

1664 [Note]

1665 Defines the set of valid values that can be used for a particular *Basic Core Component*. It
1666 is defined by specifying restrictions on the *Core Component Type* that forms the basis of
1667 the *Representation Term* from which the *Data Type* is derived.

1668 **7.1.7 Stored Representation Term**

1669 [S13] *Stored Representation Terms* for *Basic Core Components* shall define the type of
1670 valid value and will include the following attribute:

- 1671
- ***Representation Term Name 1..1***: Official name of the *Representation Term*

1672 7.1.8 Stored Supplementary Components

1673 [S14] Stored *Supplementary Components* shall be associated with the
1674 ContentComponent in the overarching *Core Component Type* and shall include
1675 the following attributes:

- 1676 • Name 1..1: Name is the official name of the *Supplementary Component* of a
1677 *Core Component Type*.
- 1678 • Definition 1..1: Definition is a clear, unambiguous and complete explanation
1679 of the meaning of a *Supplementary Component* and its relevance for the
1680 related *Core Component Type*.
- 1681 • Primitive type 1..1: Primitive type to be used for the representation of the
1682 value of a *Supplementary Component*.

1683 [Note]

1684 Possible values are String, Decimal, Integer, Boolean, Date.

1685 7.1.9 Stored Supplementary Component Value

1686 [S15] A stored *Supplementary Component Value* shall define an enumerated list of
1687 possible values of a *Supplementary Component*.

1688 [S16] A stored *Supplementary Component Value* shall only be stored if the values can
1689 be defined by an enumeration (e.g. list of quantity units).

1690 [Note]

1691 The list of possible *Stored Supplementary Component Values* can be further restricted
1692 when a *Core Component Type* is used for a particular *Basic Component*. Example: the
1693 *Core Component Type Quantity* has a *Supplementary Component Quantity Unit* with
1694 possible values like gram and second. A *Basic Component* like *Person. Weight. Quantity*
1695 will not accept *second* as quantity unit.

1696 The list can be further restricted when used in a particular context.

1697 7.1.10 Stored Supplementary Component Values

1698 [S17] Stored *Supplementary Component Values* shall contain the following Attributes:

- 1699 • Value 1..1: Value is a possible value of a *Supplementary Component*.

- 1700 • Meaning 1..1: Meaning describes the meaning of the *Supplementary*
1701 *Component* when it has a particular Value.

1702 **7.1.11 Stored Content Components**

1703 [S18] Stored *Content Components* shall contain the primitive type that must be used to
1704 express the value of a *Core Component Type*.

1705 [S19] Stored *Content Components* shall contain the following attribute:

- 1706 • **Primitive type 1..1:** Primitive type to be used for the representation of the
1707 value of a *Core Component Type*.

1708 **7.1.12 Stored Content Component Restrictions**

1709 [S20] Stored *Content Component Restrictions* shall define a format restriction that
1710 applies to the possible values of a *Content Component*.

1711 [Note]

1712 Possible values are String, Decimal, Integer, Boolean, Date.

1713 [S21] Stored *Content Component Restrictions* shall only exist if the values can be
1714 defined by a format restriction such as string pattern, minimum or maximum
1715 length, or enumeration.

1716 [S22] Stored *Content Component Restrictions* shall contain the following attributes:

- 1717 • Restriction Type 1..1: *Restriction Type* defines the type of format restriction
1718 that must be applied to the *Content Component*.
- 1719 • Restriction Value 1..1: *Restriction Value* is the actual value of the *Restriction*
1720 *Type* that applies to a *Content Component*.

1721 [Note]

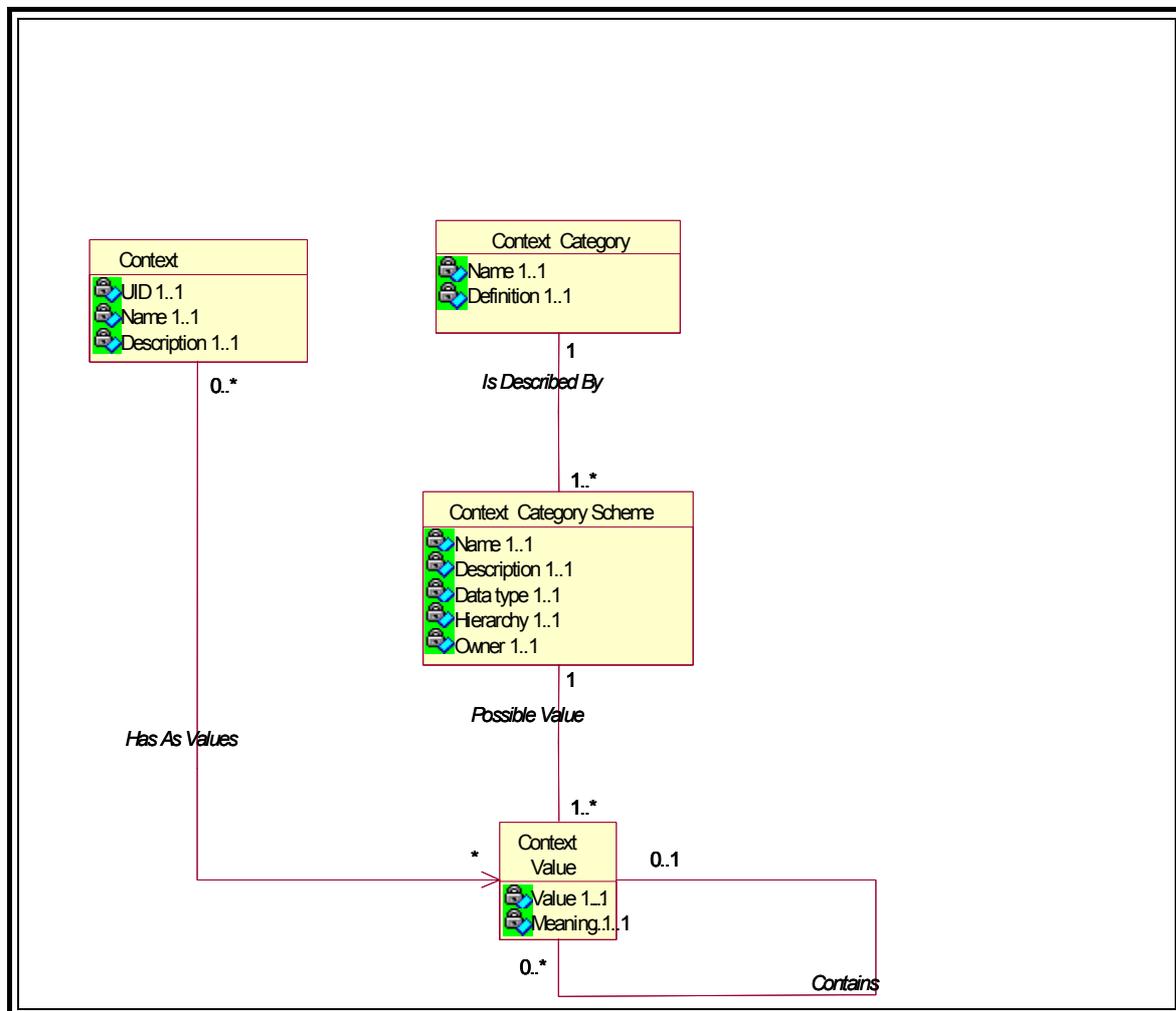
1722 Possible values include pattern, length, minimum length, maximum length, enumeration,
1723 and others to be identified. The possible values depend on the restriction type (e.g. integer
1724 for a *length* restriction type, list of possible values for an *enumeration* restriction type.).

1725 **7.2 Stored Context**

1726 Figure 7-2 models the function of context for storage. It shows that there are a number of
1727 *Context Categories* (e.g. Region, Product), which can each be described by one or more
1728 Schemes (e.g. United Nations scheme for products, World Trade Organization scheme for

1729 products). For each Scheme the list of possible values (and their meaning) is defined. A
 1730 *Business Context* is then defined as a unique and meaningful combination of *Context*
 1731 *Values*.

1732 **Figure 7-2 Core Components Context Definition Model**



1733
 1734

1735 [S23] Stored *Business Context* shall contain the combination of values for context
 1736 categories so as to define a unique and meaningful business context.

1737 [S24] Stored *Business Contexts* shall contain the following attributes:

- 1738 • **UID 1..1:** Unique Identifier of a *Business Context*
- 1739 • **Name 1..1:** Name of the *Business Context*
- 1740 • **Description 1..1:** Description of the meaning of a *Business Context*

1741 **7.2.1 Context categories**

1742 [S25] Stored *Context Categories* shall be in conformance with the officially accepted
1743 categories of *Core Component* contexts.

1744 [S26] Stored *Context Categories* shall contain the following attributes:

- 1745 • **Name 1..1:** Name is the official name of the *Context Categories*.
- 1746 • **Definition 1..1:** Definition gives the meaning of the *Context Categories* for
1747 *Core Components*.

1748 **7.2.2 Context categories Scheme**

1749 [S27] Stored *Context Categories Scheme* shall be an officially supported *Scheme* to
1750 describe a given *Context Category*.

1751 [S28] A *Context Category* may be described by one or more *Context Categories*
1752 *Schemes*.

1753 [Issue]

1754 Should *Context Categories Scheme* be included. In other words, can a scheme be defined
1755 and used. At least some members of the team believe that they should be named so that
1756 users can define locally significant extensions to schemes defined by other people—such
1757 as extending ISO 3166 to allow the separate regions of the United Kingdom to be
1758 identified as South-West, South-East.

1759 [S29] Stored *Context Categories Schemes* shall contain the following attributes:

- 1760 • **Name 1..1:** Name under which the *Context Categories Scheme* is known.
- 1761 • **Description 1..1:** Description of the *Context Categories Scheme*.
- 1762 • **Data type 1..1:** Data type is the primitive type that is used for the
1763 representation of a value in the *Context Categories Scheme*.

1764 [Note]

1765 Possible values are String, Decimal, Integer, Boolean, Date.

- 1766 • **Hierarchy 1..1:** Indicator describing whether the *Context Categories Scheme*
1767 supports a hierarchical description of the context.

- 1768 • **Owner 1..1:** Organisation that is responsible for the *Context Categories*
1769 *Scheme*.

1770 7.2.3 Context Value

1771 [S30] Stored shall describe a particular context in a given Context categories according
1772 to a particular Context categories Scheme. If the *Context Category Scheme* allows
1773 a hierarchy, the *Contains* value describes this hierarchy.

1774 [S31] Stored *Context Value(s)* shall contain the following attributes:

- 1775 • Attributes:
- 1776 • Value 1..1: Value describing a particular context.
- 1777 • Meaning 1..1: Description of the meaning of the corresponding value.

1778 [Note]

1779 The context value is derived from a business process model which presumably uses
1780 values that have their meaning defined somewhere. For example, if the value is taken
1781 from a code list (specified in the *Context categories Scheme*), then the meaning of the
1782 code should be provided by the code list specification. As an alternative solution,
1783 Meaning could be an optional Uniform Resource Identifier that points to the definition.

1784 7.3 Stored Business Information Entities

1785 Figure 7-3 models the types of *Business Information Entities* and their relationships. A
1786 *Business Information Entity* is defined as a piece of business data or a group of pieces of
1787 business data with a unique business semantic definition in a specified business context.

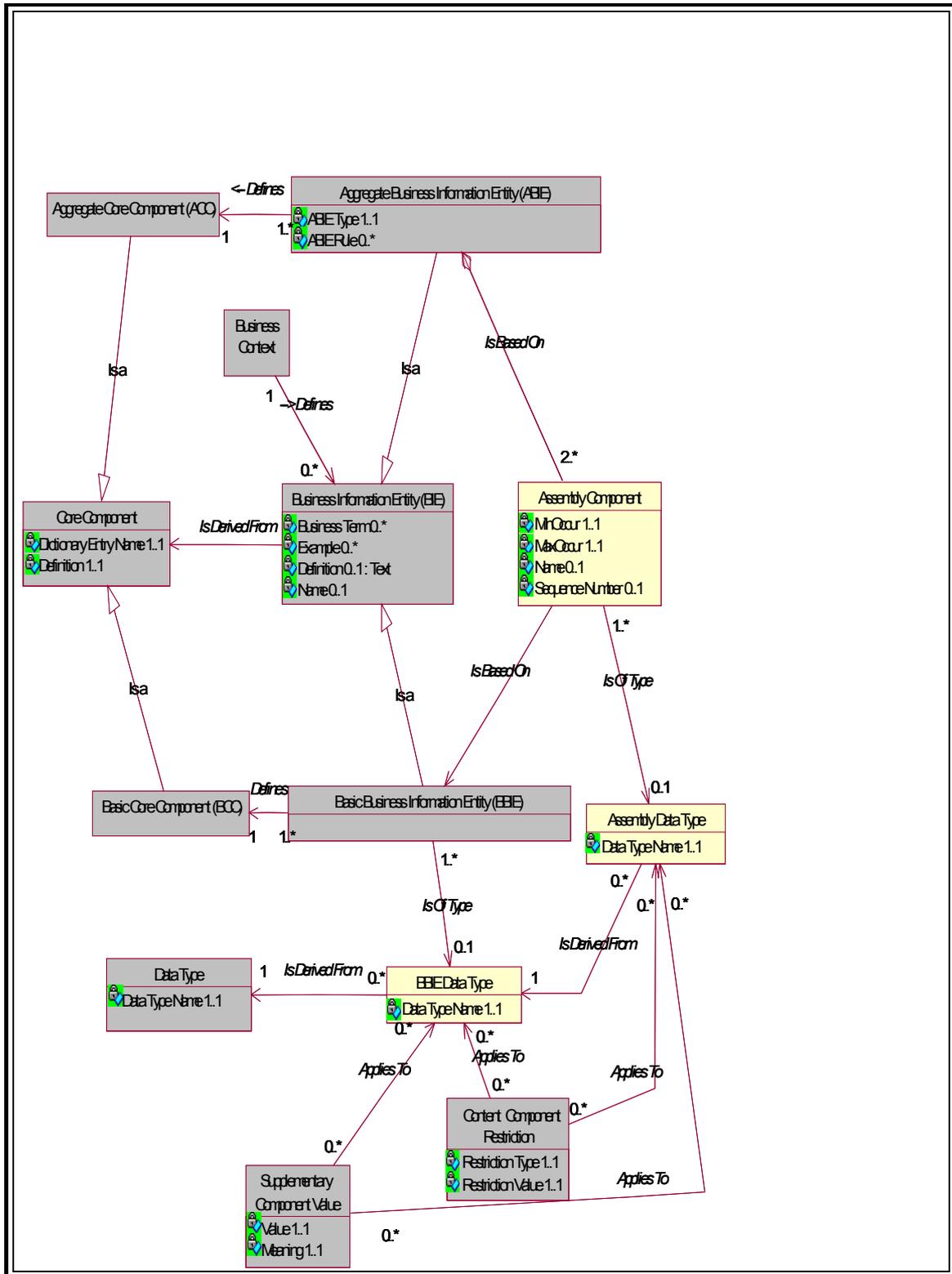
1788 All *Basic Business Information Entities* that relate to the same context-free concept form
1789 the basis of the definition of a *Basic Core Component*.

1790 All *Aggregate Business Information Entities* that relate to the same context-free concept
1791 form the basis of the definition of an *Aggregate Core Component*.

1792 An *Aggregate Business Information Entity* is either a sequence or a choice and will
1793 consist of two or more *Assembly Components*, which are either *Basic Business*
1794 *Information Entities* or *Aggregate Business Information Entities*. Each *Assembly*
1795 *Component* has a certain cardinality (i.e. it is mandatory, optional and/or repetitive) and -
1796 in case of a sequence - a sequence number. When used as an *Assembly Component*, it is
1797 possible to change the name of the composing *Aggregate Business Information Entity* or
1798 *Basic Business Information Entity* and to restrict the data type of a composing *Basic*
1799 *Business Information Entity*.

1800

1800 **Figure 7-3. Business Information Entities – Full Definition**



1801 **7.3.1 Stored Aggregate Business Information Entities**

1802 [S32] *Stored Aggregate Business Information Entities* shall consist of a collection of
 1803 related pieces of business information and will convey a distinct business meaning
 1804 in a specified business context.

1805 [S33] *Stored Aggregate Business Information Entities* shall contain the following
 1806 attributes:

- 1807 • **ABIE Type 1..1:** *Aggregate Business Information Entity Type* indicates
 1808 whether the composing components of the *Aggregate Business Information*
 1809 *Entity* form a sequence (i.e. all composing components may occur when the
 1810 *Aggregate Business Information Entity* is used) or a choice (i.e. only one of
 1811 the composing components may occur when the *Aggregate Business*
 1812 *Information Entity* is used).
- 1813 • **ABIE Rule 0..*:** *Aggregate Business Information Entity Rule* describes a
 1814 restriction that relates to various *Assembly Components* of the *Aggregate*
 1815 *Business Information Entity*.

1816 **7.3.2 Stored Assembly Component**

1817 [S34] A stored *Assembly Component* shall be either an *Aggregate Business Information*
 1818 *Entity* or a *Basic Business Information Entity* that is a component of an *Aggregate*
 1819 *Business Information Entity*. It will specify the cardinality, and may specify the
 1820 alternative name and the sequence number to be used.

1821 [S35] *Stored Assembly Components* shall contain the following attributes:

- 1822 • **MinOccur 1..1:** Minimum number of occurrences that a composing *Business*
 1823 *Information Entity* must occur when used in an *Aggregate Business*
 1824 *Information Entity*. If the minimum is zero, the component is optional. If the
 1825 minimum is one or more, the component is mandatory.

1826 [Issue]

1827 Figure 7-3 shows the *Aggregate* and *Basic Business Information Entities* define the *Core*
 1828 *Components* they are derived from. Some in the team believe that whilst they may be
 1829 used to identify holes in the *Core Component* list, they are in general, more likely to be
 1830 derived from existing *Core Components* rather than the source of new ones. Note that
 1831 *Data Type* is marked as is derived from, which is inconsistent with the other *Core*
 1832 *Components*.

- 1833 • **MaxOccur 1..1:** Maximum number of occurrences that a composing *Business*
 1834 *Information Entity* may occur when used in an *Aggregate Business*
 1835 *Information Entity*. If the maximum is zero, the component is not allowed. If

- 1836 the maximum is more than one, the component is repetitive. The defined
1837 maximum must always be greater than or equal to the defined minimum.
- 1838 • **Name 0..1**: Optional alternative name to be used for a *Business Information*
1839 *Entity* when used in an *Aggregate Business Information Entity*.
- 1840 • **Sequence Number 0..1**: Position of the *Assembly Component* in an *Aggregate*
1841 *Business Information Entity* of type Sequence.

1842 **7.3.3 Stored Assembly Data Type**

1843 [S36] Stored *Assembly Data Types* shall define the set of valid values that can be used
1844 for a particular *Basic Business Information Entity* when used in a particular
1845 *Aggregate Business Information Entity*.

1846 [S37] Stored *Assembly Data Types* shall be defined by specifying restrictions on the
1847 *Content Component* and *Supplementary Components*.

1848 [S38] Stored *Assembly Data Types* shall contain the following attribute:

- 1849 • **Data Type Name 1..1**: Official name of the *Data Type*.

1850 **7.3.4 Basic Business Information Entity (BBIE)**

1851 [S39] Stored *Basic Business Information Entities* shall define a piece of business
1852 information with a unique concept having a single business semantic definition in
1853 a specified *Business Context*.

1854 **7.3.5 Basic Business Information Entity Data Type**

1855 [S40] Stored *Basic Business Information Entity Data Types* shall define the set of valid
1856 values that can be used for a particular Basic information Entity. It will be defined
1857 by specifying restrictions on the *Content Component* and *Supplementary*
1858 *Components*.

1859 [S41] Stored *Basic Business Information Entity Data Types* shall contain the following
1860 attributes:

- 1861 • **Data Type Name 1..1**: Official name of the *Data Type*.

1862 **7.3.6 Business Information Entity**

1863 [S42] Stored *Business Information Entities* shall have a unique business semantic
1864 definition in a specified business context.

1865 [S43] Stored *Business Information Entities* shall be categorized as either a *Basic*
1866 *Business Information Entity* or an *Aggregate Business Information Entity*.

1867 [S44] A stored *Business Information Entity* shall contain the following attributes:

1868 • **Business Term 0..***: A synonym term under which the *Core Component* is
1869 commonly known and used in the business. A *Core Component* may have
1870 several business terms or synonyms.

1871 • **Example 0..***: An example of a possible value of a *Core Component* in a
1872 given business context

1873 • **Definition 0..1**: Context dependent definition of a *Core Component*

1874 • **Name 0..1**: Context dependent name of a *Core Component*

1875 **7.3.7 Data Type**

1876 [S45] Stored *Data Types* shall contain the set of valid values that can be used for a
1877 particular *Basic Core Component*.

1878 [S46] Stored *Data Types* shall be defined by specifying restrictions on the *Core*
1879 *Component Type* that forms the basis of the *Representation Term* from which the
1880 *Data Type* is derived.

1881 **7.3.8 Supplementary Component Value**

1882 [S47] Stored *Supplementary Component Value(s)* shall define an enumerated list of
1883 possible values of a *Supplementary Component*. This will only exist if the values
1884 can be defined by an enumeration (e.g. list of quantity units).

1885 [S48] Stored *Supplementary Component Values* shall contain the following attributes:

1886 • **Value 1..1**: *Value* is a possible value of a *Supplementary Component*.

1887 • **Meaning 1..1**: *Meaning* describes the meaning of the *Supplementary*
1888 *Component* when it has a particular *Value*.

1889 [Note]

1890 The list of possible values can be further restricted when a *Core Component Type* is used
1891 for a particular *Basic Component*. Example: the *Core Component Type Quantity* has a
1892 supplementary component *Quantity Unit* with possible values like gram and second. A
1893 *Basic Core Component* like *Person. Weight. Quantity* will not accept *second* as quantity
1894 unit. The list can be further restricted when used in a particular context.

1895 **7.3.9 Stored Content Component Restriction**

1896 [S49] Stored *Content Component Restrictions* shall define a format restriction that
1897 applies to the possible values of a *Content Component*.

1898 [S50] Stored *Content Component Restrictions* shall only exist if the values can be
 1899 defined by a format restriction such as string pattern, minimum or maximum
 1900 length, or enumeration.

1901 [S51] Stored *Content Component Restrictions* shall contain the following attributes:

- 1902 • **Restriction Type 1..1:** *Restriction Type* defines the type of format restriction
 1903 that must be applied to the *Content Component*. Possible values include
 1904 pattern, length, minimum length, maximum length, enumeration, etc.
- 1905 • **Restriction Value 1..1:** *Restriction Value* is the actual value of the *Restriction*
 1906 *Type* that applies to a *Content Component*. The possible values depend on the
 1907 restriction type (e.g. integer for a *Length Restriction Type*, list of possible
 1908 values for an *Enumeration Restriction Type*, ...).

1909 7.4 Core Component Storage Metadata

1910 *Core Components* and *Business Information Entities* are the linchpins for developing
 1911 standardized process models and business documents. Storing these artefacts so that they
 1912 are able to meet this role requires rich metadata storage as well.

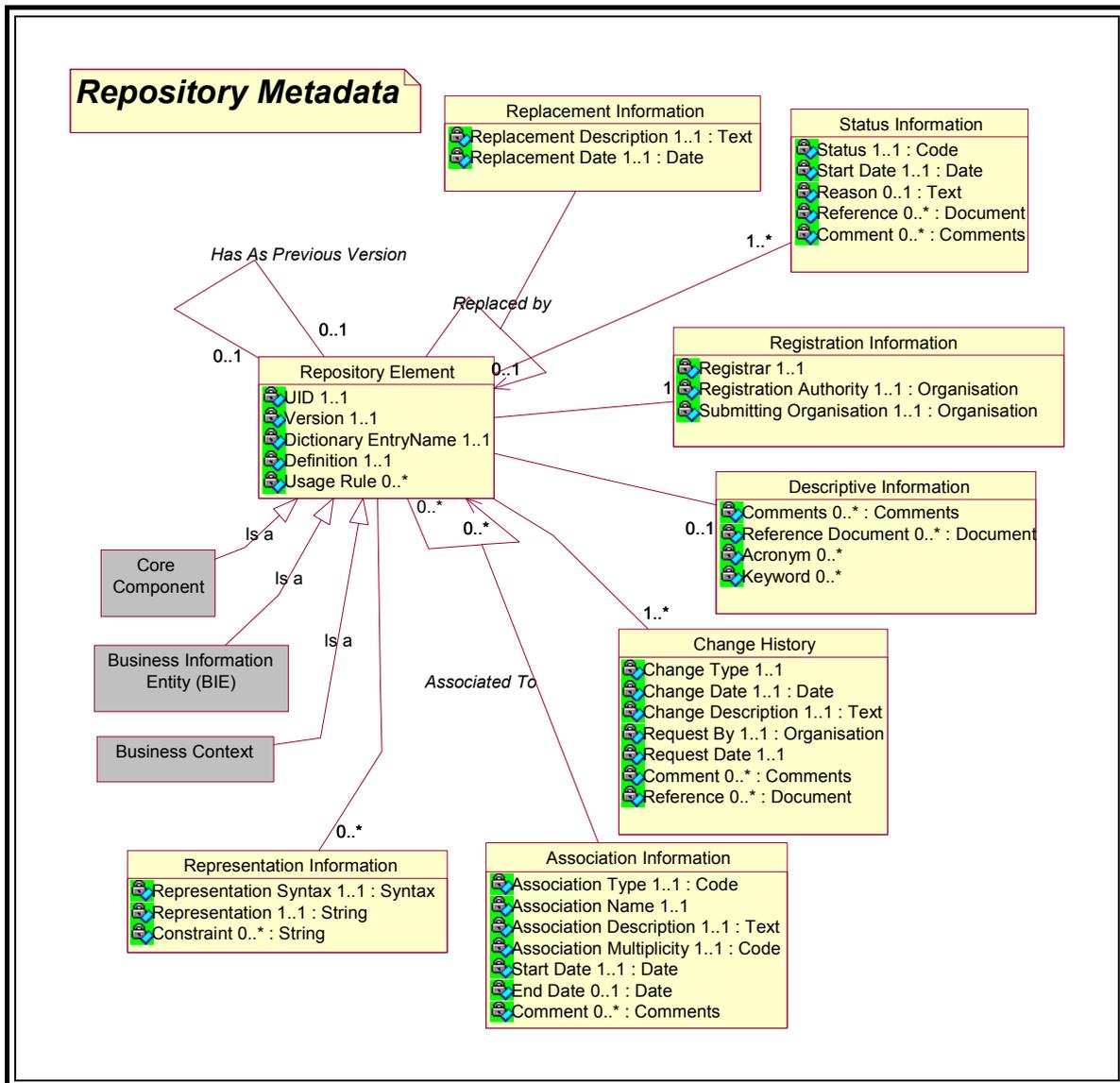
1913 Figure 7-4 focuses on the meta-information that needs to be defined for a *Repository*
 1914 *Element* (i.e. all information needed to store for *Core Components* and for *Business*
 1915 *Information Entities*). To simplify the diagram all information regarding the structure of a
 1916 *Core Component* and a *Business Information Entity* has been hidden.

1917 As shown in Figure 7-4, the following metadata categories will be required:

- 1918 • *Version Information:* even though at any given point in time only one version
 1919 of a *Repository Element* can be valid, multiple previous versions may have
 1920 existed and a future version may be in preparation. The *Version* association
 1921 makes it possible to link the consecutive versions of a *Repository Element*.
 1922 There will not be branches in the versioning; only a linear versioning will be
 1923 supported.
- 1924 • *Replacement Information:* a *Repository Element* may be replaced by another
 1925 *Repository Element* at some point in time (e.g. because a duplicate is
 1926 discovered). The *Replaced by* association makes it possible to do this and
 1927 *Replacement Information* makes it possible to document the date of and reason
 1928 for replacement.
- 1929 • *Status Information:* information about the live status of a *Repository Element*
- 1930 • *Administrative Information:* information about the registration of the
 1931 *Repository Element*.
- 1932 • *Descriptive Information:* additional descriptive information about a *Repository*
 1933 *Element*, giving further clarification about its meaning.

- 1934 • *Change History*: information about all changes that are made to a *Repository Element*.
- 1935
- 1936 • *Association Information*: a *Repository Element* may be associated to multiple
- 1937 other *Repository Elements*.
- 1938 • *Representation Information*: information about the physical representation of a
- 1939 *Repository Element* in a particular syntax (e.g. to document the XML-tag).

1940 **Figure 7-4. Repository Metadata**



1941
1942

1943 [Ed. Note]

1944 Figure 7-4 requires correction to reflect storage of context as part of the repository
1945 element stored data.

1946 **7.4.1 General Metadata Storage Rules**

1947 [S52] Stored *Repository Elements* shall include a universally unique identifier.

1948 [S53] Stored *Repository Elements* shall include a *Version Number* to keep track of the
1949 evolution over time of a *Repository Element*.

1950 [S54] Stored *Repository Elements* may include one or more *Usage Rules*, describing
1951 how and/or when to use the *Repository Element*.

1952 [S55] Except for the first version of a *Repository Element*, each stored version shall be
1953 linked to its previous version.

1954 [S56] Except for the last version of a *Repository Element*, each stored version shall be
1955 linked to its next version.

1956 [S57] Stored *Repository Elements* shall include the history of the status lifecycle of each
1957 version.

1958 **7.4.2 Management Information**

1959 7.4.2.1 Administrative Information

1960 [S58] Stored *Repository Elements* shall contain administrative information and will
1961 include the following attributes:

1962 • Registrar 1..1: Name of the responsible person who has created the *Repository*
1963 *Element* in the repository

1964 • Registration Authority 1..1: Organisation authorised to register the *Repository*
1965 *Element*.

1966 • Submitting Organisation 1..1: The organisation that has submitted / requested
1967 the *Repository Element*

1968 7.4.2.2 Status Information

1969 [S66] Stored *Repository Elements* shall contain status information to include the
1970 following attributes:

1971 • Status 1..1: Status of the *Repository Element* (i.e. draft, provisionally
1972 registered, registered, to be retired, retired, ...)

1973 • Start Date 1..1: Date on which the status comes into effect

1974 • Reason 0..1: Description of why the *Repository Element* status has been
1975 changed.

- 1976 • Reference 0..*: External Document(s) containing relevant information about
1977 the status change.
- 1978 • Comment 0..*: Remark about the *Repository Element* status.
- 1979 7.4.2.3 Change History
- 1980 [S60] Stored *Repository Elements* shall include the history of all modifications related to
1981 each version to include the following attributes:
- 1982 • Change Type 1..1: Purpose of the Change—such as *new element, new version,*
1983 *element modification, status modification, element replacement.*
- 1984 • Change Date 1..1: Date on which the modification has been made
- 1985 • Change Description 1..1: Description of why and how the *Repository Element*
1986 has been modified.
- 1987 • Request By 1..1: Name of the organisation that has requested the modification
1988 of the *Repository Element*
- 1989 • Request Date 1..1: Date on which the modification was requested.
- 1990 • Comment 0..*: Remark about the *Repository Element* modification.
- 1991 • Reference 0..*: External Document(s) containing relevant information about
1992 the modification.
- 1993 7.4.2.4 Replacement Information
- 1994 [S62] For each stored pair of *Repository Elements* where one *Repository Element*
1995 replaces the other, the stored information shall specify replacement information to
1996 include the following attributes:
- 1997 • Replacement Description 1..1: Reason for the *Repository Element* being
1998 replaced
- 1999 • Replacement Date 1..1: Date from which the replacement is effective.
- 2000 [S63] If another *Repository Element* has replaced a *Repository Element*, it shall be
2001 linked to the *Repository Element* by which it has been replaced.
- 2002 [S64] If a *Repository Element* replaces one or more other *Repository Element*, it shall be
2003 linked to the *Repository Element(s)* it replaces

2004 **7.4.3 Content Information**

2005 7.4.3.1 Descriptive Information

2006 [S61] Stored *Repository Elements* may optionally include additional descriptive
2007 information to include the following attributes:

- 2008 • **Comments 0..*:** Comments is additional information about a *Repository*
2009 *Element*, which is not part of the definition but that is considered relevant for
2010 clarification.
- 2011 • **Reference Document 0..*:** Reference Document is a reference (e.g. *Uniform*
2012 *Resource Locator*) to external documentation that contains relevant additional
2013 information about a *Repository Element*.
- 2014 • **Acronym 0..*:** Acronym is an abbreviation or code under which the *Semantic*
2015 *Information Component* is commonly known.
- 2016 • **Keyword 0..*:** Keyword is one or more significant words used for the search
2017 and retrieval of a *Semantic Information Component*.

2018 7.4.3.2 Representation Information

2019 [S65] Stored *Repository Elements* may optionally include information about the
2020 representation of the *Repository Element* in one or more syntaxes to include the
2021 following attributes.

- 2022 • Representation Syntax 1..1: Identification of the representation syntax
- 2023 • Representation 1..1: Physical representation of the *Repository Element* (e.g.
2024 *Extensible Markup Language* tag)
- 2025 • Constraint 0..*: Description of additional constraints that apply to the
2026 representation of the *Repository Element* in the given syntax (e.g. maximum
2027 length, ...)

2028 7.4.3.3 Association Information

2029 [S59] Stored *Repository Elements* shall include all associations they have with other
2030 stored *Repository Elements* and shall include the following attributes:

- 2031 • Association Name 1..1: Name of the association
- 2032 • Association Description 1..1: Descriptive text explaining the meaning of the
2033 association
- 2034 • Association Type 1..1: Type of association (e.g. aggregation, specialisation,
2035 generalisation, simple association ...)

- 2036 • Association Multiplicity 1..1: Cardinality of the association (i.e.
2037 optional/mandatory and repetition)
- 2038 • Start Date 1..1: Date at which the association becomes valid
- 2039 • End Date 0..1..1*: Date from which the association is no longer valid
- 2040 • Comment 0..*: Relevant information about the association (e.g. reason why it
2041 has been removed, ...)
- 2042

2043 **8 Approved Core Component Type, Content, and**
 2044 **Supplementary Components**

2045 The Following subsections contain tables that convey the currently approved *Core*
 2046 *Component Types* (Section 8.1) and *Core Component Type Content* and
 2047 *Supplementary Components* (Section 8.2).

2048 **8.1 Approved Core Component Types**

2049 [Note]

2050 The UIDs in Table 6-1 are interim in nature and will be finalized prior to release of
 2051 this document in specification status.]

2052 **Table 8-1 Core Component Types (CCT)**

2053

| UID | CCT Dictionary Entry Name | Definition | Remarks | Object Class | Property Term | CCT Components |
|--------|---------------------------|---|-------------------------------------|--------------|---------------|---|
| 000105 | Amount. Type | A number of monetary units specified in a currency where the unit of currency is explicit or implied. | | Amount | Type | <ul style="list-style-type: none"> Amount. Content (000106) Amount Currency. Identification. Code (000107) |
| 000089 | Code. Type | A character string (letters, figures or symbols) that for brevity and/or language independence may be used to represent or replace a definitive value or text of an attribute together with relevant supplementary information. | | Code | Type | <ul style="list-style-type: none"> Code. Content (000091) Code List. Identifier (000092) Code List. Agency. Identifier (000093) Code List. Version. Identifier (000099) Code. Name (000100) Language. Code (000075) |
| 000066 | Date Time. Type | A particular point in the progression of time together with relevant supplementary information. | Can be used for a date and/or time. | Date Time | Type | <ul style="list-style-type: none"> Date Time. Content (000067) Date Time. Format. Text (000068) |
| 000200 | Graphic. Type | A diagram, graph, mathematical curves, or similar representation. | | Graphic | Type | <ul style="list-style-type: none"> Graphic. Content Graphic. Format. Text |

| UID | CCT Dictionary Entry Name | Definition | Remarks | Object Class | Property Term | CCT Components |
|--------|---------------------------|--|---------------------------|--------------|---------------|--|
| 000101 | Identifier. Type | A character string to identify and distinguish uniquely, one instance of an object in an identification scheme from all other objects within the same scheme together with relevant supplementary information. | | Identifier | Type | <ul style="list-style-type: none"> Identifier. Content (000102) Identification Scheme. Name (000103) Identification Scheme Agency. Name (000104) Language. Code (000075) |
| 000180 | Indicator. Type | A list of two, and only two, values which indicate a condition such as on/off; true/false etc. (synonym: "Boolean"). | | Indicator | Type | <ul style="list-style-type: none"> Indicator. Content (000181) Indicator. Format. Text |
| 000152 | Measure. Type | The size, volume, mass, amount or scope derived by performing a physical measure together with relevant supplementary information. | | Measure | Type | <ul style="list-style-type: none"> Measure. Content (000153) Measure Unit. Code (000154) |
| 000182 | Numeric. Type | A representation of a number. | May or may not be decimal | Numeric | Type | <ul style="list-style-type: none"> Numeric. Content (000183) Numeric. Format. Text |
| 000201 | Picture. Type | A visual representation of a person, object, or scene. | | Picture | Type | <ul style="list-style-type: none"> Picture. Content Picture. Format. Text |
| 000108 | Quantity. Type | A number of non-monetary units together with relevant supplementary information. | | Quantity | Type | <ul style="list-style-type: none"> Quantity. Content (000109) Quantity. Unit. Code (000110) Quantity Unit. Code List. Identifier (000111) Quantity Unit. Code List Agency. Identifier (000112) |
| 000090 | Text. Type | A character string with or without a specified language. | | Text | Type | <ul style="list-style-type: none"> Text. Content (000094) Language. Code (000075) |

2054

[Issue]

2055

The Team has agreed on *Language.Code* as a valid *Core Component Type*

2056

Component for *Code.Type*. An issue was raised during the last review cycle in which

2057

it was requested to remove *Language.Code* with the argument that "this information

2058

will be maintained by the Agency for each identifier value. It is no supplementary

2059

information about the full list of codes." The team does not agree, but reserves

2060

judgement pending any additional comments received during the last eBTWG review

2061

cycle.

2062

2063 [Issue]

2064 The Team has agreed on the current definition of *Identifier. Type*. An issue was raised
2065 during the last review cycle in which it was requested to expand this type to include
2066 additional qualifiers. Specifically, the submitter stated: "change the names of things in
2067 Table 6.2 of the *Core Component* specification which now have *Code* as the last term
2068 in their names, but are not really *Code Type*.

2069 For example,

2070 *Amount Currency. Identification. Code* -- change to

2071 *Amount Currency. Code. Text* -- or maybe, just,

2072 *Amount. Currency Code* (data type string)

2073 *Language. Code* -- change to

2074 *Language. Language Code* (data type string) --or maybe change its usage,

2075 e.g.

2076 *Text. Content* and

2077 *Text. Language Code*.

2078 The team will make a final decision based on inputs received during the final eBTWG
2079 review cycle.

2080 **8.2 Approved Core Component Type Content and** 2081 **Supplementary Components**

2082 Table 8-2 presents the currently approved set of *Core Component Type Content* and
2083 *Supplementary Components*. The asterisk (*) in the property term column indicates
2084 cases where the property term is the same as either the representation term or object
2085 class, and is consequently dropped from the dictionary entry name.

2086

2086

Table 8-2. Core Component Type Content and Supplementary Components

2087

| UID | Name | Data-type | Definition | Remarks |
|--------|---------------------------------------|-----------|---|---|
| 000106 | Amount. Content | decimal | A number of monetary units specified in a currency where the unit of currency is explicit or implied | |
| 000107 | Amount Currency. Identification. Code | string | The currency of the amount | Reference ISO 4217. |
| 000091 | Code. Content | string | A character string (letters, figures or symbols) that for brevity and/or language independence may be used to represent or replace a definitive value or text of an attribute | |
| 000093 | Code List. Agency. Identifier | string | An agency that maintains one or more code lists | |
| 000092 | Code List. Identifier | string | The name of a list of codes | Can be used to identify the URL of a source that defines the set of currently approved permitted values |
| 000099 | Code List. Version. Identifier | string | The version of the code list | |
| 000100 | Code. Name | string | The textual equivalent of the code content | If no code content exists, the code name can be used on its own |
| 000067 | Date time. Content | string | The particular point in the progression of time | |
| 000068 | Date Time. Format. Text | string | The format of the date/time content | Reference ISO 8601 |
| 000202 | Graphic. Content | binary | A diagram, graph, mathematical curves, or similar representation | |
| 000203 | Graphic. Format. Text | string | The format of the graphic content | |
| 000104 | Identification Scheme Agency. Name | string | The agency that maintains the identification scheme | |
| 000103 | Identification Scheme. Name | string | The name of the identification scheme | |
| 000102 | Identifier. Content | string | A character string to identify and distinguish uniquely, one instance of an object in an identification scheme from all other objects within the same scheme | |
| 000181 | Indicator. Content | string | The value of the indicator | For example on, off, true, false |
| | Indicator. Format. Text | String | Whether the indicator is numeric, textual or binary | |
| 000075 | Language. Code | string | The identifier of the language used in the corresponding text string | Reference ISO 639: 1998 |
| 000153 | Measure. Content | decimal | The size, volume, mass, amount or scope derived by performing a physical measure | For example, 20 kilograms (20 is the measure content) |
| 000154 | Measure Unit. Code | string | The type of unit of measure | Reference UN/ECE Recommendation #20 and X12 355. For example, for \$10/100 km use CCT quantity type and for a measured distance of 20 kilometres use CCT measure type |

| UID | Name | Data-type | Definition | Remarks |
|--------|--|--------------------------------|--|---|
| 000183 | Numeric. Content | As defined by Numeric. Format. | The representation of a number | May be decimal |
| 000204 | Numeric. Format. Text | string | Whether the number is an integer, decimal, real number or percentage | |
| 000205 | Picture. Content | binary | A visual representation of a person, object, or scene | |
| 000206 | Picture. Format. Text | string | The acronym of the coding scheme used to record the picture | |
| 000109 | Quantity. Content | decimal | A number of non-monetary units | |
| 000110 | Quantity. Unit. Code | string | The unit of the quantity | May use UN/ECE Recommendation #20 and X12 355, but for actual measurements use the CCT measure type. For example, for \$10/100 km use CCT quantity type and for a measured distance of 20 kilometers use CCT measure type |
| 000112 | Quantity Unit Code List Agency. Identifier | string | The agency which maintains the quantity unit code list | |
| 000111 | Quantity Unit Code List. Identifier | string | The quantity unit code list | |
| 000094 | Text. Content | string | A character string generally in the form of words | |

2088

2088 9 Definition of Terms

2089 **Aggregate Core Component - (ACC)** – A collection of *Core Components* that convey
2090 a distinct business meaning. An *Aggregate Core Component* will consist of two or
2091 more *Basic Core Components*, or at least one *Basic Core Component* plus one or
2092 more *Aggregate Core Components*.

2093 **Aggregate Business Information Entity (ABIE)**– A collection of related pieces of
2094 business information that together convey a distinct business meaning in a specified
2095 business context.

2096 **Aggregate Core Component - (ACC)** – A collection of pieces of business information
2097 that together form a single business concept (e.g. postal address). Each *Aggregate*
2098 *Core Component* has its own unique business semantic definition and can contain
2099 either:

- 2100 • two or more *Basic Core Components*, or
- 2101 • at least one *Basic Core Component* plus one or more *Aggregate Core*
2102 *Components*

2103 **Basic Business Information Entity (BBIE)** – A *Basic Business Information Entity* is
2104 derived from a *Basic Core Component*.

2105 **Basic Core Component (BCC)** – A *Core Component* with a unique concept having a
2106 single business semantic definition. It must be constructed by using a *Core*
2107 *Component Type*.

2108 **Business Context** – The formal description of a specific business circumstance as
2109 identified by the values of a set of context categories, allowing different business
2110 circumstances to be uniquely distinguished.

2111 **Business Information Entity (BIE)** – A *Business Information Entity* is a piece of
2112 business data or a group of pieces of business data with a unique business semantic
2113 definition. A BIE can be either a *Basic Business Information Entity* or an *Aggregate*
2114 *Business Information Entity*.

2115 **Business Term** – This is a synonym term under which the *Core Component* is
2116 commonly known and used in the business. A *Core Component* may have several
2117 business terms or synonyms.

2118 **Constraint Language** – A formal expression of actions occurring in specific contexts
2119 to assemble, structurally refine, and semantically qualify *Core Components*. The
2120 result of applying the constraint language to a set of *Core Components* in a specific
2121 context is a set of *Business Information Entities*.

- 2122 **Content Component** - Defines the primitive type used to express the content of a
2123 *Core Component Type*.
- 2124 **Context Category** – A group of one or more related values used to express one
2125 characteristic of a business circumstance.
- 2126 **Context Information Entity** – The influence of a particular context on the restriction
2127 on a reusable semantic building block for the exchange of business-related
2128 information.
- 2129 **Controlled Vocabulary** - A supplementary Vocabulary to define uniquely any words
2130 or business terms that are potentially ambiguous. This is to ensure that every word
2131 within any of the *Core Component* names and definitions is used in a consistent and
2132 unambiguous way and this will also aid accurate language translations.
- 2133 **Core Component (CC)** – A building block for the creation of a semantically correct
2134 and meaningful information exchange ‘parcel’. It contains only the information pieces
2135 necessary to describe a specific concept. A *Core Component* will always be defined as
2136 a *Basic Core Component*, a *Core Component Type*, or an *Aggregate Core Component*.
- 2137 **Core Component Administrative Information** – Administrative information
2138 regarding a *Core Component*
- 2139 **Core Component Association Information** – Information about the association
2140 between two *Core Components*.
- 2141 **Core Component Change History** – History of the modifications applied to a *Core*
2142 *Component* version.
- 2143 **Core Component Replacement Information** – Information about the replacement of a
2144 *Core Component* by another.
- 2145 **Core Component Representation Information** – Information about the physical
2146 representation of a *Core Component* in a particular syntax.
- 2147 **Core Component Status Information** – History of the lifecycle of a particular version
2148 of a *Core Component*.
- 2149 **Core Component Type (CCT)**– A *Core Component* that consists of one and only one
2150 *Content Component* that carries the actual content plus one or more supplementary
2151 components giving an essential extra definition to the content component. *Core*
2152 *Component Types* do not have business meaning.
- 2153 **Data Type** – Defines the set of valid values that can be used for a particular BCC. It is
2154 defined by specifying restrictions on the *Core Component Type* that forms the basis of
2155 the *Representation Term* from which the *Data Type* is derived.

- 2156 **Definition** - This is the unique semantic business meaning of a *Core Component*
- 2157 **Dictionary Entry Name** – This is the unique official name of a *Core Component* in
2158 the dictionary.
- 2159 **Information Entity** – A reusable semantic building block for the exchange of
2160 business-related information.
- 2161 **Object Class** – The logical data grouping (in a logical data model) to which a data
2162 element belongs (ISO11179). The *Object Class* is the part of a *Core Component*'s
2163 *Dictionary Entry Name* that represents an activity or object in a specific context.
- 2164 **Primitive Type** – Primitive type used for the representation of the value of a
2165 *Supplementary Component*. Possible values are String, Decimal, Integer, Boolean,
2166 Date.
- 2167 **Property Term** – This identifies one of the characteristics belonging to the *Object*
2168 *Class*.
- 2169 **Representation Term** – The type of valid values for a *Basic Core Component*.
- 2170 **Supplementary Component** – Gives meaning to the *Content Component* in the *Core*
2171 *Component Type*.
- 2172 **User Community** – A user community is a group of practitioners, with a publicised
2173 contact address, who may define context profiles relevant to their area of business.
2174 Users within the community do not create, define or manage their individual context
2175 needs but conform to the community's standard. Such a community should liaise
2176 closely with other communities and with general standards-making bodies to avoid
2177 overlapping work and to avoid creating multiple *Towers of Babel*. A community may,
2178 of course, be as small as two consenting organisations!
- 2179

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