



Creating A Single Global Electronic Market

1 Business Process Analysis Worksheets & 2 Guidelines v1.0

3
4 Business Process Team
5 10 May 2001
6

7
8 Procedures for developing business processes in ebXML
9

10 1. Status of this Document

11 This Technical Report document has been approved by the ebXML Business Process Project
12 Team and has been accepted by the ebXML Plenary. This document contains information to
13 guide in the interpretation or implementation of ebXML concepts.

14 Distribution of this document is unlimited.

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

16 This version:

17 <http://www.ebxml.org/specs/bpWS.pdf>

18 Latest version:

19 <http://www.ebxml.org/specs/bpWS.pdf>

20

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199 **4. Introduction**

200 **4.1. Summary**

201 The primary goal of the ebXML effort is to facilitate the integration of e-businesses throughout the
 202 world with each other. Towards this end much of the work in ebXML has focused on the notion of a
 203 public process: the business process(es) by which external entities interact with an e-business.
 204 The specification and integration to such public processes has long been recognized as a
 205 significant cost to such businesses. In order to reduce this cost ebXML is recommending the use of
 206 Business Libraries. The principle goals of these libraries are to:

- 207 a) Promote reuse of common business processes and objects
- 208 b) Provide a place where companies and standards bodies could place the specifications of
 209 their public processes where appropriate trading partners could access them.

210 In order to realize these goals, a *lingua franca* needed to be leveraged so that all users of this
211 repository could understand what each other are specifying. The ebXML community has decided
212 to use as its *lingua franca* the semantic subset of the UMM Metamodel, specified by the
213 UN/CEFACT Modeling Methodology in the N090 specification.

214 The UMM “is targeted primarily at personnel knowledgeable in modeling methodology who
215 facilitate business process analysis sessions and provide modeling support. It also serves as a
216 checklist for standardized models when a previously specified business process is contributed to
217 UN/CEFACT for inclusion and incorporation as a standard business process model.” [UMM]

218 This document contains several worksheets that guide analysts towards UMM compliant
219 specifications of their business processes. We have tried to provide tools for users regardless of
220 whether we’re working on behalf of a standards body or an individual company. Furthermore, we
221 provide a variety of scenarios guiding how one might go about filling out these worksheets (e.g.
222 top-down vs. bottom up). The UMM can be used as a reference for understanding the details of
223 the underlying Metamodel and UMM methodology.

224 Different degrees of rigor are required within these worksheets. As we approach the lower level,
225 certain elements and organization of the specification are required to meet the requirements of the
226 ebXML technical framework. At higher levels there is a good deal of latitude about the way
227 concepts are grouped. In many cases, things such as assumptions and constraints will be
228 specified in natural language rather than in a formal one.

229 4.2. Audience

230 We do not expect the users of these worksheets to be experts in business modeling, however it is
231 expected that they are subject matter experts in their respective areas of practice. They should
232 have detailed knowledge of the inter-enterprise business processes they use to communicate with
233 their trading partners.

234 This document could also be used by industry experts to help express their sectors business
235 processes in a form that is amenable to the goals of the ebXML registry and repository.

236 Of course, software vendors that are supplying tools (modeling and otherwise) in support of the
237 ebXML framework will find useful information within.

238 4.3. Related Documents

239 [ebCNTXT] *ebXML Concept - Context and Re-Usability of Core Components*. Version 1.01.
240 February 16, 2001. ebXML Core Components Project Team.

241 [ebRIM] *ebXML Registry Information Model*. Version 0.56. Working Draft. 2/28/2001. ebXML
242 Registry Project Team.

243 [ebRS] *ebXML Registry Services*. Version 0.85. Working Draft. 2/28/2001. ebXML Registry
244 Project Team.

245 [ebTA] *ebXML Technical Architecture Specification*. Version 1.0. 4 January 2001. ebXML
246 Technical Architecture Project Team.

247 [bpOVER] *Business Process and Business Information Analysis Overview*. Version 1.0. Date 11
248 May 2001. ebXML Business Process Project Team

- 249 [bpPROC] *ebXML Catalog of Common Business Processes*. Version 1.0. Date May 11, 2001.
250 ebXML Business Process Project Team
- 251 [PVC] Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior*
252 *Performance*, 1998, Harvard Business School Press.
- 253 [REA] Guido Geerts and William.E. McCarthy "An Accounting Object Infrastructure For
254 Knowledge-Based Enterprise Models," IEEE Intelligent Systems & Their Applications (July-August
255 1999), pp. 89-94
- 256 [SCOR] *Supply Chain Operations Reference model*, The Supply Chain Council
257 (<http://www.supply-chain.org/>)
- 258 [UMM] *UN/CEFACT Modeling Methodology*. CEFACT/TMWG/N090R9.1. UN/CEFACT
259 Technical Modeling Working Group.

260 4.4. Document Conventions

261 The keywords MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT,
262 RECOMMENDED, MAY, and OPTIONAL, when they appear in this document, are to be
263 interpreted as described in RFC 2119.

264 Heretofore, when the term *Metamodel* is used, it refers to the UMM e-Business Process
265 Metamodel as defined in [UMM].

266 5. Design Objectives

267 5.1. Goals/Objectives/Requirements/Problem Description

268 ebXML business processes are defined by the information specified in the UMM e-Business
269 Process Metamodel (hereafter referred to as the "Metamodel"). The Metamodel specifies all the
270 information that needs to be captured during the analysis of an electronic commerce based
271 business process within the ebXML framework. ebXML recommends the use of the UN/CEFACT
272 Modeling Methodology (UMM) in conjunction with the Metamodel. The UMM provides the
273 prescriptive process (methodology) to use when analyzing and defining a business process.

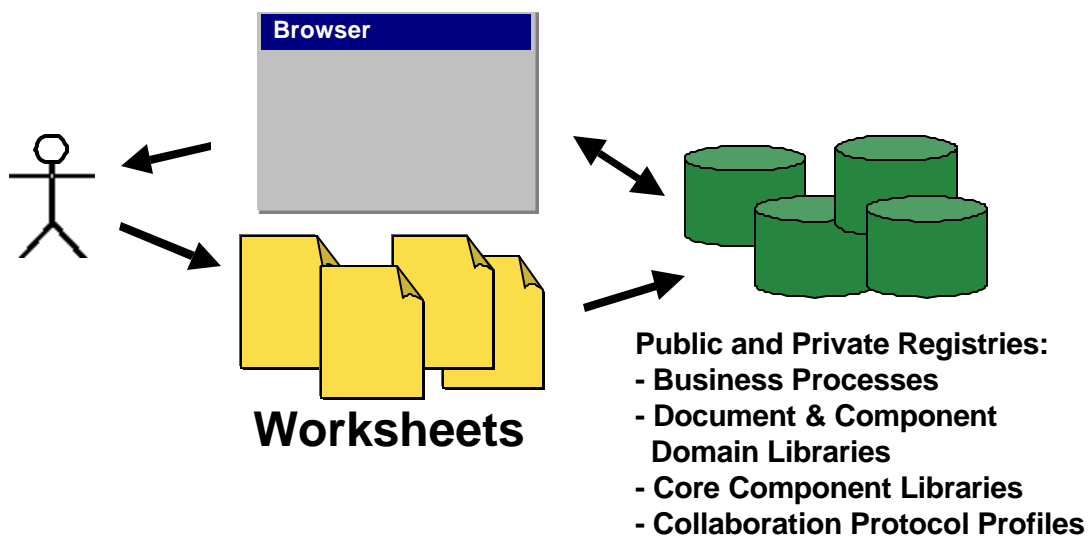
274 The ebXML Business Process Worksheets are a set of business process design aids, to be used
275 with the UMM as a reference. It is intended that the worksheets be extensible to meet specific
276 business needs. An ebXML business process, that is defined based on the UMM Metamodel, will
277 sufficiently reflect all the necessary components of a business process and enable its registration
278 and implementation as part of the ebXML compliant electronic trading relationship. The Worksheet
279 based approach that provides an easier way of applying the UMM and the UMM Metamodel.

280 The intent of the worksheets (or a business process editor⁴) is to capture all the bits of information
281 that are required to completely describe a business process so that it can be registered, classified,
282 discovered, reused and completely drive the software.

⁴ A group of ebXML contributors are working on a prototype of an editor that uses *wizards* to guide the user through the construction of a UMM compliant Business Process.

283 To develop company business processes for an ebXML compliant electronic trading relationship,
 284 use the UMM as a reference guideline plus the ebXML Business Process Worksheet to create the
 285 necessary business process models. These are the recommended steps for using the ebXML
 286 Business Process Worksheets

- 287 1. A business need or opportunity is identified and defined before using these procedures.
- 288 2. A Focus Project Team, usually representing a multifunctional set of experts from IT, business
 289 process ownership and business process experts needed to work out the business process
 290 using the ebXML Business Process Worksheet.
- 291 3. Using the ebXML Business Process Worksheets, the Focus Project Team will be able to
 292 develop an ebXML Business Process Specification that can be reviewed and verified by the
 293 business. In addition, all necessary information to populate the ebXML Metamodel will be
 294 made available to enable an ebXML trading relationship.



295 Figure 5-1, Worksheets Architectural Context

296

296 **5.2. The Analogy**

297 The following analogy is useful in understanding the role of the Worksheets and other
 298 documentation and tools to the ebXML Business Process Collaboration Metamodel and the
 299 UN/CEFACT Modeling Methodology.

Item	United States Internal Revenue Service (IRS) Tax System
<i>ebXML Business Process Collaboration Metamodel</i> <i>UN/CEFACT Modeling Methodology.</i>	Entire tax code
Worksheets and Templates	IRS Forms
Methodology Guidelines	IRS Instruction Booklets
Business Process Editor Tool Suite Repository of Business Process Specifications, Core Components, etc.	Something like TurboTax and other software packages for preparing personal or business tax forms where these packages would have on-line access/search of all your tax and tax related records and the Tax code.

300

301 In order to actually specify a business process all we really need is the Worksheets and
 302 Templates⁵. However, in order to ensure that we fill in the forms properly we will need to have a set
 303 of instructions that augment the templates and provide some of the rationale behind the templates.

304 **5.3. Caveats and Assumptions**

305

306 This document is *non-normative*; the documents identified above should be considered the
 307 authority on the definitions and specifications of the terminology used herein. This document is
 308 intended to be an application of those principals and technologies.

309

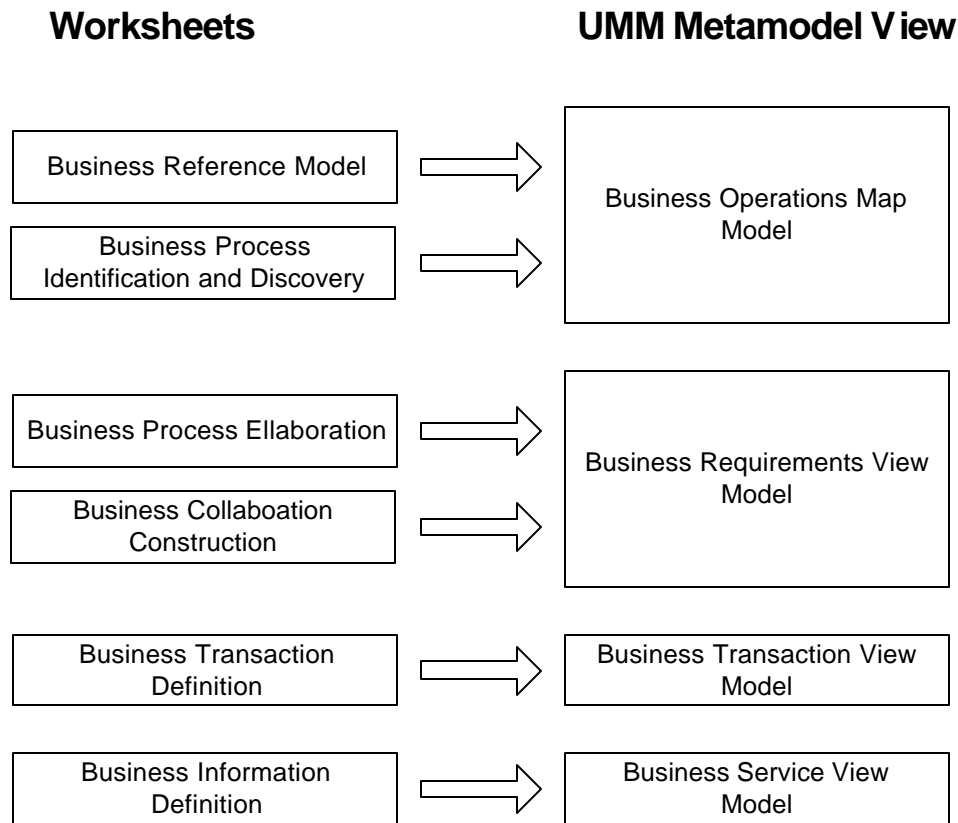
⁵ A template is a document or file having a preset format that is used as a starting point for developing human-readable versions of the business process specifications so that the format does not have to be recreated each time it is used.

6. Worksheet Based Analysis Overview

309

310 As stated above, the purpose of this document is to provide worksheets that guide the user
 311 through the construction of a UMM compliant specification of their business processes. The
 312 following diagram shows mapping from the worksheets to the high level components of the UMM.
 313 Note, the document definition worksheet is currently not included in the set of worksheets.

314



315

Figure 6-1 Overview of mapping from Worksheets to Metamodel

316 The expectation is that after the worksheets have been completed, there will be sufficient
 317 information to mechanically produce a Metamodel based specification of the modeled business
 318 process(es). The worksheets given above are:

319 **Business Reference Model** – Use this to define the “frame of reference” of the rest of the
 320 worksheets. This provides definitions of terms and, perhaps, canonical business processes (e.g.
 321 [SCOR]⁶)

322 **Business Process Identification and Discovery** – Use this to do an inventory of the business
 323 processes. This is really just a set of high-level use cases merely to identify the existence of
 324 processes and the stakeholders without going into detail.

325 **Business Process Elaboration** – These worksheets are used to flesh out the business
 326 processes. This identifies the actual actors as well as pre and post conditions for the business
 327 process.

⁶ Defines plan, source, make and deliver business areas in their Supply Chain Operations Reference (SCOR) model

328 **Business Collaboration Definition** – In these worksheets we define the economic events that
329 take place to fulfill the business process. This is where one defines the system boundaries and the
330 protocols that govern the flow of information.

331 **Business Transaction Definition** – These worksheets are more technically oriented than the
332 others (which have a decidedly more “modeling” orientation). At this stage one defines the actual
333 activities and authorized parties within the organization that initiate these transactions.

334 **Business Information Definition** – In these worksheets one defines the contents of the
335 information field widths, data types, descriptions, requirement traceability and, perhaps, the
336 additional *context* ([ebCNTXT]) necessary to construct the document from the Core Components
337 subsystem.

338 6.1. Basic Guidelines for filling out Worksheets

339 6.1.1 Focus on public Business Processes

340 While these worksheets could be used to model any kind of business process, the focus of the
341 ebXML effort is to make trading partner integration easier, cheaper, and robust. Therefore the
342 expectation is that the primary focus will be on *public* faces of your business processes.

343 6.1.2 The REA Ontology

344 The UMM and ebXML groups are recommending the use of the Resource-Economic Event-Agent
345 Ontology for the formalization of business collaborations. Please refer to [BPAO] and [REA] for
346 further information on this topic⁷ and associated worksheets.

347 6.1.3 Use the worksheets in the order that makes the most sense for you

348 For the purposes of this document we proceed from the top-level step (Business Reference Model)
349 down to the lowest-level step (Business Transaction). It is important to note, however, that these
350 worksheets can be filled out in whatever order makes the most sense from the user’s perspective.
351 For example, a person who is trying to retrofit an existing document based standard (e.g.
352 EDIFACT) might want to start by filling in the Business Transaction Definition worksheets (perhaps
353 only specifying trivial definitions for the higher level worksheets). A person looking to formalize the
354 definitions for an entire industry may very well start from the Business Reference Model worksheet.

355 6.1.4 The worksheets can be used for projects of various scopes

356 Although the Metamodel has definite requirements on *what* objects need to be present to comprise
357 a complete specification, it says little about the scope of what those specifications represent. For
358 example, if you are only trying to model a specific interaction with one of your trading partners, you
359 do not need to include a complete *Business Reference Model* for your entire industry, just include
360 the parts that are directly relevant for the interaction you are modeling. Similarly, if you are just
361 doing a small set of interactions for your company, you might choose to have the *Business Area* or
362 *Process Area* just be your own company.

⁷ Worksheets will be made available in a future version of this document.

363 6.1.5 Think how will people use what you construct

364 As you fill in these worksheets please keep in mind how the generated UMM specification will be
365 used by a user of the repository. The two principal uses envisioned are:

- 366 • To determine if a given collaboration is appropriate for reuse (or at least is a close enough
367 match for subsequent gap analysis)
- 368 • To be used as an *on-line implementation guide*. A potential trading partner (or a 3rd party
369 on their behalf) could examine the public processes/collaborations you provide and
370 construct an integration plan.

371 This means trying to use industry wide terms (or at least Business Reference Model terminology)
372 to increase the comprehensibility and specificity. .

373 6.1.6 Re-use is one of the primary goals of ebXML

374 As stated above, the hope is that users will develop models that are reusable by others. Towards
375 that end, it is intended that the Worksheets be used in conjunction with a browser that lets the user
376 search business process libraries for items that have already been defined. The items (e.g.
377 business processes, business collaborations, document schemas, etc.) can be referenced (re-
378 used as is) or copied to the worksheets and changed as needed. Over time, business process
379 catalogs will become populated with a sufficiently large number of business processes. When this
380 happens, the analysis processes will often become a matter of validating pre-defined business
381 processes against requirements.

382 6.1.7 Note on optional fields in the worksheets

383 Some of the worksheets contain entries that are labeled as optional for ebXML. These are
384 attributes that appear in the UMM but are not required as part of the ebXML Specification Schema.
385 These are typically business objective/justification topics. While these are obviously very important
386 aspects of any modeling endeavor, ebXML is oriented towards *exposing* an organization's public
387 processes to their trading partners. Advertising that organizations justifications for such interfaces
388 could potentially publicize strategic information that said organization would prefer to keep private.⁸

389

⁸ There has been discussion on private vs. public repositories where some or all aspects of the model are stored in a restricted access repository.

389 6.1.8 Number your worksheets

390 Each of the worksheets has an entry for a *Form ID*. This ID can be used to reference one form
 391 from another. In addition, if you use an outline numbering scheme, it will be easy for the reader to
 392 determine parent-child relationships between elements of the model (of course, if you do a bottom
 393 up approach this will be significantly harder to do up front!).

394 The recommended format is:

395 `<Form Type>-<Number><Description>`

396 Where `<Form Type>` is

397 **BRM** for *Business Reference Model*
 398 **BA** for *Business Area*
 399 **PA** for *Business Process Area*
 400 **BPS** for *Business Process Summary*
 401 **BPUC** for *Business Process Use Case*
 402 **EE** for *Economic Exchange*
 403 **EA** for *Economic Agreement*
 404 **BC** for *Business Collaboration*
 405 **BCPT** for *Business Collaboration Protocol Table*
 406 **BT** for *Business Transaction*
 407 **BTTT** for *Business Transaction Transition Table*
 408 **BIC** for *Business Information Context*
 409 **CD** for *Content Description*
 410 **CM** for *Content Mapping*

411

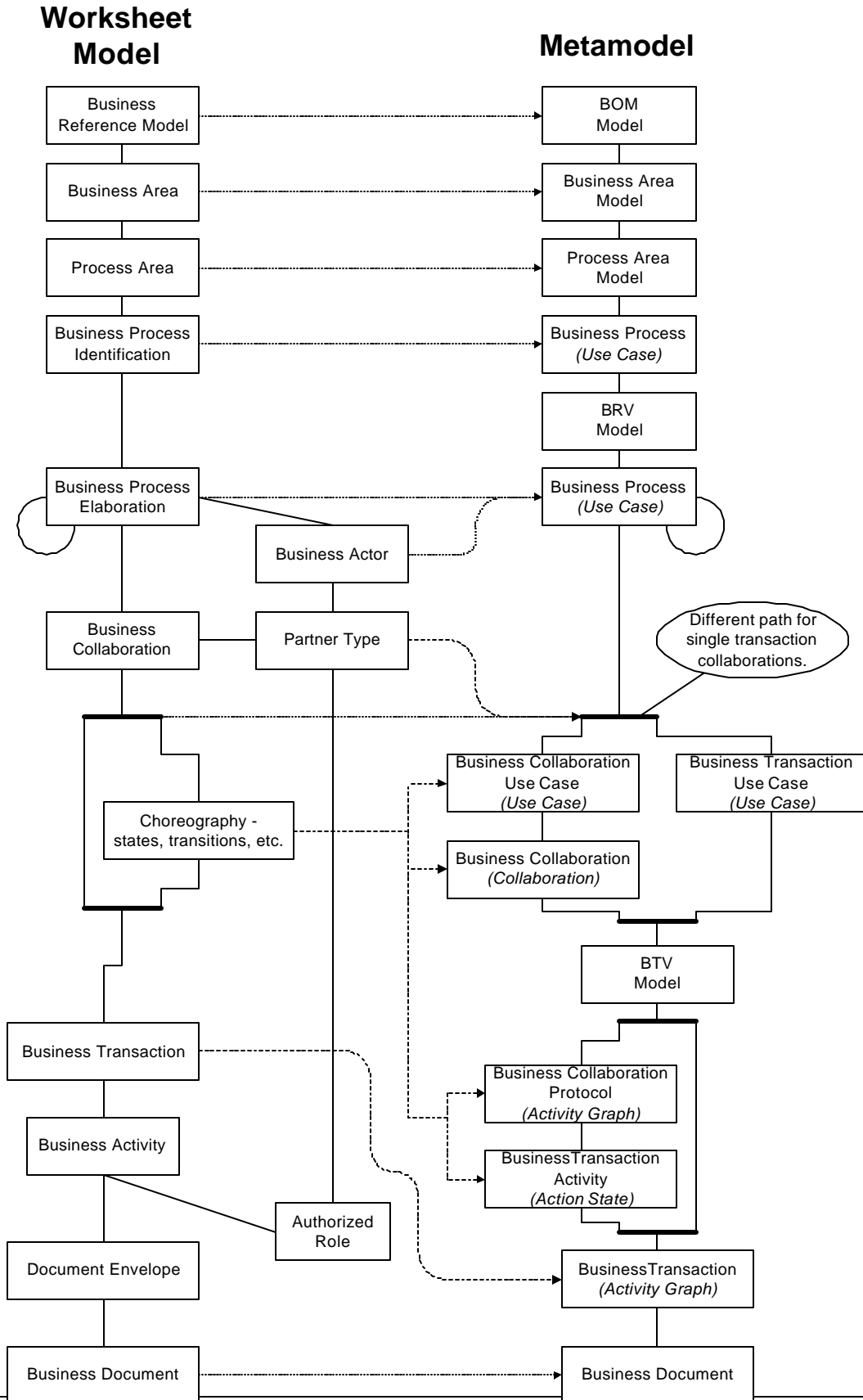
412 `<Number>` is, perhaps, an outline entry number

413 `<Description>` is some descriptive name.

414 Please see the example in the Appendix for an illustration of this in practice.

415 6.2. Worksheets to Metamodel Mapping

416 The following diagram sketches out a more detailed mapping from the Worksheets Model to the
 417 Metamodel defined by the UMM. The leftmost column is the selection of the main elements that the
 418 Worksheets need to specify or edit. The rightmost column shows significant Metamodel elements.
 419 The middle column is the other elements that are part of the Worksheets. They are the same as
 420 the Metamodel elements of the same name.

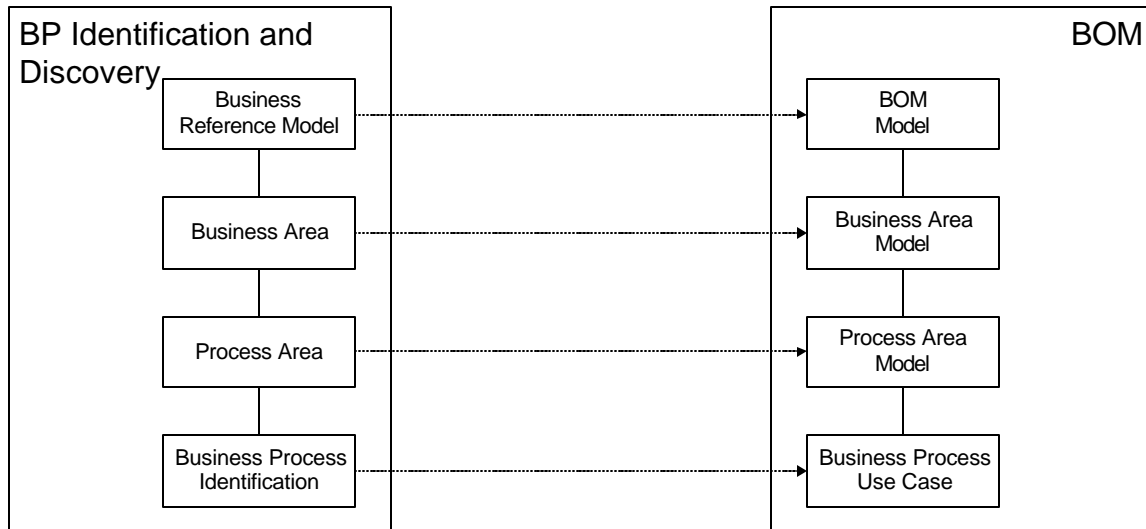


422

423 **7. Business Process Identification and Discovery**

424 **7.1. Goals**

425 The first set of worksheets helps the user begin formalize the domain they are trying to model
 426 processes in. The first stage in the methodology is to identify the “top level” entities and organizing
 427 concepts in the domain.



428

429 Figure 7-1 Business Process Identification and Discovery Worksheet to Metamodel Mapping

430 At this stage we define terminology and identify the participants as well as which business
 431 processes those players interact with. To quote the UMM, at this stage in the model the goal is to:

- 432 ■ To understand the structure and dynamics of the business domain,
- 433 ■ To ensure that all users, standards developers and software providers have a common
 434 understanding of the business domain,
- 435 ■ To understand the daily business in the business domain independent of any technical
 436 solution,
- 437 ■ To create categories to help partition the business domain that enables an iteration plan to
 438 complete the model,
- 439 ■ To structure the model in the form of a Business Operations Map (BOM),
- 440 ■ To capture the justification for the project,
- 441 ■ To identify the stakeholders concerned with the modeled domain, some who will be
 442 independent of the processes within the domain.

443 The modeling artifacts that correspond to the UMM are:

- 444 ■ Business Area [Package]
- 445 ■ Process Area [Package]
- 446 ■ Process(es) [Use Cases]

447 7.2. Guidelines

448 7.2.1 How does one decide how big to make the various groupings at this 449 level?

450 Referring back to the primary guidelines, think about what you are trying to communicate. If you
451 are more focused on identifying the public processes, then think about grouping them by partner
452 type or, perhaps by the area of your business these partners interact with. If you are trying to
453 formalize an entire business sector, determine the *archetypes* (patterns) that are prevalent in that
454 sector and group them by business function area. These are just rules of thumb and this is still
455 largely an “art”. Keep in mind your potential audience and think what would make the most useful
456 organization for them.

457 The activity diagrams in this workflow will likely discover more refined business process use cases.
458 The Business Operations Map (BOM) Metamodel allows a business process to be represented by
459 more refined business processes. NOTE: At the point where the business process can not be
460 broken down into more child business processes, the parent business process can be called a
461 business collaboration use case as specified in the Requirements workflow.

462 7.2.2 What is the boundary of the business area?

463 According to the [UMM] the following guidelines are to be used in defining a business area:

- 464 ■ The business area can be defined by the stakeholders that have direct or immediate indirect
465 influence on the business domain. A stakeholder is defined as someone or something that is
466 materially affected by the outcome of the system but may or may not be an actor. Actors are
467 stakeholders that are involved in the business process and are thus part of the business
468 model.
- 469 ■ The business area can be defined by the information passing into or out of the business
470 domain. Where possible, the domain boundaries should be chosen so that a business
471 transaction is logically or organizationally initiated and concluded within them.
- 472 ■ The business area can be defined by key business entity classes. (i.e., things that are
473 accessed, inspected, manipulated, processed, exchanged, and so on, in the business
474 process)

475 7.3. Worksheets

476 The examples given in the following worksheets more or less come from the hypothetical business
477 process described in section 8.4 of [bpPROC].

478 7.3.1 Business Reference Model

479 Often times it is useful to define a “frame of reference” for the business processes being identified.
 480 This frame of reference might define basic terms accepted by the given industry segment. For
 481 example the SCOR model defines a frame of reference for supply chain. VICS defines a frame of
 482 reference for trading partners in the retail industry. It also might be a more horizontal view such as
 483 the Porter Value Chain [PVC] (see table Appendix B).

Form: Describe Business Reference Model	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Business Reference Model Name	[Provide a name for the reference model. You can use an existing reference model such as the Supply Chain Council or the Porter’s Value Chain or create your own name.] <u>DOTCOM DROP SHIP RETAIL MODEL</u>
Industry Segment	[Provide the name of the industry segment that this business applies to. Search the business process library for a list of possible industry segments. If the industry segment does not exist, then provide an appropriate name/label for the industry segment.] <u>Retail.</u>
Domain Scope	[Provide a high level statement that encapsulates the scope of all the business areas.] <u>Online catalog, distribution center, delivery, billing.</u>
Business Areas	[List the business areas within the scope. A business area is a collection of process areas. A process area is a collection of business processes. You may wish to refer to the ebXML Catalog of Business Processes that provides a list of normative categories that may be used as business areas.] <u>Order Management, AR.</u>
<i>Optional for ebXML</i>	
Business Justification	[Provide the business justification for the collection of business processes] <u>Define more efficient on-line retailer/vendor interaction.</u>

484

485

485 7.3.2 Business Area

486 As mentioned in the guidelines section, there are no hard and fast rules for how to divide up the
 487 model into different business areas. One suggestion is to group business processes according to
 488 the primary business function. You might consider using the Porter Value Chain [PVC]
 489 classification scheme (see Appendix B).

Form: Describe Business Area	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Business Area Name	[Provide a name for the business area. This should be listed in the Business Areas section of at least one Business Reference Model.] <u>Direct to Customer Retail</u>
Description	[A brief summary of this functional area.]
Scope	[Provide a high level statement that encapsulates the scope of all the business areas. The scope of the business area must be within the scope of the encompassing business reference model. Typically the scope of the business area will be more constrained or limited than the scope of the business reference model.] <u>Online catalog, order placement, distribution center, delivery, billing.</u>
Boundary of the Business Area	[Describe the boundary of the business area. This defines the entities that interact in this business area; actors, organizations, possibly systems] <u>Customer, Retailer, DSVendor, Carrier, Credit Authority.</u>
References	[Any external supporting documentation.] <u>VICS, SCOR</u>
Constraints	[Identify any constraints on the process areas (and, thus, business processes) within this business area.] 1. <u>Completely automated system.</u> 2. <u>Web browser limitations.</u> 3. <u>Domestic orders only</u>
Stakeholders	[Identify the practitioners that care about the definition of this business area. At this level, this is likely to be some participants in an industry group (perhaps a standards body or an enterprise). These are the people who will define the BRV.] <u>Customer, Retailer, DSVendor, Carrier, Credit Authority.</u>
Process Areas	[List the process areas within the scope. A process area is a collection of business processes. You may wish to refer to the ebXML Catalog of Business Processes that provides a list of normative process groups that may be used as process areas.] <u>Customer Commitment, Order fulfillment, Billing, Inventory Management.</u>
Optional for ebXML	
Objective	[Describe the objective of this business area.] <u>To deliver a product to a customer in a timely efficient manner.</u>
Business Opportunity	[Describe the business opportunity addressed by this business area.]

490 7.3.3 Process Area

491 Typically a business reference model would define a canonical set of process areas (see the
 492 Porter or SCOR reference models for examples). A process area consists of a sequence of
 493 processes that are combined to form the “value chain” of the given business area.

494

Form: Describe Process Area	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Process Area Name	[Provide a name for the process area. This should be listed in the Process Areas section of at least one Business Area.] <u>Order Fulfillment</u>
Objective	[Describe the objective of this process area.] <u>To deliver the goods ordered to the customer.</u>
Scope	[Provide a high level statement that encapsulates the scope of all the business areas. The scope of the business area must be within the scope of the encompassing business reference model. Typically the scope of the process area will be more constrained or limited than the scope of the corresponding business area.] <u>To fulfill customer's order using the third party supplier for a drop ship delivery.</u>
References	[External supporting documentation.]
Boundary of the Process Area	[Describe the boundary of the process area. The communicating services.] <u>Retailer and third party vendor.</u> [Issue: How is this different than Scope?]
Constraints	[Identify any constraints on the business processes within this process area.] <u>Inventory availability. On time delivery. System constrain.</u>
Stakeholders	[Identify the practitioners involved in this process area. <i>Question: is this a subset of those listed in the Business Area?.</i>] <u>Retailer, Third party vendor</u>
Business Processes	[List the business processes within the scope of this process area. You may wish to refer to the ebXML Catalog of Business Processes that provides a normative list of business processes.] <u>Manage Purchase Order.</u>
Optional for ebXML	
Business Opportunity	[Describe the business opportunity addressed by this process area.]

495

496 **7.3.4 Identify Business Processes**

497 For each business process in the process area fill in the following worksheet. A suggested rule of
 498 thumb for the appropriate granularity for a business process is that it is the smallest exchange of
 499 signals between stakeholders that has an identifiable economic value (cref. [REA]). *Note that this*
 500 *is not always appropriate since “negotiation” could be a valid business process but it doesn’t really*
 501 *result in an economic consequence.*

502 Be sure to validate the information in the process area against the encompassing business area. For
 503 example, validate that the scope of the process area is within the scope of its business area.

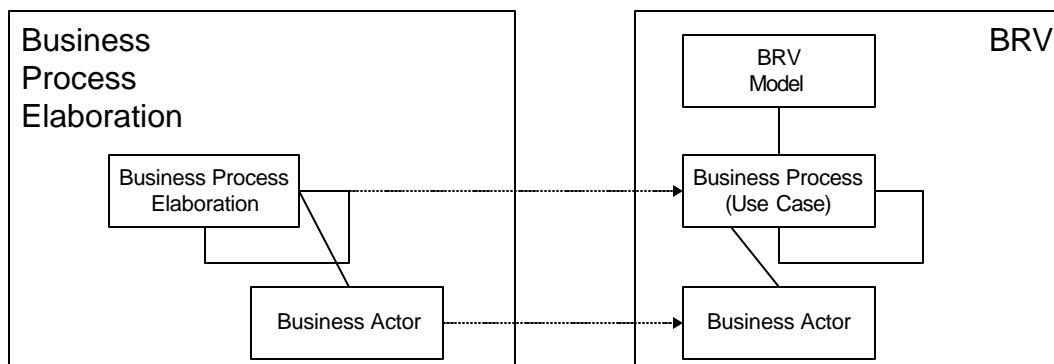
Form: Identify Business Process	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Business Process Name	[Provide a name for the business process. You may wish to refer to the ebXML Catalog of Business Processes [bpPROC] that provides a suggested set of commonly used business processes.] <u>Manage Purchase Order</u>
Process Area	[A process area is a group of business processes. Complete a Process Area form.] <u>Order Fulfillment</u>
Business Area	[A business area group together related process areas. Create a Business Area form.] <u>Direct to Customer Retail</u>

504

505 **8. Business Process Elaboration**

506 **8.1. Goals**

507 At this stage we begin to move from requirements analysis to design analysis. Consider the
 508 following diagram:



509

510

Figure 8-1 Mapping from business processes to the BRV

511 A business process is a use case that is used to gather requirements about business processes.
 512 Inputs to the business process must be specified in the preconditions and outputs from the
 513 business process must be specified in the post-conditions.

514 **8.2. Worksheet**

515 One of these is filled out for each business process. Business process can be nested. You should
 516 use whatever organization makes sense for your purposes (though you might want to think in
 517 terms of reuse when considering possible decompositions).

Form: Business Process Use Case	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Business Process Name	[Provide a name for the business process. This should be a name identified on the form “Identify Business Process” and on a “Describe Process Area” form. If you are starting with this form, you may wish to refer to the ebXML Catalog of Business Processes that provides a normative list of business processes.] <u>Manage Purchase Order.</u>
Identifier	[This is a unique identifier that follows the Business Process Identifier Naming Scheme. This can be provided when the business process description is submitted to a business process library. See Appendix A for a more detailed discussion.] <u>bpid:ean.1234567890128:ManagePurchaseOrder\$1.0</u>
Actors	[List the actors involved in the use case.] <u>Retailer, Vendor</u>
Performance Goals	[A specification of the metrics relevant to the use case and a definition of their goals. Non-functional requirements may be a source of performance goals. For each performance goal, provide a name of the performance goal and a brief description of the performance goal.]
Preconditions	[Preconditions are constraints that must be satisfied starting the use case.] <u>1. Valid Sales Order 2. Valid Vendor Relation</u>
Begins When	[Describe the initial event from the actor that starts a use case.] <u>Sales Order Validation (expressed as events)</u>
Definition	[A set of simple sentences that state the actions performed as part of the use case. Include references to use cases at extension points.] <u>A valid Purchase Order placed by retailer with the vendor and a PO Ack is received from the vendor.</u>
Ends When	[Describe the condition or event that causes normal completion of the use case.] <u>PO Acknowledged returned to retailer.</u>
Exceptions	[List all exception conditions that will cause the use case to terminate before its normal completion.] <u>1. PO Rejected (Failure state of a process) 2. Late PO acknowledged</u>

Postconditions	[Post-conditions are states that must be satisfied ending the use case.] <u>1. Valid PO 2. Allocated Product</u>
Traceability	[These are the requirements covered (as shown in Annex 4, Use Case Specification Template, in the UMM).] <u>"PRD-FOO-6.5.4" (meaning Product Requirements Document for FOO project/solution, requirement 6.5.4).</u>

518 9. Economic Elements

519 9.1. Goals

520 These worksheets develop the economic elements of business processes as elaborated in the
521 REA ontology [REA]. The intent is to conform to the specific modeling elements of the Business
522 Requirements View (BRV) of the UMM. Not all business processes include economic exchanges
523 as defined by REA, so the use of these worksheets will occur in only a portion of business
524 processes and business collaborations. The semantics of legal ownership and GAAP (generally
525 accepted accounting principles) financial reporting depend upon correct modeling and
526 understanding of the BRV elements in this section.

527 9.2. Guidelines

528 There are two worksheets in this section. These worksheets model the following economic
529 entities: Economic Events, Economic Resources, Partner Types, Business Events, Agreements,
530 Economic Contracts, and Commitments. Building an Economic Exchange model with these
531 elements normally involves specification of two matching components of a marketplace exchange.
532 For example:

533 A shipment (economic event) of goods (economic resource) between a supplier and a
534 customer (partner types) occurs. This is normally followed by a payment (economic
535 event) involving cash (economic resource) between the same two parties (partner
536 types). This shipment for cash might have been preceded by quotes and pricing
537 exchanges (business events). The shipment might also be governed by a purchase
538 order (agreement or economic contract). This purchase order (economic contract)
539 might specify the expected types of goods (economic resource types) and the
540 expected dates of the shipments and payments (commitments).

541 The first worksheet specifies the items for an economic exchange, while the second specifies the
542 economic primitives for the agreement that might govern that exchange. Not all economic
543 exchanges are governed by agreements or contracts, so the second worksheet will be used less
544 frequently. Where necessary, space has been provided for cross-references between economic
545 exchanges and the agreements that govern them. It is also possible for agreements to recursively
546 reference other agreements. Business Collaborations as defined in the next section of worksheets
547 might correspond to an entire economic exchange, an economic event, or a business event.
548 Collaborations may also correspond to agreements or economic contracts.

549 9.3. Worksheets

Form: Economic Exchange	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Economic Exchange Name	[Provide a name for the exchange (like “cash purchase” or “credit acquisition of services”)]
Identifier	[This is a unique identifier that follows the Business Process Identifier Naming Scheme.]
Initiator Resource Flow	
Initiator Economic Event (s)	[Provide the business name for the economic event (shipment, service, payment, etc.)]
Initiator Economic Resource(s)	[Describe the goods or services (inventory, transportation, cash, etc.) to be exchanged.]
Initiator Supplying Partner Type	[Describe the party who supplies the economic resource.]
Initiator Receiving Partner Type	[Describe the party who receives the economic resource.]
Initiator Exception Events	[Describe the events that constitute the exceptions to the expected exchange and explain their consequences (incomplete shipment or disallowed payment, etc.)]
Terminator Resource Flow	
Terminator Economic Event(s)	[Provide the business name for the economic event (shipment, service, payment, etc.)]
Terminator Economic Resource(s)	[Describe the goods or services (inventory, transportation, cash, etc.) to be exchanged.]
Terminator Supplying Partner Type	[Describe the party who supplies the economic resource]
Terminator Receiving Partner Type	[Describe the party who receives the economic resource.]
Terminator Exception Events	[Describe the events that constitute the exceptions to the expected exchange and explain their consequences (incomplete shipment or disallowed payment, etc.)]
Overall Economic Exchange	
Enabling Business Events	[Describe the business events that normally accompany this economic exchange and that enable its operation (For example: query availability, supply catalog information, and check credit might all precede a shipment of goods for cash).]
Normal Terms of Settlement	[Describe normal settlement arrangements (payment upon receipt, etc.)]
Recognition of Claim	[Describe whether or not an incomplete (unrequited) state of the exchange needs to be explicitly recognized with a claim (like an invoice).]
Need for Contract or Agreement	[Indicate whether or not this exchange is to be governed by an economic agreement or contract. If necessary, complete the next worksheet.]

550

Form: Economic Agreement	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Economic Agreement Name	[Provide a name or a specific identifier for the agreement that usually governs the economic exchange from the linked worksheet.]
Identifier	[This is a unique identifier that follows the Business Process Identifier Naming Scheme.]
Linked Worksheet for Economic Exchange	[Provide the Identifier for the governed economic exchange (as identified in prior worksheet).]
Governing Economic Agreement (Higher Order)	[Describe and provide Identifier for any longer term agreement that governs the operation of this specific (shorter-term) agreement.]
Governed Economic Agreement (Lower Order)	[Describe and provide Identifier for any shorter term agreement that are governed by the operation of this specific (longer-term) agreement.]
Economic Contract	[Describe whether or not this agreement meets the conditions for an enforceable legal contract.]
Parties to the Economic Agreement	[Identify the Partner Types responsible for the establishment of the agreement.]
Establishing Event	[Identify the Business Event which establishes this agreement.]
Enabling Business Events	[Describe the set of Business Events that enabled the establishment of this agreement (from the negotiation pattern for example).]
Initiator Commitment(s)	Describe the nature of the initiating commitment for the governed exchange (for example: ship inventory according to a certain schedule).]
Initiator Resource Types	[Describe the Economic Resource Types for the initiating commitment and projected quantities if appropriate.]
Initiator Partner Type	[Identify the Partner Type responsible for the initiating commitment in the governed exchange.]
Terminator Commitment(s)	[Describe the nature of the terminating commitment for the governed exchange (for example: submit payment within 30 days of receipt).]
Terminator Resource Types	[Describe the Economic Resource Types for the initiating commitment and projected quantities if appropriate.]
Terminator Partner Type	[Identify the Partner Type responsible for the initiating commitment in the governed exchange.]

551

10. Business Collaboration

10.1. Goals

These worksheets develop the Business Requirements View (BRV) of a process model.

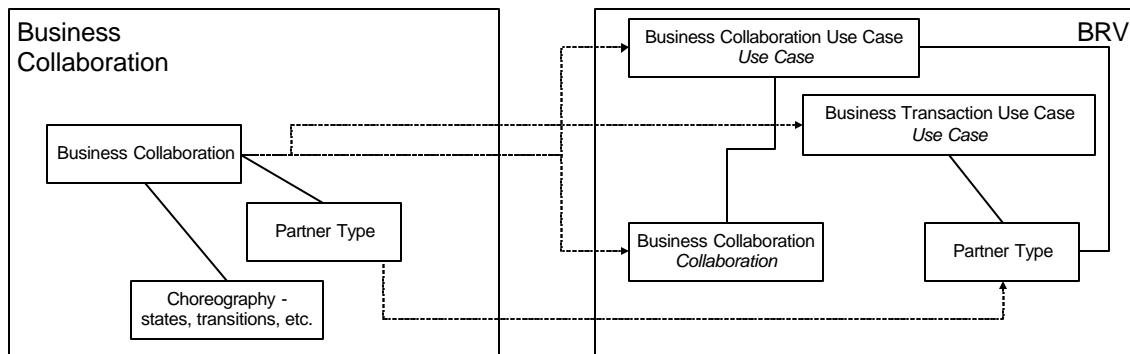


Figure 10-1 Mapping from Business Collaboration to BRV

The following items are specified:

- The business collaboration protocols that tie economic events together
- The system boundaries between which the protocols flow
- The input and output triggers of these collaborations
- The roles and constraints associated with the collaboration

The purpose of the Partner Collaboration Worksheets is:

“... to capture the detailed user requirements, specified by the stakeholders, for the business-to-business project. ... This workflow develops the Business Requirements View (BRV) of a process model that specifies the use case scenarios, input and output triggers, constraints and system boundaries for business transactions (BTs), business collaboration protocols (BCPs) and their interrelationships.” ([UMM, 3.1])

The modeling artifacts to be identified are:

- Business Transactions [Use Case]
- Business Collaboration [Use Case]
- Business Collaboration Use Case [Use Case Realization, Activity Diagram]
- Economic Consequences of Business Collaborations

574 10.2.Worksheets

575 Detail the information in the table below for each business collaboration. Note that it may make
 576 sense to use UML diagrams to convey some of this information.

Form: Business Collaboration	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Identifier	[This is a unique identifier that follows the Business Process Identifier Naming Scheme. This can be provided when the business process description is submitted to a business process library. See Appendix A for a more detailed discussion.]
Description	[Provide a descriptive overview of the collaboration.]
Partner Types	[This is a list of entities that participate in the collaboration. These participants exchange the events that form the collaboration.]
Authorized Roles	[These are the roles that a partner must be authorized to play to issue specific transactions in the collaboration (by sending certain signals).]
Legal Steps/Requirements	[If any step in the collaboration has any legal standing, it should be captured here.]
Economic Consequences	[If any step in the collaboration has and economic consequence, it should be captured here.]
Initial/Terminal Events	[List the events that initiate this collaboration and how it terminates.]
Scope	[Specify the set of business actions this collaboration encapsulates.]
Boundary	[Specify the systems and users that communicate with each other over the course of this collaboration.]
Constraints	[Spell out any special constraints that are relevant to this collaboration (e.g. business scenario, pre-conditions.)]

577

Form: Business Collaboration Protocol Table				
Form Id	[Provide an ID for this form so other forms can reference it (§6.1.8)]			
Identifier	[Enter the Identifier from the associated Business Collaboration form.]			
From Business Activity (Transaction)	Initiating Partner Type	To Business Activity	Responding/ Receiving Partner Type	Transition Condition
[START for the first activity or the name of	[Partner type name or NOT-APPLICABLE.]	[Name of destination business activity.]	[Partner type name or NOT-APPLICABLE.]	[A boolean expression defining or

originating business activity.]	APPLICABLE.]	business activity.]	APPLICABLE.]	describing the condition for the transition or NONE.]
[Name of an activity.]	NOT-APPLICABLE	SUCCESS	NOT-APPLICABLE	[A boolean expression defining or describing the condition for the transition.]
[Name of an activity.]	NOT-APPLICABLE	FAILURE	NOT-APPLICABLE	[A boolean expression defining or describing the condition for the transition.]

578

579

579 11. Business Transactions and Authorized Roles

580 11.1.Goals

581 The goal of this worksheet is to identify the individual transactions that implement the workflow of a
582 Business Collaboration. A transaction is made up of several *activities* and each activity has an
583 *authorized role* that the signaler must have in order to initiate that activity.

584 The modeling artifacts generated as a result of this worksheet is the BusinessTransaction Activity
585 Diagram. Fill out one worksheet for each transaction in the collaborations

586 11.2.Guidelines

587 11.2.1 Use Transaction Patterns

588 The UMM has defined several transaction patterns that should be used to define business
589 transactions. By the use of these patterns one can be assured that the transaction is legally binding
590 in accordance with current global and regional legal writings (see UMM for further details).

591 These patterns have intrinsic semantics (e.g. property-values such as non-repudiation and
592 authorization) associated with them. If you choose to base the transaction on one of these patterns
593 you do not have to repeat the property values here (although you may wish to do so that all
594 information is specified in one place). However if you do not base the transaction on an UMM
595 pattern, described the property values in the Business Transaction Property Values form. Note
596 that if you do not follow a prescribed pattern, the business transaction may not comply with
597 generally acceptable legally binding transaction semantics. If you wish to “override” the semantic
598 property-values, use the Business Transaction Property Values form and keep in mind that when
599 you change the property values, the pattern may no longer be applicable. In this case, you should
600 not specify a pattern name. Do not provide values for Non-Repudiation Of Receipt and
601 Recurrence for Responding Business Activity (this is specified by the UMM).

602 11.2.2 Detail Transaction Activities Only If Necessary

603 The transaction patterns defined in the UMM should be sufficient to cover most business cases.
604 However, it may be necessary or desirable to describe the business transaction activity in terms of
605 the allowable transitions between the activities. An UMM compliant activity diagram (UML) can be
606 created or a Business Transaction Transition Table can be used to convey the same information.
607 Refer to the examples in Appendix C, to see how Business Transaction activity diagrams are
608 represented in Business Transaction Transition Table forms.

609 11.3.Worksheets

Form: Business Transaction	
Form ID	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Description	[Provide a descriptive overview of this transaction.]
Pattern	[If you have chosen to follow one of the canonical transaction patterns in the UMM ⁹ (or elsewhere) denote it here. If not and you have special semantics (as mentioned above), describe them here.]
Business activities and associated authorized roles	[List each activity (along with its initiator) and the role required to perform that activity]
Constraints	[Any constraints should be listed here.]
Initiating/Requesting Partner Type	[Partner type from collaboration.] <u>Customer</u>
Initiating/Requesting Activity Role	[These are the roles that a partner must be authorized to play to issue specific transitions in the transaction (by sending certain signals).] <u>Buying Customer</u>
Initiating/Requesting Activity Document	[Document initiating the transaction. Might reference a standard document (e.g. an X12 document).] <u>Sales Order</u>
Responding Partner Type	[See above.] <u>On-line Retailer</u>
Responding Activity Role	[See above.] <u>Customer Service</u>
Responding Activity Document	[See above.] <u>Confirmation email</u>

610

⁹ See chapter 4 in [UMM].

611 Complete the following property-values for requesting business activities and responding business
 612 activities if they differ from the default values defined in the UMM transaction patterns. You may
 613 wish to copy the values from the UMM as a convenience to the readers.

Form: Business Transaction Property Values							
Form Id	[Provide an ID for this form so other forms can reference it (§6.1.8)]						
	Time to Acknowledge Receipt	Time to Acknowledge Acceptance	Time to Perform	Authorization Required	Non-repudiation of Origin and Content	Non-Repudiation of Receipt	Recurrence
Requesting Business Activity	[time]	[time]	[time]	[true or false]	[true or false]	[true or false]	[whole number]
Responding Business Activity	[time]	[time]	[time]	[true or false]	[true or false]	NOT-APPLICABLE	NOT-APPLICABLE

614

615 Provide a Business Transaction Transition Table if needed. See guidelines section “Detail
 616 Transaction Activities Only If Necessary.”

Form: Business Transaction Transition Table					
Form Id	[Provide an ID for this form so other forms can reference it (§6.1.8)]				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
[Name of the “from” activity. The keyword START shall be used for the first activity.]	[A Requesting/Initiating Activity Role or NOT-APPLICABLE. NOT-APPLICABLE is to be used when the From Activity is START.]	[Document name or NONE.]	[Name of the destination activity or keyword END or keyword CONTROL-FAILED.]	[A Responding Activity Role or NOT-APPLICABLE.]	[A boolean expression defining or describing the condition for the transition or NONE.]
[Name of the last activity before the END keyword]	[Appropriate role name.]	NONE	END	NOT-APPLICABLE	[Expression of the guard condition.]

END state]					
[Name of the last activity before the CONTROL-FAILED state.]	[Appropriate role name.]	NONE	CONTROL-FAILED	NOT-APPLICABLE	[Expression of the guard condition.]

617

12. Business Information Description

618

12.1.Goals

619

620 The goal of this set of worksheets is to identify the information requirements for the business
 621 documents specified in the business transactions.

12.2.Guidelines

622

623 The first step in specifying business documents in a business process and information model, is to
 624 attempt to reuse business information objects in a Business Library. If an existing business
 625 document cannot be found then, domain components from Domain Libraries and core components
 626 from the Core Library can be used. Until the Business Library is built up, or imported from a
 627 credible source, core components are likely to be referred to frequently, to first add to the
 628 repertoire of business information objects in the Business Library, and second, to create business
 629 documents.

630 The steps for completing these worksheets are as follows:

- 631 1. See what attributes are available in business information objects in the available Business Libraries
 632 that can be used in a business document.
- 633 2. If business information objects with appropriate attributes as required for business documents are
 634 not available, new business information objects must be created.
- 635 3. Look for re-usable information components in the business library and the Core Library as
 636 candidates for business information object attributes. Take context into account, as specified in the
 637 business process and information models. Extend existing business information objects, domain
 638 components, and core components as required.
- 639 4. Add the new attributes to existing business information objects, or introduce new business
 640 information objects through a registration process that manages changes to the Business Library.
- 641 5. Use the new attributes, now in the Business Library, as needed in creating the business
 642 documents.

643 12.3.Worksheets

644 12.3.1 Business Information Context

645 The Business Information Context form is provided as convenience for aggregating contextual
 646 values that effect the analysis of business information. It is intended that this information be
 647 obtained from other forms. For example, Industry Segment is specified in the Business Reference
 648 Model form. If there is no value for an entry, enter NOT-APPLICABLE or NONE which ever is
 649 appropriate.

Form: Business Information Context	
Form Id:	[Provide an ID for this form so other forms can reference it (§6.1.8)]
Industry Segment	
Business Process	
Product	
Physical Geography /Conditions /Region	
Geo-Political Legislative/ Regulatory/ Cultural	
Application Processing	
Business Purpose /Domain	
Partner Role	
Service Level (profiles – not preferences.)	
Contracts/Agreements	

650

651 12.3.2 Document Content Description

652 Describe each element or group of elements in the document. Logically related elements can be placed in separate forms (For example, a
 653 document may have logically three parts, a header, body, and summary. The body may have further logical partitioning.). Possible values for
 654 Occurs include: 1 (one instance), 0..1 (zero on one instance), 0..* (zero or more instances), 1..* (one or more instances), or n..m (n to m
 655 instances where n is less than m). Information “looping” is specified through appropriate occurs values. Possible values for Data Type include
 656 primitive data types –such as integer, string, date-type – or a Form Id of another Content Description Form. Referencing another Content
 657 Description Form Id represents information hierarchy and nesting. If you happen to know the name of a reusable component from an domain
 658 library or the Catalog of Core Components, then you MAY reference it. The Semantic Description SHALL be stated in business terms and
 659 SHALL be unambiguous.

Form: Content Description					
Form Id:	[Provide an ID for this form so other forms can reference it (§6.1.8)]				
Element/Component Name	Occurs	Data Type	Field Width	Semantic Description	Notes
[Provide a name for the element/component. For example, “Order Summary” or “Issued Date.”]					

660

661 12.3.3 Content Mapping

662 These forms SHOULD be completed. This information is very important as it shows that the documents have a basis in existing standards.
 663 Furthermore, the information will be used to create document transformations. Standards to map to include EDIFACT, X12, xCBL,
 664 RosettaNet, and other standards such as OBI. Use XPATH and XSLT notation for referencing XML elements and describing the mappings.
 665 If a new document schema is created to fulfil the content requirements specified in the Document Content Description forms, then a set of
 666 Content Mapping forms should be completed for that schema (the component names in the forms are simply requirements for information)

667 For each Content Description form, complete a Document Content Mapping form for each standard to be cross-referenced.

Form: Content Mapping		
Form Id:	[Provide an ID for this form so other forms can reference it (§6.1.8)]	
Content Description Form Id	[Provide the identifier of the associated Content Description form]	
Standard	[Name of the standard. For example, UN/EDIFACT]	
Version	[Standard version number. For example, D.01A]	
Element/Component Name	Mapping/Transformation	Note
[Enter element/component name from corresponding Content Description form]	[Mapping or transformation. If the element/component is a complex structure, this entry should reference the appropriate Content Mapping form.]	[Any useful mapping notes.]

668

Appendix A Business Process Identifier Naming Scheme

669

670 It is recommended that the naming scheme, Business Identifier Naming Scheme, described in this
671 appendix be applied to uniquely identify significant objects of an ebXML compliant business model.
672 These objects directly relate to the layers of the UMM Metamodel. Specifically the Business
673 Operations Map (BOM) with a Business Process Identifier naming Scheme (BPINS), the Business
674 Requirements View with a Business Collaboration Identifier Scheme (BCINS) and the Business
675 Transaction View with a Business Transaction Identifier Scheme (BTINS).

676 A BPINS naming scheme format is defined by :

677 `bpid:<agency>:<agency-id>:<business-process-name>$<major-version-number>.<minor-version-`
678 `number>`

679 A BCINS naming scheme format is defined by :

680 `bcid:<agency>:<agency-id>:<business-collaboration-name>$<major-version-number>.<minor-`
681 `version-number>`

682 A BTINS naming scheme format is defined by :

683 `btid:<agency>:<agency-id>:<business-transaction-name>$<major-version-number>.<minor-`
684 `version-number>`

685 Where

686 ■ *bpid* is the fixed string “bpid” indicating the entire identifier is a business process identifier.

687 ■ *bcid* is the fixed string “bcid” indicating that the entire identifier is a business collaboration
688 identifier.

689 ■ *btid* is the fixed string “btid” indicating that the entire identifier is a business transaction
690 identifier.

691 ■ *agency* identifier or name of the agency that owns the agency-ids **and must be a globally**
692 **unique identifier**. For example, DUNS and EAN.

693 ■ *agency-id* identifier of the organization that owns the business process **and must be a**
694 **globally unique identifier**. *No other entity SHALL use the agency identification of another*
695 *entity.*

696 ■ Major and minor version numbers are each integers and need to respect any specific Registry
697 Authority conventions defined.

698 The business-process-name, business-collaboration-name, business-transaction-name should be
699 descriptive names. It is recommended that the descriptive name be in camel-case. The names
700 must not contain spaces, periods, colons, or dollar signs. The organization or agency-id that owns
701 the business transaction SHALL be responsible for guaranteeing that the identifier is unique..

702 Valid examples of business processes using the identifier naming scheme include :

703 btid:ean.1234567890128:DistributeOrderStatus\$1.0

704 bpid:icann.my.com:NewBusinessProcess\$2.0

705 With respect to the ebXML Registry Information Model specification¹⁰ the definition is as follows:

706	BPINS	Registry Information Model
707	bpid	ExtrinsicObject.objectType
708	bcid	ExtrinsicObject.objectType
709	btid	ExtrinsicObject.objectType
710	agency	Organization.name
711	agencyid	Organization.uuid
712	business-process-name	ExtrinsicObject.name
713	business-collaboration-name	ExtrinsicObject.name
714	business-transaction-name	ExtrinsicObject.name
715	major-version-number	ExtrinsicObject.majorVersion
716	minor-version-number	ExtrinsicObject.minorVersion

717

718 An ExtrinsicObject is a special type of ManagedObject (one that goes through a defined life cycle);

719 the extrinsic object is not required for the core operation of a registry. An Organization is defined

720 as an IntrinsicObject; it is core to the function of a registry.

¹⁰ Cref [ebRIM] and [ebRS].

721

Appendix B The Porter Value Chain

722

The following table shows the categories of the Porter Value Chain [PVC] and how they map to

723

Economic Elements concepts. This is included as an aid to help users formalize their classification of

724

the elements of a business process specification.

Normative Category	Normative Sub-Category	Resource inflows & outflow	Major types of events	Economic Agents & Roles
Procurement	Bid Submission	Money	Payments	Buyer
	Contract Negotiation	Raw materials	Purchase	Seller
	Purchase Order Preparation	Facilities	Purchase Orders	Vendor
	Receiving	Services	Price Quotes	Cashier
Human Resources	Hiring	Technology	Contract Negotiation	
	Training	Money	Cash Payments	Employee
	Payroll Management	Purchased training materials	Acquisition of labor	Student
	Personnel Deployment	Purchased benefit packages	Training	Beneficiary
Transportation	Loading	Raw Materials	Shipment	Buyer
	Shipping	Delivered Raw Materials	Warehousing Tasks	Vendor
	Packaging	Manufactured Goods	Material Handling	Logistics Worker
		Delivered Manufact. Goods	Trucking	Trucker
Manufacturing	Product Development	Facilities & Technology	Manufacturing Operation	Factory Worker
	Product Design	Labor	Raw Material Issue	Supervisor
	Assembly	Raw Materials	Manufacturing Job	QC Inspector
	Quality control	Finished Goods		

Normative Category	Normative Sub-Category	Resource inflows & outflow	Major types of events	Economic Agents & Roles
Marketing & Sales	Advertising Use & Campaigning Marketing Management Sales Calling Customer Credit Management	Labor Advertising Service Delivered Goods Product Services Cash	Cash Payment Customer Invoice Sale Order Price Quotes Contract Negotiation	Customer Salesperson Cashier
Customer Service	After Sales Service Warranty Construction	Labor Purchased Services Product Warranties and Services	Service Call Product Repair Service Contract	Customer Service Agent Customer
Financing	Loan Management Stock Subscriptions and Sales Dividend Policy	Cash Bonds Stocks Derivative Instruments	Interest Payments Stock Subscriptions Dividend Declarations Cash Receipts	Stockholders Bondholders Investment Brokers Financial Managers
Administration	Accounting Financial Reporting Executive Management	Employee Labor	Employee Service Management Projects	Managers Clerks

725

Appendix C Drop Ship Scenario Example

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729

This appendix provides an example of the worksheet-based analysis for a business reference model, "Direct to Customer Drop Ship Retail." In many cases, UMM UML diagrams are provided. As with the rest of this document, it is work in progress. It is our hope that you find this information helpful in understanding how you can make these worksheets work for you.

Form Number	Form Type
1.#	Top level of Business Reference Model : defines the "frame of reference" of all worksheets.
2.#	Business Process Area : Form that defines the scope of the business area
3.#	Business Process Identification and Discovery : Forms that inventory all business processes.
4.#	Business Process Summary Name form
5.#	Business Process Elaboration : Forms used to describe the business processes and identify actors as well as pre and post conditions for the business processes. (use cases)
6.#	Business Collaboration Definition : define the economic events that take place to fulfill the business process, including system boundaries and the protocols that govern the flow of information.
7.#	Collaboration Transitions
8.#	Business Transaction Definition : Forms that defines the actual activities and authorized parties within the organization that initiate these transactions.
9.#	Content/document definition
10.#	Business information context
11.#	Content mapping

730

731

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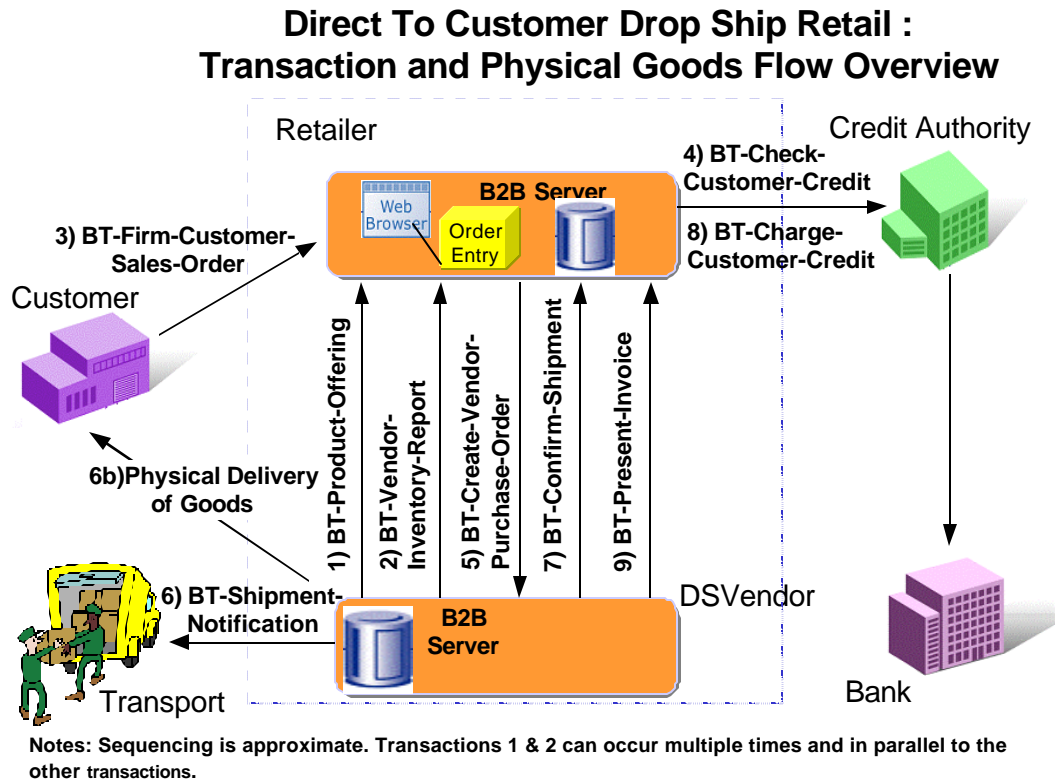
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808

809 C.1 Business Process Identification and Discovery: BRM-1.0-Direct-To-
810 Customer-Drop-Ship-Retail-Model

811

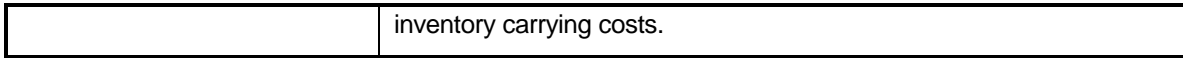


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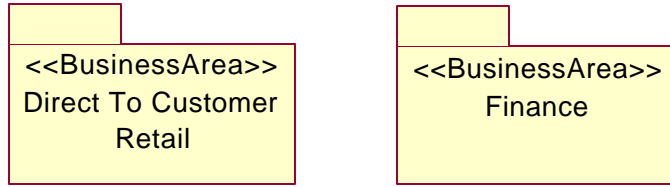
813 Figure 12-1, Direct To Customer Retail Transaction and Physical Goods Flow Overview

814

Form: Business Reference Model	
Form Id	BRM-1.0-Direct-To-Customer-Drop-Ship-Retail-Model
Business Reference Model Name	DIRECT TO CUSTOMER DROP SHIP RETAIL MODEL
Industry Segment	Retail
Domain Scope	Internet retail, catalog, distribution center, delivery, billing.
Business Areas	<ul style="list-style-type: none"> ■ Direct To Customer Retail ■ Finance
<i>Optional for ebXML</i>	
Business Justification	Define more efficient on-line retailer/vendor interaction. Reduce



815



816

817 Figure 12-2, <<BusinessOperationsMap>>Direct To Customer Drop Ship Retail

818

818 C.1.1 Business Areas

819 C.1.1.1 BA-2.0-Direct-to-Customer-Retail

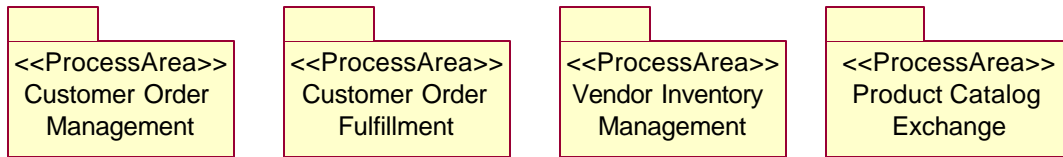
Form: Business Area	
Form Id	BA-2.0-Direct-to-Customer-Retail
Business Area Name	Direct to Customer Retail
Description	This is a demonstrative business process model, to illustrate ebXML business process modeling, and based on actual business practice conventions today. See 'Objective' section below in this form.
Scope	Internet based retail, mail order catalog, direct to customer product fulfillment logistics, single piece product delivery from a distribution center to an end customer.
Boundary of the Business Area	<ul style="list-style-type: none"> • Customer • Retailer • Direct Supply Retail Vendor (DSVendor) • Transport Carrier • Credit Authority
References	<ul style="list-style-type: none"> • EAN International • Global Commerce Initiative • VICS • SCOR • "my company typical Vendor Compliance Manual"
Constraints	<ul style="list-style-type: none"> • Internet based retail customer service system • Web browser limitations. • Domestic customer orders only
Stakeholders	<ul style="list-style-type: none"> • Customer • Retailer • Direct Supply Retail Vendor (DSVendor) • Transport Carrier • Credit Authority
Process Areas	<ul style="list-style-type: none"> • Customer Order Management • Customer Order Fulfillment • Vendor Inventory Management • Product Catalog Exchange
Optional for ebXML	
Objective	To deliver a commercial product directly to a customer, in a timely and efficient manner directly from a product supply source, with an online Internet retailer taking the customer order and providing direct customer service management.
Business Opportunity	Reduce retailer inventory carrying costs. Shorten the supply chain from a domestic vendor to a domestic customer; thus save trees.

	energy and lives.
--	-------------------

820 Notes:

821 1. The Business Area diagram (below) shows all the process areas in this business area.

Direct To Customer Retail



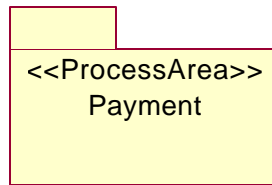
822

823 Figure 12-3, <<BusinessArea>>Direct to Customer Retail

824 C.1.1.2 BA-2.1-Finacial

Form: Business Area	
Form Id	BA-2.1-Finacial
Business Area Name	Finacial
Description	
Scope	
Boundary of the Business Area	<ul style="list-style-type: none"> • Retailer • Direct Supply Retail Vendor (DSVendor) •
References	<ul style="list-style-type: none"> •
Constraints	<ul style="list-style-type: none"> •
Stakeholders	<ul style="list-style-type: none"> • Retailer • Direct Supply Retail Vendor (DSVendor)
Process Areas	<ul style="list-style-type: none"> • Payment
<i>Optional for ebXML</i>	
Objective	
Business Opportunity	

825



826

827 Figure 12-4, <<BusinessArea>> Finance

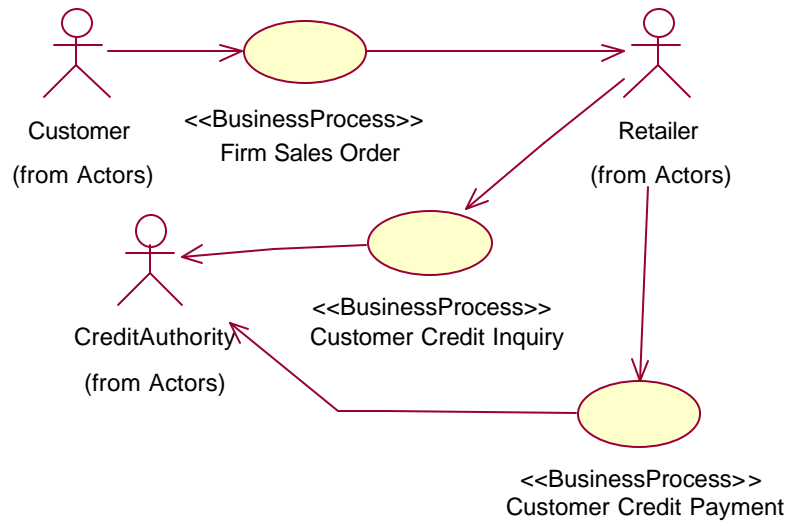
828

829 C.1.2 Direct To Customer Retail Process Areas

830 C.1.2.1 PA-3.1-Customer-Order-Management

Form: Business Process Area	
Form Id	PA-3.1-Customer-Order-Management
Process Area Name	Customer Order Management
Objective	<ul style="list-style-type: none"> • Take a sales order from an Internet based customer • Validate a customer's ability to pay for product upon delivery • Take payment from a customer's credit card after a product has been delivered directly to a customer
Scope	<ul style="list-style-type: none"> • Fulfill customer orders using a 3rd party supplier for drop ship (customer direct) delivery.
References	<ul style="list-style-type: none"> • "my company Vendor Operations Compliance Manual"
Boundary of the Process Area	
Constraints	<ul style="list-style-type: none"> • Customer promise of product availability most likely true at a vendor location when a customer order is accepted by the retailer. • Customer must have sufficient credit to eventually pay for the product after the product has been shipped.
Stakeholders	<ul style="list-style-type: none"> • Customer • Retailer • Credit Authority
Business Processes	<ul style="list-style-type: none"> • Firm Sales Order • Customer Credit Inquiry • Customer Credit Payment
Optional for ebXML	
Business Opportunity	

831



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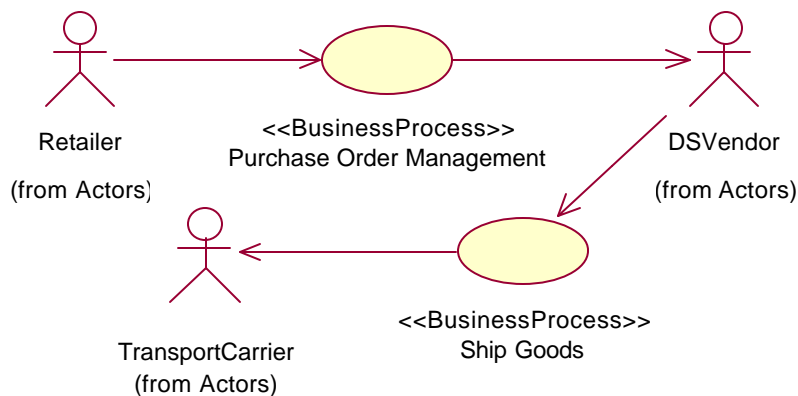
833 Figure 12-5, <<ProcessArea>>Customer Order Management

834

834 C.1.2.2 PA-3.2-Customer-Order-Fulfillment

Form: Business Process Area	
Form Id	PA-3.2-Customer-Order-Fulfillment
Process Area Name	Customer Order Fulfillment
Objective	Allow a retailer to instruct a direct supply vendor to deliver (within specific delivery times) specific product to a specific customer.
Scope	
References	<ul style="list-style-type: none"> • “my company Vendor Compliance Operating Manual”
Boundary of the Process Area	Activities directly pertaining to the registration of firm customer sales orders, and credit payment of delivered customer sales orders.
Constraints	<ul style="list-style-type: none"> • On hand product allocation to a customer order by a vendor immediately after processing a retailer's purchase order. • On time product delivery from vendor to customer. • Immediate notification by a vendor to a retailer of a direct to customer product delivery; with customer service details.
Stakeholders	<ul style="list-style-type: none"> • Retailer • DSVendor • Transport Carrier • Customer
Business Processes	<ul style="list-style-type: none"> • Purchase Order Management • Ship Goods •
<i>Optional for ebXML</i>	
Business Opportunity	

835



836

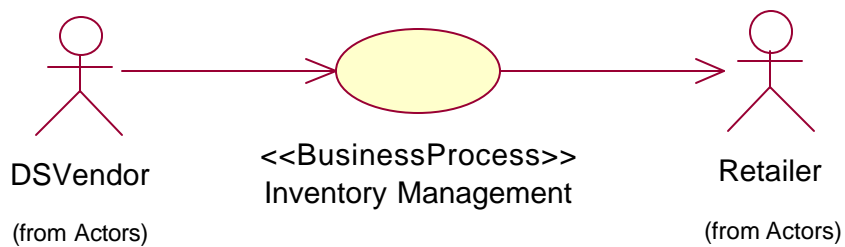
837 Figure 12-6, <<ProcessArea>>Customer Order Fulfillment

838

838 C.1.2.3 PA-3.3-Vendor-Inventory-Management

Form: Business Process Area	
Form Id	PA-3.3-Vendor-Inventory-Management
Process Area Name	Vendor Inventory Management
Objective	To allow a direct supply vendor to report "available on-hand" inventory to a retailer.
Scope	
References	<ul style="list-style-type: none"> • "my company Vendor Compliance Operating Manual"
Boundary of the Process Area	
Constraints	<ul style="list-style-type: none"> • Inventory, by product SKU identification, is "available on-hand" within the direct supply vendor's inventory management system.
Stakeholders	<ul style="list-style-type: none"> • Retailer • DSVendor
Business Processes	<ul style="list-style-type: none"> • Inventory Management
<i>Optional for ebXML</i>	
Business Opportunity	

839



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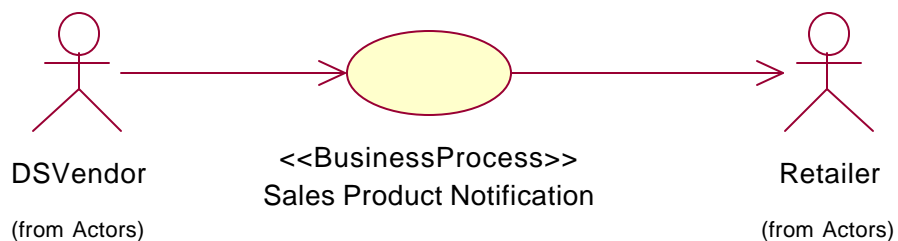
841 Figure 12-7, <<ProcessArea>>Vendor Inventory Management

842

842 C.1.2.4 PA-3.4-Product-Catalog-Exchange

Form: Business Process Area	
Form Id	PA-3.4Product-Catalog-Exchange
Process Area Name	Product Catalog Exchange
Objective	To maintain an accurate catalog (list) of a vendor's products, in a retailer's business operating system; especially as vendor's products are introduced to the market or existing products require updated product specifications between the vendor and the retailer.
Scope	
References	<ul style="list-style-type: none"> • "my company Vendor Compliance Operating Manual"
Boundary of the Process Area	
Constraints	<ul style="list-style-type: none"> • Existence of a valid business operating relationship between a specific vendor and a retailer, such that products offered by a vendor can be in turn offered to an end customer by the retailer.
Stakeholders	<ul style="list-style-type: none"> • Retailer • DSVendor
Business Processes	<ul style="list-style-type: none"> • Sales Product Notification
<i>Optional for ebXML</i>	
Business Opportunity	

843



844

845 Figure 12-8, <<ProcessArea>>Product Catalog Exchange

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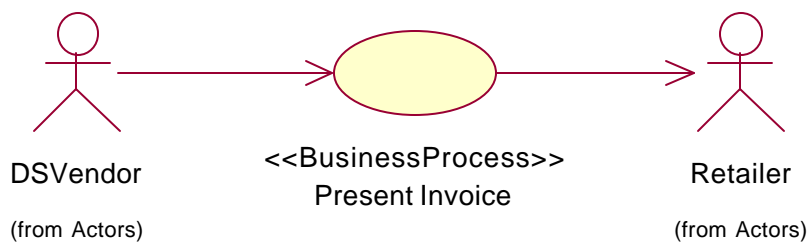
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848 C.1.3 Financial Process Areas

849 C.1.3.1 PA-3.5-Payment

Form: Business Process Area	
Form Id	PA-3.5-Payment
Process Area Name	Payment
Objective	For the vendor to invoice the retailer for goods shipped and services provided.
Scope	The scoped is defined by the following business processes: <ul style="list-style-type: none"> ■ Present Invoice
References	<ul style="list-style-type: none"> • “my company Vendor Compliance Operating Manual”
Boundary of the Process Area	
Constraints	<ul style="list-style-type: none"> • Valid business relationship
Stakeholders	<ul style="list-style-type: none"> • Retailer • DSVendor
Business Processes	<ul style="list-style-type: none"> • Present Invoice
<i>Optional for ebXML</i>	
Business Opportunity	

850



851

852 Figure 12-9, <<ProcessArea>> Payment

853 C.1.4 Customer-Order-Management Business Process Summaries

854 C.1.4.1 BPS-4.1-Firm-Sales-Order

Form: Business Process Summary

Form Id	BPS-4.1-Firm-Sales-Order
Business Process Name	Firm Sales Order
Identifier	bpid:ean.1234567890128:FirmSalesOrder\$1.0
Process Area	Customer Order Management
Business Area	Direct to Customer Retail

855 C.1.4.2 BPS-4.2-Customer-Credit-Inquiry

Form: Business Process Summary	
Form Id	BPS-4.2-Customer-Credit-Inquiry
Business Process Name	Customer Credit Inquiry
Identifier	bpid:ean.1234567890128:CustomerCreditInquiry\$1.0
Process Area	Customer Order Management
Business Area	Direct to Customer Retail

856 C.1.4.3 BPS-4.3-Customer-Credit-Payment

Form: Business Process Summary	
Form Id	BPS-4.3-Customer-Credit-Payment
Business Process Name	Customer Credit Payment
Identifier	bpid:ean.1234567890128:CustomerCreditPayment\$1.0
Process Area	Customer Order Management
Business Area	Direct to Customer Retail

857

858

858

859 C.1.5 Customer Order Fulfillment Business Process Summaries

860 C.1.5.1 BPS-4.4-Purchase-Order-Management

Form: Business Process Summary	
Form Id	BPS-4.4-Purchase-Order-Management
Business Process Name	Purchase Order Management
Identifier	<u>bpid:ean.1234567890128:PurchaseOrderManagement\$1.0</u>
Process Area	Customer Order Fulfillment
Business Area	Direct to Customer Retail

861

862 C.1.5.2 BPS-4.5-Ship-Goods

Form: Business Process Summary	
Form Id	BPS-4.5-Ship-Goods
Business Process Name	Ship Goods
Identifier	<u>bpid:ean.1234567890128:ShipGoods\$1.0</u>
Process Area	Customer Order Fulfillment
Business Area	Direct to Customer Retail

863

864 C.1.6 Vendor Inventory Management Processes Summaries

865 C.1.6.1 BPS-4.6-Inventory-Management

Form: Business Process Summary	
Form Id	BPS-4.6-Inventory-Management
Business Process Name	Inventory Management
Identifier	<u>bpid:ean.1234567890128:InventoryManagement\$1.0</u>
Process Area	Vendor Inventory Management
Business Area	Direct to Customer Retail

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868 C.1.7 Product Catalog Exchange Business Processes Summaries

869 C.1.7.1 BPS-4.7-Sales-Product-Notification

Form: Business Process Summary	
Form Id	BPS-4.7-Sales-Product-Notification
Business Process Name	Sales Product Notification
Identifier	bpid:ean.1234567890128:SalesProductNotification\$1.0
Process Area	Product Catalog Exchange
Business Area	Direct to Customer Retail

870

871 C.1.8 Payment Business Process Summaries

872 C.1.8.1 BPS-4.8-Invoice-Presentation

Form: Business Process Summary	
Form Id	BPS-4.8- Present-Invoice
Business Process Name	Present Invoice
Identifier	bpid:ean.1234567890128:PresentInvoice\$1.0
Process Area	Payment
Business Area	Finance

873

874 C.2 Business Process Elaboration

875 C.2.1 BPUC-5.1-Firm-Sales-Order

Form: Business Process Use Case	
Form Id	BPUC-5.1-Firm-Sales-Order
Business Process Name	Firm Sales Order
Identifier	bpid:ean.1234567890128:FirmSalesOrder\$1.0
Actors	<ul style="list-style-type: none"> • Customer • Retailer
Performance Goals	<ul style="list-style-type: none"> • Accept a firm customer sales order for a product, and promise the customer a delivery time at total sales amount including all taxes within seconds after the customer has made a product choice and given relevant personal details; ie. while customer is online.
Preconditions	<ul style="list-style-type: none"> • Valid customer details (name, address, credit card) • Valid product details (product SKU details)
Begins When	<ul style="list-style-type: none"> • Customer completes all personal identity data for Retailer. • Customer successfully selects valid product to be purchased and specifies valid product quantity. • Customer accepts terms of sale.
Definition	<ul style="list-style-type: none"> • Retailer needs to validate customer's credit limit with a Credit Authority, and if enough credit is available to cover the product to be purchased, the Retailer will accept the Customers firm sales order.
Ends When	<ul style="list-style-type: none"> • Valid customer sales order is created in Retailer's business operating system.
Exceptions	<ul style="list-style-type: none"> • Customer fails internal credit check; ie. fraud. • Customer delivery needs violate Retailers standard terms of sale.
Postconditions	<ul style="list-style-type: none"> • Valid customer sales order. • Customer is notified of positive sale, and can expect delivery within promised delivery time.
Traceability	Not Applicable

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877 C.2.2 BPUC-5.2-Customer-Credit-Inquiry

Form: Business Process Use Case	
Form Id	BPUC-5.2-Customer-Credit-Inquiry
Business Process Name	Customer Credit Inquiry
Identifier	bpid:ean.1234567890128:CustomerCreditInquiry\$1.0
Actors	<ul style="list-style-type: none"> • Retailer • Credit Authority
Performance Goals	<ul style="list-style-type: none"> • Retailer expects the Credit Authority to perform a credit card check for a specified sales amount and in seconds.
Preconditions	<ul style="list-style-type: none"> • Customer credit card details known. • Total sales price, including taxes, known.
Begins When	<ul style="list-style-type: none"> • Retailer can present both all customer credit card details and a requested total credit amount to be checked against this customer.
Definition	<ul style="list-style-type: none"> • Retailer requests Credit Authority to authorize the total sales amount against the customer's credit amount. • The Credit Authority responds to the Retailer with either a positive or negative credit report on the customer.
Ends When	<ul style="list-style-type: none"> • Credit Authority returns either a positive or negative Customer report.
Exceptions	<ul style="list-style-type: none"> • Credit Authority fails to respond to Retailer within an acceptable period.
Postconditions	<ul style="list-style-type: none"> • Customer has a reserved credit cash equal to the total purchase amount authorized to the Retailer for a 24 hour period.
Traceability	Not Applicable

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879

879 C.2.3 BPUC-5.3-Customer-Credit-Payment

Form: Business Process Use Case	
Form Id	BPUC-5.3-Customer-Credit-Payment
Business Process Name	Customer Credit Payment
Identifier	bpid:ean.1234567890128:CustomerCreditPayment\$1.0
Actors	<ul style="list-style-type: none"> • Retailer • Credit Authority
Performance Goals	<ul style="list-style-type: none"> • Retailer expects Credit Authority to positively charge the Customer's credit for the total sales amount immediately upon request.
Preconditions	<ul style="list-style-type: none"> • Confirmed shipment, by Vendor, of purchased product direct to Customer.
Begins When	<ul style="list-style-type: none"> • Vendor confirms to Retailer that the specified product prescribed on the current updated version of a DSVendor's purchase order has been actually shipped to the specified customer.
Definition	<ul style="list-style-type: none"> • Credit Authority makes a credit charge against the Customer's account, on behalf of the Retailer. • Credit Authority reports, to Retailer, the status of the credit charge.
Ends When	<ul style="list-style-type: none"> • Credit Authority reports back to the Retailer that the customer's credit has been charged for the total sales amount; and thus credited to the Retailer's account.
Exceptions	<ul style="list-style-type: none"> • Credit Authority reports to Retailer that the customer's credit account cannot be charged with total sales price.
Postconditions	<ul style="list-style-type: none"> • Credit Authority transfers total sales amount from the Customer's account to the Retailer's account.
Traceability	Not Applicable

880 C.2.4 BPUC-5.4-Purchase-Order-Management

Form: Business Process Use Case	
Form Id	BPUC-5.4-Purchase-Order-Management
Business Process Name	Purchase Order Management
Identifier	bpid:ean.1234567890128:PurchaseOrderManagement\$1.0
Actors	<ul style="list-style-type: none"> • Retailer • Vendor
Performance Goals	<ul style="list-style-type: none"> • DSVendor returns a PO Acknowledgment to the Retailer within 4 hours of receipt of the Purchase Order.

Preconditions	<ul style="list-style-type: none"> Valid Customer sales order with Retailer. Valid Retailer–DSVendor relation; ie. terms and conditions.
Begins When	<ul style="list-style-type: none"> Retailer has created a valid Purchase Order Request.
Definition	<ul style="list-style-type: none"> Upon receiving a Purchase Order Request, the DSVendor does a product allocation to the PO against available inventory and returns a positive PO Acknowledgment to the Retailer.
Ends When	<ul style="list-style-type: none"> Valid positive PO Acknowledgment returned from the DSVendor to the Retailer.
Exceptions	<ul style="list-style-type: none"> DSVendor does not return any PO Acknowledgment DSVendor returns a negative Purchase Order Acknowledgement
Postconditions	<ul style="list-style-type: none"> DSVendor has allocated correct product to fill Purchase Order DSVendor has created all correct instructions for its warehouse management system to pick, pack and ship.
Traceability	Not Applicable

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C.2.5 BPUC-5.5-Ship-Goods

Form: Business Process Use Case	
Form Id	BPUC-5.5-Ship-Goods
Business Process Name	Ship Goods
Identifier	bpid:ean.1234567890128:ShipGoods\$1.0
Actors	<ul style="list-style-type: none"> DSVendor Transport Carrier
Performance Goals	<ul style="list-style-type: none"> Transport Carrier informs DSVendor within seconds of PO pickup, and DSVendor registers PO transport tracking number within its business operating system within seconds.
Preconditions	<ul style="list-style-type: none"> PO has been picked, packed and is ready to be shipped.
Begins When	<ul style="list-style-type: none"> DSVendor informs Transport Carrier of a PO needing to be delivered to a specific Customer address.
Definition	<ul style="list-style-type: none"> DSVendor manifests PO with Transport Carrier Transport Carrier registers transport, checks “ship to” details and assigns a tracking number for the shipment.
Ends When	<ul style="list-style-type: none"> Transport Carrier confirms PO pickup to DSVendor and begin of ordered goods delivery to Customer.
Exceptions	<ul style="list-style-type: none"> Transport Carrier detects that “Ship To” address is invalid. Transport Carrier fails to confirm PO pickup.

Postconditions	<ul style="list-style-type: none"> Carrier assigns Transport tracking number to Purchase Order and informs DSVendor of tracking number.
Traceability	Not Applicable

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885 C.2.6 BPUC-5.6-Inventory-Management

Form: Business Process Use Case	
Form Id	BPUC-5.6-Inventory-Management
Business Process Name	Inventory Management
Identifier	bpid:ean.1234567890128:InventoryManagement\$1.0
Actors	<ul style="list-style-type: none"> Retailer DSVendor
Performance Goals	<ul style="list-style-type: none"> Once a day, the DSVendor reports their “available on-hand” inventory to the Retailer.
Preconditions	<ul style="list-style-type: none"> Valid business agreement.
Begins When	<ul style="list-style-type: none"> Repeating event, occurs unsolicited from DSVendor to Retailer.
Definition	<ul style="list-style-type: none"> DSVendor reconciles “available on-hand” inventory and reports only product availability for those products which are agreed upon between Retailer and DSVendor.
Ends When	<ul style="list-style-type: none"> Retailer has received a valid “available on-hand” inventory report from DSVendor.
Exceptions	<ul style="list-style-type: none"> No “available on-hand” inventory report received. Reported product quantity on hand with DSVendor is less than any prior agreed Safety Stock level with Retailer.
Postconditions	<ul style="list-style-type: none"> Retailers business operating system has recorded new “available on-hand” inventory by product.
Traceability	Not Applicable

886

886 C.2.7 BPUC-5.7-Sales-Product-Notification

Form: Business Process Use Case	
Form Id	BPUC-5.7-Sales-Product-Notification
Business Process Name	Sales Product Notification
Identifier	bpid:ean.1234567890128:SalesProductNotification\$1.0
Actors	<ul style="list-style-type: none"> • Retailer • DSVendor
Performance Goals	<ul style="list-style-type: none"> • None
Preconditions	<ul style="list-style-type: none"> • Valid DSVendor – Retailer business relationship
Begins When	<ul style="list-style-type: none"> • Initial start of the business relationship, for all related products. • Whenever DSVendor has a product specification change or addition that applies to the Retailer.
Definition	<ul style="list-style-type: none"> • DSVendor initiates a product specification request to “offer for sale” the Retailer. • Retailer either accepts product offer, or rejects the offer.
Ends When	<ul style="list-style-type: none"> • Retailer responds to DSVendor acceptance or rejection of product offer for sale.
Exceptions	<ul style="list-style-type: none"> • None
Postconditions	<ul style="list-style-type: none"> • On product acceptance, Retailer can register product for sale to Customers.
Traceability	Not Applicable

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888 C.2.8 BPUC-5.8-Present-Invoice

Form: Business Process Use Case	
Form Id	BPUC-5.8-Present-Invoice
Business Process Name	Present Invoice
Identifier	bpid:ean.1234567890128:PresentInvoice\$1.0
Actors	<ul style="list-style-type: none"> • DSVendor • Retailer
Performance Goals	<ul style="list-style-type: none"> •
Preconditions	<ul style="list-style-type: none"> • Valid DSVendor – Retailer business relationship • Corresponding Purchase Order was accepted • Related Advance Shipment Notification was sent

Begins When	<ul style="list-style-type: none"> Whenever DSVendor wants to invoice the Retailer for goods shipped.
Definition	<ul style="list-style-type: none">
Ends When	<ul style="list-style-type: none">
Exceptions	<ul style="list-style-type: none">
Postconditions	<ul style="list-style-type: none">
Traceability	Not Applicable

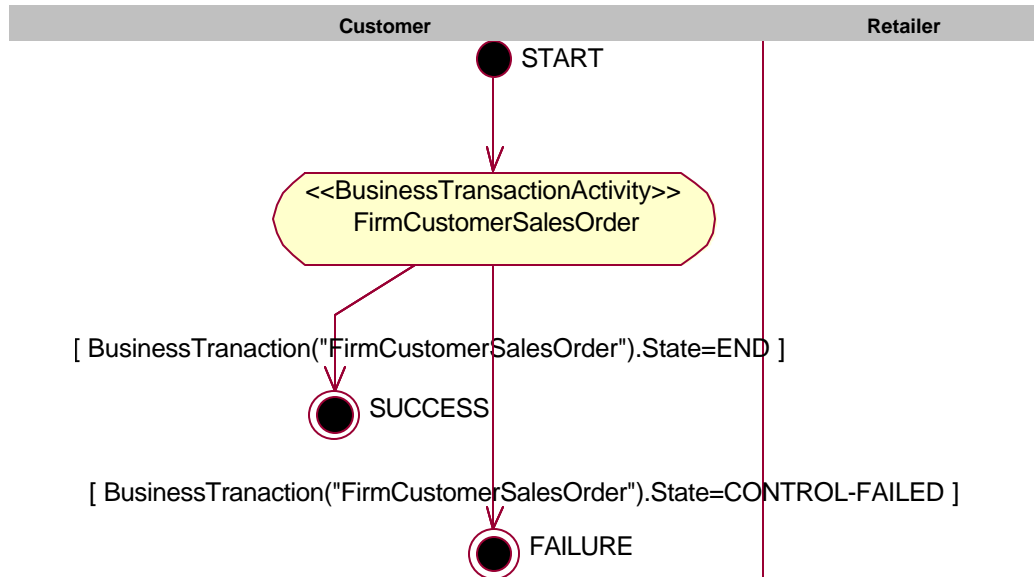
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890 C.3 Business Collaboration and Economic Events

891 C.3.1 BC-6.1-Create-Customer-Order

Form: Business Collaboration	
Form Id	BC-6.1-Create-Customer-Order
Identifier	bcid:ean.1234567890128:CreateCustomerOrder\$1.0
Description	The customer enters a sales order using on-line store-front application.
Partner Types	Customer Retailer
Authorized Roles	
Legal steps/requirements	
Economic consequences	
Initial/terminal events	
Scope	
Boundary	
Constraints	

892



893

894 Figure 12-10, <<BusinessCollaborationProtocol>> CreateCustomerOrder

895 Note that in this business collaboration protocol, there is only one business transaction
 896 activity and the Customer (partner type) initiates it. The Retailer, although shown in the
 897 diagram for completeness, does not initiate any business transaction activity.
 898

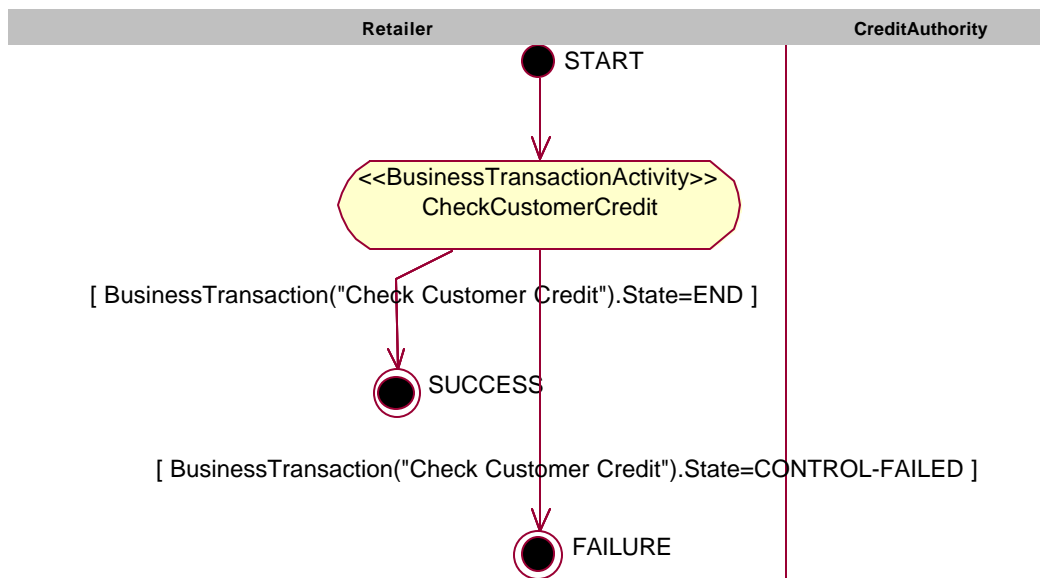
Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.1-Create-Customer-Order			
Identifier	bcid:ean.1234567890128:CreateCustomerOrder\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Customer	Create Order	Retailer	NONE
Create Order	NOT-APPLICABLE	SUCCESS	Customer	BusinessTranaction("FirmCustomerSalesOrder").State=END]
Create Order	NOT-APPLICABLE	FAILURE	Customer	BusinessTranaction("FirmCustomerSalesOrder").State=CONTROL-FAILED]

899

900 C.3.2 BC-6.2-Check-Customer-Credit

Form: Business Collaboration	
Form Id	BC-6.2- Check-Customer-Credit
Identifier	bcid:ean.1234567890128: CheckCustomerCredit\$1.0
Partner Types	<ul style="list-style-type: none"> • Retailer • Credit Authority
Authorized Roles	<ul style="list-style-type: none"> • Retailer • Credit Authority Credit Service
Legal steps/requirements	None
Economic consequences	As the result of the credit check, the customer's available credit is reduced by the total sales amount for a period of 24 hours.
Initial/terminal events	Initial - Valid customer Terminal – Customer bad credit causes Credit Authority check to fail.
Scope	Credit Authority provides necessary information to retailer to continue processing order.
Boundary	Systems include : <ul style="list-style-type: none"> • Credit Authority service. • DSVendor customer order entry system
Constraints	None

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902

903 Figure 12-11, <<BusinessCollaborationProtocol>> CheckCustomerCredit

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Note that there is only one initiated activity, CheckCustomerCredit, in this collaboration.

Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.2- Check-Customer-Credit			
Identifier	bcid:ean.1234567890128:CustomerCreditCheck\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Retailer	Check Customer Credit	Credit Authority	
Check Customer Credit	NOT-APPLICABLE	SUCCESS	Retailer	BusinessTransaction("Check Customer Credit").State=END
Check Customer Credit	NOT-APPLICABLE	FAILURE	Retailer	BusinessTransaction("Check Customer Credit").State=CONTROL-FAILED

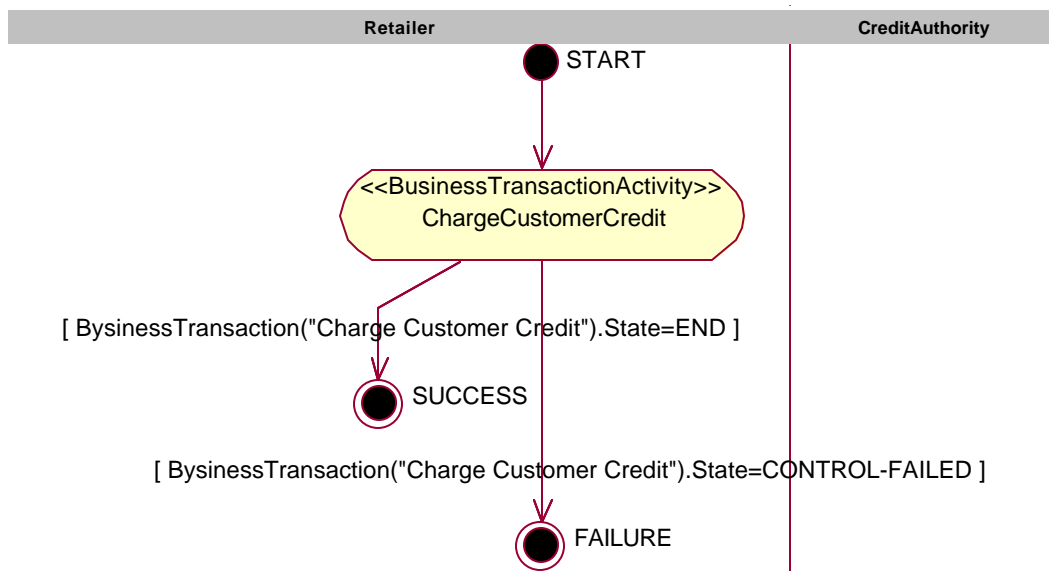
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C.3.3 BC-6.3-Process-Credit- Payment

Form: Business Collaboration	
Form Id	BC-6.3-Process-Credit- Payment
Identifier	bcid:ean.1234567890128:ProcessCreditPayment\$1.0
Partner Types	<ul style="list-style-type: none"> • Retailer • Credit Authority
Authorized Roles	<ul style="list-style-type: none"> • Retailer.Accounts Receivable • Credit Authority Service
Legal steps/requirements	<ul style="list-style-type: none"> • Sale of goods has taken place •
Economic consequences	<ul style="list-style-type: none"> • Retailer receives payment • Customer actually gets charged
Initial/terminal events	<p>Initial – Products are being delivered (in-route) or have been delivered.</p> <p>Terminal – Retailer receives payment</p>
Scope	Credit Authority credits customer's credit, only after product(s) have been shipped (or are being shipped) to customer.

Boundary	Systems include : <ul style="list-style-type: none"> • Credit Authority payment system
Constraints	DSVendor must confirm that shipment of product direct to customer has taken place.

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910 Figure 12-12, <<BusinessCollaborationProtocol>> ProcessCreditPayment

Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.3-Credit-Card-Payment			
Identifier	bcid:ean.1234567890128:CreditCardPayment\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Retailer	Charge Customer Credit	Credit Authority	NONE
Charge Customer Credit	NOT-APPLICABLE	SUCCESS	Retailer	BusinessTransaction("Charge Customer Credit").State=END
Charge Customer Credit	NOT-APPLICABLE	FAILURE	Retailer	BusinessTransaction("Charge Customer Credit").State=CONTROL-FAILED

911

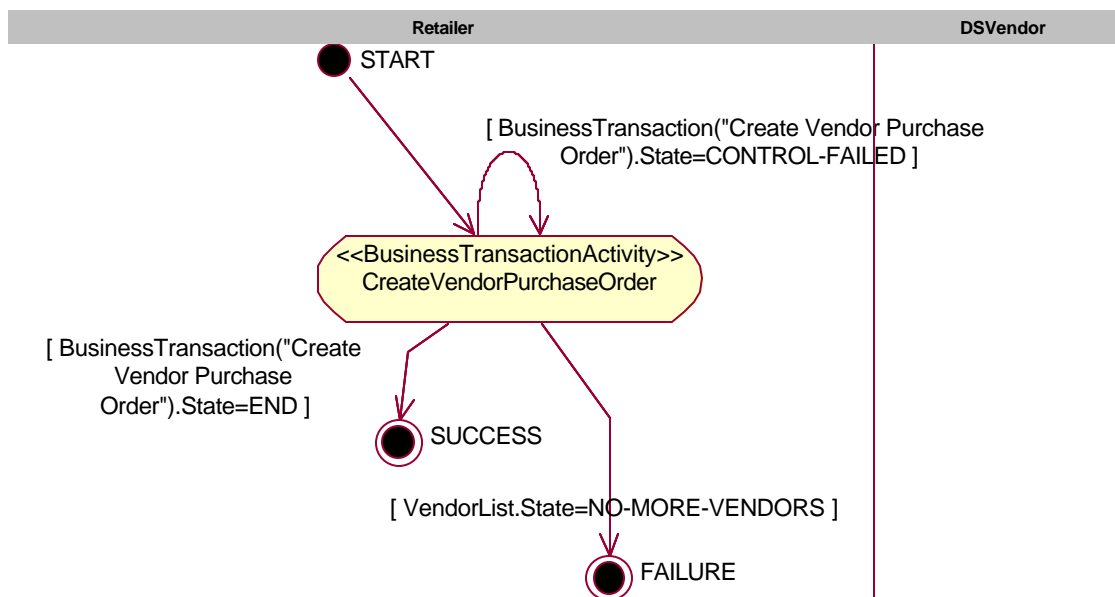
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912 C.3.4 BC-6.4-Create-Vendor-Purchase-Order

Form: Business Collaboration	
Form Id	BC-6.4-Create-Vendor-Purchase-Order
Identifier	bcid:ean.1234567890128:CreateVendorPurchaseOrder\$1.0
Partner Types	<ul style="list-style-type: none"> • Retailer • DSVendor
Authorized Roles	<ul style="list-style-type: none"> • Retailer.InventoryBuyer • DSVendor.CustomerService
Legal steps/requirements	Confirmed PO Acknowledgment implies a binding agreement between Retailer and DSVendor, per conditions of an existing business relation and a specific open Purchase Order.
Economic consequences	<ul style="list-style-type: none"> • Intent to purchase product is made explicit • DSVendor allocates on-hand inventory to cover PO SKU quantity for immediate direct shipment to customer
Initial/terminal events	<ul style="list-style-type: none"> • Valid sales order exists • Purchase Order response
Scope	Checking DSVendor on-hand inventory to determine if a Purchase Order can be accepted or rejected.
Boundary	Systems include : <ul style="list-style-type: none"> • Retailer Purchase Order Management system • DSVendor Customer Order Entry system

C

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915 Figure 12-13, <<BusinessCollaborationProtocol>> CreateVendorPurchaseOrder

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Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.4-Create-Vendor-Purchase-Order			
Identifier	bcid:ean.1234567890128:CreateVendorPurchaseOrder\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Retailer	Create Vendor Purchase Order	DSVendor	SalesOrder.Status=VALID
Create Vendor Purchase Order	NOT-APPLICABLE	SUCCESS	Retailer	BusinessTransaction("Create Vendor Purchase Order").State=END
Create Vendor Purchase Order	NOT-APPLICABLE	Create Vendor Purchase Order	Retailer	BusinessTransaction("Create Vendor Purchase Order").State=CONTROL-FAILED
Create Vendor Purchase Order	NOT-APPLICABLE	FAILURE	Retailer	VendorList.State=NO-MORE-VENDORS

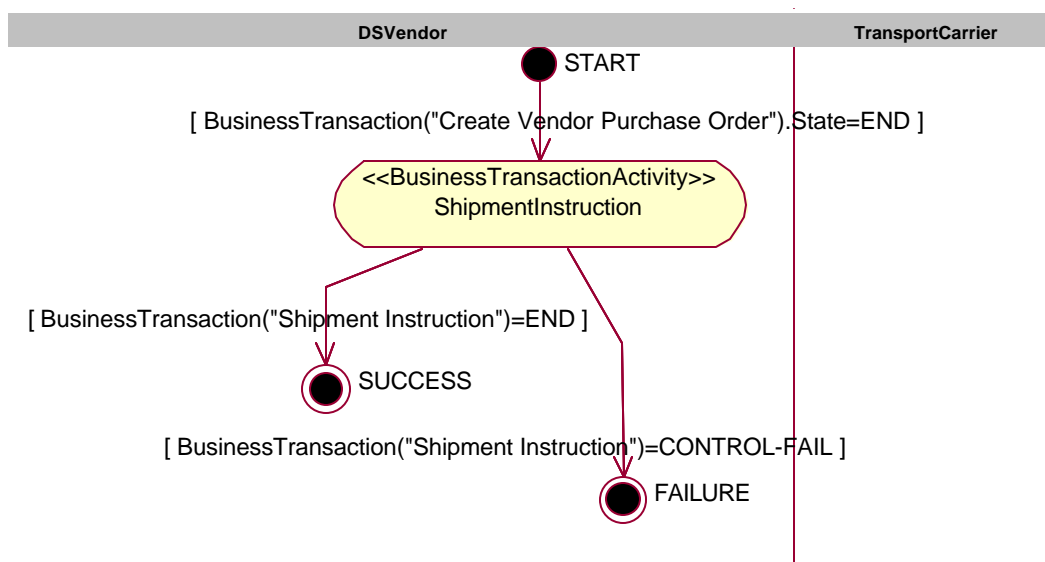
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918 C.3.5 BC-6.5-Shipment-Instruction

Form: Business Collaboration	
Form Id	BC-6.5-Shipment-Instruction
Identifier	bcid:ean.1234567890128:ShipmentInstruction\$1.0
Partner Types	<ul style="list-style-type: none"> • DSVendor • Transport Carrier
Authorized Roles	<ul style="list-style-type: none"> • DSVendor.Shipper • Transport Carrier.Customer Service
Legal steps/requirements	Vendor declares goods of carriage to carrier. (note: for this example we are using domestic shipments only)
Economic consequences	None
Initial/terminal events	Initial – Successful Create Vendor Purchase Order business collaboration. Terminal – Transport Carrier provides vendor with transport manifest.

Scope	Pertains to arrangement of physical transport per prior agreement between Retailer and Transport Carrier.
Boundary	Systems include : <ul style="list-style-type: none"> • DSVendor warehouse management / transport planning system. • Transport Carrier manifesting / Bill of Lading document management system.
Constraints	<ul style="list-style-type: none"> • Electronic shipment manifesting only • Timely product pickup by transport carrier • DSVendor must use a pre-approved Transport Carrier as specified by Retailer within Business Document details.

919



920

921 Figure 12-14, <<BusinessCollaborationProtocol>> ShipmentInstruction

922

Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.5-Shipment-Instruction			
Identifier	bcid:ean.1234567890128:ShipmentInstruction\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	DSVendor	ShipmentInstruction	TransportCarrier	NONE
ShipmentInstruction	NOT-APPLICABLE	SUCCESS	NOT-APPLICABLE	BusinessTransaction("Shipment Instruction")=END

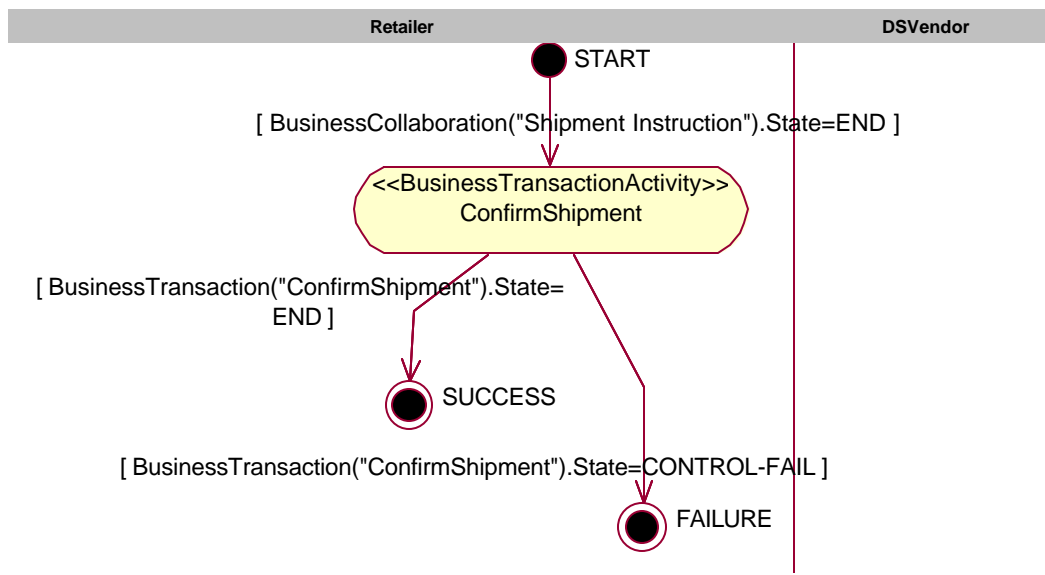
				Instruction")=END
ShipmentInstruction	NOT-APPLICABLE	FAILURE	NOT_APPLICABLE	BusinessTransaction("ShipmentInstruction")=CONTROL-FAIL

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924 C.3.6 BC-6.6-Confirm-Shipment

Form: Business Collaboration	
Form Id	BC-6.6-Confirm-Shipment
Identifier	bcid:ean.1234567890128:ConfirmShipment\$1.0
Partner Types	<ul style="list-style-type: none"> • Retailer • DSVendor
Authorized Roles	<ul style="list-style-type: none"> • Retailer.Customer Service • DSVendor.Inventory Management
Legal steps/requirements	<ul style="list-style-type: none"> • DSVendor declares customer shipment to Retailer • Retailer agrees to be billed by DSVendor for original purchase price on the Purchase Order Acceptance. • (for this scenario, DSVendor provides free shipping to customers)
Economic consequences	Point of sale between DSVendor and Retailer.
Initial/terminal events	<ul style="list-style-type: none"> • Initial – DSVendor notifies Retailer of shipment • Terminal – DSVendor receives Transport Carrier shipping instruction.
Scope	Notification of customer shipment by DSVendor.
Boundary	Systems include : <ul style="list-style-type: none"> • DSVendor PO Management system • DSVendor Financial system • DSVendor Inventory Management system • Retailer PO Management system • Retailer Financial system • Retailer Customer Service Management system
Constraints	Retailer must receive Advanced Shipping Note (ASN) as confirmation of product shipment to customer in a timely fashion, and no later than 4 hours of physical product shipment from the DSVendor's distribution point.

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926

927 Figure 12-15, <<BusinessCollaborationProtocol>> ConfirmShipment

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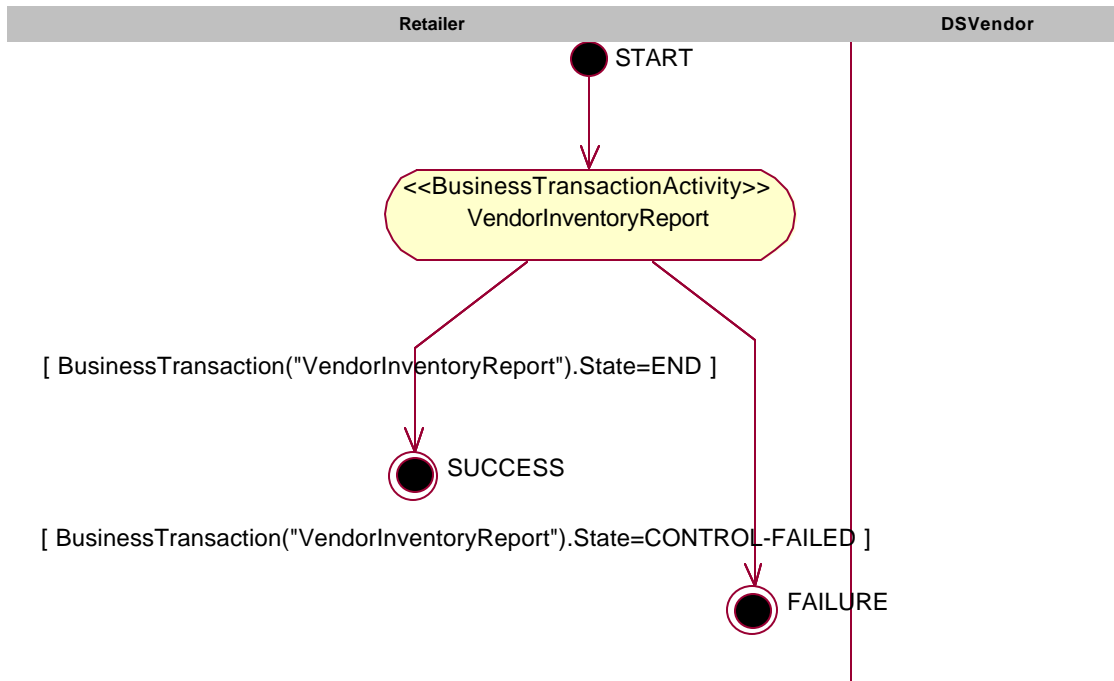
Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.6-Confirm-Shipment			
Identifier	bcid:ean.1234567890128:ConfirmShipment\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Retailer	ConfirmShipment	DSVendor	NONE
ConfirmShipment	NOT-APPLICABLE	SUCCESS	NOT-APPLICABLE	BusinessTransaction("ConfirmShipment").State=END
ConfirmShipment	NOT-APPLICABLE	FAILURE	NOT-APPLICABLE	BusinessTransaction("ConfirmShipment").State=CONTROL-FAIL

929

930 C.3.7 BC-6.7-Vendor-Inventory-Reporting

Form: Business Collaboration	
Form Id	BC-6.7-Vendor-Inventory-Reporting
Identifier	bcid:ean.1234567890128:VendorInventoryReporting\$1.0
Partner Types	<ul style="list-style-type: none"> • Retailer • DSVendor
Authorized Roles	<ul style="list-style-type: none"> • Retailer.Requestor • DSVendor.Reporter
Legal steps/requirements	None
Economic consequences	None
Initial/terminal events	<p>Initial – Inventory physically exists</p> <p>Terminal – Retailer receives inventory position report.</p>
Scope	The DSVendor is reporting a latest stage of Available to Promise but makes no warranty that when the Retailer places a PO, there will be available product to cover the PO. Rather forecasting should be used to cover at least sufficient safety stock.
Boundary	<p>Systems include :</p> <ul style="list-style-type: none"> • Retailer inventory management systems • DSVendor inventory / sales management systems
Constraints	Daily reporting by DSVendor. Only affected products, as a result of the Catalog Exchange process are to be reported by the DSVendor; and no other products are to be included. DSVendor reports product availability by number of SKU's, versus a gross classification of 'available or not available'.

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933 Figure 12-16, <<BusinessCollaborationProtocol>> VendorInventoryReporting

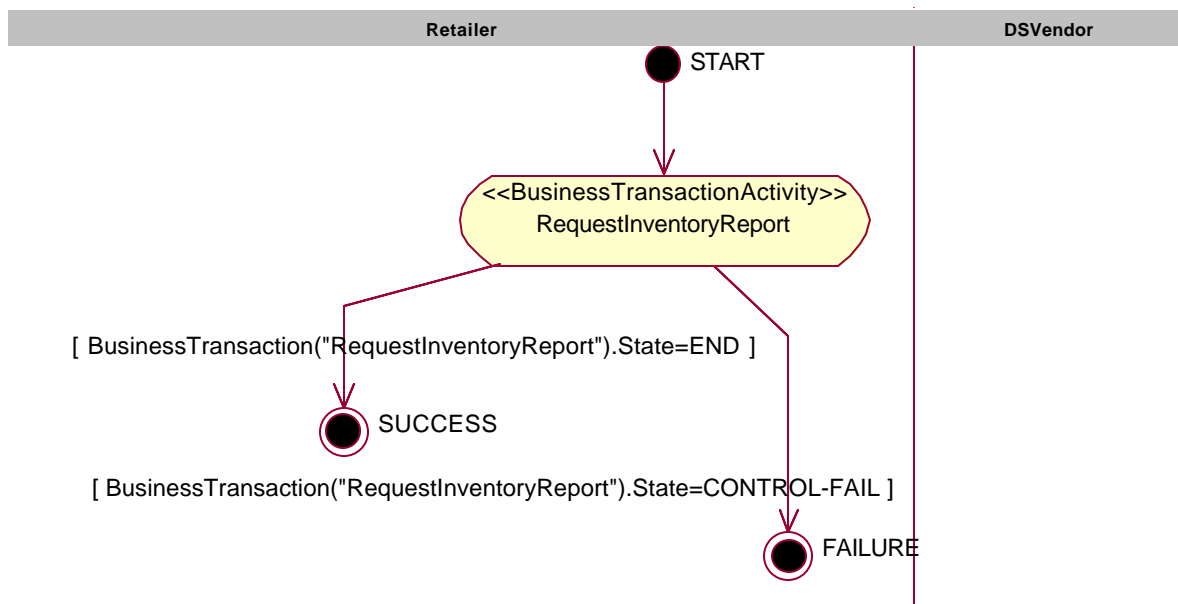
Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.7-Vendor-Inventory-Reporting			
Identifier	bcid:ean.1234567890128:VendorInventoryReporting\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Retailer	VendorInventoryR eport	DSVendor	NONE
VendorInventoryR eport	NOT- APPLICABLE	SUCCESS	NOT- APPLICABLE	BusinessTransacti on("InventoryRep ort").State=END
VendorInventoryR eport	NOT- APPLICABLE	FAILURE	NOT- APPLICABLE	BusinessTransacti on("InventoryRep ort").State=CONT ROL-FAILED

934

935 C.3.8 BC-6.8-Request-Inventory-Report

Form: Business Collaboration	
Form Id	BC-6.8-Request-Inventory-Report
Identifier	bcid:ean.1234567890128:RequestInventoryReport\$1.0
Partner Types	<ul style="list-style-type: none"> • Retailer • DSVendor
Authorized Roles	<ul style="list-style-type: none"> • Retailer.Inventory Management • DSVendor.Inventory / Customer Service Management
Legal steps/requirements	None
Economic consequences	None
Initial/terminal events	See BC-6.7-Vendor-Inventory-Management
Scope	See BC-6.7-Vendor-Inventory-Management
Boundary	See BC-6.7-Vendor-Inventory-Management
Constraints	See BC-6.7-Vendor-Inventory-Management

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937

938 Figure 12-17, <<BusinessCollaborationProtocol>> RequestInventoryReport

Form: Business Collaboration Protocol Table	
Form Id	BCPT-7.8-Request-Inventory-Report

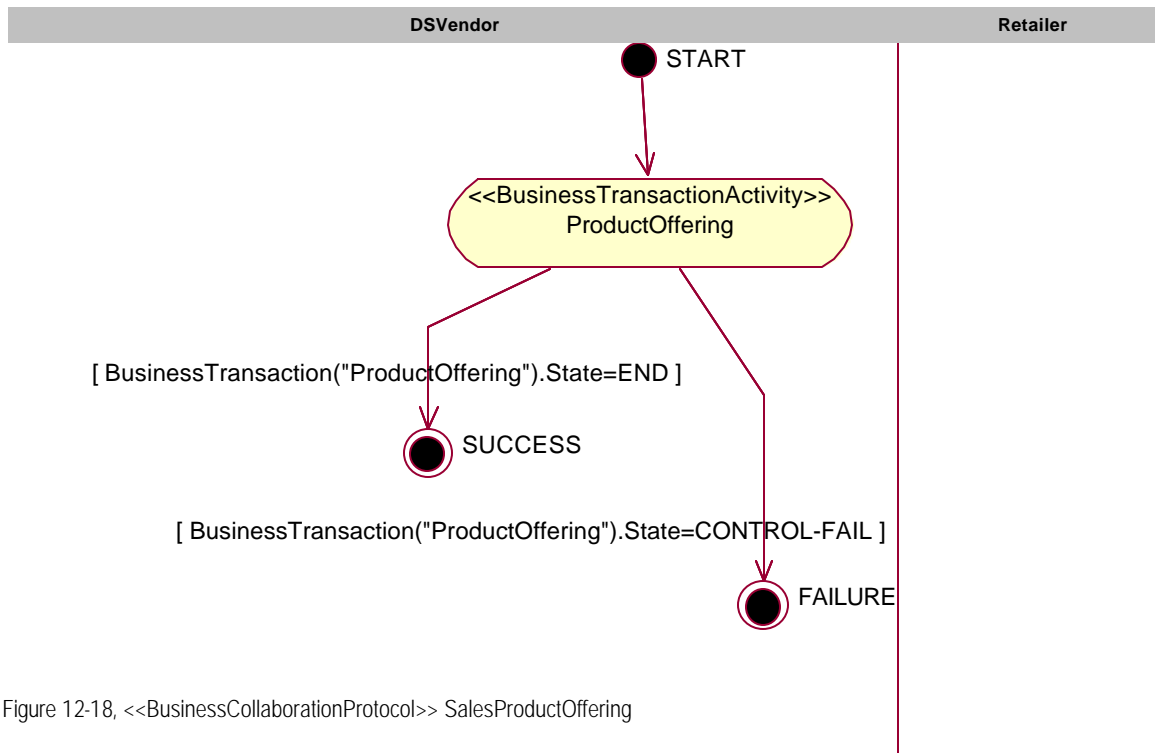
Identifier	bcid:ean.1234567890128:RequestInventoryReport\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	Retailer	RequestInventory Report	DSVendor	NONE
RequestInventory Report	NOT-APPLICABLE	SUCCESS	NOT-APPLICABLE	BusinessTransaction("RequestInventoryReport").State=END
RequestInventory Report	NOT-APPLICABLE	FAILURE	NOT-APPLICABLE	BusinessTransaction("RequestInventoryReport").State=CONTROL-FAIL

939

940 C.3.9 BC-6.9-Sales-Product-Offering

Form: Business Collaboration	
Form Id	BC-6.9-Sales-Product-Offering
Identifier	bcid:ean.1234567890128:SalesProductOffering\$1.0
Partner Types	<ul style="list-style-type: none"> • DSVendor • Retailer
Authorized Roles	<ul style="list-style-type: none"> • Retailer.Merchandising • DSVendor.Sales
Legal steps/requirements	DSVendor warrants that products offered for consumer sale are valid and legal.
Economic consequences	None, unless prior business agreements of minimum sales quantities are applicable.
Initial/terminal events	Initial – DSVendor sends Retailer valid product specifications Terminal – Retailer receives valid product specifications.
Scope	At start of a relationship, the DSVendor will offer a full list of all products that may be offered for consumer sale by the Retailer.
Boundary	Systems include : <ul style="list-style-type: none"> • DSVendor inventory management systems • Retailer inventory management systems
Constraints	Only products intended for consumer resale are offered by the DSVendor to the Retailer. (i.e. No spamming the Retailer).

941



942

943 Figure 12-18, <<BusinessCollaborationProtocol>> SalesProductOffering

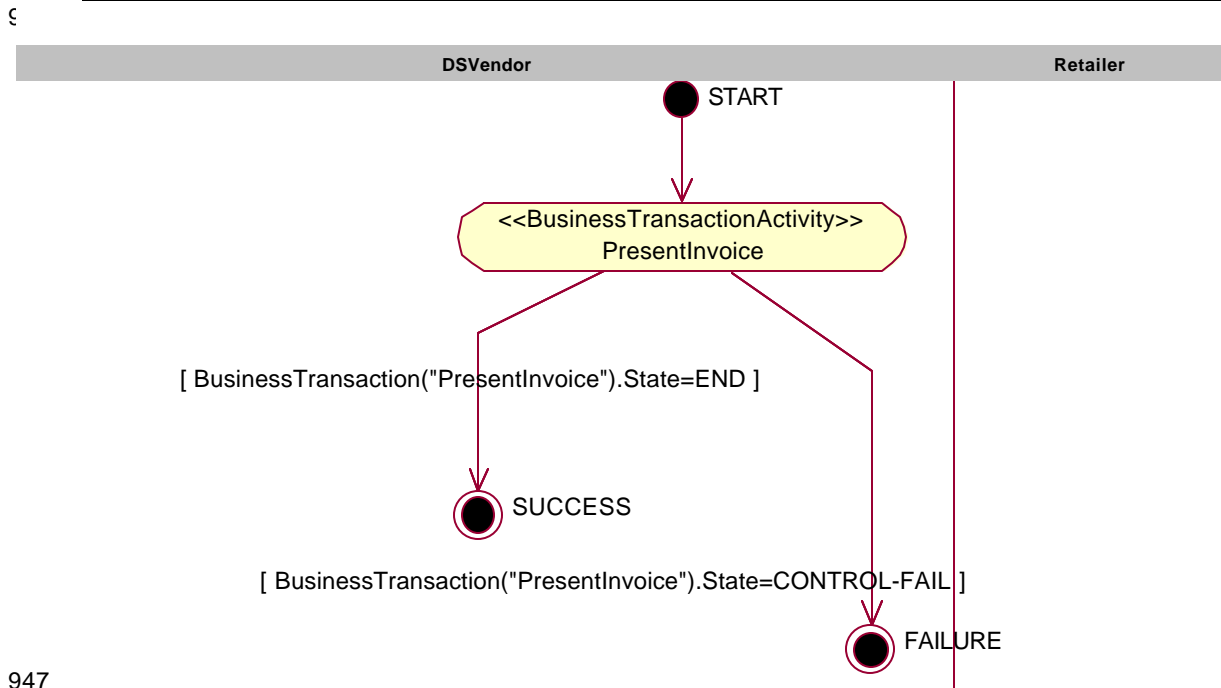
Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.9-Sales-Product-Offering			
Identifier	bcid:ean.1234567890128:SalesProductOffering\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition
START	DSVendor	ProductOffering	Retailer	NONE
ProductOffering	NOT-APPLICABLE	SUCCESS	NOT-APPLICABLE	BusinessTransaction("ProductOffering").State=END
ProductOffering	NOT-APPLICABLE	FAILURE	NOT-APPLICABLE	BusinessTransaction("ProductOffering").State=CONTROL-FAIL

944

945 C.3.10BC-6.10-Invoice-Presentment

Form: Business Collaboration	
Form Id	BC-6.10-Invoice-Presentment

Identifier	bcid:ean.1234567890128:InvoicePresentment\$1.0
Partner Types	<ul style="list-style-type: none"> • DSVendor • Retailer
Authorized Roles	<ul style="list-style-type: none"> • Retailer.ProcessPayment • DSVendor.ProcessPayment
Legal steps/requirements	
Economic consequences	
Initial/terminal events	
Scope	
Boundary	•
Constraints	



947

948 Figure 12-19, <<BusinessCollaborationProtocol>> InvoicePresentment

Form: Business Collaboration Protocol Table				
Form Id	BCPT-7.10-Invoice-Presentment			
Identifier	bcid:ean.1234567890128:InvoicePresentment\$1.0			
From Business Activity (Transaction)	Initiating Partner Type	Business Activity	Responding/ Receiving Partner Type	Transition Condition

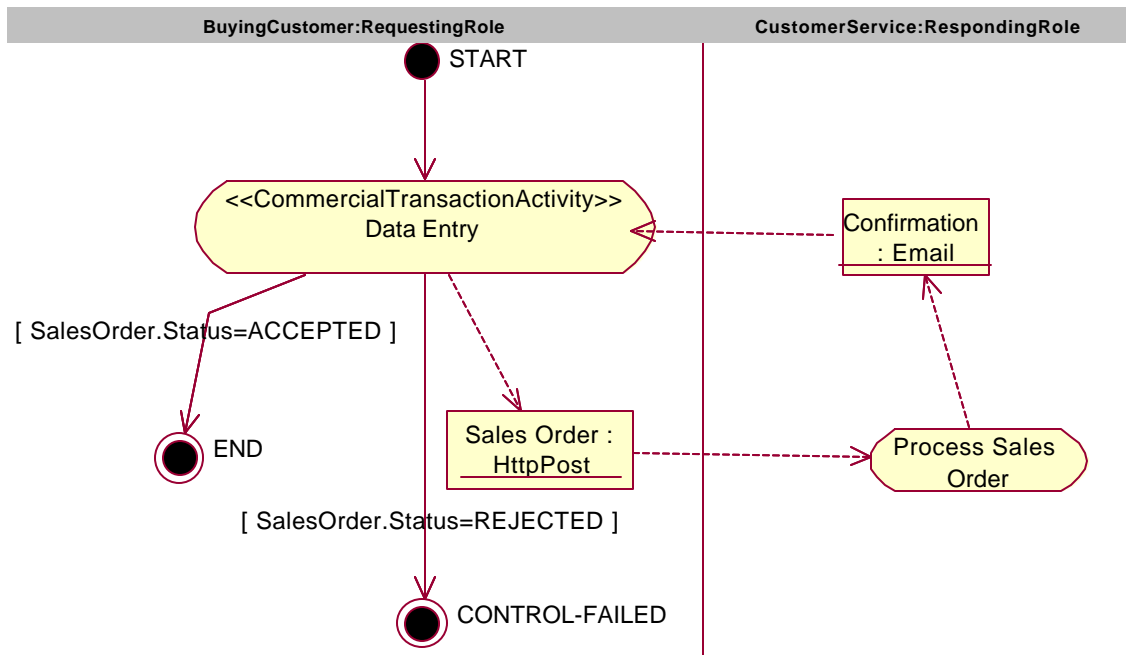
START	DSVendor	Present Invoice	Retailer	NONE
Present Invoice	DSVendor	SUCCESS	NOT-APPLICABLE	BusinessTransaction("PresentInvoice").State=END
Present Invoice	DSVendor	FAILURE	NOT-APPLICABLE	BusinessTransaction("PresentInvoice").State=CONTROL-FAIL

949

950 C.4 Business Transactions and Authorized Roles

951 C.4.1 BT-8.1-Firm-Customer-Sales-Order

Form: Business Transaction	
Form Id	BT-8.1-Firm-Customer-Sales-Order
Identifier	btid:ean.1234567890128:FirmCustomerSalesOrder\$1.0
Description	Register customer demand for specific product to be fulfilled.
Pattern	Business Transaction
Business activities and associated authorized roles	
Constraints	<ul style="list-style-type: none"> • Valid Customer • Valid Product • Valid Vendor
Requesting Partner Type	Customer
Requesting Activity Role	Buying Customer
Requesting Activity Document	Sales Order
Responding Partner Type	Retailer
Responding Activity Role	Customer Service
Responding Activity Document	Confirmation email



952

953 Figure 12-20, <<BusinessTransaction>> FirmCustomerSalesOrder

954

955 C.4.2 BT-8.2-Check Customer Credit

Form: Business Transaction	
Form Id	BT-8.2-Check Customer Credit
Identifier	btid:ean.1234567890128:CheckCustomerCredit\$1.0
Description	With complete customer details, including a total sales amount, check the customer's credit ability to eventually pay for product once drop shipped from the vendor.
Pattern	Request/Response
Business activities and associated authorized roles	See BTTT-8.2- Check-Customer-Credit
Constraints	<ul style="list-style-type: none"> Valid business agreement with vendor Valid customer details
Requesting Partner Type	Retailer
Requesting Activity Role	Customer Service
Requesting Activity Document	Credit Check (typically a proprietary document)

Responding Partner Type	Credit Authority
Responding Activity Role	Credit Service
Responding Activity Document	Credit Check Response

956

Form: Business Transaction Transition Table					
Form Id	BTTT-8.2- Check-Customer-Credit				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	NOT-APPLICABLE	NONE	Request Check Credit	Retailer.Custome rService	NONE
Request Check Credit	Retailer.Custome rService	Credit Check Request	Process Credit Check	CreditAuthorit y.CreditService	NONE
Process Credit Check	CreditAuthorit y.CreditService	Credit Check Response	Request Check Credit	Retailer.Custome rService	NONE
Request Check Credit	Retailer.Custome rService	NONE	END	NOT-APPLICABLE	CreditCheckR esponse.Statu s=GOOD- CREDIT
Request Check Credit	Retailer.Custome rService	NONE	CONTROL- FAILED	NOT-APPLICABLE	CreditCheckR esponse.Statu s=BAD- CREDIT

957

958 C.4.3 BT-8.3-Charge-Customer-Credit

Form: Business Transaction	
Form Id	BT-8.3-Charge-Customer-Credit
Identifier	btid:ean.1234567890128:ChargeCustomerCredit\$1.0
Description	Given all customer details, plus total sales amount based on product actually shipped by DSVendor, do a charge on the customer's credit.
Pattern	Business Transaction

Business activities and associated authorized roles	See BTTT-8.3-Charge-Customer-Credit
Constraints	Valid sales order Confirmed Shipped product
Initiating/Requesting Partner Type	Retailer
Initiating/Requesting Activity Role	Accounts Receivable
Initiating/Requesting Document	Charge Credit Request
Responding Partner Type	Credit Authority
Responding Activity Role	Credit Authority Service
Responding Document	Charge Credit Response

959

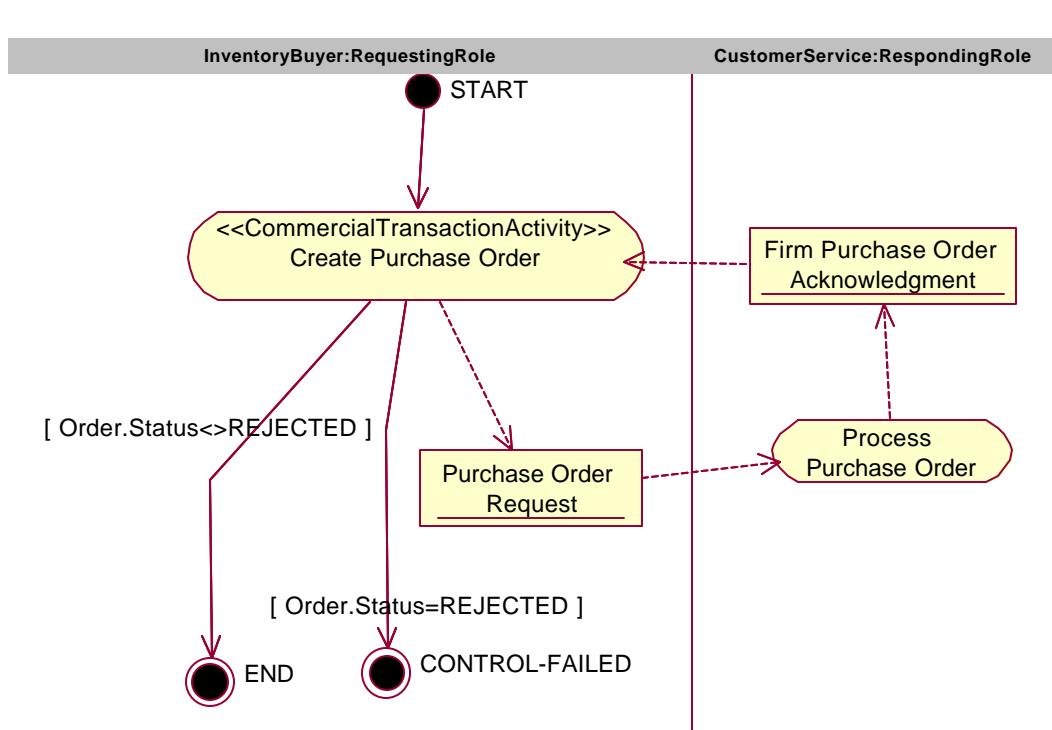
Form: Business Transaction Transition Table					
Form Id	BTTT-8.3-Charge-Customer-Credit				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	N/A	N/A	RequestCredit Charge	Retail.Charge Credit	NONE
RequestCredit Charge	Retail.Charge Credit	ChargeCredit	ProcessCredit Charge	CreditAuthority.CreditService	NONE
ProcessCredit Charge	CreditAuthority.CreditService	ConfirmCredit	RequestCredit Charge	Retail.Charge Credit	NONE
RequestCredit Charge	Retail.Charge Credit	N/A	END	N/A	Message(ConfirmCredit).Status =RECEIVED
RequestCredit Charge	Retail.Charge Credit	N/A	CONTROL-FAILED	N/A	Message(ConfirmCredit).Status =NOT-RECEIVED

960

961 C.4.4 BT-8.4-Create-Vendor-Purchase-Order

Form: Business Transaction	
Form Id	BT-8.4-Create-Vendor-Purchase-Order
Identifier	btid:ean.1234567890128:FirmCustomerSalesOrder\$1.0
Description	Given a multi-vendor / single product relationship, Retailer needs to send a DSVendor a Purchase Order REQUEST, which will need to be responded back (with confirmed allocated product to cover the PO) by the DSVendor.
Pattern	Business Transaction
Business activities and associated authorized roles	See BTTT-8.4-Create-Vendor-Purchase-Order
Constraints	Valid Sales order Valid customer credit check
Requesting Partner Type	Retailer
Requesting Activity Role	Inventory Buyer
Requesting Activity Document	Purchase Order Request
Responding Partner Type	DSVendor
Responding Activity Role	Seller
Responding Activity Document	Purchase Order Acknowledgement

962



963

964 Figure 12-21, <<BusinessTransaction>> PurchaseOrderRequest

965

Form: Business Transaction Transition Table					
Form Id	BTTT-8.4-Create-Vendor-Purchase-Order				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	N/A	N/A	Create Purchase Order	InventoryBuyer	NONE
Create Purchase Order	InventoryBuyer	Purchase Order Request	Process Purchase Order	CustomerService	NONE
Process Purchase Order	CustomerService	Firm Purchase Order Acknowledgment	Create Purchase Order	InventoryBuyer	NONE
Create Purchase Order	InventoryBuyer	N/A	END	N/A	Order.Status<>REJECTED
Create Purchase Order	InventoryBuyer	N/A	CONTROL-FAILED	N/A	Order.Status=REJECTED

Order					
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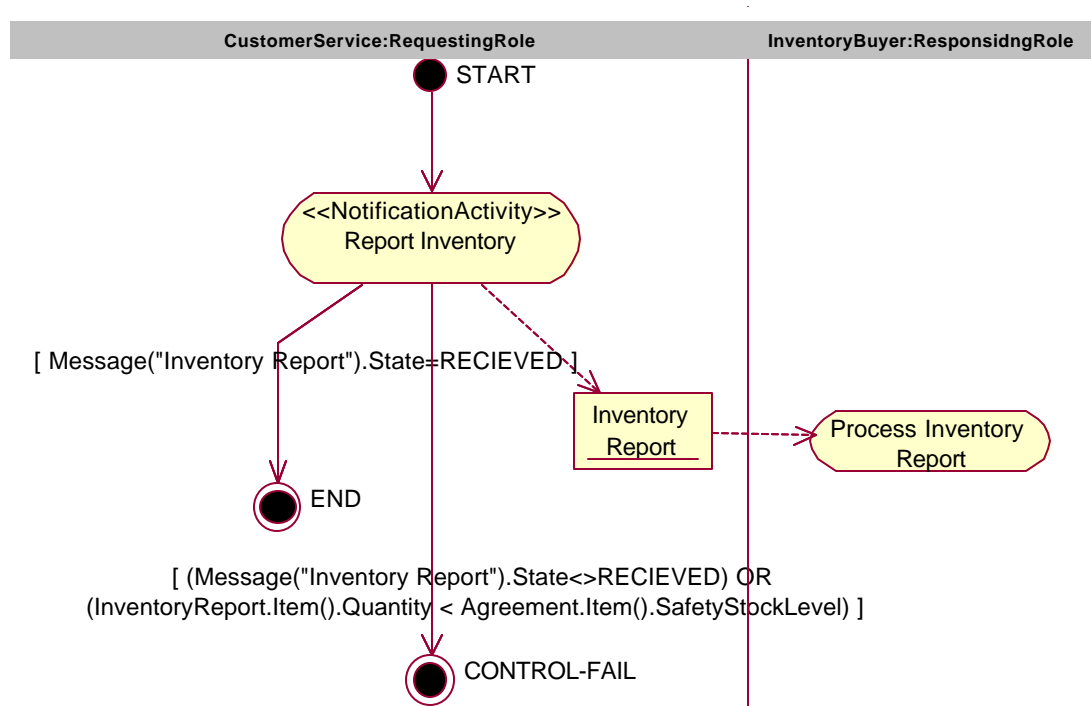
966

967

C.4.5 BT-8.5-Vendor-Inventory-Report

Form: Business Transaction	
Form Id	BT-8.5-Vendor-Inventory-Report
Identifier	btid:ean.1234567890128:VendorInventoryReport\$1.0
Description	Regular periodic notification, unsolicited, from the DSVendor to the Retailer, containing Available to Promise On-Hand inventory.
Pattern	Notification
Business activities and associated authorized roles	See BTTT-8.5-Vendor-Inventory-Report
Constraints	Only send product inventory which has been agreed to be made consumer available per agreement from the Product Catalog Exchange negotiation pattern.
Initiating/Requesting Partner Type	DSVendor
Initiating/Requesting Activity Role	Inventory Buyer
Initiating/Requesting Activity Document	Inventory Report
Responding Partner Type	Retailer
Responding Activity Role	Inventory Buyer
Responding Activity Document	

968



969

970 Figure 12-22, <<BusinessTransaction>> VendorInventoryReport

971

Form: Business Transaction Transition Table					
Form Id	BTTT-8.5-Vendor-Inventory-Report				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	NOT-APPLICABLE	NONE	Report Inventory	DSVendor.Cu stomerService	NONE
Report Inventory	DSVendor.Cu stomerService	Inventory Report	Process Inventory Report	Retailer.Invent oryBuyer	NONE
Report Inventory	DSVendor.Cu stomerService	NONE	END	N/A	Message("Inv entory Report").State =RECIEVED
Report Inventory	DSVendor.Cu stomerService	NONE	CONTROL- FAILED	N/A	Message("Inv entory Report").State <>RECEIVED OR InventoryRep ort..Item().Qu

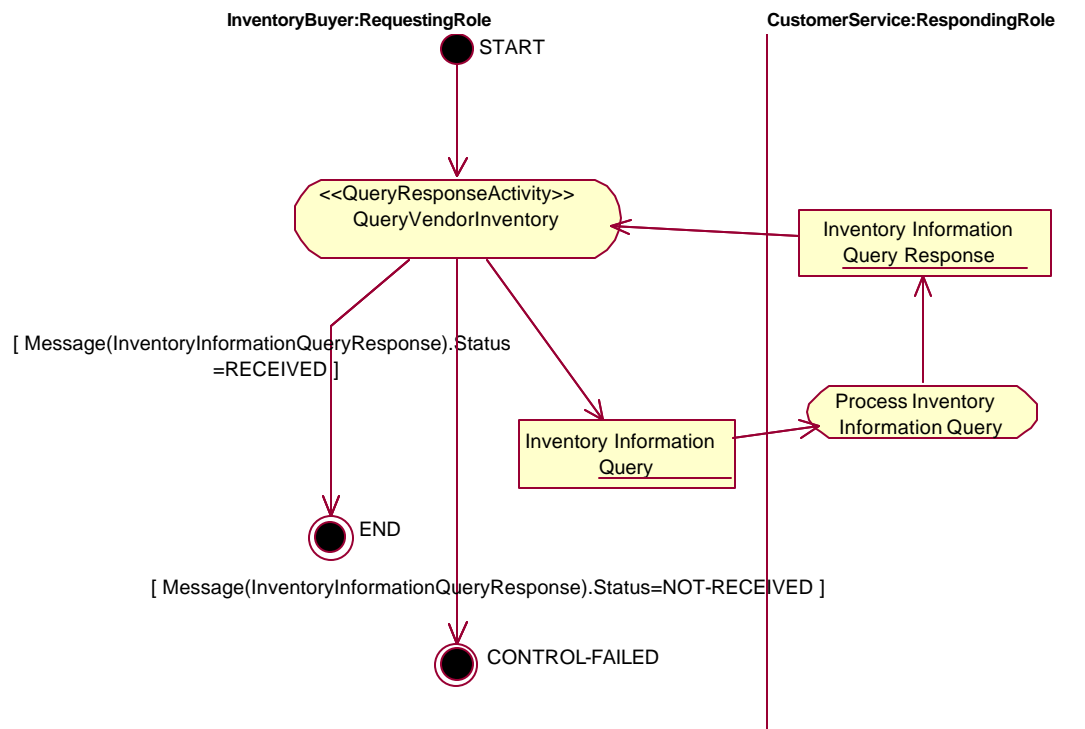
					atntity<Agreement.Item().SafteyStockLevel
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972

973 C.4.6 BT-8.6-Request-Inventory-Report

Form: Business Transaction	
Form Id	BT-8.6-Request-Inventory-Report
Identifier	btid:ean.1234567890128:RequestInventoryReport\$1.0
Description	Query Response dialogue where the Retailer requests the DSVendor for the current Available to Promise position of a product; or series of products.
Pattern	Query / Response (per UMM pattern specifications)
Business activities and associated authorized roles	See BTTT-8.6-Request-Inventory-Report
Constraints	See BT-8.5-Vendor-Inventory-Report
Requesting Partner Type	Retailer
Requesting Activity Role	Inventory Buyer
Requesting Activity Document	On-hand Available to Promise Product Availability Request
Responding Partner Type	DSVendor
Responding Activity Role	Customer Service
Responding Activity Document	on-hand Available to Promise report

974



975
976

977 Figure 12-23, <<BusinessTransaction>> RequestInventoryReport

978

Form: Business Transaction Transition Table					
Form Id	BTTT-8.6-Request-Inventory-Report				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	N/A	N/A	QueryVendorInventory	InventoryBuyer	NONE
QueryVendorInventory	InventoryBuyer	Inventory Information Query	Process Inventory Information Query	CustomerService	NONE
Process Inventory Information Query	CustomerService	Inventory Information Query Response	QueryVendorInventory	InventoryBuyer	NONE
QueryVendorInventory	InventoryBuyer	N/A	END	N/A	Message(InventoryInformationQueryResponse).Status=NOT-RECEIVED

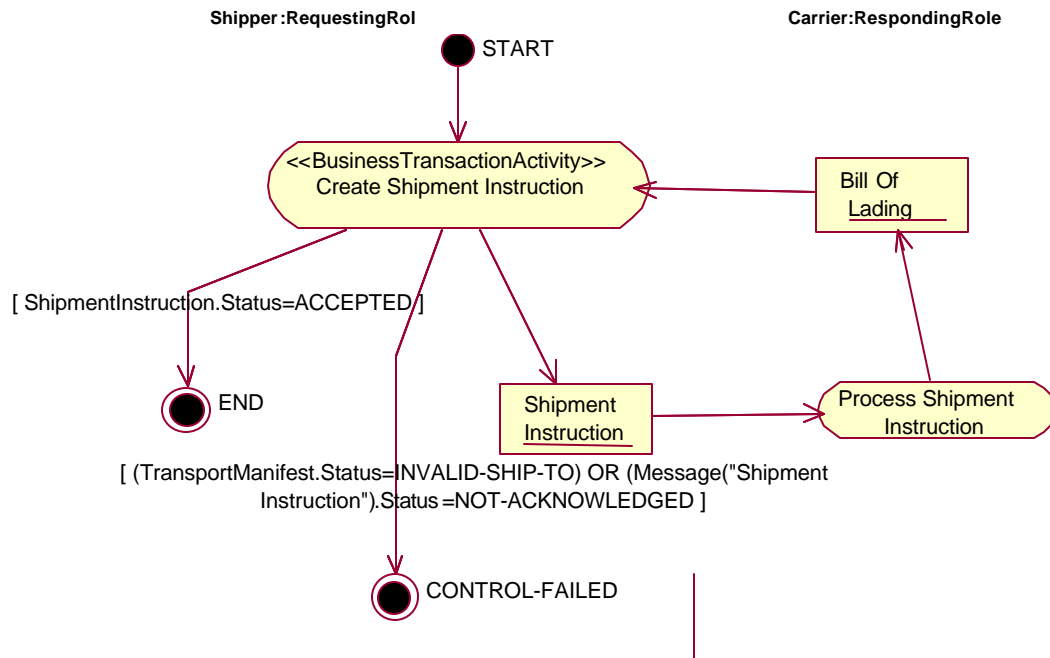
					onse).Status =RECEIVED
QueryVendorInventory	InventoryBuyer	N/A	CONTROL-FAILED	N/A	Message(InventoryInformationQueryResponse).Status =NOT-RECEIVED

979

980 C.4.7 BT-8.7-Shipment-Notification

Form: Business Transaction	
Form Id	BT-8.7-Shipment-Notification
Identifier	btid:ean.1234567890128:FirmCustomerSalesOrder\$1.0
Description	Arrangement of carriage by the DSVendor towards a Transport Carrier; who is expected to physically ship the product direct to the Customer.
Pattern	Business Transaction
Business activities and associated authorized roles	See BTTT-8.7-Shipment-Notification
Constraints	Customer Ship To details must be accurate
Requesting Partner Type	DSVendor
Requesting Activity Role	Shipper
Requesting Activity Document	Shipment Instruction (UN/CEFACT EDIFACT IFTMIN D01)
Responding Partner Type	Transport Carrier
Responding Activity Role	Customer Service
Responding Activity Document	Electronic copy of a Bill of Lading (UN/CEFACT EDIFACT IFTMCS D01)

981



982

983 Figure 12-24, <<BusinessTransaction>> ShipmentInstruction

984

Form: Business Transaction Transition Table					
Form Id	BTTT-8.7-Shipment-Notification				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	NOT-APPLICABLE	NONE	Prepare Shipping Instruction	DSVendor.Shipper	NONE
Prepare Shipping Instruction	DSVendor.Shipper	Shipment Instruction	Process Shipment Instruction	TransportCarrier.CustomerService	NONE
Process Shipment Instruction	TransportCarrier.CustomerService	Bill Of Lading	Process Shipment Instruction	DSVendor.Shipper	NONE
Process Shipment Instruction	DSVendor.Shipper	NONE	END	NOT-APPLICABLE	Message("Bill Of Lading").State=RECIEVED
Process Shipment	DSVendor.Shipper	NONE	CONTROL-FAILED	NOT-APPLICABLE	Message("Bill Of

Instruction	pper		FAILED	APPLICABLE	Lading").State <>RECEIVED ¹¹
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985

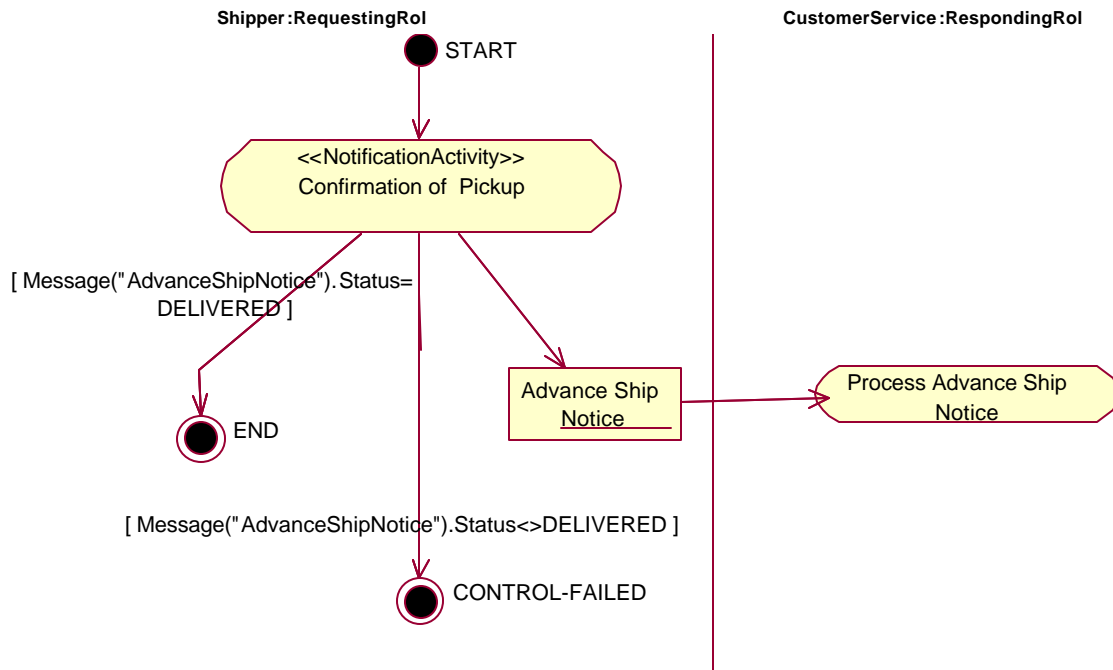
986

C.4.8 BT-8.8-Confirm-Shipment

Form: Business Transaction	
Form Id	BT-8.8-Confirm-Shipment
Identifier	btid:ean.1234567890128:FirmCustomerSalesOrder\$1.0
Description	DSVendor informs the Retailer that the Customer's product has been shipped to the Customer; and thus the conditions of the PO have been fulfilled.
Pattern	Notification
Business activities and associated authorized roles	See BTTT-8.8-Confirm-Shipment
Constraints	<ul style="list-style-type: none"> ■ Product must actually be shipped ■ DSVendor must return a Transport Carrier tracking number; for customer service.
Requesting Partner Type	DSVendor
Requesting Activity Role	Shipper
Requesting Activity Document	Advance Ship Notice (UN/CEFACT EDIFACT DESADV D01)
Responding Partner Type	Retailer
Responding Activity Role	Customer Service
Responding Activity Document	NONE

987

¹¹ DSVendor.Shipper may get an emial or phone calls stating that the goods will not be shipped.



988
989

990 Figure 12-25, <<BusinessTransaction>> ConfirmShip ment

991

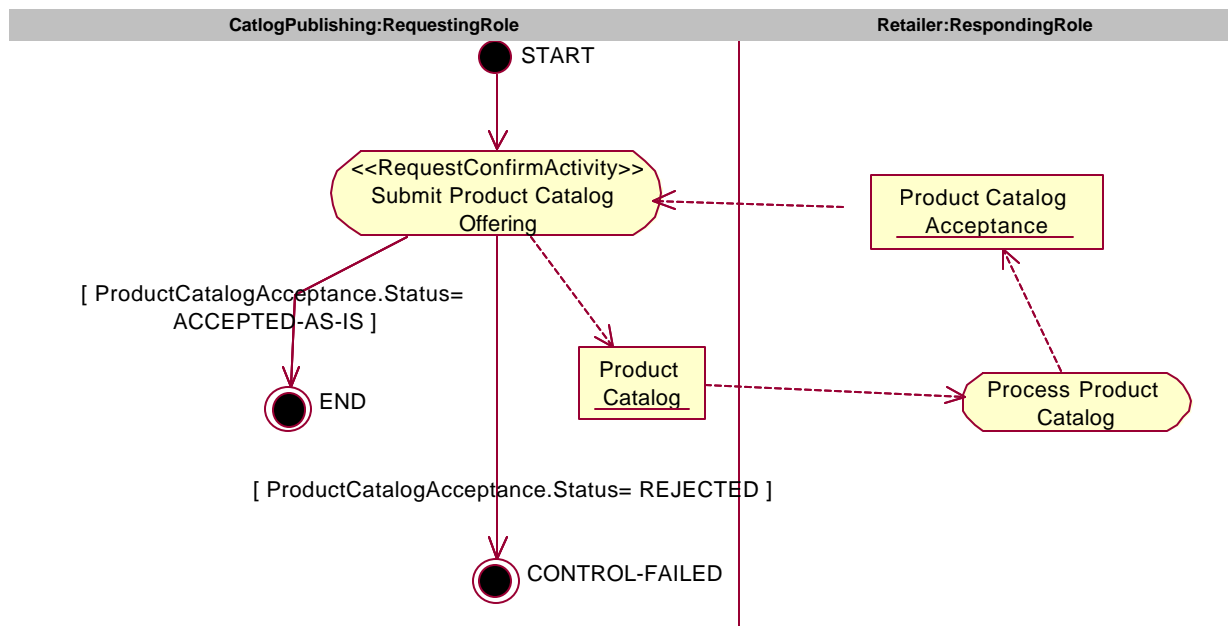
Form: Business Transaction Transition Table					
Form Id	BTTT-8.8-Confirm-Ship ment				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	NOT-APPLICABLE	NONE	Confirmation of Pickup	Shipper	NONE
Confirmation of Pickup	Shipper	Advance Ship Notice	Process Advance Ship Notice	Retailer.Custo merService	NONE
Confirmation of Pickup	Shipper	NONE	END	NOT-APPLICABLE	Message("Ad vance Ship Notice").State =RECEIVED
Confirmation of Pickup	Shipper	NONE	CONTROL-FAILED	NOT-APPLICABLE	Message("Ad vance Ship Notice").State <>RECEIVED

992

993 C.4.9 BT-8.9-Product-Offering

Form: Business Transaction	
Form Id	BT-8.9-Product-Offering
Identifier	btid:ean.1234567890128:ProductOffering\$1.0
Description	DSVendor offers product details to the Retailer, where the Retailer is expected to either accept the DSVendor's product for consumer sale or reject the product; perhaps because of unacceptable product terms and conditions.
Pattern	Request / Confirm
Business activities and associated authorized roles	See BTTT-8.9-Product-Offering
Constraints	Valid products for consumer sale by Retailer
Requesting Partner Type	DSVendor
Requesting Activity Role	Catalog Publishing
Requesting Activity Document	Product Catalog Offering (ANSI X.12 832 4010 version)
Responding Partner Type	Retailer
Responding Activity Role	Merchandising
Responding Activity Document	Product Catalog Acceptance (often proprietary format response document)

994



995

996 Figure 12-26, <<BusinessTransaction>> ProductOffering

997

Form: Business Transaction Transition Table					
Form Id	BTTT-8.9-Product-Offering				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	NOT-APPLICABLE	NONE	Submit Product Catalog Offering	CatalogPublishing	NONE
Submit Product Catalog Offering	CatalogPublishing	Product Catalog	Process Product Catalog	Retailer.Merchandising	NONE
Process Product Catalog	Retailer.Merchandising	Product Catalog Acceptance	Submit Product Catalog Offering	CatalogPublishing	NONE
Submit Product Catalog Offering	CatalogPublishing	NONE	END	NOT-APPLICABLE	ProductCatalogAcceptance.Status=ACCEPTED-AS-IS
Submit Product	CatalogPublishing	NONE	CONTROL-FAILED	NOT-APPLICABLE	ProductCatalogAcceptance.

Catalog Offering	hing		FAILED	APPLICABLE	Status=REJECTED
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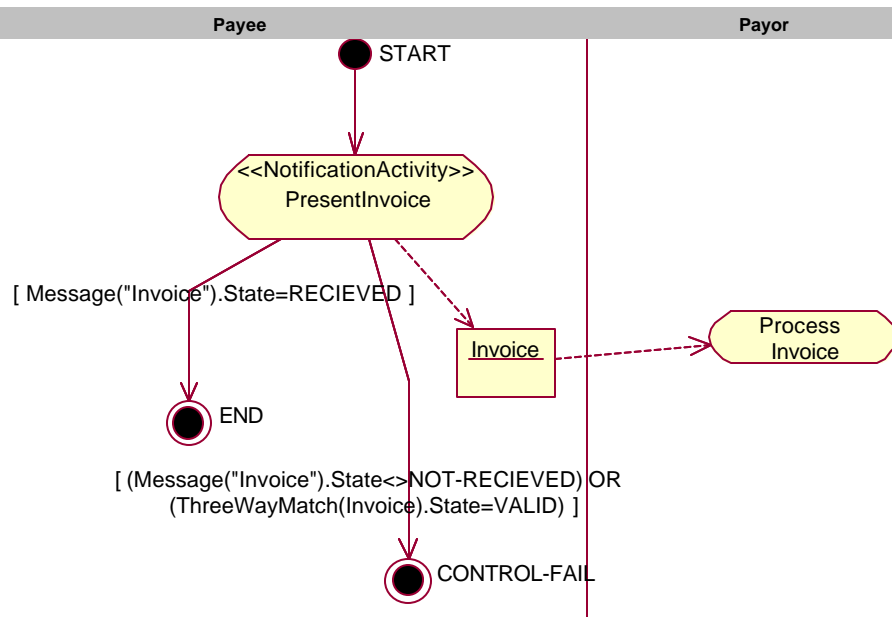
998

999

C.4.10BT-8.10-Present-Invoice

Form: Business Transaction	
Form Id	BT-8.10-Present-Invoice
Identifier	btid:ean.1234567890128:PresentInvoice\$1.0
Description	This is the vendor's invoice to the retailer for products and services shipped to customer.
Pattern	Notification
Business activities and associated authorized roles	See BTTT-8.10-Present-Invoice
Constraints	<ul style="list-style-type: none"> ■ The invoice shall only be sent after confirmed shipment ■ The invoice shall reflect the confirmed shipment
Requesting Partner Type	DSVendor
Requesting Activity Role	Payee
Requesting Activity Document	Invoice
Responding Partner Type	Retailer
Responding Activity Role	Payor
Responding Activity Document	NONE

1000



1001

1002 Figure 12-27, <<BusinessTransaction>> PresentInvoice

1003

Form: Business Transaction Transition Table					
Form Id	BTTT-8.10-Present-Invoice				
From Activity	From Role	Document	To Activity	To Role	Guard Condition
START	NOT-APPLICABLE	NONE	Present Invoice	Payee	NONE
Present Invoice	Payee	Invoice	Process Invoice	Payor	NONE
Present Invoice	Payee	NONE	END	NOT-APPLICABLE	Message("Invoice").State=R ECEIVED
Present Invoice	Payee	NONE	CONTROL-FAILED	NOT-APPLICABLE	Message("Invoice").State<> RECEIVED OR ThreeWayMat ach(Invoice).S tate=VALID

1004

1005 C.5 Business Information Description

1006 C.5.1 Purchase Order

1007 C.5.1.1 Purchase Order Business Information Context

Form: Business Information Context	
Form Id:	BIC-10.1-Purchase-Order
Industry Segment	Retail
Business Process	BPUC-5.4-Purchase-Order-Management BC-8.4-Create-Vendor-Purchase-Order BT-8.4-Create-Vendor-Purchase-Order
Product	NOT-APPLICABLE
Physical Geography /Conditions /Region	North America
Geo-Political Legislative/ Regulatory/ Cultural	NOT-APPLICABLE
Application Processing	NOT-APPLICABLE
Business Purpose /Domain	See BPUC-5.4-Purchase-Order-Management
Partner Role	Inventory Buyer Customer Service
Service Level (profiles – not preferences.)	NOT-APPLICABLE
Contracts/Agreements	“My Business Agreement With My Vendor”

1008

1009 C.5.1.2 CD-9.1-Order

Form: Content Description						
Form Id:	CD-9.1-Order					
Element/Component Name	Occurs	Data Type	Field Width	Semantic Description	Notes	
Order Header	1		N/A	The Order Header contains the header information of the order		
Order Detail	0..1		N/A	The Order Detail contains the line item and package details of the Order.		
Order Summary	0..1		N/A	The Order Summary contains the summary information of the order, typically totals of numerical fields		

1010

1011 C.5.1.3 CD-##-Order-Summary

Form: Content Description						
Form Id:	CD-9.2-Order-Summary					
Element/Component Name	Occurs	Data Type	Field Width	Semantic Description	Notes	
Number Of Lines	0..1	Integer		Number Of Lines identifies the number of line items.		
Total Tax	0..1	Monetary Value	N/A	Total Tax contains the total tax amount for the Order.		

Total Amount	0..1	Monetary Value	N/A	Total Amount contains the total price for the entire Order.	
Transport Packaging Totals	0..1			Transport Packaging Totals is a summary of transport and packaging information if included in the Order.	
Summary Note	0..1	String		Summary Note contains any free form text for the Order Summary. This element may contain notes or any other similar information that is not contained explicitly in the another structure. You should not assume that the receiving application is capable of doing more than storing and/or displaying this information	

1012

1013

1013 C.5.2 Content Mapping

1014 **[If we feel so ambitious, we can use the ANSI X12 4010 mappings available at <http://www.xcbl.org/xcbl30/Mapping/smg.html>]**

1015 These forms SHOULD be completed. This information is very important as it shows that the documents have a basis in existing standards.
 1016 Furthermore, the information will be used to create document transformations. Standards to map to include EDIFACT, X12, xCBL, RosettaNet,
 1017 and other standards such as OBI. Use XPATH and XSLT notation for referencing XML elements and describing the mappings. If a new document
 1018 schema is created to fulfil the content requirements specified in the Document Content Description forms, then a set of Content Mapping forms
 1019 should be completed for that schema (the component names in the forms are simply requirements for information)

1020 For each Content Description form, complete a Document Content Mapping form for each standard to be cross-referenced.

1021 C.5.2.1 CM-11.1-Order-Summary

Form: Content Mapping		
Form Id:	CM-11.1-Order-Summary	
Content Description Form Id	CD-11.1-Order-Summary	
Standard	ANSI X12 850	
Version	4010	
Element/Component Name	Mapping/Transformation	Note
Number Of Lines	850:S:CTT:010:CTT:01:354:	
Total Tax	NOT USED	
Total Amount	Various (850:S:CTT:020:AMT:02:782:, etc.)	Total amount is a complex structure that includes things like reference currency, target currency, and rate of exchange. For an example mapping see xCBL.org). Do mapping

		in a separate table.
Transport Packaging Totals	Various	Transport packing totals is a complex structure. Do mapping in a separate table.
Summary Note	850:S:CTT:010:CTT:02:347:	

1022

1023 Appendix D Disclaimer

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1025 necessarily those of their employers. The authors and their employers specifically disclaim
1026 responsibility for any problems arising from correct or incorrect implementation or use of this
1027 design.

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