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United Nations Centre for Trade Facilitation and Electronic Business

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UN/CEFACT - Common Business Process Catalog

Technical Specification

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201 Status of this Document

21

22This Technical Specification is being developed in accordance with the UN/CEFACT/TRADE/22
23Open Development Process for Technical Specifications. It has been approved by the TMG
24Steering Committee and Common Business Process Catalog Project Team.

25

26Distribution of this document is unlimited to UN/CEFACT Project teams.

27This document contains information to guide in the interpretation or implementation.

28

29The document formatting is based on the Internet Society's Standard RFC format.

30

31*This version:* http://disa.org/cefact-groups/tbg/wg/tbg14_main.cfm

32

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34

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36 the Common Business Process Catalog

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1601 Introduction

1611.1 Summary of Contents of Document

162The Common Business Processes Catalog technical specification document provides the
163methodology to identify, discover, and maximize the reuse of commonly used business
164processes. To develop this methodology, the specification document describes the structure,
165syntax, and semantics for industry standard expression of metadata to describe common
166business processes to be recorded in the catalog. This will facilitate reuse of these
167business processes in a variety of e-business applications.

168

1691.2 Challenges Faced

170The operation of a supply chain involves executing a large number of business processes.
171These business processes are common to most supply chains although the way they are
172executed and the order they are carried out may vary from one organization or industry to
173another. Some of the processes may be variations on a common process with business rules
174requiring less than the full set of the process features, while others may be requiring extra
175features. It has been claimed that the individual processes may be put together in any of 10
176to the power of 70 different ways to create many similar but different supply chains.
177However, through all these variations, there remains a stable part of the supply chain – the
178relationships between the participants, the activities that they perform, and the category of
179activities that they belong to.

180

181In a general case, search for agreeable combinations of business processes within a target
182supply chain may involve vast space of various permutations and combinations of business
183collaboration orchestration. In order to decrease the complexity of this search, it would be
184useful to support discovery of common business processes to which the trading partners
185can agree. Consequently, this would dramatically decrease the complexity of the search for
186common, agreed-upon business processes while the reuse of the common business
187processes would equally increase. The Common Business Process Catalog represents a
188registry of information to solve the previously stated dilemma and to help effectively search
189for common business processes.

190

1911.3 Audience

192The target audience for this document includes business people of both information and
193technical background. The audience also includes professionals from specific business
194areas that are working to relate their electronic trading activities in a consistent pattern to
195the whole trading community that adopt UN/CEFACT standards. Additionally, the target
196audiences include software developers who will take this specification document and
197implement catalogues of common business processes as part of their e-business offerings.

198

1.4 Scope and Focus

Business processes may be defined at various levels of granulation but at this point the catalog will concentrate primarily on cataloging common business processes, which are described by Business Transaction Use Cases. These will be linked in due course to the higher-level business processes represented by Business Collaboration Use Cases. As transaction use cases can participate in a variety of collaborations, this is a sensible process and reduces the complexity of our core catalog.

1.5 Related Documents

As mentioned above, other documents provide detailed definitions of some of the components of XXXX and of their inter-relationship. They include [ebXML | TWG] Specifications on the following topics:

[Bra97]	Bradner, S., "Key words for use in RFCs to Indicate Requirement Level", BCP 14, RFC 2119, March 1997.
[ebBPSS]	ebXML Business Process Specification Schema. Version 0.90. 01/17/2001. Context/Metamodel Group of the CC/BP Joint Delivery Team.
[bpPROC]	ebXML Catalog of Common Business Processes. Version TBD. Date TBD. ebXML CC/BP Analysis Team.
[ebCNTXT]	ebXML The role of context in the re-usability of Core Components and Business Processes. Version 1.01. February 16, 2001. ebXML Core Components Project Team.
[XBACR]	ebXML specification for the application of XML based assembly and context rules. Version 1.01. 16 February 2001. ebXML Core Components.
[ISO14662]	Information Technologies - Open-EDI Reference Model. ISO/IEC 14662:1997(E). International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC).
[TAGLOS]	ebXML. TA Glossary. Version 0.95. 12 February 2001. Technical Architecture Project Team.
[TASPEC]	ebXML Technical Architecture Specification. Version 1.0.4. 16 February 2001. ebXML Technical Architecture Project Team.
[UMM]	UN/CEFACT Modelling Methodology. CEFACT/TMWG/N090R9. February 2001. UN/CEFACT Technical Modeling Working Group.
[UMM]	UN/CEFACT Modelling Methodology -UMM MetaModel 17/01/2003

2 [UMM] UN/CEFACT Modeling Methodology-UMM User Objectives

2.1 Goals/Requirements/Problem Description

2312.1.1 Goals of the Project

232The various goals for the UN/CEFACT Common Business Process catalog technical
233specification document are as follows:

- 234 1. Define the business process metadata to store in the catalog so as to support
235 effective discovery and reuse of common business processes.
- 236 2. Develop the catalog information model for the business process metadata capture
237 and storage. The catalog information model defines attributes of common business
238 processes.
- 239 3. Develop reference classification scheme for cataloging business processes.
- 240 4. Define methods and procedures, which organizations can apply to create, populate,
241 maintain and manage the catalog.
- 242 5. Identify processes to integrate domain models with catalog reference models.
- 243 6. Relate the business process model with the information model of core components.
244

2452.1.2 Requirements

- 246 1. Support Business Process Contextual Category – Business Process is one of the
247 contexts defined by the UN/CEFACT Core Components classification scheme¹.
248 This standard catalog of common business processes should satisfy the requirement
249 for business process taxonomy in a hierarchical fashion.
250
- 251 2. Support Cross References - This catalog should provide informative cross-
252 references to business processes and business documents defined by UN/CEFACT,
253 as well as those defined by other electronic business standards organizations around
254 the world. This catalog will be stored in a business library. When business process
255 models/specifications are inserted into the business library, they should be cross-
256 referenced against other industry standards via this catalog.
257
- 258 3. Develop Relationship to the Core Components Information model. This
259 requirement identifies the need for synchronization of information shared by the
260 catalog and the Core Components information model. The two information models
261 include metadata such as roles played by actors participating in the business
262 process, business entities and economic resources involved.
264

2672.2 Strategy

27 ¹ see [ebCNTXT] for additional information on context

268The Common Business Process Catalog team is working closely with UN/CEFACT Groups
269and vertical industry representatives to develop content for this Catalog. This collaboration
270has allowed for the validation of the specification and of the "methods and procedures" that
271were developed by this team.

272The domain models approved by the vertical industry experts were submitted to the global
273repository. The browsing, discovery, identification, and retrieval mechanisms were tested
274on the Common Business Process Catalog deposited in the global registry.

275

2762.3 Caveats and Assumptions

277This specification is developed with the intention to enable one to capture business
278processes in a business library (global repository) for reuse. This specification does not
279however define the business process specifications, nor delves into the methodology for
280modeling business processes. It assumes that one already understands these aspects and
281conforms to the UN/CEFACT Modeling Methodology (UMM) recommendations for
282defining business processes.

283

2843 Overview

2853.1 What is a Common Business Process?

286A common business process is a business process independent of any industry specific
287context and that may be used by a variety of organizations to achieve a similar business
288result. The generic nature of a common business process enables one to reuse that process
289across different vertical industries when industry specific context and business rules are
290defined for a variety of e-business application integrations. The industry specific rules will
291be reflected in the modified attributes of the common business processes. Both Common
292Business Processes and the industry variants will be held in this catalog.

293

2943.2 What is a Business Process?

295A business process is the means by which one or more activities are accomplished to
296achieve a business objective.

297

298In this catalog we are concerned with business processes that involve the interchange of
299information, between 2 or more roles, that result in a change in state of one or more
300Business Entities.

301It is recommended that the behavioral aspects of a business process be defined in line with
302the metamodel of the UMM [UMM].

303

304Business processes identified in the UMM Business Domain View (BDV) are either
305business processes within an enterprise, i.e., enterprise business processes (that are

306candidates for B2B collaboration), or collaborative business processes, depending on the
307starting point for the BDV workflow. A collaborative business process may derive its
308requirements from two or more enterprise business processes (from each participating
309trading partner).

310 .

311The level of definition of a business process recorded in the catalog is driven by the value
312to the trading partners, so they understand the business requirements and objectives, and
313how each business process fits into a larger value chain.

314

315The Catalog will contain Business Processes defined at the level of individual Business
316Transactions and Business Collaborations made up of 2 or more Business Transactions.

317

3183.3 What is a Business Transaction?

319A Business Transaction is the atomic unit of work in a trading arrangement between two
320business partners. Two parties who play an initiating and a responding role in the
321transaction execute a Business Transaction.

322A Business Transaction Protocol is designed to be a very specialized and constrained in
323order to achieve very precise and enforceable transaction semantics. These semantics are
324expected to be enforced by the software managing the transaction, e.g. an ebXML Business
325Service Interface (BSI).

3273.4 What is a Common Business Process Catalog?

328The UN/CEFACT Common Business Process Catalog (CBPC) provides a framework for
329the discovery and reuse of common business processes. A common business process
330catalog is:

331 • A “business library” hosted in a Global Registry/Repository contains all the details
332 of commonly used business processes and related information.

333

336 • A “knowledge base” where businesses can ‘publish’ and find all business process
337 details for the registered trading partners.

338 It could provide the basis for a “business service” with functions and features
339 facilitating the UN/CEFACT core vision of doing e-Business.

340More specifically, the CBPC is a searchable collection of well-structured business
341processes with an associated methodology of usage and a well-defined interface.

3423.5 How is the CBPC Used?

343The CBPC is intended to be used by the business community as a library and knowledge
344base containing information on business processes that are commonly used in a variety of

businesses and designed to support e-business implementations. It will provide a link to the information that should be exchanged between trading partners to achieve the business function specified for each business process. In turn, the individual business processes may be linked together to form a complete e-business application.

3.6 What the CBPC Specification Does?

This document is intended to provide an unambiguous description of the catalog and direction for its construction, usage, and maintenance. This specification document provides discussion of the three major aspects of the CBPC:

- Business process catalog consists of well-structured components (i.e., information model and classification).
- Methodology for catalog management and usage (outlining four major phases and the use cases that fall within these phases)
- Well-defined interface specifying details of interaction with the catalog that also supports the use cases.

3.7 Where the CBPC Specification May Be Implemented?

This document provides specifications and methodology for the implementation of the framework for publishing and discovering the contents of the Common Business Processes Catalog. The CBPC may be implemented in several ways to suit the needs of individual organizations or software vendors. Its prime intent is to provide the central repository for UN/CEFACT and hosted in the global registry.

4.1 Relation to other specificationsThe UN/CEFACT Modeling Methodology

The CBPC specification is based on the relevant parts of the UMM meta model.

4.2 Business Process Context for Core Components Search

Business processes located in the CBPC may be readily used as a first step when searching for the core components. As shown in the figure below - Search for Core Components Includes the Search for Business Processes, the search for the core components starts with the search for appropriate business processes. The business process is an important part of the context for the core component usage. Additionally, the catalog may support some or all context categories:

376•Product Classification Context – Determine the goods or services involved in the
377collaboration.

378•Industry Classification Context – Determine the relevant trading partner industries.

379•Geopolitical Context– Determine where the business process is to be conducted.

380Determine if the business process crosses international boundaries.

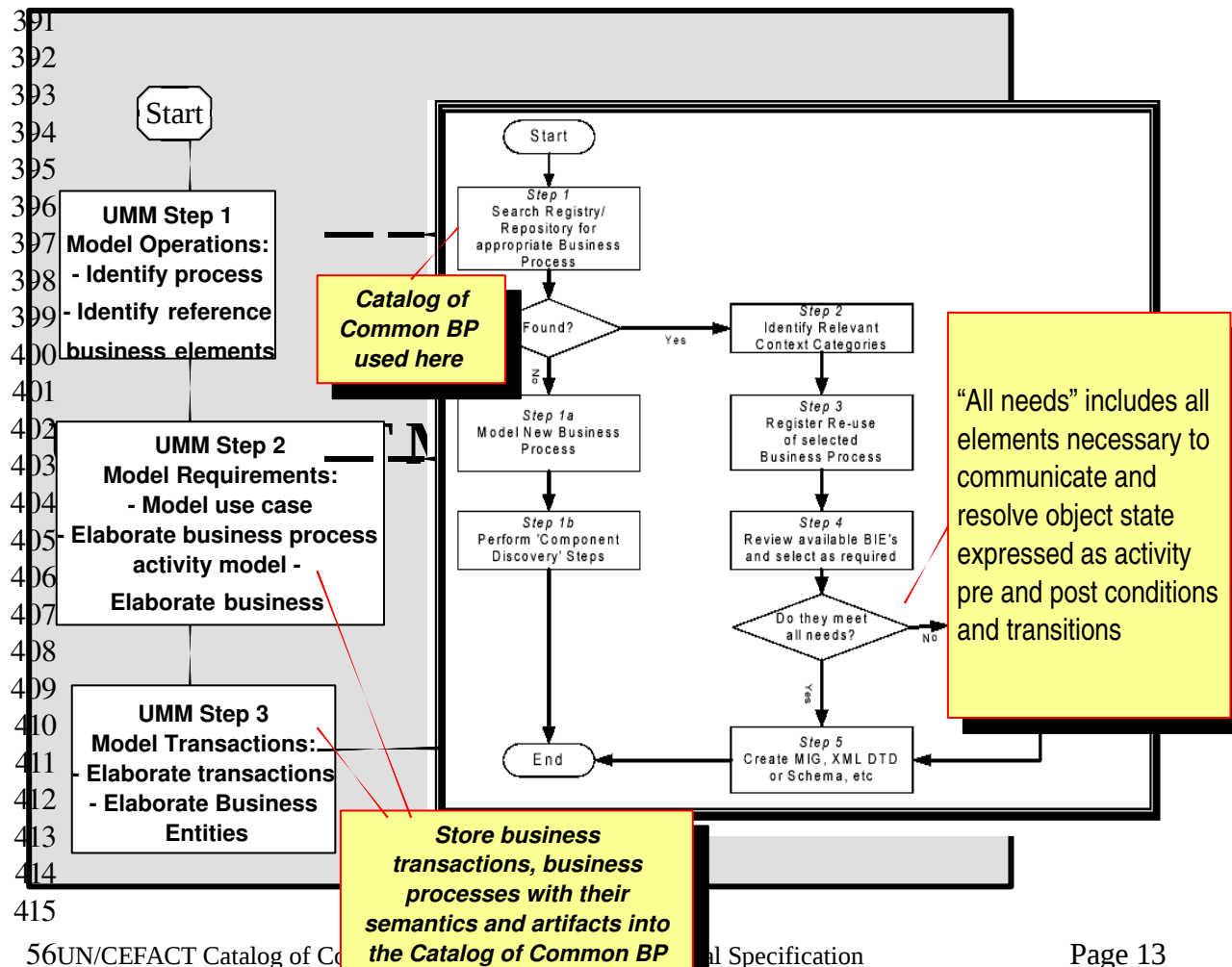
381•Official Constraints Context – Determine any legal restrictions or requirements on this
382business process.

383•Business Process Role Context – Identify the role played by the user and their trading
384partners. This can be derived from the Initiating and Responding Roles in the business
385process.

386•Supporting Role Context– Determine what other significant parties will be using the data
387in the messages. Determine their role in the overall process.

388•System Capabilities Context – Determine any major restrictions derived from legacy
389systems. Identify the type of system specified context.

390



417 5 Classification of Common Business 418 Processes

419 5.1 What is Classification

420 Classification describes a property of an information object or its relation to other
421 information objects and enables the grouping of these objects. When information is held on
422 a web site, classification may be defined as any concept that is associated with information
423 objects that helps users navigate the site and search for relevant information.

424 5.2 Why do we require Classification?

425 The prime purpose of classifying the business processes in the Business Process Catalog is
426 to enable potential users to readily identify processes that have been defined in the catalog
427 that might meet their business needs.

428

429 5.3 Why unique reference model for classification?

430 Both UDDI and ebXML enables businesses to host on-line registries of available Web
431 services. A business uses the UDDI TModel system or ebXML classification mechanism to
432 categorize the hosted Web service. And therein lies the problem: Both ebXML and UDDI
433 allow multiple taxonomies and expect self-policing for mistaken entries in the registry.

434

435 Often times it is useful to define a “frame of reference” for the business processes being
436 identified. This frame of reference might define basic terms and organizing frameworks
437 accepted by given industry segment. For example the SCOR model² defines a frame of reference
438 for supply chains, and VICS³ defines a frame of reference for trading partners in the retail
439 industry. The given frame of reference might also include more generally accepted scientific
440 models for understanding company-wide organization and coordination of business processes
441 such as the Porter Value Chain Model⁴ or the MIT eBusiness Process Repository.⁵

442

443 5.4 Selecting a Classification Scheme

444 There are several classification/categorization schemes on the market today developed by
445 different organizations with different purposes in mind. These include:

59 ² <http://www.supply-chain.org/>

60

61 ³ <http://www.vics.org/>

62

63 ⁴ Michael E. Porter, *Competitive Advantage : Creating and Sustaining Superior Performance*, 1998, Harvard Business School Press

64

65 ⁵ Malone, Thomas W. Kevin Crowston, Jintae Lee, Brian Pentland, Chrysanthos Dellarocas, George Wyner, John Quimby, Charles S. Osborn,
66 Abraham Bernstein, George Herman, Mark Klein, and Elissa O'Donnell. 1999. Tools for inventing organizations: Toward a handbook of organizational
67 processes, *Management Science* (March) 425-443.

446

- 447 • SCOR Model
- 448 • Porter Value Chain
- 449 • Center for Co-ordination Science at MIT
- 450 • BPA
- 451 • Open Applications Group (OAG) Scenarios and BODs
- 452 • APICS

453

454 In addition, the Open-edi model of ISO 15944-1 specifies five phases that encompass all
455 activities of a business process.

456

457 The classification scheme required for the catalog is one that can meet as far as possible the
458 following criteria:

459

- 460 • The classification scheme should be widely accepted by the global business community.
- 461 • The classification scheme should not be industry specific and should be horizontal in
462 nature.
- 463 • The classification scheme should be an open public source, free of intellectual property
464 claims.
- 465 • The classification scheme must enable the classification of both commercial and
466 regulatory processes as found in international trade.
- 467 • The classification scheme should support the Business Area and Business Process Area
468 concepts as described in the UMM that relates to business collaborations between two
469 or more parties.

470

471 The scheme selected for use in the catalog is at the most general level represented by a
472 normative category of enterprise activities and by a normative sub-category of activity
473 phases.

474

475 (For further details on the various classification schemes and the justification for the
476 selection of the particular solution for the catalog see The White Paper
477 *Reference Model for Web services Classification in Global Registry*).

478

479

480 5.5 The CBPC Classification Structures

481 5.5.1 Normative Category

482 Each business process in the Catalog of Common Business Processes is at its most general
483 level represented by a *normative category* of inter-enterprise activity. The Normative
484 Categories are one example of the division of an enterprise into *business areas* as
485 recommended by the UMM.⁶

71 ⁶ UMM, proposed chapter 8, section dealing with the Business Domain View (BDV).

486

487None of the reviewed classification schemes directly satisfy all of the requirements listed
488above, but the one that comes closest is the Porter Value Chain. The categorization
489selected for the catalog is based on development and extension of that model.

490

491The eight normative categories selected are example components of a generic value chain⁷:

492

493 Procurement/Sales

494 Design

495 Manufacture

496 Logistics

497 Recruitment/Training

498 Financial Services

499 Regulation

500 Health Care

501 .

502These categories are not exhaustive. They will be extended as new categories of Business
503Area are identified by contributors to the catalog and maintained using the established
504UN/CEFACT maintenance procedures.

505

506

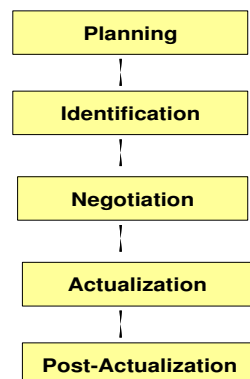
507 5.5.2 Normative Sub-Category – The ISO Open-edi Phases of a Business 508 Collaboration

509Once an enterprise has been divided into eight high-level business areas, it is possible to
510decompose each one of those areas further into process areas.

511

512The business process catalog's second-level classification – its normative sub-categories –
513is based on the five successive phases of business collaboration as defined by the ISO
514Open-edi model. These phases are illustrated in Figure 2 and explained below:

515



516

75 ⁷ Actually, the last one (Health Care) is more domain specific than generic.

Figure 2 — Phases of a Business Collaboration from the ISO Open-edi Model

518

519

520 ISO Phases of a Business Collaboration⁸

521

- 522 • Planning: In the Planning Phase, both the buyer and seller are engaged in activities
523 to decide what action to take for acquiring or selling a good, service, and/or right.
- 524 • Identification: The Identification Phase pertains to all those actions or events
525 whereby data is interchanged among potential buyers and sellers in order to
526 establish a one-to-one linkage.
- 527 • Negotiation: The Negotiation Phase pertains to all those actions and events
528 involving the exchange of information following the Identification Phase where a
529 potential buyer and seller have (1) identified the nature of good(s) and/or service(s)
530 to be provided; and, (2) identified each other at a level of certainty. The process of
531 negotiation is directed at achieving an explicit, mutually understood, and agreed
532 upon goal of business collaboration and associated terms and conditions. This may
533 include such things as the detailed specification of the good, service, and/or right,
534 quantity, pricing, after sales servicing, delivery requirements, financing, use of
535 agents and/or third parties, etc.
- 536 • Actualization: The Actualization Phase pertains to all activities or events necessary
537 for the execution of the results of the negotiation for an actual business transaction.
538 Normally the seller produces or assembles the goods, starts providing the services,
539 prepares and completes the delivery of good, service, and/or right, etc., to the buyer
540 as agreed according to the terms and conditions agreed upon at the termination of
541 the Negotiation Phase. Likewise, the buyer begins the transfer of acceptable
542 equivalent value, usually in money, to the seller providing the good, service, and/or
543 right.
- 544 • Post-Actualization: The Post-Actualization Phase includes all of the activities or
545 events and associated exchanges of information that occur between the buyer and
546 the seller after the agreed upon good, service, and/or right is deemed to have been
547 delivered. These can be activities pertaining to warranty coverage, service after
548 sales, post-sales financing such as monthly payments or other financial
549 arrangements, consumer complaint handling and redress or some general post-
550 actualization relationships between buyer and seller.

551

552

553 5.5.3 Identifying the Business Processes Normally Associated with Each
554 Process Area

555 The two-level categorization scheme through the eight *business areas* of a value chain and
556 the five process phases of ISO Open-edi leads to 40 different example *process areas* as

79 ⁸ ISO/IEC FDIS 15944-1 *Information technology – Business agreement semantic descriptive techniques -- Part 1: Operational*
80 *aspects of Open-edi for implementation*, 3 August 2001, section 6.3.

557defined in the UMM⁹. The table below illustrates possible *business processes* associated
558with each *process area* in the example categorization scheme.¹⁰ Business process areas are
559named by concatenating the Business Areas names in the leftmost column with the Process
560Areas (ISO phase) names in the top row, thus giving business process area names like
561*Procurement/Sales.Negotiation* or *Logistic.Actualization*. Catalog users may identify their
562initial entry points by finding the group of cells that most closely resembles the set of
563business processes they wish to accomplish in their proposed collaborations.
564Business Processes that are held in the catalog as Business Collaborations may be made up
565of transactions that relate to more than one of the process areas. In this case the
566classification used should take the value of the earliest transaction in that process.

84 ⁹ UMM, proposed chapter 8, section dealing with the Business Domain View (BDV).

85 ¹⁰ In the UMM, the decomposition process that leads to eventual identification of candidate business processes for collaborative modeling proceeds from
86 *Business Area* (first level decomposition) to *Process Area* (second level decomposition) to *Business Process* (third level decomposition).

87 However, in the Business Process Catalog, the actual entries may sometimes be at finer levels of granularity than this third level of decomposition.

BUSINESS AREA	Planning	Identification	Negotiation	Actualization	Post-Actualization
Procurement / Sales (Goods)	- Plan procurement and supply of raw materials or finished product	-Identify potential customer/ vendor - Provide catalog - Request pricing - Request availability	- Negotiate contract - Provide purchase order -Agree on delivery schedule	- Acknowledge delivery notice - Query delivery status - Receive goods -Obtain payment authorization - Make/Receive payment	- Discover delivery discrepancy - Return shipment - Negotiate/Receive allowance or payment from vendor
Design	-Plan design service offering and use of design services	-Identify vendor who can supply product design work -Identify potential customer -Request examples of prior design work	- Submit bid - Negotiate Contract -Make counter-offers - Send design contract	- Receive designs - Inspect for conformance - Make payment -Receive payment	-Discover discrepancy in agreed upon designs - Negotiate / receive allowance or payment from vendor
Recruitment -and- Training	- Identify places in company where new staff or contract labor is needed. -Plan agency offerings -Plan student intake	-Identify personnel services provider -Identify training provider -Identify students - Request pricing - Request availability -Request/Provide course details	- Negotiate contract for worker recruitment or training. -Agree on start dates	-Register for course - Provide training materials -Interview candidates - Make / Receive payment	-Discover discrepancy in agreed upon personnel characteristics or training components - Receive allowance or payment from vendor. -Revise training material
Logistics	-Plan provision and use of transport resources	-Identify vendors (like Fedex or UPS) -Identify potential customers - Request pricing - Request availability	- Negotiate contract for logistics service	- Receive logistics services -Provide shipping notice -Provide dangerous goods notice - Make / Receive payment	-Discover discrepancy in agreed upon service and performance - Negotiate logistics allowances with carrier - Receive allowance or payment
Manufacturing	-Plan manufacturing requirements -Research market for outsourced manufacturing	-Identify Provider of manufacturing services - Provide catalog - Request pricing - Request availability	- Negotiate contract for manufacturing -Agree on production schedule -Agree on quality standard	-Send outsourced manufacturing inputs -Receive outsourced manufacturing outputs - Make / Receive payment	Discover discrepancy in agreed upon quality levels - Negotiate allowance with vendor - Periodic evaluation
Financial Services	- Research market needs -Plan the provision of financial services (Insurance, Credit, Investments)	-Identify possible debt sources (banks, credit unions, etc.) - Identify financial institution with whom to purchase debt or equity financing -Identify insurance providers -Identify potential investors	-Negotiate terms of debt or terms of equity offering with capital provider -Agree insurance terms	- Accept transfer of debt instrument - Make transfers of stock certificate - Authorize and make payments & loans -Transfer funds -Pay Insurance Claims	-Review offerings & compliance -Receive monetary adjustments
Regulation	-Plan and publicise regulatory requirements - Determine authorities to deal with for import/export	-Identify relevant regulatory services to enable business to operate. -Identify appropriate taxation authority and taxpayers	-Agree time and place of inspection or other regulatory services -Negotiate payment of tax	-Accept notice of inspections, taxing, or other regulatory services performed - Request export licence - Clear goods -Pay tariffs	-Make adjustments in services or payments based upon later information
Health Care	-Plan service specialisation and	-Register patient	- Agree admission date - Decide treatment	-Prescribe treatment - Charge / Pay for	-Provide health statistics -Claim re-imbursement

	provision -Plan admissions		required	treatment	
--	-------------------------------	--	----------	-----------	--

568Figure 3 – Business Process Matrix

569

570 5.5.4 Other Possible Catalog Classifiers – Types of Economic Agents and 571 Types of Resources

572

573As well as using the *Business Areas* (determined by the Normative Categories) and the
574*Process Areas* (determined by the Normative Sub-Categories), it is also possible to
575consider finding business processes in the catalog based upon (1) the types of resources
576considered for exchange in the prospective market transaction, and (2) the types or roles of
577the economic agents engaged in the collaboration.¹¹ The specification of all business
578processes entered into the catalog will contain the information on roles of the parties and
579on the types of resources being exchanged.

580

581 5.5.4.1 Different Types of Economic Agents and Their Roles

582

583The different types of economic agents involved in collaboration can be assembled in four
584general classes: (1) customers who are the agents most generally looking to exchange funds
585for non-monetary resources, (2) suppliers (vendors) who are poised to do just the opposite
586– exchange non-monetary resources like materials for money—in the market, (3)
587intermediaries who are third parties to the customer-supplier relationship who often
588provide services like monetary guarantees, transportation, and trading information, and (4)
589authorities who provide regulatory services like inspections and regulatory burdens like tax
590and custom payments.¹²

591

592In Figure 4 below, each of these four major types of economic agents are elaborated further
593by identifying the roles that each agent type plays most commonly in trade related
594collaborations. This list will be maintained and extended, as necessary, within the normal
595UN/CEFACT maintenance procedures

596

597

Types of Economic Agents	Possible Roles
Customer	Buyer
	Consignee
	Payor
	Importer

94 ¹¹ Use of these other classifiers is based on the foundation ontology for UN/CEFACT collaboration models called the REA ontology. See Appendix A of
95 the UN/CEFACT *Simple Guide to the UMM*.

96 ¹² UN/CEFACT BPA Reference Model of the International Supply Chain, March 2003, p. 8.

Supplier	Consignor
	Payee
	Seller
	Manufacturer
	Exporter
Authority	
	Chamber of Commerce
	Consular
	Customs
	Health
	Intervention Board (EU)
	Licensing
	Receiving Authority (Port Authority)
	Standards Institute
Intermediary	
	Bank / Financial Institution
	Broker
	Carrier
	Credit Checking Company
	Credit insurer
	Commission Agent
	Export Agent
	Freight forwarder
	Import Agent
	Insurer
	Inspection company
	Receiving authority

Figure 4 – Types of Agents and Their Roles

5.5.4.2 Types of Economic Resources

In very general terms, the major classes of economic resources to be considered for possible exchanges include the following types of goods, services, or rights¹³:

- Materials including capital assets (like trucks), basic raw materials and natural resources (like steel or petroleum), sub-components of a larger assembled product (like seats for an automobile) or finished products.
- Consumable Services like advertising, insurance, and warranties.
- Human Services like those provided by staff, contract workers, or consultants.

¹³ ISO/IEC FDIS 15944-1 *Information technology – Business agreement semantic descriptive techniques -- Part 1: Operational aspects of Open-edi for implementation*, 3 August 2001.

- 610
- 611 • Transportation Services like packing/picking or actual shipments.
 - 612
 - 613 • Financial Resources like funds or marketable securities.
 - 614
 - 615 • Intellectual/Digital Resources like use of a trademark/patent or the use of a
 - 616 copyrighted book/song/performance.
 - 617
 - 618 • Regulatory Services such as the right to import/export or the right to do business in
 - 619 a certain segment or area

620

621 Thus users searching the catalog for business processes of interest to them may search on

622 the any or all of the four categorizations - Business Area, Process Area, Role, Economic

623 Resource.

624

625

626 6 Structure of the CBPC

627 Structure of the catalog is described in terms of the underlying information illustrated

628 below. In order to arrive at the structure of the information model, we follow the catalog

629 requirements that are identified below in section 6.1.1.

630 6.1 Requirements for the CBPC Information Model

631 6.1.1 Locate Appropriate Business Process Using The Business Process Catalog

632 The following requirements originate from this use case:

- 633 • The information model must contain attributes that someone looking for a business
- 634 process would expect to identify. For example, roles participating in the business
- 635 process, resources affected by the business process, and categorization of the business
- 636 process represents a few of such attributes.
- 637 • The information model must support the action of locating an appropriate business
- 638 process. Therefore, the business processes must be indexed/searchable with respect to
- 639 the key attributes.

640

641 For the complete list of attributes required to specify business processes and to facilitate

642 their discovery in the Catalog, see section 6.2.1.

643

644 6.1.2 Retrieve Business Process Artifacts

645 The following requirements originate from this use case:

- 646• The information model must identify the type of the artifacts that are stored with
647 respect to the business process. Therefore, the information model needs an entry with
648 respect to each artifact (i.e., an ability to understand the attribute type).

6496.1.3 Specialize Business Process or Scenario

650The following requirements originate from this use case:

- 651• The information model must allow entries that are associated with the process to
652 declare their context within which they apply. Additionally, the catalog must allow
653 multiple entries for the same process with respect to the context.
- 654• The structure of the information model should have a root process (context neutral) plus
655 any number of processes that represent specialization of that root process. Hence, there
656 is a need to relate abstract process to concrete specializations.
- 657• The information model should allow these realizations of the base process to include
658 their own set of artifacts. For example, a BPSS with associated specialized schemas for
659 airspace, defense, and automotive, etc. industries.
- 660• The information model should allow an entry for abstract business processes and
661 multiple entries for each specialization. For example, a Purchase Order may be the
662 abstract business process while specializations may include recurring orders, one-time-
663 orders, order-to-build business processes, etc.

6646.1.4 Develop A Business Process Package Submission

665The following requirements originate from this use case:

- 666• The information model must allow multiple artifacts to be considered as a package

6676.2 The CBPC Information Model

668The CBPC information model is an abstract data structure defining the content and
669structure of the catalog.

670

671First, we first give semantics of each class, and then we focus on the semantics of
672relationships in the information model. Figure 6 shows this information model.

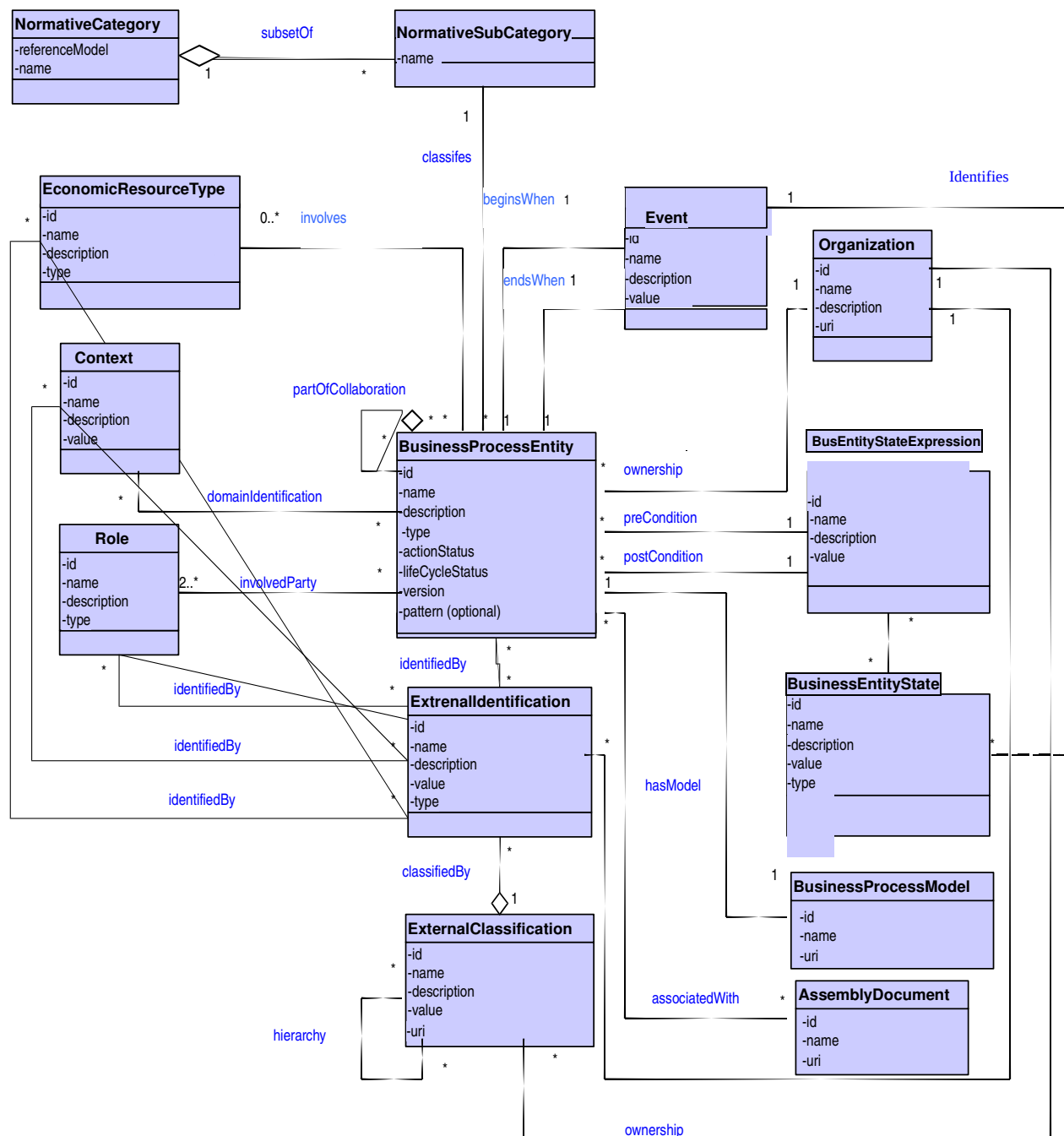
673

674

675

676

677



679

6806.2.1 Overview of Semantics

681Although the internal structure of the catalog consists of many individual concepts and
682fairly involved relationships, it is useful to view the semantics of the catalog structure in a
683less complex manner. That is the intent of this section.

684

685BusinessProcessEntity (BPE) captures the core information about a catalog entry: identity,
686name, type, status, version, and pattern. A BPE instance is of either transaction or
687collaboration type. If a BPE instance is of collaboration (i.e., a composition type) type,
688then it will have other BPE instances, as part of this collaboration, related through the
689relationship “partOfCollaboration”. Otherwise, if it is transaction type, then it is an atomic
690business process and there will be no BPE instances that are related as
691“partOfCollaboration”. However, entries of both transaction and collaboration type, of
692course, may be parts of other collaborations.

693

694BPE instances will be categorized in the catalog using the normative and sub-normative
695catalog categorization described in section 5 of this specification.

696

697The BPE is also related to the EconomicResourceTypes that are involved in the business
698process instance. A BPE may involve any number of inflow resources and generate any
699number of outflow resources.(e.g., goods, services, or rights).

700

701Each BPE instance of transaction type will have one initiating party and one responding
702party, captured by the Role instances. A BPE that is of the more complex Business
703Collaboration Type may involve two or more Parties, and these will be captured by the Role
704instances.

705

706Each BPE instance is also "owned" by an organization and this is indicated by the
707ownership relationship. This "ownership" implies that any changes, amendments or updates
708of that BPE can only be carried out after authorization by the "owner." In UN/CEFACT this
709is likely to be the relevant TBG.

710

711An important capability of the catalog is that it allows mapping and management of
712external classification of the BPEs, the Roles, and the EconomicResourceTypes. This
713capability is motivated by multiple classifications of business processes that exist in
714different industry sectors. Enterprises, as a rule, do business in several sectors and need to
715navigate across the sector-specific classifications.

716

717A BPE instance, a Role instance, or an EconomicResourceType instance may be assigned
718one or more external identifiers (i.e., instances of ExternalIdentification). These
719identifiers, in turn, are classified by ExternalClassification instances. Each

ExternalClassification instance is owned by an organization. For example, a BPE instance ManageProductInformationSubscription may have an assigned external identifier (such as 065_update_productreq) that belongs to OAGClassification7.2 and is in turn owned by the OAG organization. Note that ExternalClassification has a recursive hierarchical relationship to allow for multiple levels of classification. Similar classifications are allowed for Role instances and EconomicResourceTypes.

726

Each BPE instance must have a pre- and post-condition for it to be executable. The pre- and post-conditions also provide an important way of aligning multiple classifications across industries. These conditions are described by the states of the relevant BusinessEntity as an instance of BusinessEntityStateExpression that are in turn based on one or more instances of BusinessEntityState. For example the preCondition for a BPE instance ManageProductInformationSubscription may have a BusinessEntityStateExpression consisting of a single BusinessEntityState instance that says “ProductInformation.State = Requested.” Similarly, a required post-condition for the same BPE instance may have a BusinessEntityState instance of “ProductInformation.State = Dispatched.”

736

A BPE may have a more complex preCondition or postCondition, and the BusinessEntityState instance may involve logical concatenation of two or more simple statements (for example, a preCondition for a BPE "Accept Order" may be “Order.State=Received AND Product.State=inStock.” Also, a postCondition for a BusinessCollaboration BPE "Order" has to recognize that the process may have several possible postConditions (for example, the instance of the BusinessEntityStateExpression may be: “Order.State=Accepted OR Order.State=Rejected.”) In these examples, there are two BusinessEntityState instances that make up the one BusinessEntityStateExpression.

745

Each BPE instance also identifies the Event which occurs when the Business Process begins (beginsWhen) and the Event which occurs when the process ends (endsWhen).

748

The purpose of the catalog is to collect and organize important meta-data for business processes that are used in different industry sectors. The actual business process models and the associated content schema (i.e., core component assembly documents) are not included in the catalog. However, the catalog does have pointers to the URIs where this data resides. That is the purpose of hasModel and associateWith relationships that point to instances of BusinessProcessModel and AssemblyDocument.

755

6.2.1 Class Semantics

This section describes the semantics of the classes in the CBPC information model. (Note that each class in the information model has a system-defined id attribute that assures uniqueness of a class instance. We will not discuss this element for each model class.)

- BusinessProcessEntity class is the central concept in the information model as it captures basic business process metadata:

- 762 • name – This character string is provided by the owner organization to identify the
763 business process entity; e.g., Provide Purchase Order, Respond to Purchase Order,
764 and Cancel Purchase Order may be three such names.
- 765 • description – This character string supplied by the owner organization that gives
766 informal description of intended semantics of the class.
- 767 • type – This symbol that may take on one of the following values: transaction or
768 collaboration.
- 769 • actionStatus – This symbol may take on a value from the CBPC list of status values.
770 The current values are ENABLED and DISABLED.
- 771 • lifecycleStatus – This symbol may take on a value from the CBPC list of status
772 values. The current values are SUBMITTED, APPROVED, DEPRECATED.
- 773 • version – This integer numeric value will be provided by the owner at the time of
774 submitting a new BusinessProcessEntity instance.
- 775 • pattern – This symbol will take on a value from the CBPC approved/maintained list
776 of valid patterns. An initial collection of these values is provided in UMM for
777 transaction patterns and the code list will be maintained as a UN/CEFACT Code.
- 778 • EconomicResourceType captures the notion of economic resources as described in
779 the REA ontology.¹⁴
- 780 • name – This symbol value may be one from the list supplied by this specification
781 document. However, in the future, this list may be extended
- 782 • description – This character string will be supplied by the CBPC team to informally
783 capture semantics of the resource.
- 784 • value – The actual value of the economic resource for each resource type as
785 specified by the name.
- 786 A list of allowable Economic Resource Types is given in Section 5.4.4.2. This list will
787 be maintained and extended as necessary by UN/CEFACT
- 788 • NormativeCategory This first level categorization of the business process represents the
789 Business Area. The classification is described in Section 5.4.3 and has been based on
790 an adaptation of the Porter Value Chain.
- 791 • referenceModel – This symbol may take one of the several possible CBPC approved
792 values. Currently, only UNCBPC is allowed.

108 ¹⁴ EconomicResourceType is one of the base REA classes. See Appendix A of the UN/CEFACT *Simple Guide to the UMM*. Also see G. Geerts
109 and W. E. McCarthy "The Ontological Foundation of REA Enterprise Information Systems," Michigan State University.
110 <http://www.msu.edu/~mccarth4/rea-ontology/index.htm>.

- 793 • name - This symbol may take on a value from the CBPC specification-supplied list
794 of categories. For example, Procurement/Sales, Manufacturing and Logistics are
795 valid normative categories provided by the CBPC specification.
- 796 • NormativeSubCategory provides the second level categorization and is based on the
797 ISO phases of a business processes described in Section 5.4.2.
- 798 • name – This symbol may take on a value from the CBPC-supplied list of
799 subcategories The admissible values for this attribute are: Planning, Identification,
800 Negotiation, Actualization and Post-Actualization for each of the Normative
801 Category values.
- 802 • Context This class enables those business processes that may not apply to all
803 organizations, products, countries etc to be identified and the specific context
804 specified. In particular, this class supports the Core Components "Context"
805 categories (Business Process, Product Classification, Industry Classification,
806 Geopolitical, Official constraints, Business Process Role, Supporting Role and
807 systems Capabilities). See Core Components Specification and Core Components
808 User's Guide for names, definitions and values. _
- 809 • Role class captures the basic information about the participants in a business
810 process:
- 811 • name – This symbol may take on a value from those given in the International
812 Trade Reference Model.¹⁵ The Table in Section 5.4.4.1 of the CBPC lists the valid
813 roles participating in business processes. For example, valid symbol values include
814 Buyer, Seller, and Buyer's Bank.
- 815 • description – This character string will be supplied by CBPC specification
816 informally describe semantics of the role.
- 817 • type – This gives the higher level name of the PartyType carrying out the Role.
818 Initial values from the International Trade Reference Model are also shown in the
819 Table in Section 5.4.4.1. These Customer, Supplier, Intermediary, and Authority.
- 820 • BusinessEntityStateExpression captures the information about the necessary
821 conditions that need to hold prior to or after a business process takes place.
- 822 • name – This character string will be supplied by the business process entry owner to
823 identify the expression. For example, conditions may have a name such as "Order
824 Raised Condition 1."
- 825 • description – This character string will be supplied by the business process entry
826 owner to capture informally semantics of the expression (e.g., Order has been
827 received and Customer is in credit).

114 ¹⁵ UN/CEFACT BPA Reference Model of the International Supply Chain, March 2003.

- 828 • value – This character string will contain a logical expression that contains
829 references to states of one or more of the Business Entity Types. The logical
830 expression will reflect the description above, and it will be in OCL or other suitable
831 format and use the UN/CEFACT controlled vocabulary when it becomes available
832 (e.g., Order.State=Received AND CustomerAccount.State=InCredit).
- 833 • type- This character string identifies the language with which the Business Entity
834 State is expressed.
- 835
- 836 • BusinessEntityState captures an instance of the state of a Business Entity Type that
837 forms all or part of the Business Entity Expression.
- 838 • name – This character string will be supplied by the business process entry owner to
839 identify the BusinessEntityState. For example, “CustomerIdentified.”
- 840 • description – This character string will be supplied by the business process entry
841 owner to capture informally semantics of the BusinessEntityState (e.g., Order has
842 been received from the customer).
- 843 • value – This character string will contain a logical statement that contains a
844 reference to a state of a Business Entity Type. The logical expression will reflect
845 the description above and will be in OCL format and use the UN/CEFACT
846 controlled vocabulary when it becomes available (e.g., “Order.State =Received”).
- 847 • type – This will contain the Business Entity Type reference (e.g., ORDER).
- 848
- 849 • Event captures the business occurrence in time that corresponds to one or more
850 Business Entity entering a state. It represents trigger events generated by business
851 activities that begin or end the BPE instance.
- 852 • name - This character string will be supplied by the business process entry owner to
853 identify the Event.
- 854 • description – This character string will be supplied by the business process entry
855 owner to informally capture the semantics of the Event.
- 856 • value – This character string will contain a logical statement that reflects the above
857 description of the Event and will be in OCL format. It will include reference to the
858 Business Entity Type whose state is changed by the Event.
- 859 • Organization class instances may be the owners of business process entities that
860 reside in the catalog. Owners of business processes are e-business standards

- 861 organizations like SWIFT, AIAG, DISA, etc. Also, the Organization instances may
862 be the owners of the external classification that is entered in the catalog.
- 863 • name – This character string will be supplied by the organization to identify itself.
 - 864 • description – This character string will be supplied by the organization to describe
865 any aspect of the organization relevant to the catalog.
 - 866 • uri – This Uniform Resource Identifier will be provided by the organization to allow
867 access to Web-based information relevant to the catalog entry.
 - 868 • ExternalIdentification class contains information about an externally managed
869 identification of catalog classes (e.g., business process entities, roles, etc).
 - 870 • name – This character string will be provided by the identification owner to name
871 this identification.
 - 872 • description – This character string will be supplied by the identification owner to
873 informally capture semantics of the identifier.
 - 874 • value – The actual external Identifier value for the external identification scheme
875 used.
 - 876 • type – The type of external identification.
 - 877 • ExternalClassification class contains information about an externally managed
878 classification that was related to the catalog classes.
 - 879 • name – This character string will be provided by the classification owner to identify
880 the classification.
 - 881 • description – This character string will be supplied by the classification owner to
882 informally capture semantics of the classification.
 - 883 • value – The actual value for the external classification that gets mapped to the
884 internal classification.
 - 885 • uri – This Uniform Resource Identifier will be provided by the owner to allow
886 access to Web-based information relevant to the classification.
 - 887 • BusinessProcessModel class instances contain pointers to the repository of the
888 business process model.
 - 889 • name – This character string will be provided by the business process entity owner
890 to identify the model.
 - 891 • uri – This Uniform Resource Identifier will be provided by the owner to allow
892 access to Web-based model.

- 893 • AssemblyDocument class instances contain references to the business process
894 entities that provide context for these assembly documents [confirm this with Nita]
- 895 • name – This character string will be provided by the assembly document owner to
896 identify the document.
- 897 • uri – This Uniform Resource Identifier will be provided by the owner to allow
898 access to Web-based document.

8996.2.2 Relationships Semantics

900 This section describes the semantics of the relationships in the CBPC information model.

- 901 • The partOfCollaboration relationship on the *BusinessProcessEntity* class allows
902 recording of composition of individual business process entities (i.e., components)
903 into more complex entities (i.e., collaborations). For example,
904 *ManagePurchaseOrder* may be a collaboration that has as its components
905 *ProvidePurchaseOrder*, *RespondToPurchaseOrder*, *CancelPurchaseOrder*, etc.
- 906 • There may be zero or more collaborations for each *BusinessProcessEntity* instance.
- 907 • There may be zero or more components for each *BusinessProcessEntity* instance.
- 908 • The involvedParty relationship between the *BusinessProcessEntity* and *Role* classes
909 allows assignment of the *involvedParty* role for a *BusinessProcessEntity* instance.
910 For example, *Buyer* may be an *involvedParty* role in *ProvidePurchaseOrder*
911 instance (as initiator) and *Seller* may be an *involvedParty* role (as responder). In
912 more complex Business Collaborations, there may be many *involvedParty* roles.
913 (e.g., *Buyer*, *Seller*, *Carrier*, *Bank*). There may two or more instance for each
914 *BusinessProcessEntity* instance.
- 915 • There may be zero or more *BusinessProcessEntity* instances for each *initiatingParty*
916 *Role* instance.
- 917 • The precondition relationship between the *BusinessProcessEntity* and
918 *BusinessEntityStateExpression* classes allows assignment of the conditional
919 *BusinessEntityStateExpression* instance to an instance of *BusinessProcessEntity*.
920 This conditional expression needs to hold before the business process may take
921 place.
- 922 • There may be exactly one precondition *BusinessEntityStateExpression* for each
923 *BusinessProcessEntity* instance.
- 924 • There may be exactly one *BusinessProcessEntry* instances for each precondition
925 *BusinessEntityStateExpression* instance.

- 926 • The postcondition relationship between the *BusinessProcessEntity* and
 927 *BusinessEntityStateExpression* classes allows assignment of the conditional
 928 *BusinessEntityStateExpression* instance to an instance of *BusinessProcessEntity*.
 929 This conditional expression needs to hold after the business process is completed.
- 930 • There may be exactly one postcondition *BusinessEntityStateExpression* for each
 931 *BusinessProcessEntity* instance.
- 932 • There may be exactly one *BusinessProcessEntry* instances for each postcondition
 933 *BusinessEntityStateExpression* instance.
- 934 • The contains relationship between *BusinessEntityStateExpression* and
 935 *BusinessEntityState* allows multiple *BusinessEntityState* instances to be referenced
 936 to by the *BusinessEntityStateExpression* instance.
- 937 • There may be one or more postcondition *BusinessEntityStateExpression* for each
 938 *BusinessEntityState* instance.
- 939 • There may be one or more *BusinessEntityState* instances for each
 940 *BusinessEntityStateExpression* instance.
- 941 • The beginsWhen relationship between *BusinessProcessEntity* and *Event* identifies
 942 the business occurrence in time that starts the *BusinessProcessEntity*.
- 943 • There may be only one *Event* instance that refers to the states of one or more
 944 *Business Entity Types*.
- 945 • The endsWhen relationship between *BusinessProcessEntity* and *Event* identifies the
 946 business occurrence that ends the *BusinessProcessEntity*.
- 947 • There may be only one *Event* instance that refers to the states of one or more
 948 *Business Entity Types*.
- 949 • The identifies relationship between *Event* and *BusinessEntityState* identifies those
 950 *Business Entities* whose states correspond to the *Event* occurrence.
- 951 • There may be one or more *BusinessEntityState* instances identified for each *Event*.
- 952 • The subsetOf relationship between *NormativeCategory* and *NormativeSubCategory*
 953 classes allows partitioning of each normative class into a number of subclasses.
- 954 • There may be zero or more *NormativeSubCategory* instances for each
 955 *NormativeCategory* instance.
- 956 • There may be only one *NormativeCategory* instance for each
 957 *NormativeSubCategory* instance.

- 958 • The ownership relationship between *BusinessProcessEntity* and *Organization*
959 classes allows identification of the ownership for each business process entity.
- 960 • There may be zero or more *BusinessProcessEntity* instances for each *Organization*
961 instance.
- 962 • There may be only one *Organization* instance for each *BusinessProcessEntity*
963 instance.
- 964 • The identifiedBy relationship from *ExternalIdentification* (EI) instances to *Role*
965 (R), *BusinessProcessEntity* (BPE), *EconomicResource* (ER) and *Context* (C)
966 instances allows recording of externally managed identification within the catalog.
967 This capability is critical for effective management of the catalog as it allows cross-
968 reference among many, evolving identification schemes and classifications,
969 including the one that is the reference classification in this document (i.e., the Porter
970 Value Chain concatenated with the ISO Business Process Phases).
- 971 • For each EI instance, there are zero or more instances of R/BPE/ER/C.
- 972 • For each R/BPE/ER/C instance, there are zero or more possible instances of EI.
- 973 • The classifiedBy relationship between *ExternalClassification* and
974 *ExternalIdentification* classes allows assignment of an identification scheme to an
975 external classification scheme maintained within the catalog.
- 976 • There may be zero or more *ExternalIdentification* instances for each
977 *ExternalClassification* instance.
- 978 • There may be only one *ExternalClassification* instance for each
979 *ExternalIdentification* instance.
- 980 • The hierarchy relationship among the instances of *ExternalClassification* captures
981 hierarchical relationships that may hold among these instances.
- 982 • For each EC instance, there is zero or more parent instances of EC.
- 983 • For each EC instance, there is zero or more child instances of EC.
- 984 • The ownership relationship between *Organization* and *ExternalClassification* allows
985 assignment of owner for each *ExternalClassification* (EC) instance.
- 986 • For each EC instance, there is only one ownership *Organization* instance
- 987 • For each *Organization* instance there may be zero or more EC instances.

- 988 • The hasModel relationship between *BusinessProcessEntity* and
989 *BusinessProcessModel* allows 1-on-1 assignment of a model for each
990 *BusinessProcessEntity* instance.
 - 991 • The associatedWith relationship between *BusinessProcessEntity* and
992 *AssemblyDocument* allows many-to-many assignment of assembly documents for
993 each *BusinessProcessEntity* instance.
- 994

995 7 Guidance on the Use of the CBPC

996 This section describes typical usage scenarios of the CBPC from the end user perspective.
997

998 7.1 Identification and Classification

999 7.1.1 Outline of the approach

1000 The example below of the simple order, fulfillment, and payment process illustrates how a
1001 new entry into the catalog can be specified and classified. The UMM methodology and
1002 templates should be used to express the business requirements for a business process in
1003 terms of a number of Use Cases. The basic information from each use case can then be
1004 used to provide the catalog entry information. Each process is in turn part of a wider
1005 process (which may have been modeled according to the UMM methodology) and may be
1006 classified according to a pre-existing reference model (e.g. The BPA model for the
1007 International Trade process). Before any process can be put forward for inclusion in the
1008 catalog it must also be classified according to the standard Classification scheme set out in
1009 this technical specification. As each Use Case is described, a number of Business Entities
1010 will be identified which are created, used, or changed by the business process. These
1011 Business Entities will be the link between the Common Business Process held in the BP
1012 catalog and the Core Components.

1013 7.1.2 The Business Example

1014 The business example chosen for this illustration is a simple order, fulfillment, and payment
1015 process. This example assumes that an ongoing relationship has been established between
1016 Buyer and Seller prior to the order and that payment will be made following receipt of the
1017 goods and a correct invoice. Payment will be by electronic funds transfer via the Buyer's
1018 and Seller's Bank. A limited number of use cases are defined for illustrative purposes only
1019 and no reference is made to the any processes involving the carrier of the goods or the inter
1020 bank processes. The example is related to the BPA reference model for the International
1021 Supply Chain.

1022

1023 Figure 5.1 illustrates the use cases involved in this example which consists of three
1024 component collaborations:

- 1025 - Order Product

1026 - Ship Product

1027 - Pay Seller

1028 Each of these collaboration use cases are made up of several transaction use cases.

1029 - Create Order

1030 - Accept Order

1031 - Reject Order

1032 - Cancel Order

1033 - Schedule Shipment

1034 - Issue Dispatch Advise

1035 - Identify Delivery Discrepancies

1036 - Request Payment

1037 - Initiate Payment

1038

1039 The Actors involved in these use cases are a Buyer and a Seller except for the Initiate

1040 payment use case where the Actors are a Buyer and a Buyer's Bank.

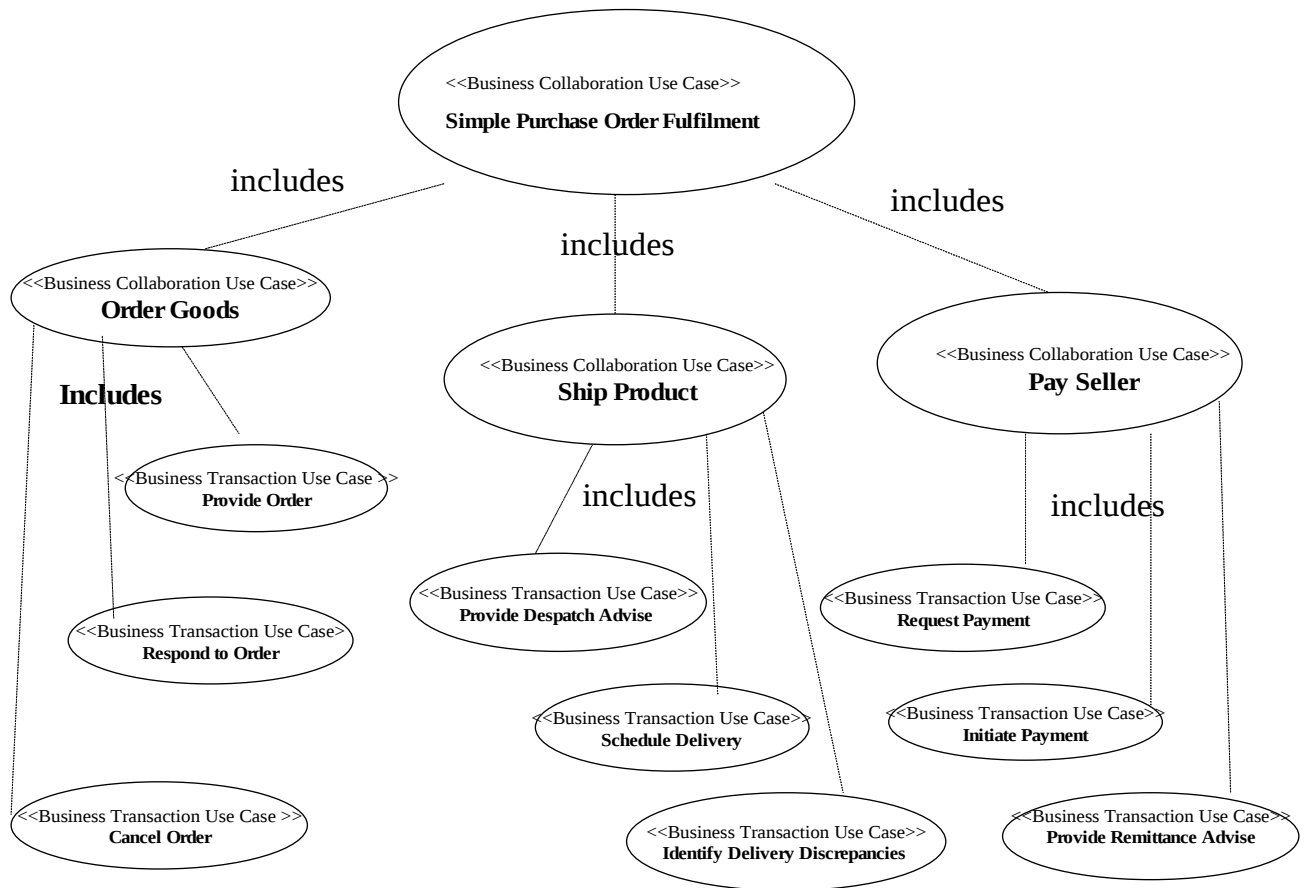
1041

1042 The information contained in the Use Case diagrams and descriptions provide the

1043 information required to identify potential common business processes and information

1044 about them that will form the basis of the Catalog entries.

1045



1046

1047Figure 6 - Catalog Example-Simple Purchase Order Fulfillment

1048

1049

Name	Order Product
Traceability Ind.	D-P&SI-1.U-Order-2-4
Actors	Customer, Supplier
Description	The Customer recognises a need for a product and places an Order under an established contact or a framework agreement. The Supplier receives order and responds.
Pre-condition	Framework Agreement or Contract is in place. (Contract=InPlace, Order=Pending)
Post-conditions	Order has been confirmed, rejected or cancelled (Order=Confirmed, or Order=Rejected or Order=Cancelled)
Scenario	Begins when customer recognizes need for specific quantities of one or more products and decides to place an order with a particular Supplier - Customer raises and sends an order containing one or more order lines, to Supplier. (The order line specifies the product, quantity and delivery details. As the order is covered by a framework agreement or raised following a specific contact the delivery terms, payment terms etc. are already agreed.)

	- Supplier receives order and confirms acceptance of order or rejects order - Customer may subsequently cancel the order once accepted. Ends when Customer receives order acceptance or order has been cancelled/rejected.
--	--

1050

1051Figure 7 - The Order Product Use Case Description

1052

Customer
Supplier
Order
Line Item
Product
Product Quantity
Delivery Details

1053

1054Figure 8 - Business Entities participating in Order Use Case

1055

1056

Name	Request Payment
Traceability Ind.	D-P&SI-1.U- Request Payment-3-11
Actors	Customer, Supplier, Bank
Description	Supplier Invoices Customer
Pre-condition	Order ready for shipment. (Order=Available)
Post-conditions	Supplier has Invoice (Invoice=Provided)
Scenario	Begins when Supplier has made products available for shipping to meet order. Supplier raises invoice and send to supplier. Invoice specifies the Payment amount and Currency, the Products supplied and the payment terms, and may reference the order and contract. Ends when Customer has received invoice.

1057

1058Figure 9 - Request Payment Use Case description

1059

1060

Customer
Supplier
Bank
Invoice
Payment
Tax
Currency
Product
Order

Figure 10 - Business Entities participating in the Request Payment Use Case

1.3 Categorization and Classification

Before any process can be put forward for inclusion in the catalog it must be classified according to the standard Classification scheme set out in this technical specification. This is to enable potential users to find relevant business processes in the catalog. The classification is based on two classifications, one based on a modification of the Porter Value Chain (Normative Category) and the second on the ISO OPEN-EDI Phases (Normative Sub Category).

The Prime table in the catalog, exemplified below, will have the following Information for each business process. (This represents a sub-set of the full potential information specified in the information model in section 6.2, to simplify the presentation.):

A

reference number,

Process Name

Initiating Role

Responding Role

Pre Condition

Post Condition

Begins When

Ends When

Normative Category

Normative Sub-Catagory

Part Of Business Collaboration

Industry Specific Classification and Reference Model Identification (e.g BPA).

Table 2

shows these catalog entries for the common business processes identified in this example.

Table 2

1	2	3	4	5	6	7	8	9	10
1	Provide Purchase Order	Buyer	Seller	Order=Raised	Order=Received	Procurement/Sales	Negotiation	BC1	Order
2	Respond to Purchase Order	Seller	Buyer	Order=Received	Order=Accepted or Rejected	Procurement/Sales	Negotiation	BC1	Order
3	Cancel Purchase Order	Buyer	Seller	Order=Accepted	Order=Cancelled	Procurement/Sales	Negotiation	BC1	Order
4	Request Delivery Schedule	Buyer	Seller	Order=Accepted	Delivery Schedule=Requested	Procurement/Sales	Actualisation	BC2	Ship
5	Provide Delivery Schedule	Seller	Buyer	Delivery Schedule=Requested	Delivery Schedule=Received	Procurement/Sales	Actualisation	BC2	Ship
6	Provide Despatch Advice	Seller	Buyer	Order=Accepted. Despatch Advice=Pending	Despatch Advice=Received	Procurement/Sales	Actualisation	BC2	Ship
7	Report Delivery Exceptions	Buyer	Seller	Despatch Advice=Received. Order=Delivered	Delivery Exception=Reported	Procurement/Sales	Actualisation	BC2	Ship
8	Provide Invoice	Seller	Buyer	Order=Despatched. Invoice=Pending	Invoice=Received	Procurement/sales	Actualisation	BC3	Pay

9	Provide Remittance Advice	Buyer	Seller	Invoice=Accepted	Remittance Advice=Received	Procurement/Sales	Actualisation	BC3	Pay
10	Initiate Payment	Buyer	Buyer's Bank	Invoice=Accepted	Payment Instruction=Received	Procurement/Sales	Actualisation	BC3	Pay

1081Figure 11 - Example of Catalog Entries-Business Transactions

1082

1083

BC1	Order	Buyer Seller	Order=Pending	Order=Accepted =Rejected =Cancelled	Procurement/Sales	Negotiation	BC4	Simple Order Fulfilment
BC2	Ship	Buyer Seller	Order=Awaiting Delivery	Order=Delivered	Procurement/Sales	Actualisation	BC4	Simple Order Fulfilment
BC3	Pay	Buyer Buyer'sBank	Order=Received	Supplier Account=Credited	Procurement/Sales	Actualisation	BC4	Simple Order Fulfilment
BC4	Simple Purchase Order Fulfilment	Buyer Seller Buyer'sBank	Order=Pending	Supplier Account=Credited	Procurement/Sales	Negotiation		Simple Order Fulfilment

1084Figure 12 - Example of Catalog Entries-Business Collaborations

1085

1086

i.d	0001
Name	BPA
Description	UN/CEFACT Business Process Analysis Group
uri	www.unece.org/cefact

1087Figure 13 - Example of Ownership Organization

1088

1089

10908 Methodology for Catalog Management and 1091 Usage

1092This chapter describes the methods and procedures that will be followed to populate and
1093maintain the “Common Business Process Catalog” (CBPC) as well as explain the usage of
1094this catalog for the discovery and reuse of the business processes. This discovery of the
1095business processes will also facilitate discovery of Core components [ref to ccts]

10968.1 What is the Methodology?

1097The methodology defines processes, approaches, and any necessary support to achieve
1098intended management and usage of the catalog. To structure the methodology in an
1099appropriate fashion, we consider four phases of the catalog management:

- 1100• Discovery phase. *Business Analysts* and/or *Business Domain Experts* are engaged in
 1101 this phase as they use the catalog to discover existing business processes to meet their
 1102 business objectives.

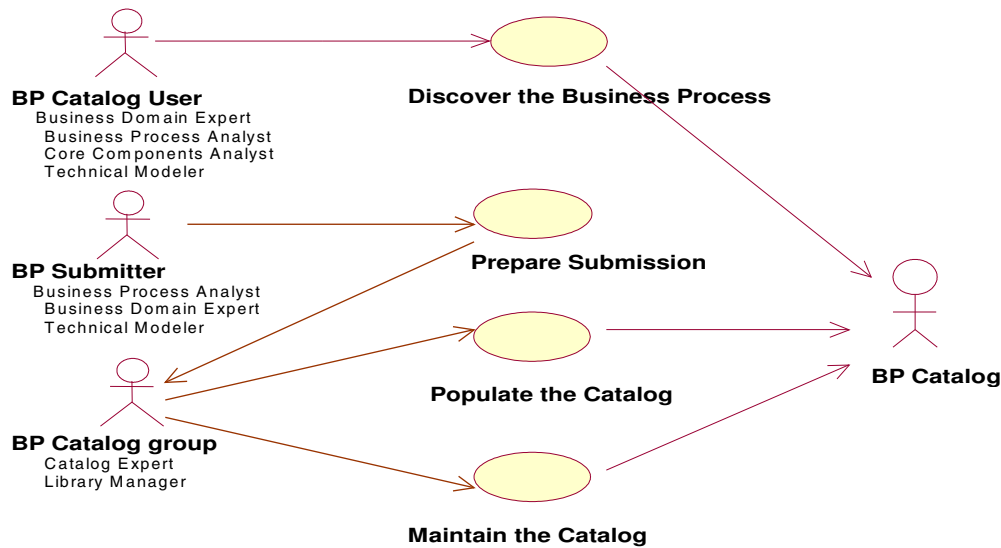
- 1103• Preparation phase. In case when appropriate business process does exist in the CBPC, a
 1104 *Business Analyst* with help from *Business Domain Experts* prepares a submission
 1105 package that includes a catalog entry (CE) for inclusion in the catalog. The submission
 1106 package is submitted to the BP Catalog Group.

- 1107• Population phase. The *Business Process Catalog Group* at TBG includes a *Business*
 1108 *Catalog Process Expert* who evaluates the submitted package – a catalog entry (CE) –
 1109 against a predefined checklist of required business specification artifacts. Once the
 1110 business package passes the evaluation, it is sent to a *Business Process Library*
 1111 *Manager* who is ultimately responsible for populating the catalog.

- 1112• Maintenance phase. The *Business Catalog Process Expert* and a *Business Process*
 1113 *Library Manager* of the Business Process Catalog Group are responsible for
 1114 maintaining the catalog. Maintenance includes update of the information model and
 1115 the catalog classifications.

1116The methodology phases should be seen as phases of a collaborative process. Depending on
 1117the outcome of certain phases, transitioning to other phases will occur. For example, if
 1118discovery was not successful, the user may prepare a submission to the catalog maintenance
 1119body, leading into the preparation phase. Figure 7.1 illustrates the transitioning
 1120relationships among the phases.

1121



1122

1123Figure 14 – Business Process Catalog Methodology Use Case

1124

1125

11268.2 Roles

1127Below is a list of actors involved in different phases of the catalog development, usage, and
 1128maintenance. Any of these actors should represent an eBusiness Standards Organization
 1129that is responsible for development, maintenance, and management of standards across
 1130businesses or for a certain industry group. There will be no enterprise specific ownership
 1131allowed in the UN/CEFACT repository.

1132Business Domain Expert – They are primary responsible for describing the business
 1133domain, business modeling and producing the Business Operation Map (BOM) as defined
 1134in UMM. They use lexicons that are aggregated into a larger lexicon which is a Business
 1135Process Catalog Lexicon. This *Lexicon* contains information and process definitions
 1136including relationships and cross-references as expressed in business terminology and
 1137organized by industry domain. This knowledge is captured from business experts across
 1138multiple domains, and evolves over time. The *Lexicon* functionally is a bridge between the
 1139specific business or industry language and the UML models through the application of the
 1140UN/CEFACT UMM. In addition to the *Lexicon*, models can reuse *artifacts* from a library
 1141of business information objects and processes.

1142Business Process Analyst – They are primarily responsible for gathering and analyzing
 1143requirements for the business processes. They identify the collaborations between business

1144roles, assign business information transaction patterns, and begin to understand the
1145information bundles (business documents) that flow between roles. These information
1146bundles can be expressed as conceptual class diagrams. The artifacts produced in the
1147analysis workflow draw upon information in the Lexicon, or may populate the Lexicon
1148where relevant information is not available.

1149Technical Modeler uses the catalog and any tools to model a business process.

1150Business Catalog Process Expert - A person that evaluates the submitted Business Process
1151packages and is an expert of the CBPC specifications.

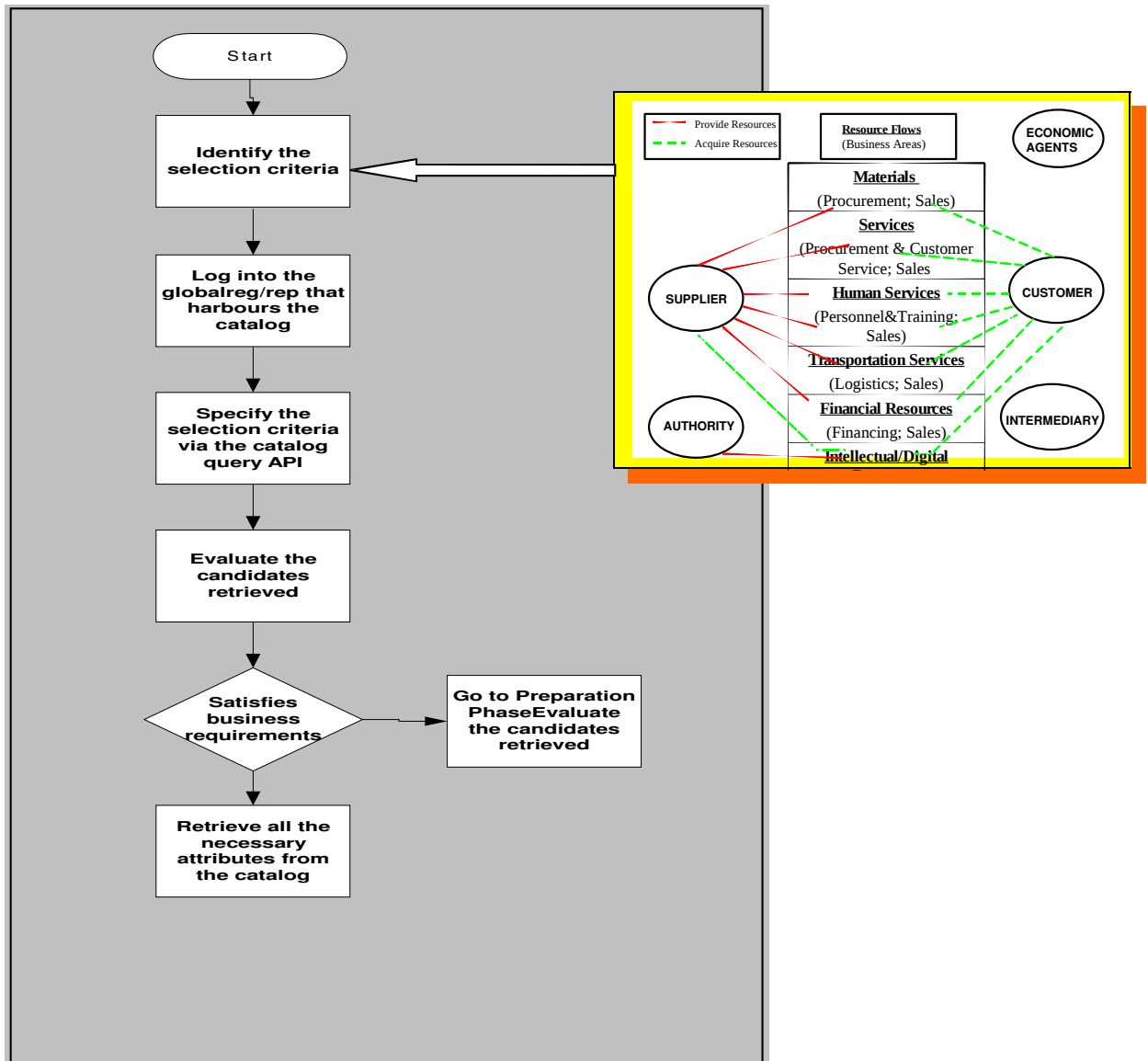
1152Business Process Library Manager - A person that manages and maintains the CBPC in the
1153Global registry/repository.

1154

11558.3 Discovery Phase

1156During this phase, the catalog users that build business process collaborations use the
1157catalog to locate a common business process in the catalog. Figure 7.2 illustrates the tasks
1158that take place within this phase.

1159



1160

1161 Figure 15 –Discovery Phase Tasks

1162

1163 8.3.1 Identify the selection criteria

1164 Due to the fact that the CBPC can contain thousands or even millions of business
 1165 processes, it is imperative that the selection criteria be clearly identified to be able to drill
 1166 down to the appropriate business process. There are various mechanisms to identify the
 1167 subset that would contain the exact business process or similar ones as per requirement.
 1168 Here are the various mechanisms for doing so:

1169 8.3.1.1 Identify the Classification

1170 First, we need to identify the normative category and sub-normative category for the
 1171 business process based on the CBPC Classification methodology. This will be based on

1172 understanding of widely adopted business process classifications and the navigation and
1173 classification tools available for accessing the business process catalog.
1174 The other ways to classify business process is by identification of the types of agents and
1175 resources that are utilized by this process. CBPC Classification scheme that is an extension
1176 of Porter Value Chain Reference Model.
1177 Once the appropriate classification has been identified, one can easily drill down to the
1178 appropriate business process in the catalog. In addition, CBPC also supports the
1179 association of the internal classification scheme to external classifications schemes that one
1180 is more appropriate for certain industry sectors, organizations or users.
1181

1182 8.3.1.2 Specify Business Context Drivers

1183 The ‘local’ or enterprise specific business context for the searched Business Process need
1184 to be identified. These Business Context Drivers are related to the 7 ebXML Context
1185 categories as defined in “UN/CEFACT - ebXML Core Components Technical
1186 Specification, Part 1”.
1187

1188 8.3.1.3 Use External Classification (if appropriate)

1189 Where an industry specific reference model exists (E.g. SCORE, BPA) the catalog may be
1190 searched using the external classification defined by these bodies- if known by the user.
1191

1192 8.3.2 Log into the Global Registry/Repository that Harbors the Catalog

1193 During this step, one will use the “Registry Client” interface to log into the Global registry
1194 where the Catalog is hosted. The user will already have the appropriate privilege setup to be
1195 able to log into the Global registry via the Registry Client.
1196

1197 8.3.3 Specify the Selection Criteria via the Catalog API

1198 Once the user has logged into the Global registry, he or she will bring up the GUI
1199 interface for the CBPC Query API. This query API will be an extension of the
1200 ebXML Registry Service QueryManagementClient. This GUI interface will display
1201 all the related elements that can be used to specify the selection criteria for
1202 discovery of the appropriate business process. This could be based on Classification
1203 scheme for the registered object i.e. the business process or the meta data associated
1204 with this registered object or associated objects which could be other registered
1205 objects like Core components, business documents etc or external identifiers or
1206 registry attributes like internal id, version, name etc. Business processes have their
1207 own metadata like category, sub-category, Role, Pre-Condition, Post-Condition etc.

1208 An example will be as follows: In order to query up the appropriate Business
1209 Process “Create Purchase Order” from the catalog the following meta data are
1210 specified:

1211Category: Procurement, Subcategory: Negotiation, BusinessProcess:
1212PurchaseOrderQuoteRequest, RoleFrom: Buyer, RoleTo: Seller,
1213BusinessEntity: Quote, The query will find business processes in Procurement
1214Category that are from Buyer Role to Seller Role having Business Entity as Quote.

1215Note: Only some attributes in this query are derived from classification tree. Only
1216category and subcategory are the classification nodes, the rest are metadata of the
1217registry object.

1218Once we have specified the selection criteria, we initiate the search of the business process
1219by submitting the search criterion to the global registry. Use one or more catalog search
1220alternatives to identify potential business processes.

1221

12228.3.4 Evaluate and Select Candidates

1223Use own criteria to evaluate candidates.

- 1224 • The criteria may be very general, if the user is, for example, entering the
1225 eBusiness arena and doesn't have experience or bias towards certain business
1226 processes and documents.
- 1227 • On the other hand, the criteria may involve legacy systems or approaches that
1228 require handling of certain business documents.
- 1229 • In addition, evaluation criteria need to include consideration of the partner
1230 support for the business process. How is this being done?
1231 Select the Business Process that satisfies the user and partner requirements:
- 1232 • In collaboration with the trading partner, the appropriate business process is
1233 selected

1234

12358.3.5 Retrieve all the necessary attributes from the catalog

1236During step 8.3.4, the GUI interface should also prompt for the response elements that the
1237query should return.

1238

1239It is to be noted here that the business process selected and retrieved from the catalog might
1240not satisfy all the requirements and so specialization of the business process might take
1241place and this might lead to a preparation phase.

1242

12438.4 Preparation Phase

1244During this phase, the submitters (a Technical modeler together with the Business Process
1245Analyst and Business Domain Expert) will identify the common business processes they
1246wish to be stored in the catalog and develop a business process package for submission to
1247the catalog maintenance body.

1248This submission will be based on extracting the data necessary for populating the catalog
1249from a model of their business domain (preferably derived from following the UN/CEFACT
1250TMWG Unified Modeling Methodology (UMM)), and completing the Catalog Worksheets.

1251The processes to be submitted may range from the creation of a new *Business Process* to
1252the modification of an existing *Business Process* already contained in the catalog but
1253changed so that it is contextually and syntax specific to their business domain.

1254For each business process submitted the user must classify the process in terms of the
1255Normative Category and Sub-Normative Category to which their process belongs. They
1256may also provide the Context information and their own classification based on their
1257industry reference model, where appropriate.

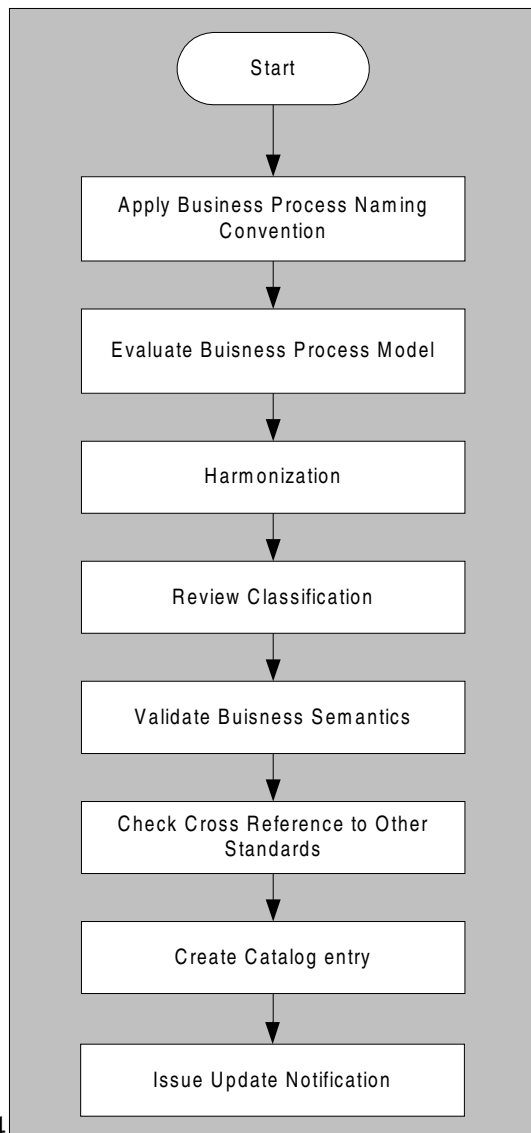
1258The submission must contain all the information (process artifacts and meta data) that have
1259been identified in the catalog information model as specified in section 6.0.

1260The information on the pre conditions and post conditions will identify the relevant
1261business objects that have their states changed by the business process. This will provide
1262the mechanism to enable the directory to associate the business process with the related
1263Core Components held separately.

12648.5 Population Phase

1265This Phase describes how to populate the catalog content once defined into the catalog that
1266will be hosted on any global registry/repository.

1267After receiving a Business Process Package Submission, *The Business Process Catalog*
1268*Group* at TBG evaluates the submitted package. Specifically, it is the job for a *business*
1269*catalog process expert* who evaluates the submitted catalog entry (CE) against a predefined
1270checklist of required business specification artifacts. Once the business package passes the
1271evaluation, *Business Catalog Process Expert* sends the business specification artifacts to a
1272*Business Process Library Manager* who is ultimately responsible for populating the
1273catalog.



1274

1275Figure 16 – Population Phase steps

1276The following are steps in the Population Phase.

12778.5.1 Apply Business Process Naming Convention

1278The naming of the business process should follow standard naming convention rules. Some
1279of the rules to be adhered to are:

- 1280 • Avoid ambiguity
- 1281 • Must be globally acceptable
- 1282 • Must be generic in nature
- 1283 • Applicable across multiple industries
- 1284 • Simple and clear to understand

1285

12868.5.2 Evaluate Business Process Model

1287The evaluation tasks that need to be accomplished in this component use case include

- 1288• Evaluate Business Operations Model includes checking of the high-level classification
1289 of the business process for conformance with UMM-prescribed specifications, namely,
1290 Business Area, Process Area, Business Domain, Business Process, and Reference
1291 Business Elements.
- 1292• Evaluate Business Requirements Model includes checking of the requirements-level
1293 information of the business process for conformance with UMM-prescribed
1294 specifications; namely, Use Case Model, Business Process Activity Model, Business
1295 Collaboration Tasks, Business Transaction Model
- 1296• Evaluate Business Transaction Model includes checking of the transaction-level
1297 information of the business process for conformance with UMM-prescribed
1298 specifications. Identification of transaction patterns present in the model is considered
1299 here.

1300

13018.5.3 Harmonization

1302The purpose of harmonization is to take a set of proposed *Common Business Processes* from
1303different domains, identify differences and similarities between the various submissions, and
1304produce a single, complete cross - procedures. The following describes the recommended areas
1305that harmonization procedure should cover:

- 1306 • Evaluate each submitted *Common Business Process* for consistent application of CBPC
1307 rules Resolve any questions or issues by discussion between the submitting groups.
- 1308 • Compare the definition and structure of each submitted *Common Business Process*
1309 *with what already exists in the CBPC*. If the submitted *Business Process* is the same
1310 or similar, compare the properties of each to identify any differences. If the
1311 submitted *Business Process* has properties missing in the existing one, enforce a
1312 harmonized form that contains the properties of each.
- 1313 • Publish the results of harmonization to the submitting groups for review.

1314

13158.5.4 Review Classification

1316During this step the classification of the Normative Category and Sub-Normative Category
1317provided by the submitter will be checked to ensure it has been appropriately determined. If
1318the submitter has also provided an external classification (e.g. based on SCOR or BPA
1319classification) for this business process, then the association between these classifications is
1320also checked. The Context categorization for this business process, if necessary for
1321specialization, is also checked out during this step.

1322

13238.5.5 Validate Business Semantics

1324Prior to submitting the catalog entry (CE) data for entry into the catalog, the expert
1325validates the business semantics included in the business process package. Semantic
1326validation will include scenario identification and rule checking of RIM integrity. Evaluate

1327Business Process Artifacts includes checking of Normative Category, Subcategory, Roles,
1328Pre-conditions, Post-conditions, etc and their conformance with the submitted models.
1329Evaluate the artifact references – check if the artifact references (e.g., BOTs used in pre-
1330conditions) are valid.

1331

1332Following the evaluation of the submitted package for the new business process, the catalog
1333expert extract the catalog attributes for the model necessary to populate the catalog. The
1334syntax for these attributes is checked at the time of extraction.

1335

1336The expert, satisfied by the outcome of the validation process, after extracting catalog
1337attributes, and after validating the semantics of the process, forwards the information to the
1338library manager.

1339

13408.5.6 Check cross-references to other Standards

1341The library manager uses the catalog maintenance tool to ensure referential integrity within
1342the catalog. Also, external references (e.g., URIs) are checked for integrity. Besides
1343association to external classification wherever applicable and associations to business
1344documents are verified as well.

13458.5.7 Create Catalog Entry

1346The creation of catalog entry is done using a catalog maintenance tool. The library manager
1347commits the new BPCE to the catalog.

1348

13498.5.8 Issue Update Notification to Community/Process Owner

1350The library manager issues update notification to the business process owner (e.g., an
1351industrial group) and/or to the community at large or those parts subscribed.

1352

1353

13548.6 Maintenance Phase

1355This Phase describes how to perform update, extension, and correction of the catalog. The
1356following are possible steps in this phase:

13578.6.1 Update the Catalog with a New BPCE

1358Update takes the same path as Preparation and Population phases and, in addition, needs to
1359validate reference to the previous Catalog entries.

1360

13618.6.2 Extend the Catalog Classification

1362Extend the catalog classification based on a new domain-specific usage and based on
1363specialization within a domain (i.e., providing interface for checking conformance with a

new classification). Specification institutions may want to control validation of their classification identifiers.

8.6.3 Correct the Registration Information Model

Correct the registration information model

- Change classification error
- Change classification entry
- Update of entry status. (NOTE: Every BPCE will have an entry status attribute; e.g., DEFINED, APPROVED, REJECTED)

9 Catalog Interface Specification

We provide a well-defined interface that specifies details of interaction with the catalog and supports the use cases and the methodology. This interface reflects the abstract data model defined in section 6.2 , supports the outlined methodology (but doesn't depend on it), and the tasks outlined in section 8

The following is the specification for the catalog interface. (Note: The bracketed items next to each of the interface definition are references to the methodology tasks that use the interface definition.)

9.1 Retrieve catalog information model and classification data

- `GetAttributeValues <attributeName>`
 - Get all the values for the specified attribute.
 - `<attributeNameList>` - a character string denoting a valid attribute name defined in the catalog information model
 - Return values:
 - A list of the attribute values of the attribute. The type of the return values depends on the attribute.
 - Example:
 - `GetAttributeValues BusinessProcessEntity.name`
 - Return values:
 - `ManageProductInformationSubscripti RequestAccountInformation`
 - `RequestAccountSetup ...`
- `GetInternalClassificationScheme`
 - Get the attribute values describing the internal 3-level classification scheme.
 - Return values

1403 • List of character string 3-tuples, each 3-tuple consisting of normative category,
1404 normative sub-category, and (economic-business) event classification values

1405 • Example:
1406 GetInternalClassificationScheme

1407

1408 Return values:
1409 (Acquisition Identification IdentifyVendor)
1410 (Acquisition Identification RequestCatalog)
1411 (Acquisition Identification RequestPricing)
1412 ...
1413

1414• GetExternalClassificationScheme <classificationId>
1415 <hierarchyDepth>

1416 • Get the attribute values describing an external classification scheme to the specified
1417 depth of classification hierarchy.

1418 • <classificationId> - unique identifier for the external classification scheme

1419 • <hierarchyDepth> - number (n) of levels of hierarchy

1420 • Return values:-

1421 • List of character string n-tuples, each n-tuple consisting of classification name
1422 and value pairs

1423 • Example:
1424 GetExternalClassificationScheme RN-ID 3
1425

1426 Return values:
1427 (PartnerProductServiceReview PartnerReview RequestAccountSetup)
1428 (PartnerProductServiceReview PartnerReview MaintainAccount)
1429 (PartnerProductServiceReview ProductAndServiceReview
1430 ManageProductInformationSubscription)
1431 ...
1432

14339.2 Search Catalog

1434• SetSearchParameters <attributeNameValuePair>

1435 • Set search parameters prior to performing search.

1436 • <attributeNameValuePair> - a pair of a character string and (the attribute-
1437 dependent) value

1438 • Return values:

1439 • Status code – an identifier of a successful or unsuccessful operation

1440 • Example:
1441 SetSearchParameters (NormativeCategory.name Acquisition)
1442

1443 Return values:
1444 SET-SEARCH-STATUS-OK
1445

1446• ClearSearchParameters

1447 • Clear the search parameter values

1448 • Return values:

1449 • Status code – an identifier of a successful or unsuccessful operation

1450 • Example:

1451 ClearSearchParameters

1452

1453 Return values:

1454 CLEAR-SEARCH-STATUS-OK

1455

1456• PerformSearch

1457 • Perform search based on the search parameter values

1458 • Return values:

1459 • Status code – an identifier of a successful or unsuccessful operation

1460 • Example:

1461 PerformSearch

1462

1463 Return values:

1464 PERFORM-SEARCH-STATUS-OK

1465

1466• SetRetrievalParameters <attribute-name>

1467 • Set retrieval parameters to access specific attributes of the search result.

1468 • <attribute-name> - a character string indicating the attribute name to be retrieved

1469 • Return values:

1470 • Status code – an identifier of a successful or unsuccessful operation

1471 • Example:

1472 SetRetrievalParameters BusinessProcessEntity.actionStatus

1473

1474 Return values:

1475 SET-RETRIEVAL-PARAMS-STATUS-OK

1476

1477• RetrieveSearchResults

1478 • Retrieve search results

1479 • Return values:

1480 • Collection of n-tuples, each tuple holding the values for the specified retrieval

1481 parameters.

1482 • Example:

1483 RetrieveSearchResults

1484

1485 Return values:

1486 (001 RequestForQuote Quotation Procurement ...)

1487 (002 ChangeQuote Quotation Procurement ...)

1488 ...

1489

14909.3 Access Catalog

1491• Login <userName> <authorizationCode>

14929.4 Submit Catalog Data

1493• BeginNewDataSubmission <ClassName>

1494• New catalog data is about to begin. On receipt, the catalog creates a new class instance,
1495 assigns a unique id, and returns the id.

1496 • <className> - a character string that is a valid class name from the information
1497 model.

1498 • Return values:

1499 • The newly created class instance identifier.

1500 • Example:

1501 BeginNewDataSubmission BusinessProcessEntity

1502

1503 Return values:

1504 <some-system-generated-unique-id>

1505

1506

1507• SubmitNewClassData <ClassInstanceId> <AttributeName>

1508 <AttributeValue>

1509 • An attributevalue is submitted for a specific class instance. On receipt, the catalog
1510 checks for existence of the class instance, and assigns the value to the specified
1511 attribute. Any previous attribute value is overwritten.

1512 • <ClassInstanceId> - unique id for a class instance

1513 • <AttributeName> - a string indicating a class attribute name

1514 • <AttributeValue> - a value to be associated with the attribute

1515 • Return values:

1516 • Status code – a code indicating a successful or unsuccessful operation

1517 • Example:

1518 SubmitNewClassData <some-system-unique-id> name GetQuote
1519 (Assumption is that this deals with BusinessProcessEntity instance
1520 data submission.)

1521

1522 Return values:

1523 SUBMIT-NEW-CLASS-DATA-STATUS-OK

1524

1525• SubmitNewRelationshipData <classInstance1ID>

1526 <classInstance2ID> <RelationshipName>

1527• A relationship between two class instances is submitted. Upon receipt, the catalog
1528 checks for existence of the two class instances and that the relationship name is valid.

1529 • <classInstance1ID> - a valid id of a class instance

1530 • <classInstance2ID> - a valid id of a class instance

1531 • <RelationshipName> - a string indicating a valid relationship name between the two
1532 class instances

1533 • Return values:

1534 • Status code – a code indicating a successful or unsuccessful operation
 1535 • Example:
 1536 SubmitNewRelationshipData <some-system-unique-id> <some-system-
 1537 unique-id> ownership
 1538 (Assumption is that this deals with establishing an ownership
 1539 relationship between a BusinessProcessEntity and an Organization
 1540 instances.)
 1541
 1542 Return values:
 1543 SUBMIT-NEW-RELATIONSHIP-DATA-STATUS-OK
 1544
 1545

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