

A Simplistic Approach to Business Process

Introduction

In order to effectively understand over time the role and utility of ebXML BPSS in the large Business Process Management (BPM) space, the team has indicated an interest in learning about touchpoints to ebBP as well as other specifications or standards that may occupy this functional area of business process.

Business Process

A simplistic approach is being taken for a start. A brief summary is provided in the following table, Table 1.

Table 1 Short Business Process Descriptions

Short definition	Specification or Standard
Orchestration: Message exchange service endpoints typically within a domain of control	WS-BPEL (OASIS) BPML/BPMN (BPMI.org) Others
Choreography: Control flow and sequencing of messages across channels	WS-CDL (W3C) ebXML BPSS
Business collaboration: Peer-to-peer, partner interaction across domains of control that recognizes business intent	ebXML BPSS
General: Notational support for orchestration	BPMN (BPMI.org) ¹

Business Collaboration

ebXML BPSS

The ebXML BPSS (Electronic Business extensible Markup Language Business Process Specification Schema) specification is part of the ebXML set of specifications and deals with both design-time and run-time aspects of “business-to-business processes” (or collaborations) between two or more business partners. The specification includes:

- A business process specification schema which is used
 - At design time to specify the terms of the collaboration
 - At run-time to effectively but optionally validate the occurrences of these terms
- The specification of a run-time protocol that is used to guarantee state alignment between the collaboration

¹ Originally, BPMI.org mapped using BPML, BPSS and WSCI. There is not an explicit mapping for BPMN other than for BPML and WS-BPEL.

Choreography for Web Services

W3C WS-Choreography

The Web Services Choreography Description Language (WS-CDL) is an XML-based language that describes cross-enterprise collaborations of Web Services participants by defining their common observable behavior; where ordered and synchronized message exchanges result in alignment of their common information.

Orchestration

OASIS WS-Business Process Execution Language

The Web Services Business Process Execution Language (WS-BPEL) is a language for describing that sequence of interactions and exception handling in an interoperable way that can be shared across platforms, applications, transports and protocols. The Business Process Execution Language is an XML-based language for formally describing interoperable business processes and business interaction protocols. It defines how web services are connected together and in what sequence in order to accomplish a particular task.

Transactional Protocols and Coordination Agents

OASIS WS-Composite Application Framework

WS-Composite Application Framework accommodates multiple Web services as composite applications. WS-CAF is comprised of 3 specifications:

- Web Service Context (WS-CTX), which models a Web services context data structure as a Web resource, accessible via standard URLs. WS-CTX is responsible for context management and defines a way for arbitrary services to augment the context.
- Web Service Coordination Framework (WS-CF), which defines a software agent called a coordinator that takes responsibility for augmenting the basic context and disseminating context information. Web services in a composite application register with coordinators to ensure message results are communicated between the coordinator and services in a reliable manner.
- Web Service-Transaction Management (WS-TXM), which defines three distinct transaction protocols that can be plugged into the coordination framework for interoperability across existing transaction managers, long running compensations, and business process automation. This is a “live” document, in that the authors intend for other transaction models to be added to it when the need arises.

Collaboration Profiles or Agreements

OASIS ebXML Collaboration Protocol Profiles and Agreements

The CPP defines a Party's Message-exchange capabilities and the Business Collaborations that it supports. The CPA defines the way two Parties will interact in performing the chosen Business Collaborations.

Valuable References:

- OASIS BTP: <http://www.oasis-open.org/apps/org/workgroup/business-transaction/download.php/3865/BT-TC-FAQ.txt>
- OASIS ebXML CPPA: <http://www.oasis-open.org/committees/ebxml-cppa/faq.php>
 - v2.1 errata: http://www.oasis-open.org/committees/ebxml-cppa/documents/ebCPP-2_0-Errata.php
- OASIS ebXML Messaging Services (ebMS): http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ebxml-msg
 - v2.1 working errata: <http://www.oasis-open.org/archives/ebxml-msg/200402/msg00027.html>
 - v3.0 preview white paper: <http://www.oasis-open.org/committees/download.php/4383/ebMSv3FeaturePreview.pdf> (20 Jan 2004)²
- OASIS WS-BPEL: http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsbpel
- OASIS WS-CAF: http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ws-caf
- A high-level view of some of the business process space in the context of a Service-Oriented Architecture found in an article written by Jean-Jacques Dubray is located at: http://www.ebxmlforum.org/articles/ebFor_Fig1_20031109.html.³
- Jean-Jacques Dubray, website for SOA and Business Process Management Systems, www.ebpml.org.

Note: Disclaimer, the ebBP team does not validate, support, refute or state an opinion on the statements made by any of the provided references such as the OASIS TC FAQs. Thanks. Only those specifications that are in an open standards body or consortia are referenced.

² A later copy may be available.

³ Copyright©2003 Web Services.org

Note: This matrix was briefed at Java One in June 2003 and updated with public information. The matrix is only a starting input and requires updates.

Key:

Limited functionality

No functionality

Specification to Function	BPML	WSCI	WS-BPEL	BPSS (ebBP)	WS-CDL
Organization	BPML.org	W3C	OASIS	OASIS	W3C
Intellectual property policy	Royalty free	Royalty free	RAND-Z with uncertain future terms (has been spoken of as Royalty Free)	Royalty free	W3C policy is Royalty Free (as default)
Status	BPMN will be released 26 April 2004.	Accepted as Technical Note to W3C in August 2002. Submitted to W3C WS-Choreography. No longer being pursued by that working group.	Submitted to OASIS April 2003 (1.1). Working draft in progress.	Version 1.1 was released in fall 2003 by UN/CEFACT.	

Specification to Function	BPML	WSCI	WS-BPEL	BPSS (ebBP)	WS-CDL
Service composition	No child-parent communication	Context (developed sub-processes)	Scope (process level only with 1.1 extension to local)	Yes	
Choreography	Via control flow	Yes (view from each role)	Yes (sequence)	Yes (business transaction activity, transitions)	
Orchestration	Yes	1-party view	Limited (through service links between abstract processes)	Peer-to-peer control flow	
Interface	Abstract processes where service interfaces defined	Global model	Abstract processes	Business service interface (BSI)	
Service interface description	No (WSDL operation referenced in BPML action)	Yes	Yes (uses and extends WSDL)	Implicit; no std mapping (may be complemented with CPP/A-WSDL effort or direct WSDL description proposed)	
Role(s)	Abstract roles or participants (via generic context mechanism)	Defined in WSDL. Actions specify the role on which the service acts.	Partners attached to Roles (service names linked to service link types).	Roles / partner roles	

Specification to Function	BPML	WSCI	WS-BPEL	BPSS (ebBP)	WS-CDL
Conversation	Indirect	No 'how' (execution)	Yes (limited)	Via CPPA	
Activity/Activity set	Same level with message exchange	Yes	Has basic activity and link (message, partner, or service).	Multiple levels (collaboration process)	
Compensation	Yes (workflow)	Yes	Limited (implicit; function of another specification)	Limited (Exceptions handled but compensation framework ad hoc)	
Correlation	Yes	Yes	Yes (Attaches property and sequence to services.)	Yes	
Exception handling	Yes	Yes	Limited (some improvement in 1.1)	Yes	
Business collaboration	Specific views of 'collaborations'			Yes (binary more mature)	
Legally binding/enforceable				Agreement and contract	

Specification to Function	BPML	WSCI	WS-BPEL	BPSS (ebBP)	WS-CDL
Specification or Standard	Released Standard 1.0 (BPMI.org)	Specification-Technical Note 1.0 (W3C)	Specification-Chartered (OASIS) [1.1]	Standard 1.01 release and 1.1 (UN/CEFACT)	
Business process	Yes (process)	Yes (process)	Yes (process)	Yes (collaboration and business process)	
Nested processes	Recursive decomposition/ blocked structure	Process in context	Service link (implicit)	Nested binary collaborations	
Transaction	Associated with complex activity	Yes	Relies on external spec (Missing explicit declaration of transaction scope)	Yes	
Long-running transaction	Yes	Yes (only via global model)	Limited-local to environment (preliminary with service link and reference)	Yes	
Public/private process (typical)	Private	Private	Private	Public	

Specification to Function	BPML	WSCI	WS-BPEL	BPSS (ebBP)	WS-CDL
Authentication				Yes (with other ebXML components)	
Non-repudiation				Yes (with other ebXML components)	
Execution	Yes (or in conjunction with WSCI)		Yes (with handoffs)	Yes (runtime representation)	