

Understanding BPMN Release 2.0

Presented by:

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About Today's Speaker:

Robert Shapiro

WfMC Chair: Conformance and XPDL
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Robert Shapiro created the first open-architecture object-oriented graphical modeling toolkit for process modeling. It was the platform for Design IDEF in support of SADT (Structured Analysis and Design Technique) and used to build the first version of CPN (Colored Petri Net) modeling and simulation technology.

Robert Shapiro is founder and manager of Process Analytica. He is Senior Vice President: Research, for Global 360. He founded Cape Visions (acquired in 2005) where he directed the development of Analytics and Simulation software used by FileNet/IBM, Fujitsu, PegaSystems and Global 360 Business Process Management products

Prior to founding Cape Visions, as founder and CEO of Meta Software Corporation, he directed the implementation of a unique suite of graphical modeling and optimization tools for enterprise-wide business process improvement.

Products based on these tools are used by Bank America, Wells Fargo, JPMChase and other major banks to optimize their check processing and Lock Box operations.

As a participant in the Workflow Management Coalition and chair of the working groups on conformance and process definition interchange, he plays a critical role in the development of international standards for workflow and business process management. He has been instrumental in the creation and evolution of XPDL and BPMN.

In 2005 he was awarded the **Marvin L Manheim Award** for outstanding contributions in the field of workflow.



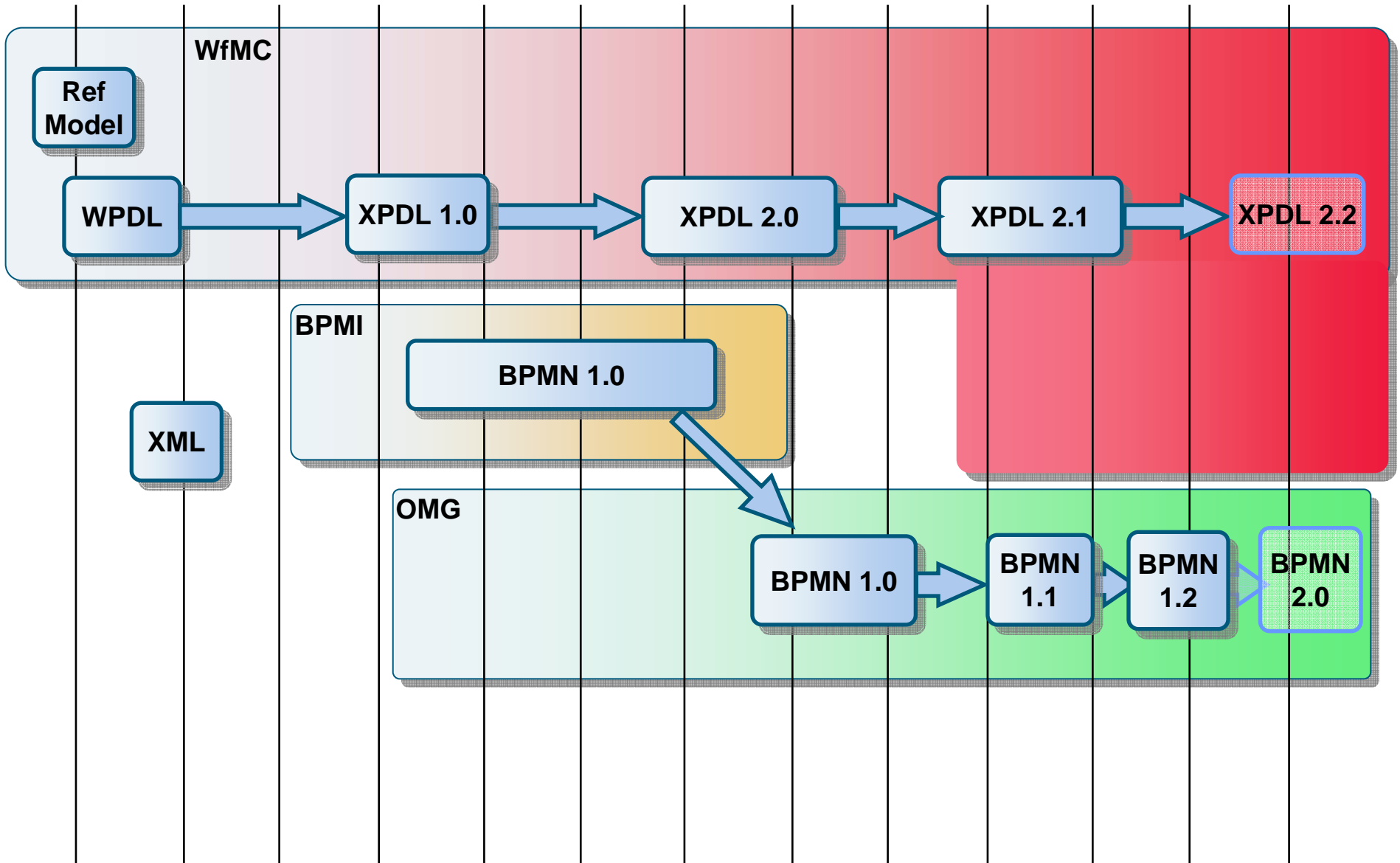
Today's Agenda

- BPMN History: the Road to 2.0
- Changes to Existing Functions From 1.2 to 2.0
- New Capabilities Introduced in 2.0
- Potential Challenges With Migration
- Portability and Conformance Imperative
- XPD 2.2 and the Path Forward



Standards Timeline - Releases

1994 .. 1998 . 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010



BPMN History: The Road to 2.0

- Many changes and additions to the previously published version: BPMN 1.2
- As per the project plan revised drafts of the specification were posted to the OMG server on 4/6 and 4/27.
- As of 4/27 the spec was frozen except for a limited number of critical fixes as well as general editing for readability and consistency.
- As per plan a release candidate draft was published on 5/11 within the development team for final review.

Next Steps in OMG Release Process

- On 5/22 the final submission will be sent to OMG for publication on 5/25.
- At the June OMG meeting the intention is to propose a "vote to vote" followed by an adoption vote.
 - If the vote indicates that the specification is adopted and is endorsed by the Architecture Board (AB) the specification will enter the Finalization Task Force (FTF) phase which will take the review comments and known issues to produce the final specification.
 - The FTF will take **3 to 6 months** and then based on previous track record the specification that is produced by the FTF and finally approved by the AB will take a further **3 to 6 months** to be issued as final.

BPMN2.0 Specification

- Many new Ideas
 - Much more than a serialization of BPMN1.2
 - Execution semantics and Choreography
- Significant changes in **Conformance, Swimlanes, DataObject, Sub-Process, Events**
- Four parts to the spec:
 - Process Modeling
 - Process Execution
 - BPEL Process Execution
 - Choreography Modeling

Extensions to Scope & Capabilities**

- Formalizes the execution semantics for all BPMN elements
- Defines an extensibility mechanism for both Process model extensions and graphical extensions
- Refines event composition and correlation
- Extends the definition of human interactions
- Defines a Choreography model

** From BPMN2.0 specification V 0.9.9.9

BPMN Process Modeling Conformance

- BPMN core elements, which include those defined in the InfraStructure, Foundation, Common and Service Packages.
 - Many implementation details in Common & Service
- Process diagrams, which include the elements defined in the Process, Activities, Data, and HumanInteraction packages.
- Collaboration diagrams, which include Pools and Message Flow.
- Conversation diagrams, which include Pools, Communications, and Communication Links

BPMN2.0 Changes Affecting SwimLane

- Pool not used in Process Modeling
 - New LaneSet attribute of Process refers to Lanes
 - There must be at least one lane; it may be invisible. Laneset associated with attribute for lane membership.
- Used in Collaboration and Conversation Diagrams which require two or more Pools
 - In these diagrams LaneSet is an attribute of Pool.
 - The Business Process Diagram has been dropped: replaced by Collaboration + Process Model.

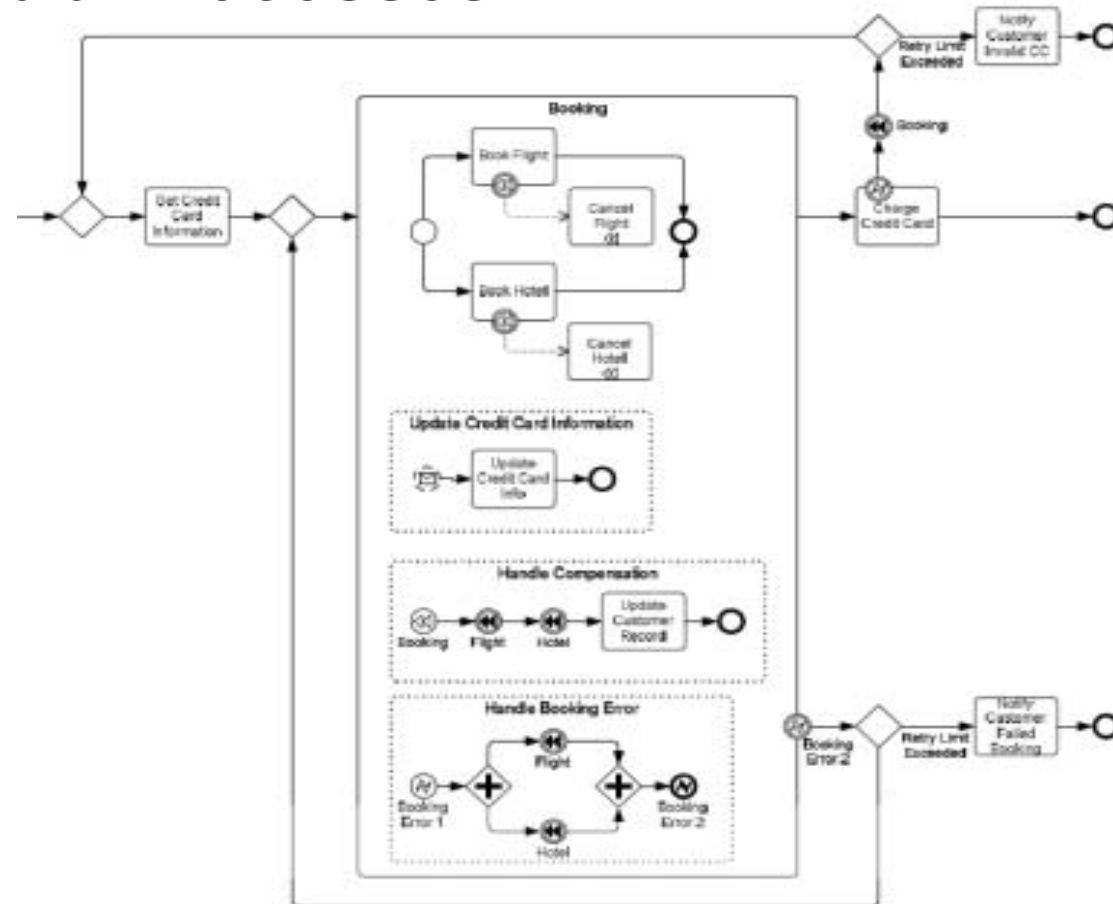
BPMN2.0 Changes affecting DataObject

- No longer an artifact; now a flow object.
 - The original DataObject served only for documentation.
- Used in conjunction with data associations, input and output sets
- Supports assignments for activity (and process), hence possibly data mappings, using transforms with the associations
- DataStore introduced to represent persistent data shared by processes.

BPMN Changes Affecting Sub-Process

- Re-usable Sub-Process has been replaced by CallActivity referring to a Global Process
- The Event Sub-Process has been added
 - This embedded sub-process is not instantiated by normal sequence flow. It is triggered by an Event but runs in context of Activity.
- A processType attribute can specify ‘non-executable’, ‘executable’, ‘public’ or ‘none’
 - Portability will focus on non-executable processes.

Event Sub-Processes



- The first Event Sub-Process is triggered by a Message, does not interrupt the Sub-Process, and can occur multiple times.
- The second Event Sub-Process is used for *compensation* and will only occur after the Sub-Process has completed. The third Event Sub-Process handles errors that occur while the Sub-Process is active and will stop (interrupt) the Sub-Process if triggered.

Significant Additions to Events

- There is one new Event type:
EscalateEvent
- The Intermediate Events now distinguish between **Boundary** (attached) Events and **regular intermediate** events
- The concept of **interrupting** and **Non-interrupting** events has been introduced for StartEvent and Intermediate Boundary Events
 - Non-interrupting boundary event or event sub-process triggers a parallel thread without aborting the original activity

Types of Events

Types	Start			Intermediate				End
	Top-Level	Event Sub-Process Interrupting	Event Sub-Process Non-Interrupting	Catching	Boundary Interrupting	Boundary Non-Interrupting	Throwing	
None								
Message								
Timer								
Error								
Escalation								
Cancel								
Compensation								
Conditional								
Link								
Signal								
Terminate								
Multiple								
Parallel Multiple								

The Five Things Missing From 2.0

1. Distinction Between Modeling-Related and Execution-Related Information
2. Semantics of Non-Executable Models
3. Model Portability
4. Graphics Interchange
5. Simulation Properties

Source: Bruce Silver's BPMS Watch
<http://www.brsilver.com/wordpress/>

Potential Risks Presented With BPMN 2.0

- Making changes without invalidating XPD2.1/BPMN1.2 documents
 - A standard should support prior versions
- Facilitating the use of Validation Tools to support true process interchange

Portability Challenges

- Multiple Schemas & Separate Graphics
 - Complicates validation
 - Schema check will not be able to do this
 - Will require XSLT programming
 - Graphics portability for existing tools harder
- Distinction between modeling-related and execution-related information
 - Inherited from BPMN1.2
- Missing a hierarchy of Portability Levels
 - We need to encourage tool builders by providing a step-wise approach , not all-or-nothing.

Portability Conformance Classes

- In XPDL 2.1 we introduced the idea of Portability Conformance classes
- Purpose: to make process interchange a reality
- Defining subsets of BPMN 1.2 and tools to test them created a framework for meaningful conformance testing which allows:
 - tool vendors to build compliant software
 - end-users to transfer process models between compliant tools

Portability Conformance and BPMN2.0

- Solidify progress in process interchange
- Introduce new conformance classes when appropriate
 - DODAF (DOD Architecture Framework)
 - Current conformance class built around BPMN1.2 palette.
 - Extensions incorporating BPMN2.0 additions likely in the future. Changes more problematic.
- Retain Original Conformance Classes

BPMN is Not Just for BPEL

- Portability of BPMN process models is a desirable and achievable goal which business analysts have expected
- BPMN plus BPEL does not solve the portability problem for Business Analysts
- XPD L serialization of BPMN has been the only standardized approach to process interchange
- XPD L2.2 will support serialization of BPMN2.0 and portability for well-defined conformance classes

XPDL 2.2 and the Path Forward

- XPDL 2.2 will focus on Process Modeling
 - Includes new work on Collaboration
 - Some part of Collaboration is essential to model Pools and Message Flow between Pools
- We intend to maintain backward compatibility
 - Pools will be retained in the part of Collaboration that XPDL will support New elements and attributes to encompass enhancements in BPMN
 - New material should be reasonably stable, not an experiment

XPDL2.2 Challenges

- Making changes without invalidating XPDL2.1/BPMN1.2 documents
- Facilitating the use of Validation Tools to support true process interchange
- Our objective is to define a sensible upgrade path from BPMN 1.2 so that:
 - tool vendors can build upon their prior implementations
 - end-users can extend their use of BPMN without having to discard prior work



Participate in BPMN2.0 Support

- We are looking for people to contribute:
 - Help design Model Portability Conformance Classes and tools to validate conformance.
 - Improve the BPMN2.0 serialization to better support process interchange, including graphics.
 - Revise the XPD L specification to support BPMN2.0.
 - Work on Sketchpad, a free open source Java BPMN process modeler that currently supports XPD L2.1.
 - Help create a BPMN users group.
- If interested contact:
rshapiro@processanalytica.com



Process Thought Leadership