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Introduction

The merger of the BPM activities of the Business Process Management Initiative (BPMI.org) and the OMG has been consummated.¹ This article gives an overview of the status of BPMI's work and where it fits into the constellation of OMG activities and standards.

The Business Process Management Initiative (BPMI)

Originally BPMI – sometimes known by its domain name “BPMI.org” – was working on two standards, the Business Process Modeling Language (BPML) and the Business Process Modeling Notation (BPMN). BPML is an XML-based language, while BPMN is a graphical notation. For better or for worse, the Business Process Execution Language (BPEL) has eclipsed BPML. However, BPMN is gaining significant traction in the industry.

The target user of BPMN is the business analyst, rather than an IT person. Many people use UML activity diagrams to model business processes, but UML is generally targeted to software engineers and architects.

There are now 31 tools that support BPMN. The list of implementers is growing and includes most, if not all, of the major BPM and enterprise architecture tool vendors.²

The Merger of BPMI and OMG

The salient aspects of the merger of the OMG and BPMI BPM work are

¹ [BPMI-OMG]

² [BPMN IMPL]



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- *BPMI's standards creation work will be carried on in accordance with the OMG standards creation process.* The work will fall within the jurisdiction of the OMG's Business Modeling and Integration (BMI) Domain Task Force. The OMG's Business Enterprise Integration Domain Task Force has been re-charted and renamed to serve as the vehicle that accommodates this aspect of the merger.
- *BPMI's board of directors and the leadership of the BMI task force form the core of a new BPMI Steering Committee.* The Steering Committee will advocate for and provide education about the OMG's BPM standards.
- *BPMN version 1.0 is being "fast tracked" via the OMG Request for Comment (RFC) process.*³ The OMG's RFC process is designed to allow the OMG to rapidly give its stamp of approval to specifications developed outside the OMG that have no significant competition. The process provides a 90-day period for OMG members to submit comments about the specification. Barring any serious problems flagged during the comment period, the specification advances to a Finalization Task Force (FTF). An OMG FTF has a mandate to fix bugs in a specification, but not to introduce substantively new features. BPMN has cleared the 90-day comment hurdle, and the BPMN FTF convened in January 2006.

Relationship to Other OMG Work

There are a number of standards that the BMI Domain Task Force is working on that are related to BPMN. The relationship of BPMN to core MDA standards, such as MOF™, XMI®, and UML, is also an important topic.

Related Activities of the BMI Domain Task Force (BMI-DTF)

The BMI-DTF inherited not only the BPMN work of BPMI.org, but also a number of activities initiated by the task force's predecessor, the Business Enterprise Integration DTF.

Business Process Definition Metamodel (BPDM)⁴

The RFP for the BPDM was issued in January 2003. The process of nailing the BPDM down has been delayed by differences of opinion as to whether it should be based on UML, BPEL, or BPMN.

It now appears that most of the BPDM activists are moving toward making BPDM a metamodel for BPMN. In the context of the OMG, a metamodel is a MOF model of a language. MOF, the Meta Object Facility, is the most fundamental MDA standard. Each MDA modeling language is defined via a MOF model – that is, via a metamodel – of the language. The XMI interchange format for each of these languages is generated from the metamodel, so that tools have a standard format for interchanging models.

Thus, if BPDM defines a MOF-based metamodel for BPMN, the metamodel can be used to generate an XMI-based interchange format for BPMN. It can also be used to generate model management machinery for Eclipse, via the Eclipse Modeling Framework (EMF). Although EMF models and MOF models are not

³ [BPMN RFC]

⁴ [BPDM]

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exactly the same things, in practice they are close enough, such that Eclipse can import a MOF model without much problem.

Semantics of Business Vocabulary and Rules (SBVR)⁵

This activity is defining a MOF-compliant business rules language targeted for use by business analysts rather than by IT people. It has the participation and buy-in of a number of world leaders in the business rules community, including Ron Ross, Terry Halpern (the ORM guru), Donald Chappell, and John Hart. The standard has been ratified by the BMI-DTF, approved by the OMG Architecture Board, and now is moving into the Finalization Task Force stage.

The exact way that SBVR and BPMN fit together has not yet been worked out. Clearly they are complimentary.

An issue that held SBVR up for a while was the aligning of the metamodel with the Ontology Definition Metamodel (ODM), which is the work going on in the Analysis and Design Platform Task Force to define MOF-compliant metamodels for the Semantic Web languages OWL, RDF, and Common Logic (CL). The Architecture Board (AB) was concerned about overlap between the SBVR and CL metamodels in that both covered first-order logic, but in somewhat different ways. The AB pushed both submission groups to work out the relationship between the two. The result is that the SBVR metamodel reuses parts of the CL metamodel. However, the SBVR textual syntax does not reuse the CL textual syntax since the CL textual syntax is oriented toward logicians rather than business people.

Business Motivation Model⁶

The business rules people active in the OMG are pushing a related standard for a “business motivation model.” They position it as providing a way to express why a business has its specific business rules, as opposed to providing a way to express business rules, which the SBVR covers.

The motivation model also includes a vocabulary for business planning. The model has constructs for expressing ends, means, assessments, internal influencers, and external influencers.

The model also has placeholders for rules, organizational units, and business processes, making it an umbrella metamodel, with the other BPM metamodels “plugging in” to it. In this sense, it could provide the framework for aligning BPMN and SBVR.

The motivation model, which is actually a MOF-compliant metamodel, is being fast tracked via the RFC process, and has cleared the 90-day comment period hurdle.

Relationship to Core MDA Standards

The core MDA standards – MOF, XMI, and UML – fall under the jurisdiction of the OMG’s Analysis and Design Platform Task Force (AD-PTF).

⁵ [SBVR]

⁶ [MOTIVATION]

MOF and XMI

As mentioned earlier, the metamodels that the BMI-DTF is producing are all MOF-compliant. XMI schemas for interchange of models among tools are being generated for each of the metamodels. EMF can also use the metamodels to generate Eclipse-based model-management machinery for each of the BMI languages.

MOF, XMI, and EMF all address the need to achieve consistency in the way various kinds of models and other forms of metadata are managed. I have written extensively in these pages and in my books about the need to break down the metadata silos that have built up in our enterprises over the years, and about the importance of not creating new silos. With so much of the key business process language activity now inside the OMG, prospects for bringing the metadata anarchy under control are improving.

Diagram Interchange

There is one notable shortcoming in this picture. MOF has no generic mechanism for defining graphical notations on top of metamodels. A MOF metamodel today is just a model of the information that a model captures. A notation for representing the information graphically has to be defined outside the confines of MOF.

Thus, an XMI schema generated from a metamodel of a language is suitable for exchanging the semantic information that a model captures, but not for exchanging diagrammatic details, such as the position of the various shapes and lines, and the fonts of the characters placed inside and alongside the shapes.

For example, consider a BPMN diagram with a number of activities and other elements. An XMI schema generated from a MOF metamodel of BPMN would provide a means to capture the non-visual properties of the activities in XMI documents, such as the names of the activities, but would not afford a means to capture the positions and other graphical characteristics of the shapes that represent the activities on the diagram. The same is true for the other kinds of elements that make up a BPMN model.

The lack of a standard way to exchange diagrammatic information was a problem with UML for years. UML 2.0 addresses this limitation with a diagram interchange mechanism. In theory the diagram interchange mechanism could be applied to metamodels other than UML, but this has not been proven. The BMI-DTF will have to address this issue for BPMN.

UML

As mentioned earlier, it is possible to use UML activity diagrams to model business processes, but UML is a language for technical software people.

The good news is that the architects of UML 2.0 designed activity diagrams to work well in concert with BPMN. Conrad Bock, of the National Institute of Standards and Technology, led the team that wrote the UML 2.0 activity modeling

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specifications, and he conscientiously tracked the work on BPMN that was going on parallel with BPMI at the time.

Consequently, it should be possible to create a UML profile for BPMN, and for tools to transform a BPMN model into a UML model based on such a profile. In fact, there are some tools that do this more or less already.

BPMN and BPEL

BPMI published a BPMN→BPEL mapping some time ago. This mapping will be included as a non-normative part of the BPMN specification. We can view the mapping as a proof of concept, in that it validates that BPMN models can be mapped to a business process execution language, without mandating one specific way of doing such a mapping.

Future Versions of BPMN

A number of companies are already scoping the next version of BPMN. Two areas that need to be addressed are collaborations and service-oriented architecture. Currently it is not straightforward to use BPMN to model collaboration among several organizations (such collaboration is usually called *choreography*). Given the rise of business-to-business commerce service-oriented architectures, these next steps for BPMN are likely to follow relatively quickly.

Why is BMI a Domain Task Force Rather than a Platform Task Force?

The OMG Technical Committee is divided into the Platform Technical Committee (PTC) and Domain Technical Committee (DTC). Each task force falls under the province of either the PTC or DTC. The PTC task forces are supposed to deal with horizontal technology. Thus, PTC task forces maintain the core CORBA® and MDA standards, which can be applied to any vertical domain. The DTC task forces are supposed to deal with vertical domain technology. Thus, DTC task forces define CORBA interfaces and UML models for specific vertical domains such as finance, telecomm, software radio, transportation, and more.

The fact that BMI is a domain task force is an anomaly. Clearly, the standards that BMI is managing are not specific to a particular vertical domain. BMI is a domain task force because its predecessor, BEI, was a domain task force. BEI was a domain task force because its predecessor was a domain task force due to some political decisions made ten years ago, the reasons for which have long since passed.

Conclusion

The OMG has become a key business process standards organization. Bringing BPMN into the MDA fold means that, in all likelihood, it will be possible to apply the model management machinery of MOF, XMI, and EMF to BPMN. It also



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improves the outlook for properly integrating BPMN with the SBVR business rules language and UML.

However, there is still a lot of work to do to make all this come together. Furthermore, although the relationship of BPMN to BPEL is now fairly clear, the relationships between the various threads of activity in the BMI-DTF and the growing list of specifications in the Web services stack have not all been worked out. For example, how will enhancements to BPMN for choreography relate to WS-Choreography?

We can't say that we know exactly how this will play out. However, we can say that the BPMI-OMG merger increases the chances for getting this right.

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