Business Process in Execution

**Business Process Execution Language featuring
Business Process Management Notation, an investment option?**
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Most business processes and business events are today connected to, supported by or preformed by IT-systems. Therefore it's of growing importance that the systems are agile and responsive to changes in business environment. To succeed companies have to create agile software by using loosed coupled services, align their systems with the processes and manage the gap between IT and business.

By using web services we can care for the first aspect, since web services offers a Service Oriented Architecture (SOA) with loosed coupled services. To align, connect and manage the services the web service stack provide us with the Business Process Execution Language (BPEL). BPEL or WS-BPEL is a programming language developed by IBM, BEA and Microsoft, supported by all of the bigger companies in the industry, and since 2003 a part of the OASIS standard family. It's designed to specify the interactions between web services, implementing the business process. The language is XML based and structured in blocks. BPEL doesn't have any graphical notation, but the structure is highly suitable and it is a feature most development tools have. A graphic tool doesn´t only help us in the software development process but could also be a bridge to business, and therefore help us to manage the IT-business gap. Especially interesting in BPEL's case is the connection to the business process mapping notation Business Process Management Notation (BPMN). BPMN was originally developed as a graphical representation of the

Business Process Modeling Language (BPML), a former competitor to BPEL. BPML was outrivaled by BPEL early on. However BPMN survived and the idea of connecting mapping notation to execution language was focused on BPEL instead.

In my investigation I've evaluated how BPEL, together with BPMN, could solve and meet the challenges of creating agile software and manage the IT-business gap. I've looked at the problem from an investment perspective, since this appear to be the most common position in the software development industry, regarding this technology.

The main conclusion is that an investment in the technology today, in general, is a bad idea, but that it is a technology with potential, well worth keeping your eyes on. The conclusion builds on a number of factors, where the cost factors exceed the incomes and savings in cost factors.

The technology has two large advantages compared to traditional software development in for example Java or C#. The biggest advantage is the possibilities to bring IT and business closer together. This is not done in the best way, by converting BPMN maps from mapping tools to BPEL blueprints, from which developers make the implementation, but by tools where business and IT works in the same development environment. In this way the processes, the process maps and the implementations of the processes always correspond. Today this could be done by using the graphic feature of the

BPEL development tools available on the market. Some of these use BPMN as the notation which is even better.

The second advantage is that the technique is designed especially for web services. It is therefore highly convenient to use for coordinating the services compared to traditional languages. The downside of this specialization is that it comes with large limitations, foremost when it comes to data manipulation. A disadvantage that evens up the advantages of specialization.

The biggest disadvantage is however that the technology still is immature, at least as implementation. In all of the development environments tested bugs and errors were detected, especially in environments that correspond to the latest version of BPEL, version 2.0, from 2007. Environments that correspond to BPEL version 1.1 are more stable, but on the other hand they run the risk of being obsolete and without support in future platforms.

Another result in the investigation, that is a disadvantage for BPEL, is that the web services built in BPEL tends to have lower execution speed than its counterpart in Java.

To these disadvantages we also have to add costs for acquiring the technology, such as software investments, but foremost education and introduction costs.

How these advantages and disadvantages are valued is of cause dependent of the investor's core business, main strategies and market position etc. In general though, the conclusion stands. The technology is a bad investment at least today. The exceptions are companies that already invested in the technique and/or have a profile as pioneer in the fields of business process management and service oriented architecture.