

Jenz & Partner Product Watch Series

Xeco – First Impression

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Author: Dieter E. Jenz

Quick Guide

What it is	Business Process Management System
You would use it for...	Modeling of public business processes and as an execution platform for automated processes
... when ...	you are pursuing an ebXML-based business collaboration strategy
Distinctive features	Rules engine, Remote administration capability
Relationships with other zenAptix products	None
Alternative Products	Excelon BPM
What to do	Evaluate
Vendor URL	http://www.zenaptix.com

Overview

Xeco is a product of zenAptix, a South Africa based software vendor. zenAptix has been formed in 2000 by Korbitec, a technology incubation firm with more than 180 employees, which is the majority shareholder. zenAptix has a clear focus on collaborative business solutions.

Xeco is an ebXML based business process server, currently at version 1.2. It supports key ebXML specifications: Business Process Specification Schema (BPSS), Collaboration Protocol Profile (CPP), and the Collaboration Protocol Agreement (CPA). As such, Xeco supports inter-enterprise business collaboration.

Concepts and Architecture

The Xeco business process server sits on top of an ebXML compliant Message Service, which supports version 2 of the ebXML Message Service specification. The messaging layer provides for transport and routing.

The ebXML Registry and Repository Service specification has not been implemented yet. Instead, Xeco uses LDAP technology to store CPPs and CPAs. zenAptix will provide a means to store and retrieve artifacts from an ebXML Registry/Repository in the next version. However, there is no plan to implement the ebXML Registry/Repository itself.

The Xeco business process engine provides flow control over business processes. It also implements the Business Service Interface (BSI) layer, which executes business transactions. In addition, the process engine initiates the execution of a business activity, which is represented by an application.

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Xeco relies on a rules based expert system whose primary purpose is to make it easy for zenAptix to keep Xeco ebXML compliant as ebXML specifications evolve. A change in relevant ebXML specifications should just result in the need to upload a new set of rules to the Xeco server without requiring a restart of the Xeco server. A business process designer would not use the expert system.

The processing capability of Xeco can be distributed over multiple physical servers. JMS, the Java Message Service, is supported for the intra-enterprise inter-component communication. Thus, the Xeco system can be distributed geographically and/or functionally.

The BeanStork tool generates and compiles JavaBean classes directly from an XML schema, which needs to be done when an XML schema is created or changed. Subsequently, the ebXML business document is marshalled into a JavaBean object.

Xeco contains a toolkit for developing adapters to integrate messages into backend systems. These adapters are used by external applications, such as SAP's ERP system, and enable application invocation as well as interoperation with external applications.

Xeco requires a JDK (1.3), a relational database and an LDAP server. Companies have the choice of which RDBMS to use, since Xeco accesses the relational database through a JDBC 2 driver. The popular MySQL RDBMS would just be one of the options. This opens up the opportunity to use a "free-beer" RDBMS in the development environment and a different RDBMS in the production environment. Similarly, as for the LDAP server, there is a choice between open source OpenLDAP and iPlanet Directory Server. Xeco runs on Linux, several flavors of Unix, and on Windows NT/2000.

Business Collaboration

In the ebXML model, as two or more companies intend to collaborate, they go through three stages: 1) Design of Business Processes and creation of CPPs, 2) Negotiation of CPAs with business partners, and 3) Execution of business processes. In addition, an administration environment is required in order to perform common management tasks, monitoring and reporting.

Design

zenAptix has not developed its own business process modeling tool. Business processes can be designed with any UML Modeling tool, such as Rational Rose or MagicDraw, that saves design artifacts in XMI version 1.1 format. Then, a Xeco conversion tool creates the ebXML BPS representation of a business process, which can be uploaded to the Xeco server by using the administration tool. Pre-existing ebXML BPSs (which need no conversion) can also be uploaded.

CPAs and CPPs need to be created manually using an ordinary text editor or an XML editor. Like business process specifications, CPPs as well as CPAs are uploaded to the Xeco server using the administration tool. Upload is equivalent to deployment.

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Negotiation

In the current version, Xeco does not support CPA negotiation between business partners. Hence, after manual creation/editing, the CPA XML document would be sent to the business partner for approval. Business partners would possibly exchange several versions of a CPA via e-mail.

Process Execution

In the current version, Xeco supports the execution of public business processes. Multiple Xeco servers can run in parallel.

zenAptix is currently extending the Xeco server to the effect that it is also suitable for the execution of private business processes, which are internal to the organization. In a future release, it will provide for automated as well as human workflow, based on the Business Process Management Language (BPML), which is currently being worked on by the Business Process Management Initiative (bpmi.org).

Business activities can be implemented as Web Services. Clearly, Web Services integration significantly improves technical interoperability in that a Web Service implementation can reside anywhere and be implemented in any language. However, due to current limitations in technology and standards, Web Services should only be used when specific criteria are met (security is not an issue, service is not transactional, etc.).

Xeco's security system supports the authorization and authentication of messages, a secure socket layer for transport security and digitally signed XML messages (either in part or as a whole) to validate the sender. However, for secure message interchange to work, both business partners must use compatible security features. Since current ebXML Message Service implementations are generally weak in terms of security, it is best to have both collaborating business partners run Xeco.

Administration

The System Activity Monitor displays a live, interactive view of the Xeco server, showing business processes moving through the system. The administrator can view CPPs, CPAs, business processes, and messages.

Each Xeco server controls its own log file. The Log View provides navigation through the system logs, which are vital for audit trails of collaborative business processes. In addition, the administrator can view SOAP messages. The Log View feature is message oriented. Currently, the status of executing business activity instances (applications) cannot be viewed.

One of Xeco's distinctive features is to provide support for remote management, meaning that business processes and CPPs can be maintained from another site. For example, a small enterprise could commission a consultancy with maintaining their public business processes. Hence, a small business does not need to keep the necessary skills in-house.

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Summary

zenAptix is an early mover in the ebXML space. Its Xeco product implements major ebXML specifications, which are expected to form the basis of future inter-enterprise business collaboration. The risk for early implementers is very low, since products follow the specifications (as opposed to specifications following implementations, which has all too often been the case).

Xeco cleanly separates the modeling environment and the execution environment. Before a process model can be instantiated and executed, it needs to be deployed (uploaded) in the run-time environment (Xeco server). Deployment to multiple Xeco servers is possible.

Xeco is primarily suited for supporting public processes in an inter-enterprise and intra-enterprise environment. At present, Xeco has its strengths in providing an operational execution environment. It provides no direct support for the modeling of public business processes. Process designers need to use a CASE tool or a purpose-built tool, such as BindStudio of Bind Systems.

At present, Xeco does not support human workflow and thus cannot fill the role of a Workflow Management System. This will probably change with a future release, which includes BPML support. Technically, Xeco has the potential for intra-enterprise process integration by providing support for any JMS compliant messaging layer.

With a license fee starting with \$4,000 for a small enterprise, Xeco process server is very attractively priced. A number of factors, such as the number of business partners and the number of business documents, determine the license fee, potentially bringing it up to the \$300,000 range for large enterprises with complex requirements.

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