

# The ebXML Test Framework and the Challenges of B2B Testing

Jacques **Durand** <jdurand@fsw.fujitsu.com>

Michael **Kass** <michael.kass@nist.gov>

Pete **Wenzel** <Pete@SeeBeyond.com>

## Abstract

Testing tools for conformance and interoperability are emerging as a key technology for enabling and maintaining interoperability between e-business partners. Verifying adherence to a common standard (conformance) is just the first step. In addition, it is critical that the selected options, bindings, and deployment settings of the implementations, are compatible across partners. Also, as a stack of several standards - as in ebXML - is usually involved, interoperability increasingly relies on the bindings across these standards, their version compatibility, and explicit contracts.

This paper reviews the challenges and solutions of interoperability testing for the current set of ebXML standards, presents the status of the ebXML Test Framework and test suites developed by the ebXML Implementation, Interoperability and Conformance Technical Committee (IIC) under OASIS, and also compares with similar efforts on the set of standards more broadly understood as defining Web services.

Such testing initiatives are taking place under the Organization for the Advancement of Structured Information Standards (OASIS), and also under Web Services Interoperability organization (WS-I). Although the scope of IIC work spans all ebXML specifications, we focus here on messaging, as the IIC has recently completed test suites for this specification. The paper also describes the underlying IIC testing architecture — the ebXML Test Framework - currently under development at NIST. Another organization, WS-I, has also chartered a testing working group, whose goal is to define test assertions and develop testing tools for verifying interoperability between various instances and platforms of web Services. We also comment on this initiative and its testing approach, and compare with the ebXML IIC work.

The authors have been involved in both organizations and activities for more than a year, working at design and implementation level.

Among the general challenges in testing e-business systems that are addressed, along with proposed solutions, are:

• As interoperability testing is an "expensive" activity (in terms of logistics, time and disruption), it is beneficial to focus first on the conformance of each end-point to the reference specifications, and to the proper combination of these (also called "profile" in WS-I).

• As the systems of e-Business partners will evolve and upgrade independently (versions, proprietary capabilities), it is critical to be able to execute interoperability tests on-demand, point-to-point, on a frequent basis. We call "interoperability maintenance" this form of regression testing. This calls for automation, ease of use: executable XML-scripted test suites control the choreography of exchanges over distributed test components.

• Interoperability starts with the proper deployment and configuration of a B2B platform. The IIC has defined a deployment template, from which a community of business users can define and share guidelines on how to use and deploy a standard (here, ebXML MS).

• Future test centers will provide basic logistic and testing services (coordination, notification, reporting, monitoring, reference implementation hosting, test suites downloading), and acting as hub between test subscribers.

The full paper was not available at the time the proceedings were created. Please check the conference web site, <http://www.xml europe.com>, to find an updated version of this paper.

## Biography

### Jacques **Durand**

Fujitsu Software  
San Jose  
USA  
jdurand@fsw.fujitsu.com

Jacques Durand, director of Engineering and Standards at Fujitsu Software, is evaluating new eBusiness standards and advising on their use in the business process management and B2B products at Fujitsu. He is actively involved in the design and implementation of ebXML standards, chairing the OASIS ebXML IIC (Implementation, Interoperability and Conformance) committee. He is also actively involved in WS-I (Web Services Interoperability) organization - of which Fujitsu is a co-founder -, and is currently chairing the Testing working group of WS-I, a multi-vendor group which designs and implements tools to verify Web Service interoperability based on a concept of "Profiles". Prior to this, Jacques Durand has been V.P. of development at Savvion, a BPM company, for several years. He has more than 20 years of experience in various areas of software development, ranging from R & D to commercial products. He has received an MS in computer science and Ph.D. from Nancy University, France. One of his areas of expertise involves rule engines and logic programming.

### Michael **Kass**

NIST  
Gaithersburg  
USA  
michael.kass@nist.gov

Michael Kass is a Computer Scientist at the National Institute of Standards and Technology (NIST) in Washington DC. A 1984 graduate of the Ohio State University with a B.S. in Geodetic Science, Mr. Kass worked in the Geodesy Department of the Defense Mapping Agency from 1984 to 1989. In 1989 changed to the computer science field as a computer systems and applications programmer for the U.S. Naval Surface Warfare Center in Carderock, Maryland. In 1996, Mr. Kass joined NIST as a software testing developer in the Standards and Conformance Testing Division of the Information Technology Laboratory.

### Pete **Wenzel**

SeeBeyond  
Monrovia  
USA  
Pete@SeeBeyond.com

A 9-year veteran of Business-to-Business and Enterprise Application Integration solutions at SeeBeyond, Pete Wenzel is currently a member of the Standards and Product Strategy group, and has been active in the standards development community for several years. His experience includes a term as Chief Architect of RosettaNet, during which time he oversaw the technical development of RosettaNet Ready, that consortium's software compliance testing program. Mr. Wenzel is a participant in several OASIS ebXML Technical Committees, including Messaging Services, Collaboration Protocol Profile and Agreement, and Implementation, Interoperability and Conformance, and also represents SeeBeyond in several other Web Services-related standards efforts. A graduate of California Institute of Technology, his specific areas of interest include data communications and security.