WS-I
WEB SERVICES INTEROPERABILITY ORGANIZATION

# WS-I PROFILES
# STRUCTURING WEB SERVICES INTEROPERABILITY FOR FORD AT AIAG

The Web Services Interoperability Organization (WS-I) is an open non-profit industry organization chartered to establish Best Practices for Web services interoperability, for selected groups of Web services standards, across platforms, operating systems and programming languages. WS-I comprises a diverse community of Web services leaders from a wide range of companies and standards development organizations (SDOs). WS-I committees and working groups create Profiles and supporting Testing Tools based on Best Practices for selected sets of Web services standards. The Profiles and Testing Tools are available for use by the Web Services community to aid in developing and deploying interoperable Web services.

The Automotive Industry Action Group (AIAG) is a not-for-profit association serving the automotive industry. Retailers, automakers, suppliers and service providers work collaboratively at AIAG to drive cost and complexity from the supply chain via global standards development and harmonized business practices. AIAG's 1100 members come from around the world.

Read below to learn how WS-I's Basic Profile enabled AIAG to develop the interoperable, secure set of cross-supply chain process templates its members required.

## The Challenge of an Interoperable Supply Chain

*"Around 2002, Ford was looking at putting in place reliable information channels and processes that would cut across their entire supply chain. About 5% of their transactions at the time were being lost along the way, in a tangle of applications that didn't play well together,"* said Tim Fowler, Supply Chain and E-commerce Director at AIAG. *"What they had wasn't working, and it could not be fixed. They needed to start over with a completely different model, so they enlisted AIAG's resources to help."*

*"Ford wanted an easy way to implement processes that would be interoperable and secure for all points in the supply chain, not just inside Ford. Interoperability was the key ingredient – as opposed to using a set of proprietary technologies. Ford wanted to be able to plug securely into a service architecture designed for the business-to-business space – an approach that would work between and among organizations, versus separate things that worked with individual members of the supply chain."*

A number of possible approaches and competing technologies were available at the time, such as EDI and ebXml. However, on balance Web Services promised the best combination of security, reliability, integration ease and service orientation. Web services appeared to be the best choice to create the model supply chain process implementations Ford sought, even though Web services specifications were far less mature than they are today.

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## WS-I Profiles: the Road to the Solution

Fowler was already acquainted with WS-I Profiles. *"With both IBM and Microsoft active in WS-I, we knew the group's work had clout,"* said Fowler about the decision to work with the Profiles. Eventually, Faisal Waris from Ford co-chaired an AIAG Work Group of about 20 people from organizations such as Ford, General Motors, IBM, Microsoft, Sun Microsystems, Fujitsu, iConnect, Axway, NIST and Wipro. When complete, the deliverables would be available under the AIAG umbrella to all of its members.

The effort proceeded in stages. Beginning in 2003 was the proof of concept: an inventory management project – MinMax – that involved many players. The second project added additional capacity to the transport layer. Phase three, involving more vendors, was a Kanban implementation that first used simple Web services, then applied more advanced specifications. Looming over the last effort, which began at the end of 2005, was the deadline to present the work at AIAG's annual conference in September 2006.

*"There were challenges along the way,"* said Waris. *"Though some specifications were well developed, others were new at the time, and we had to do a lot of troubleshooting. WS-I was key to getting where we were going. If we hadn't known it already, we learned that interoperability is extremely hard to achieve, and without WS-I Profiles almost impossible. We still had to spend much time testing, but we came out with a high degree of confidence that if a process conformed to a WS-I Profile, it would interoperate with another process that did."*

## Ongoing Success with WS-I Profiles

Today, Ford's enterprise policies require WS-I Profile conformance for Web services implementations. The company is now using WS-I profiles in the development of business-to-business production processes. (In an innovative approach, Ford and AIAG have paired end-user companies with application vendors for several more implementations.) The Ford-AIAG Web services efforts to date have made use of WS-I Basic Profile 1.1 and WS-I Basic Security Profile 1.0. New Profiles and updates will be incorporated as they are published.

The original proof-of-concept materials are available to the automotive industry through AIAG. The Architecture and WSDL files can be downloaded by AIAG members, and a subset is also offered to the public. AIAG now makes a point to direct its new members toward WS-I Profiles when they express interest in Web services. *"AIAG is deeply interested in using the WS-I Profiles and in proving them out,"* said Fowler.

## FOR MORE INFORMATION

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