

# WS-I Overview

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“Learning is fun!”



# Agenda

- What is, What is not, Why WS-I?
- What is a Profile?
- WS-I organization
- Basic profile

# **What is, What is not, Why WS-I**

# WS-I Is

“An open industry effort chartered to promote **Web Services interoperability** across platforms, applications, and programming languages.

The organization brings together a diverse community of Web services leaders to respond to customer needs by providing **guidance, recommended practices, and supporting resources** for developing interoperable Web services.”

# WS-I Is Not

- Is **not** a source of WS-\* specs
  - > These have typically been proprietary specifications from single or small groups of companies, though a few have been submitted to recognized standards organizations
- Is **not** a ‘standards’ organization
  - > Doesn’t produce specs for new technology
  - > Profiles existing specifications

# Why WS-I?

- Challenges for Inter-operability
  - > Each standard deals with a specific problem
  - > Customer solutions utilise multiple standards
  - > Infinite ways to interpret the standards
  - > Customers have multi-vendor environments
  - > Inter-operability a significant challenge

# WS-I Deliverables

- Profiles are clarifications, constraints and best practices for use of Web services specifications
- Sample Applications demonstrate interoperable Web services that conform with WS-I Profiles
- Testing Tools automates testing for conformance with WS-I Profiles

**Profile**



**Sample  
Application**

**Testing  
Tools**

# **What is a Profile?**

# What is a Profile?

- Named a set of Web services specifications it constrains
- Profile adds **constraints and guidance** as to their interoperable usage based upon implementation experience
- Organised around base specifications

# Philosophy of the Profile

- Does not address application semantics
- Focus on **testable** requirements
- Makes strong requirements
  - > MUST and MUST NOT are used whenever possible
  - > SHOULD and SHOULD NOT are used when MUST/MUST NOT are not practically possible
- **Never relaxes requirements**
- Chooses between multiple mechanisms
- Preserve backwards compatibility
- Focus on interoperability
- Conformance of measurable targets
  - > MESSAGE, DESCRIPTION, etc.

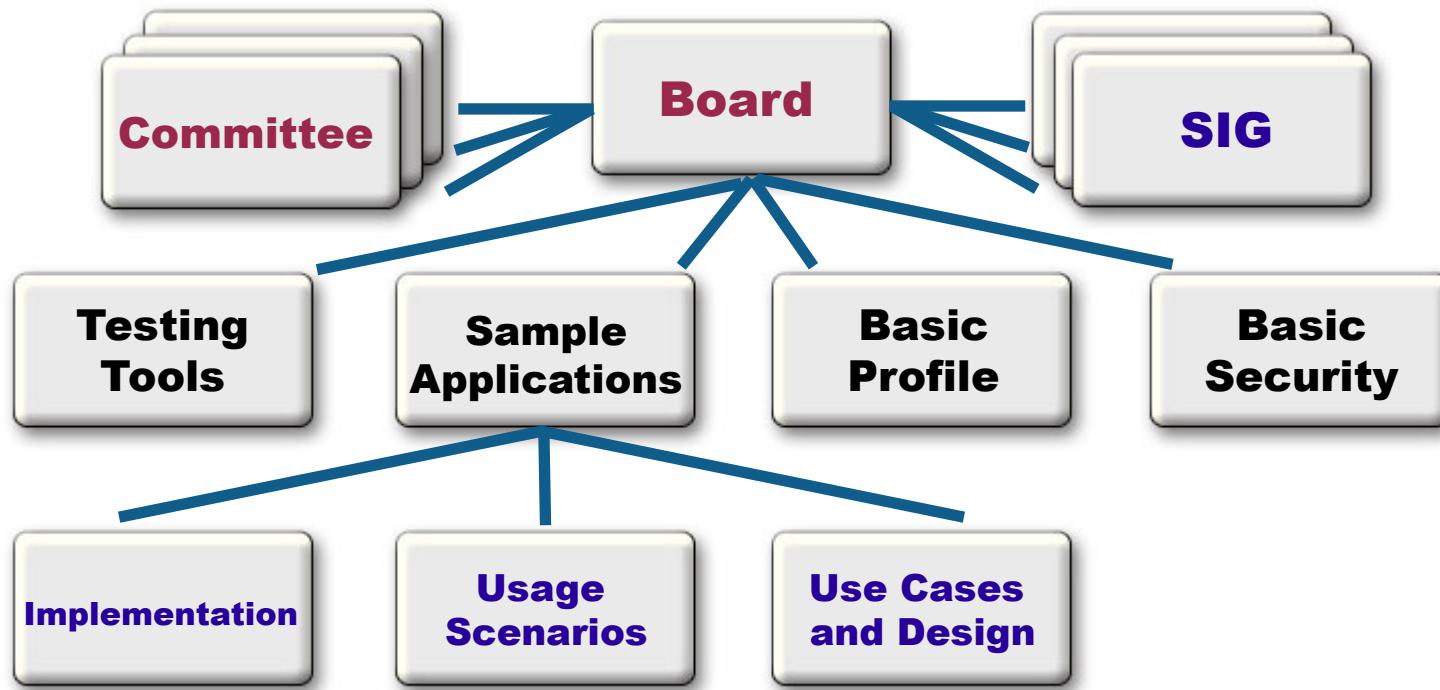
# Profile General Format

- Reference section of an underlying specification
- Statement (prose)
  - > Say it in English
- Requirement(s)
  - > <RequirementProse xml:lang="en-specese"/>
- Rationale
  - > Explain why decision was taken
- Examples
  - > Incorrect and correct usage

# **WS-I Organization**

**Messaging**

# Organizational Structure



# **Basic Profile 1.0a**

**Messaging**

# Scope of Basic Profile 1.0 (page1)

- Messaging (SOAP)
  - > XML representation of SOAP messages
  - > SOAP processing model
  - > Use of SOAP in HTTP
- Service description (WSDL)
  - > Document structure
  - > Types
  - > Messages
  - > Port types
  - > Bindings and SOAP bindings

# Scope of Basic Profile 1.0 (page2)

- Service publication and discovery (UDDI)
  - > bindingTemplate
  - > tModel
- Security
  - > Use of HTTPS

# Basic Profile 1.0

- Sample conformance requirement
  - > R1010 A RECEIVER MUST accept messages that contain an XML Declaration
- Most requirements accompanied by rationale
- Some requirements illustrated with examples

# Basic Profile 1.0

- Profiling
- SOAP 1.1, WSDL 1.1 and UDDI 2.0
- Consists of 156 conformance requirement
  - 48 related to SOAP
  - 84 related to WSDL
  - 8 related to UDDI
  - 6 related to security

# Basic Profile 1.1

- Adds new requirements to 1.0
- Removes some requirements from 1.0
- Adds support for attachments to Basic Profile 1.0
- Based on
  - > SOAP+Attachments W3C Note (MIME)
  - > WSDL MIME Binding
- Final on Aug. 2004
- Changes from 1.0
  - > <http://blogs.msdn.com/jevdemon/archive/2004/08/25/220353.aspx>

# Attachment Profile 1.0

- Complements the WS-I Basic Profile 1.1 to add support for interoperable SOAP Messages with Attachments-based Web services
- Final on Aug. 2004

# SOAP Binding Profile 1.0

- Deals with serialization of the envelope and its representation in the message
- Factored out of the Basic Profile 1.1 to enable other Profiles to be composable with it
- Final on Aug. 2004

# Basic Security Profile 1.0

- Identify security challenges
  - > Peer identification and authentication
  - > Data origin identification and authentication
  - > Data integrity and confidentiality
  - > Non-repudiation
- Identify threats
- Identify countermeasures
  - > SSL/TLS, HTTP Basic, Digest and X509 cert auth
  - > SOAP Message Security (WS-Security)
- Usage scenarios defined
- Work in progress (as of 11/2004)

# Thank you!

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