!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN" "http://www.w3.org/TR/REC-html40/strict.dtd">

Introduction

- Edd Dumbill – Managing Editor, XML.com
- Contents
    - A Philosophy of Web Services
    - The Technology Landscape
    - The Semantic Web

Web Services Have Always Been Around

- A Web Service is a process that can be executed remotely via the Web
- Web forms are web services for humans
- CGIs, screen scraping
    - Brittle
- Pre-agreed data formats

A Philosophy of Web Services

- Web services are to application integration what XML has been to data interoperability
- The value is in resolving alternative methods to a *lingua franca*.
- So we have similar prospects:
    - Interoperability
    - Easy integration
    - Unexpected and creative compositions

A basis for a new architecture.

Layers

Infrastructure

- Transport
- Description
- Discovery

Application

- Vocabularies
- Business Rules

Transport mechanisms

A spectrum from stable to vaporware.

- HTTP + XML (stable W3C & IETF standards)
    - But no standard serialization
- XML-RPC (community specification)
    - Useful, but restricted to HTTP RPC
- SOAP (corporate specification)
    - Strong contender. Needs to prove interoperability.
- W3C XML Protocol (in-development standard)
    - The ultimate winner?

Description and Discovery

Early development: don't believe the hype.

- WSDL – submitted as NOTE to W3C
    - Hope from vendors for early agreement on SOAP and WSDL

Discovery

- UDDI
- ebXML
- Earlier work, such as eCo
- What about decentralized discovery?

Frameworks

Where Web Services start to make sense in a network without prior arrangements.

A combination of vocabularies and business rules.

- ebXML
- BizTalk

Who's calling the shots?

- Large vendors – tend to submit to the W3C

- Single-purpose or new vendor consortia (UDDI)

- W3C – infrastructure

- OASIS & UN/CEFACT – ebXML framework

Community focus appears to be in implementation not specification (at least 35 SOAP implementations!)

The Semantic Web

A new W3C Activity.

- A continuation of Tim Berners-Lee's vision
- An alternative (and complementary?) approach to Web Services
- Make the Web machine-processable
- Approach from data side rather than API

Semantic Web Architecture

- Standard addressing (URIs)
- Interoperable data (XML + RDF)
- Ontologies
- Logic (business rules)
- Digital signatures

Web Services or Semantic Web?

The W3C is working on both, although they seem to be very overlapping. Which one to use?

<opinion>

- It's like Windows vs UNIX architectures
- Web Services are sympathetic to common programming models of today
- Semantic Web is sympathetic to the decentralized way the Web works

</opinion>

Prospects for the Future

- Web Services will influence the industry heavily over the next two years
- If TBL's vision is realised, Semantic Web will have the more profound influence long-term.

Conclusion

Updated version of the slides on the Web:

http://usefulinc.com/pres/xmlworldeu2001/

More coverage on XML.com.