Promoting e-Business and Web Services Standards to SMEs in Japan, and Asia

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  - Goal of Japanese government for B2B-EC adoption
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Overview: 99% of Japanese Enterprises are SMEs

1%  14,705

99%  1,602,830

Total: 1,617,535

* Capital is more than 300 Million Yen (about $2.5 million).
B2B-EC adoption rates
1) in Large Enterprises: 24%

2) in SMEs: 8%
The Goal of the Japanese Government:
Making B2B-EC adoption rate more than 60%. (More than 50% in SMEs)

The Key Issue is to increase adoption rate for SMEs.

Government agency is coordinating industries to promote B2B-EC.
Overview of Industries that government agency is coordinating

- **Retail Industry**
  - Vertical Standard - “Japan Chain Stores Association (JCA) Protocol” in use since 1980s (adoption >90%).
  - DSRI (The Distribution Systems Research Institute) has defined **Pull Messaging extension for “SOAP-RPC”**.

- **Manufacturing Industry**
  - JEITA ECALGA project: Parts Procurement System with ebXML (December 2003)
  - COXEC (Common XML/EDI Practice Promotion Council)
    - EDI service with ASP model for SMEs.
Asian government agencies are sponsoring Interoperability testing
- eBusiness Asia Committee (eAC)
  - eAC has issued certification for 20 products/implementations that has passed interoperability test for ebMS2.0.
  - planning to execute next interoperability tests for standards elected by its members (some WS-*, likely ebMS3.0)
Activities to promote B2B and Web Services Standards

Activity 1
Promoting B2B standard to Vertical organizations

Activity 2
Promoting Web Services standard by Interoperability testing

OASIS Standardizing B2B / Web Services specifications

Adoption Requirements
Vertical Industry Vertical Standardization

Horizontal Market Interoperability Testing

Adoption Feedback

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Promoting B2B standard to Vertical: The key is adopting Industry Requirements into a specification
Requirements to Promote B2B in SMEs in Japan

- Easy to adopt
  Light-weight system, Support non-real time processing, no 24x7
  A single B2B system for all trading partner.
  Legacy Web-EDI is affordable, but requires different systems for each trading partner.

- Easy to use
  As easy to use as FAX.
  Single interface should allow to exchange with multiple trading partners.
  Legacy Web EDI systems requires manual data input for each trading partner.
  Expensive in terms of human resources.

- Messaging data in client system should be reused in other systems
  Legacy Web EDI systems don’t allow to reuse data, since all data is stored in server.
A Major Feature: Pull Messaging in Client/Server System

- **Client/Server system**
  Affordable, easy-to-maintain light-weight Client for SMEs.

- **Standardizing a Pull messaging specification**
  ebXML : ebMS2.0 -> ebMS3.0

- **With Pull, Receiver retrieves EDI docs from Sender.**
  Legacy EDI friendly.
  - No 24X7..
  - No global IP address.
  - Works with dial-up connections.

- **Pull messaging meets requirements from SMEs**
Requirements from Industry Organizations to Pull messaging

- Requirements from DSRI, JEITA, COXEC activities

1) Simple authentication for client.
2) Non-accessible Receiver (→ Pulling).
   - E.g., Firewall, no 24x7, no global IP address, no server
3) Prioritized/Categorized Messaging.
   - Message transfer controlled based on priorities.
4) Reliable Messaging (e.g., At-Least-Once, Server recovery) - in the infrastructure level.

These are proposed to ebMS3.0 standardization
Industries have adopted standard specifications

- JEITA and COXEC have adopted and implemented ebMS3.0.
  - ebMS3.0 is based on Web Services specs.
    - I.e., ebMS3.0 = SOAP + WS-Reliability/RM + WS-Security + Pull messaging + …
  - The spec meets their requirements.
- DSRI is defining their own pull messaging extension for SOAP-RPC.
  - However, ebMS3.0 may be re-considered.
Promoting Web services standards by Interoperability testing

OASIS
Standardizing B2B / Web Services specifications

Adoption
Requirements

Vertical Industry
Vertical Standardization

Horizontal Market
Interoperability Testing

Adoption
Feedback

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Interoperability testing in eBusiness Asia Committee (eAC)

- eAC Interoperability Task Group is planning interoperability test to promote Web Services and B2B Standards.

- Candidates are:
  - ebXML Messaging Services 3.0
  - WS-Reliability / WS-RM
  - WS-Security
  - And other ebXML and Web Services technologies

- The first technology to target for interoperability test in ITG is WS-Reliability / RM, since it is critical to B2B.
Requirements for Interoperability tests

- Leverage the existing testing process/technologies.  
  E.g., OASIS IIC, ebXML Asia, and others.

- Easy, immediate verification of test items  
  E.g., It should allow to validate correctness of test items.

- Testing and its validation should be easy.  
  E.g., Many testing process should be automated.

- Testing process should be easy to extend and easy to maintain.  
  E.g., Testing should be independent from protocol binding.
Testing Tool for Reliable Messaging was developed

- Developed at Digital Information Equipment Interoperability Platform Project at NEDO/INTAP in Japan

- Goal: to ensure interoperability of Reliable Messaging for Web services protocol (used in ebMS V3).

- Target specification: OASIS WS-Reliability1.1. WS-RM will also be supported, once standardized.

- Deliverables from the project:
  - Profile
  - Conformance/Interoperability test tools

- Leveraging existing achievements from OASIS IIC, ECOM, ebXML Asia and WS-I
  - E.g., ebXML Message Service Deployment Guide, Test Suites, CPA Templates, WS-I profiles

- The test tool is offered freely to promote interoperable reliable messaging.
Reference Material

Test Categories

1. Message Format Tests
   - Validating a message format exchanged on the network
     - Conforming to OASIS WS-Reliability 1.1 specification

2. Binding Tests
   - Validating a binding of WS-Reliability messages and underlying protocol

3. Protocol Sequence Tests
   - Guaranteed delivery,
   - Duplicate elimination, and
   - Message ordering

Test Patterns

- Conformance test for reliable messaging engine
- Interoperability test between two reliable messaging engines
- Interoperability test between two applications
## Reference Material

### Snapshot of Test Report

#### Test Assertions Document

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#### Specification Information

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#### Format Test Results

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<td>Test Option:</td>
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- **Context:**
  Request Message includes WS-Reliability Request element.

- **Test Description:**
  Validate whether Request element includes mustUnderstand attribute.

- **Failure Message:**
  mustUnderstand attribute not found.

- **Failure Detail Description:**

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The GUI outputs validation result of message format:

- Output with each combination of request and response
- Display of test item and its test result with each message
Next Interoperability Testing

- eBusiness Asia Committee is planning to start Interoperability testing in August to October, 2007
  - Reliable Messaging (WS-Rel*)
  - ebMS3.0
  - And others
- Testing at no charge.
Conclusion

- The Japanese government plays a key role in promote B2B standards in SMEs.
  - Does not dictate, but coordinates work of Industry Consortiums, supports testing

- Requirements from Vertical Organizations / SMEs must be taken into account in OASIS standards.

- Web Services standards (WS-*) will be accepted with assurance of Interoperability among multiple implementations.
  
  Testing Procedure, Testing Tools, Conformance and Interoperability testing
Contact Information:

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Contact me for
- ebXML MS3.0 interoperability test,
- WS-Reliability/RM interoperability test.

Thank you.