Comparing ebXML messaging (ebMS) AS2 for EDI, EDI VAN and Web Service messaging

Developed by OASIS ebXML TC members
Summary

• **ebXML** designed for B2B applications using ebMS (messaging) with CPA (partner coordination mechanism)

• **AS2 / AS1** – is “EDI over the internet”

• **EDI VAN** – legacy services for past 20 years – ftp delivery, now internet too

• **Web service** messaging – adaptation of **WSDL**-based XSD for B2B applications

• Web service **WS-I** – interoperability profiles – best practices and rules for combining WS standards – with extensive interdependencies
<table>
<thead>
<tr>
<th>Feature</th>
<th>ebMS</th>
<th>AS1/ AS2</th>
<th>EDI VAN</th>
<th>WSDL</th>
<th>WS-I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open public specification</td>
<td>Yes</td>
<td>Yes</td>
<td>Messaging</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>EDI payloads support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>XML payload support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PDF and binary attachments support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Secure messaging with authentication</td>
<td>Yes</td>
<td>Yes</td>
<td>Partial</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Reliable message delivery mechanism</td>
<td>Yes</td>
<td>Pending</td>
<td>Partial</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Legal receipt verification support</td>
<td>Yes</td>
<td>No</td>
<td>Partial</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Built-in audit log and tracking</td>
<td>Yes</td>
<td>Yes (for NRR)</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Business process workflow enabled</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Partial</td>
</tr>
<tr>
<td>Role and action use support in envelope</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Conformance suite for implementations</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Digital certificates and encryption</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>XML encryption support</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Open source implementations available</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Uses web services infrastructure (Apache/SOAP)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Asynchronous and Synchronous support</td>
<td>Yes</td>
<td>AS2 only</td>
<td>No</td>
<td>No</td>
<td>Partial</td>
</tr>
<tr>
<td>SMTP delivery support</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Service &amp; Operation levels authorization</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
### SWOT Analysis

**Comparing ebMS + CPA (ebXML) with VAN services**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
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<tbody>
<tr>
<td>Open public standard</td>
<td>Setup &amp; Install</td>
</tr>
<tr>
<td>Open source solutions</td>
<td>Support services</td>
</tr>
<tr>
<td>Uses internet mechanisms</td>
<td>Developer use</td>
</tr>
<tr>
<td>Extensible for new techniques</td>
<td>Language support</td>
</tr>
<tr>
<td>Supports push &amp; pull delivery</td>
<td>Marketing budget</td>
</tr>
<tr>
<td>Any payload enveloping</td>
<td>Backup &amp; Archive</td>
</tr>
<tr>
<td>Robust partner / role model</td>
<td></td>
</tr>
<tr>
<td>Business process aware</td>
<td></td>
</tr>
<tr>
<td>Security mechanisms</td>
<td></td>
</tr>
<tr>
<td>Interoperability proven</td>
<td></td>
</tr>
<tr>
<td>Existing vendor adoption</td>
<td></td>
</tr>
<tr>
<td>Simple business metaphors</td>
<td></td>
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<tr>
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<th>Threats</th>
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<tr>
<td>Provide foundation for global business</td>
<td>Vendors switch to closed systems</td>
</tr>
<tr>
<td>Included in *nix distribution</td>
<td>Vendor marketing</td>
</tr>
<tr>
<td>More government adoption</td>
<td></td>
</tr>
<tr>
<td>Developer awareness &amp; use</td>
<td></td>
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<tr>
<td>Legacy EDI support</td>
<td>Cost</td>
</tr>
<tr>
<td>Established network</td>
<td>Proprietary mechanisms</td>
</tr>
<tr>
<td>User handholding services</td>
<td>Customer lock-in</td>
</tr>
<tr>
<td>Guaranteed level of service</td>
<td>Weak future support</td>
</tr>
<tr>
<td>Domain specific adoption</td>
<td>Business process linking</td>
</tr>
<tr>
<td>Forwarding and routing</td>
<td>Privacy concerns</td>
</tr>
<tr>
<td>Conformance validation</td>
<td>No contextual rules</td>
</tr>
<tr>
<td>Market domain experience</td>
<td></td>
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<td>Backup and archiving</td>
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<td>Provide open standards based systems</td>
<td>Single point of failure</td>
</tr>
<tr>
<td>Allow SaaS approach</td>
<td>Made obsolete by internet</td>
</tr>
<tr>
<td>Trusted intermediary</td>
<td>Go out of business</td>
</tr>
<tr>
<td>Break into new eCommerce service areas</td>
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## SWOT Analysis

### Comparing ebMS + CPA (ebXML) with AS2 / AS1

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<tr>
<td>- Marketing budget</td>
<td></td>
</tr>
<tr>
<td>- Backup &amp; Archive</td>
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### Opportunities

- Provide foundation for global business
- Included in *nix distribution
- More government adoption
- Developer awareness & use

### Threats

- Vendors switch to closed systems
- Vendor marketing

### Strengths

- Legacy EDI support
- Open public standard
- Uses internet mechanisms
- Vendor (VAN) support
- Migration of existing EDI
- REST-style interfacing

### Weaknesses

- Setup & Install
- Point-to-point only
- No support for pull mode
- No partner / role model
- No business process link
- Backup & Archive
- Developer use
- Language support
- Static limited standard
- Delivery control details

### Opportunities

- Migration of existing VAN EDI to AS1/ AS2 based solutions

### Threats

- EDI diminish in new deployments
- Niche solution only
- Future extensibility
## SWOT Analysis

### Web Service using WSDL

**Strengths**
- W3C-based approach
- Uses internet mechanisms
- Open source tools
- Web server support
- Security mechanisms
- Integration via XSD
- Limited content exchanges
- WSDL-based coupling

**Weaknesses**
- Not designed for B2B
- Enveloping restrictions
- Point-to-point only
- No support for pull mode
- No partner / role model
- No business process link
- Fixed XSD transactions
- Backup & Archive
- Level of service support
- WSDL limitations

**Opportunities**
- Providing real-time supporting content for e-Business solutions
- Internal information feeds

**Threats**
- REST-base ROA interfaces take over

### Web Service using WS-I

**Strengths**
- W3C-based approach
- Uses internet mechanisms
- Open source tools
- Web server support
- Security mechanisms
- Integration via XSD
- Limited content exchanges
- WSDL-based coupling
- Large vendor support

**Weaknesses**
- Excessive complexity
- No partner / role model
- No business process link
- Fixed XSD transactions
- WSDL limitations
- Partner support & setup
- Total cost of ownership

**Opportunities**
- Secure information feeds for high risk applications
- Internal information feeds
- Complex deployment environment needs

**Threats**
- Complexity and cost reduce adoption to niche markets
# ebXML Maturity Model

## ebXML messaging adoption vectors

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>Prime Business Benefits</th>
<th>Competitive Response</th>
<th>Scope</th>
<th>Technology Analysts</th>
<th>Success Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Abundant resources</td>
<td>Vendors look to manage standards</td>
<td>Everyone and everything</td>
<td>Show how they predicted it all in the first place</td>
<td>WS-* viewed as niche toolset</td>
</tr>
<tr>
<td>4</td>
<td>Significant Resources</td>
<td>Support integrated as basic platform feature set</td>
<td>Partners, integrators, business users, the CIO's office, accounting, HR, sales</td>
<td>Run seminars, briefings, executive retreats</td>
<td>Developers free to build effective, enabling solutions</td>
</tr>
<tr>
<td>3</td>
<td>Lots of Resources</td>
<td>Vendors admit support, customers demand solutions</td>
<td>Integrators, business users, and folks in accounting</td>
<td>Discover critical impacts, write reports</td>
<td>Regular developers discover how to use</td>
</tr>
<tr>
<td>2</td>
<td>More Resources</td>
<td>Vendors develop alternative competing solutions</td>
<td>Application integrators, business users</td>
<td>Get paid to belittle and stop adoption with FUD</td>
<td>Advocates resolve issues, empower others</td>
</tr>
<tr>
<td>1</td>
<td>Initial Resources</td>
<td>Vendors ignore</td>
<td>Sponsoring business units</td>
<td>Add to watch list</td>
<td>Developers, nobody is watching</td>
</tr>
</tbody>
</table>
ebXML Messaging 2006 Roundup

**Big Companies**
- Oracle AS –
  - integration of ebXML messaging and CPA partner editor / linkage to BPEL engine
- BEA
  - Support for ebMS v1 and v2
- Sun – ebMS v2 and Sun Services Registry + java libraries & integration toolset
- IBM – native support for ebMS v2 and CPA for new WebSphere v6.1
- Fujitsu – full implementation suite
- Sybase – full implementation suite

**Open source solutions**
- Hermes v1 (ebMS) and Hermes v2 (ebXML + AS2)
- OrionMSG v3
- Webswell Connect v3
- Tamgroup NEXUSe2e

**Commercial tools + projects sampling from 2006**
- Oracle (Helena), Axway (GM/VW, T-Mobile), Xenos (NIA) and BNetal (US CDC / DHS), NEXUSe2e (Monsanto, Wilbur-Ellis)

(for more product information see [http://ebxml.xml.org/products](http://ebxml.xml.org/products) + vendors own web sites)