

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



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# 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



# B2B Comparison Matrix

| <b>Feature</b>                                 | <b>ebMS</b> | <b>AS1/ AS2</b> | <b>EDI VAN</b> | <b>WSDL</b> | <b>WS-I</b> |
|--|-------------|-----------------|----------------|-------------|-------------|
| Open public specification                      | Yes         | Yes             | Messaging      | Yes         | Yes         |
| EDI payloads support                           | Yes         | Yes             | Yes            | No          | No          |
| XML payload support                            | Yes         | Yes             | Yes            | Yes         | Yes         |
| PDF and binary attachments support             | Yes         | Yes             | Yes            | Yes         | Yes         |
| Secure messaging with authentication           | Yes         | Yes             | Partial        | Yes         | Yes         |
| Reliable message delivery mechanism            | Yes         | Pending         | Partial        | No          | Yes         |
| Receipt verification support                   | Yes         | No              | Partial        | No          | No          |
| Built-in audit log and tracking                | Yes         | Yes (for NRR)   | Yes            | No          | Yes         |
| Business process workflow enabled              | Yes         | No              | No             | No          | Partial     |
| Role and action use support in envelope        | Yes         | No              | No             | No          | No          |
| Conformance suite for implementations          | Yes         | Yes             | No             | No          | Yes         |
| Digital certificates and encryption            | Yes         | Yes             | Yes            | Yes         | Yes         |
| XML encryption support                         | Yes         | No              | No             | Yes         | Yes         |
| Open source implementations available          | Yes         | Yes             | No             | Yes         | Yes         |
| Uses web services infrastructure (Apache/SOAP) | Yes         | No              | No             | Yes         | Yes         |
| Asynchronous and Synchronous support           | Yes         | AS2 only        | No             | No          | Partial     |
| SMTP delivery support                          | Yes         | Yes             | Yes            | No          | No          |
| Service & Operation levels authorization       | Yes         | No              | Yes            | No          | No          |
| Scores (totals):                               | 18:18       | 11:18           | 9:18           | 9:18        | 13:18       |

# SWOT Analysis

**Comparing ebMS + CPA (ebXML)**

**with VAN services**

| <b>Strengths</b>  |  | <b>Weaknesses</b>   |   |
|---|--|---|---|
| <ul style="list-style-type: none"> <li>Open public standard</li> <li>Open source solutions</li> <li>Uses internet mechanisms</li> <li>Extensible for new techniques</li> <li>Supports push &amp; pull delivery</li> <li>Any payload enveloping</li> <li>Robust partner / role model</li> <li>Business process aware</li> <li>Security mechanisms</li> <li>Interoperability proven</li> <li>Existing vendor adoption</li> <li>Simple business metaphors</li> </ul> | <ul style="list-style-type: none"> <li>Setup &amp; Install</li> <li>Support services</li> <li>Developer use</li> <li>Language support</li> <li>Marketing budget</li> <li>Backup &amp; Archive</li> </ul> | <ul style="list-style-type: none"> <li>Legacy EDI support</li> <li>Established network</li> <li>User handholding services</li> <li>Guaranteed level of service</li> <li>Domain specific adoption</li> <li>Forwarding and routing</li> <li>Conformance validation</li> <li>Market domain experience</li> <li>Backup and archiving</li> </ul> | <ul style="list-style-type: none"> <li>Cost</li> <li>Proprietary mechanisms</li> <li>Customer lock-in</li> <li>Weak future support</li> <li>Business process linking</li> <li>Privacy concerns</li> <li>No contextual rules</li> <li>Setup times</li> </ul> |
| <b>Opportunities</b>  |  | <b>Threats</b>  |   |
| <ul style="list-style-type: none"> <li>Provide foundation for global business</li> <li>Included in *nix distribution</li> <li>More government adoption</li> <li>Developer awareness &amp; use</li> </ul>  | <ul style="list-style-type: none"> <li>Vendors switch to closed systems</li> <li>Vendor marketing</li> </ul>   | <ul style="list-style-type: none"> <li>Provide open standards based systems</li> <li>Allow SaaS approach</li> <li>Trusted intermediary</li> <li>Break into new eCommerce service areas</li> </ul>   | <ul style="list-style-type: none"> <li>Single point of failure</li> <li>Made obsolete by internet</li> <li>Go out of business</li> </ul>  |

# SWOT Analysis

**Comparing ebMS + CPA (ebXML)**

**with AS2 / AS1**

| <b>Strengths</b>  |  | <b>Weaknesses</b>   |   |
|---|--|---|---|
| <ul style="list-style-type: none"> <li>Open public standard</li> <li>Open source solutions</li> <li>Uses internet mechanisms</li> <li>Extensible for new techniques</li> <li>Supports push &amp; pull delivery</li> <li>Any payload enveloping</li> <li>Robust partner / role model</li> <li>Business process aware</li> <li>Security mechanisms</li> <li>Interoperability proven</li> <li>Existing vendor adoption</li> <li>Simple business metaphors</li> </ul> | <ul style="list-style-type: none"> <li>Setup &amp; Install</li> <li>Support services</li> <li>Developer use</li> <li>Language support</li> <li>Marketing budget</li> <li>Backup &amp; Archive</li> </ul> | <ul style="list-style-type: none"> <li>Legacy EDI support</li> <li>Open public standard</li> <li>Uses internet mechanisms</li> <li>Vendor (VAN) support</li> <li>Migration of existing EDI</li> <li>REST-style interfacing</li> </ul> | <ul style="list-style-type: none"> <li>Setup &amp; Install</li> <li>Point-to-point only</li> <li>No support for pull mode</li> <li>No partner / role model</li> <li>No business process link</li> <li>Backup &amp; Archive</li> <li>Developer use</li> <li>Language support</li> <li>Static limited standard</li> <li>Delivery control details</li> </ul> |
| <b>Opportunities</b>  |  | <b>Threats</b>  |   |
| <ul style="list-style-type: none"> <li>Provide foundation for global business</li> <li>Included in *nix distribution</li> <li>More government adoption</li> <li>Developer awareness &amp; use</li> </ul>  | <ul style="list-style-type: none"> <li>Vendors switch to closed systems</li> <li>Vendor marketing</li> </ul>   | <ul style="list-style-type: none"> <li>Migration of existing VAN EDI to AS1/ AS2 based solutions</li> </ul>   | <ul style="list-style-type: none"> <li>EDI diminish in new deployments</li> <li>Niche solution only</li> <li>Future extensibility</li> </ul>  |

# SWOT Analysis

## Web Service using WSDL

## Web Service using WS-I

| <b>Web Service using WSDL</b>   |   | <b>Web Service using WS-I</b>  |   |
|---|---|--|---|
| <b>Strengths</b>  | <b>Weaknesses</b>   | <b>Strengths</b>   | <b>Weaknesses</b>   |
| W3C-based approach<br>Uses internet mechanisms<br>Open source tools<br>Web server support<br>Security mechanisms<br>Integration via XSD<br>Limited content exchanges<br>WSDL-based coupling | Not designed for B2B<br>Enveloping restrictions<br>Point-to-point only<br>No support for pull mode<br>No partner / role model<br>No business process link<br>Fixed XSD transactions<br>Backup & Archive<br>Level of service support<br>WSDL limitations | W3C-based approach<br>Uses internet mechanisms<br>Open source tools<br>Strong security model<br>Integration via XSD<br>WSDL-based coupling<br>Large vendor support | Excessive complexity<br>No partner / role model<br>No business process link<br>Fixed XSD transactions<br>WSDL limitations<br>Partner support & setup<br>Total cost of ownership |
| <b>Opportunities</b>  | <b>Threats</b>  | <b>Opportunities</b>   | <b>Threats</b>  |
| Providing real-time supporting content for e-Business solutions<br>Internal information feeds   | REST-base ROA interfaces take over  | Secure information feeds for high risk applications<br>Internal information feeds<br>Complex deployment environment needs  | Complexity and cost reduce adoption to niche markets  |

# ebXML Maturity Model



## *ebXML messaging adoption vectors*

|   | Maturity Level        | Prime Business Benefits  | Competitive Response                              | Scope  | Technology Analysts                               | Success Factors  |
|---|-----------------------|--|---|--|---|--|
| 5 | Abundant resources    | Global Adoption  | Vendors look to manage standards                  | Everyone and everything  | Show how they predicted it all in the first place | WS-* viewed as niche toolset                           |
| 4 | Significant Resources | Dramatic reduction in number of meetings & PowerPoint slides       | Support integrated as basic platform feature set  | Partners, integrators, business users, the CIO's office, accounting, HR, sales | Run seminars, briefings, executive retreats       | Developers free to build effective, enabling solutions |
| 3 | Lots of Resources     | Network effects kick in. Value of ebXML resources finally realized | Vendors admit support, customers demand solutions | Integrators, business users, and folks in accounting                           | Discover critical impacts, write reports          | Regular developers discover how to use                 |
| 2 | More Resources        | More information becomes accessible. Interesting uses happen       | Vendors develop alternative competing solutions   | Application integrators, business users  | Get paid to belittle and stop adoption with FUD   | Advocates resolve issues, empower others               |
| 1 | Initial Resources     | Some information actually becomes accessible                       | Vendors ignore                                    | Sponsoring business units  | Add to watch list                                 | Developers, nobody is watching                         |

# ebXML Messaging 2006 Roundup

- **Big Companies**

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

- 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)