



# OASIS ebXML Messaging Services 3.0 Conformance Profiles

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32 **Abstract:**

33 This document is a supplement to the ebMS-3 specification [ebMS3]. It defines some  
34 conformance profiles that support specific messaging styles or context of use. Future releases of  
35 this document are likely to be augmented with additional conformance profiles that reflect the  
36 choices or needs of user communities. As a pre-condition to interoperability it is necessary for  
37 two implementations to agree on which common conformance profile, or which compatible  
38 conformance profiles, they will comply with. This document and its future releases is intended as  
39 a medium to publish conformance profiles that users and products will claim compliance with.

40 **Status:**

41 This document was last revised or approved by the ebXML Messaging Services Committee on  
42 the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest  
43 Approved Version" location noted above for possible later revisions of this document.

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# 1 Introduction

140

141 The intent of the core ebMS-3 specification [ebMS3] is to provide a stable, normative framework for  
142 developers to work with, but is not sufficient for guaranteeing “out-of-the-box” interoperability between  
143 conforming implementations. The specification contains options and makes use of third-party  
144 specifications for which more than one alternative may exist (e.g. SOAP 1.1 vs SOAP 1.2).  
145 Implementations of ebMS-3 must generally settle on some of these options in order to interoperate. The  
146 main specification intentionally does not prescribe which ones should be used by an implementation: it is  
147 the role of conformance profiles to do so. The notion of conformance profile used here has been defined  
148 in [QAFrameW].

149 Different user communities may elect to use different conformance profiles, reflecting different sets of  
150 options. Or, they may decide to use different versions of referred third-party specifications that are still in  
151 transition at the time the core specification is written (e.g. SOAP, and WSS). These elections – which  
152 may evolve over time and are more dependent on usage patterns than the core specification - are  
153 captured by conformance profiles. Because conformance profiles are dependent on the needs and  
154 choices of user communities, and because they may evolve faster than the underlying core specification  
155 (here ebMS-3) - i.e. some profiles will get deprecated, or new ones will appear - it is preferable that they  
156 are not defined in the core specification which is expected to remain a stable reference. Instead,  
157 conformance profiles are specified in a separate document that is not part of the standard and is easier to  
158 update.

159 Future releases of the present document are likely to be augmented with additional conformance profiles  
160 that reflect the choices or needs of user communities. This document intends to serve as a medium for  
161 publishing such conformance profiles. Conformance profiles only refer to selected options and features  
162 that are already described in a normative way in the ebMS-3 specification: it is possible to conform to the  
163 core ebMS-3 specification without conforming to one of its profiles, but conforming to one of the profiles  
164 described here implies conformance to the core ebMS-3 specification.

165 Section 2 introduces a conformance profile – the “Gateway profile” that lists the features expected of a  
166 Message Service Handler (MSH) acting as e-Business or e-Government gateway to back-end systems.

167 Although wide-scale interoperability is best served by having all users adopt a single profile, at the time  
168 this document is written there are two transitional aspects that call for temporary definitions of some  
169 variants of the Gateway profile:

- 170 ● There is today a significant user base for ebMS V2. Given the disruptive leap from V2 to V3  
171 (largely due to convergence with Web services protocols), there is a need for a multi-version  
172 profile supporting both (V2+V3). Conforming implementations will be able to interact both with  
173 partners using V2 and partners using V3.
- 174 ● There exist two largely equivalent specifications for reliable messaging: (a) WS-Reliability 1.1 and  
175 (b) WS-ReliableMessaging. (a) has been an OASIS standard for several years, has been tested  
176 and implemented by communities of users, notably in Asia. (b) is a more recent standard, still  
177 awaiting for WS-I interoperability guidance, but enjoying a broad support among US-based  
178 companies.

179 These transitional aspects are likely to vanish in the long run, but they call for supportive conformance  
180 profiles for the time being. As a result, the following variants of the gateway profile are defined here:

181

- 182 ● **Gateway RM V2/3:** supporting both ebMS V2 and V3, using WS-Reliability1.1 (produced by the  
183 WSRM OASIS TC) as reliable messaging specification.

- 184 ● **Gateway RM V3:** supporting ebMS V3 exactly in the same way as the previous RM V2/3 profile,  
185 but not requiring support for V2. Conformance to Gateway RM V2/3 implies conformance to  
186 Gateway RM V3.
- 187 ● **Gateway RX V2/3:** supporting both ebMS V2 and V3 with same features as Gateway RM V2/3,  
188 except that it uses WS-ReliableMessaging (produced by the WS-RX OASIS TC) as reliable  
189 messaging specification.
- 190 ● **Gateway RX V3:** supporting ebMS V3 exactly in the same way as the previous RX V2/3 profile,  
191 but not requiring support for V2. Conformance to Gateway RX V2/3 implies conformance to  
192 Gateway RX V3.

193

194 *NOTE: It is certainly possible for an implementation or product to support all these conformance profiles*  
195 *simultaneously. As already mentioned, a product conforming to Gateway RM V2/3 or RX V2/3 will*  
196 *automatically conform respectively to Gateway RM V3 or RX V3. In addition, an MSH implementation*  
197 *can conform to both Gateway RM V2/3 and Gateway RX V2/3, by simply alternating at run-time*  
198 *between the two reliability modules used for RM and RX. This run-time assignment may be*  
199 *implemented in various ways, e.g. by using a different URL, or by associating a particular reliability*  
200 *processing with specific user data (e.g. originating party ID). The P-Mode would be the place where to*  
201 *specify which reliability mode is to be associated with a particular message content.*

202 Prior experience in diverse communication sectors (e.g. TVs, cell phones and messaging middleware)  
203 has shown that adoption is best promoted by facilitating local or “regional” interoperability first – i.e. by  
204 recognizing that different communities of users may have different requirements and therefore adoption  
205 paths. These would be served by different conformance profiles. Then in a second phase, global  
206 interoperability needs will push for some consolidation, meaning convergence toward a core conformance  
207 profile elected by all.

208 In addition to defining an e-Business / e-Government Gateway profile and its transitional variants, the  
209 role of this document is to provide some framework and notation for defining additional profiles, a couple  
210 of which are provided as examples.

## 211 1.1 Terminology

212 The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD  
213 NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as  
214 described in IETF RFC 2119.

## 215 1.2 Normative References

- |     |                   |  |
|-----|-------------------|--|
| 216 | <b>[ebMS2]</b>    | <i>OASIS ebXML Message Service Specification Version 2.0</i> , April 1, 2002.<br><a href="http://www.oasis-open.org/committees/ebxml-msg/documents/ebMS_v2_0.pdf">http://www.oasis-open.org/committees/ebxml-msg/documents/ebMS_v2_0.pdf</a>             |
| 217 |                   |  |
| 218 | <b>[ebMS3]</b>    | <i>OASIS ebXML Messaging Services, Version 3.0: Part 1, Core Features</i> , 2007.<br><a href="http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/ebms_core-3.0-spec.pdf">http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/core/ebms_core-3.0-spec.pdf</a> |
| 219 |                   |  |
| 220 | <b>[RFC 2119]</b> | S. Bradner. <i>Key words for use in RFCs to Indicate Requirement Levels</i> . IETF<br>221 RFC 2119, March 1997. <a href="http://www.ietf.org/rfc/rfc2119.txt">http://www.ietf.org/rfc/rfc2119.txt</a>  |
| 222 | <b>[UCC-MS2]</b>  | <i>UCC/EAN Basic Reliable ebXML Messaging v2.0 Interoperability Testing</i> , 2002.  |
| 223 | <b>[WSIAP10]</b>  | <i>WS-I Attachment Profile V1.0</i> , Web-Services Interoperability Consortium, 2007.<br>224 <a href="http://www.ws-i.org/deliverables/workinggroup.aspx?wg=basicprofile">http://www.ws-i.org/deliverables/workinggroup.aspx?wg=basicprofile</a>         |
| 225 | <b>[WSIBP12]</b>  | <i>WS-I Basic Profile V1.2 (draft)</i> , Web-Services Interoperability Consortium,<br>226 2007. <a href="http://www.ws-i.org/deliverables/workinggroup.aspx?wg=basicprofile">http://www.ws-i.org/deliverables/workinggroup.aspx?wg=basicprofile</a>      |

227 **[WSIBSP11]** Abbie Barbir, et al, eds, *Basic Security Profile Version 1.1*, Web-Services  
228 Interoperability Consortium, 2006.  
229 <http://www.wsi.org/Profiles/BasicSecurityProfile-1.1.html>

230 **[ebBP-SIG]** OASIS ebXML Business Process TC, *ebXML Business Signals Schema*,  
231 2006. <<http://docs.oasis-open.org/ebxml-bp/ebbp-signals-2.0>>  
232

### 233 **1.3 Non-normative References**

234 **[QAFrameW]** Karl Dubost, et al, eds, *QA Framework: Specification Guidelines*, 2005.  
235 <http://www.w3.org/TR/qaframe-spec/>  
236

237

## 2 The Gateway Conformance Profile

238

### 2.1 Purpose

239 The *Gateway* conformance profile (or G-CP) is the baseline for conducting electronic business. G-CP  
240 addresses the messaging requirements of most enterprise e-Business or e-Government gateways.

241 It is expected that user communities will generate variants of the G-CP profile that differ by their  
242 interoperability parameters, e.g. a variant that uses a transport other than HTTP. Also, the Gateway  
243 messaging function may evolve over time to reflect an evolution of the enterprise gateway requirements  
244 among the user community. A line of evolution is along the versions of the underlying specifications used  
245 by ebMS V3.0, in particular SOAP and WSS. After careful consideration at the time the ebMS V3.0  
246 specification is finalized, the following versions have been selected for G-CP:

- 247 • SOAP 1.2 has been selected because of support by most SOAP stacks (most of these stacks  
248 also support SOAP 1.1).
- 249 • Both WSS 1.0 and WSS 1.1. Although 1.1 is too recent to be broadly supported by  
250 implementers, this version supports security of attachments. While G-CP mandates support for  
251 both, the version to be used for a particular exchange or with a particular partner can still be  
252 specified in the processing mode (P-Mode). This makes it possible for a partially conforming  
253 implementation to interoperate with others.

254 As mentioned in the introduction, G-CP comes in four variants, called here transitional variants. The first  
255 one to be described here is Gateway RM V3, based on the WS-Reliability1.1 standard for reliable  
256 messaging.

### 2.2 Conformance Profile: Gateway RM V3

258 The Gateway RM V3 is identified by the URI:

259 <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/gateway-rmv3>

260 This section identifies the requirements for conforming to this profile.

#### 2.2.1 Feature Set

262 Gateway RM V3 is defined as follows, using the table template and terminology provided in Appendix F  
263 (“Conformance”) of the core ebXML Messaging Services V3.0 specification [ebMS3].

264

<b>Conformance Profile:</b>  <b>Gateway RM V3</b>	<b>Profile summary:</b> <“Sending+Receiving” / “ gateway-rmv3” / Level 1 / HTTP1.1 + SOAP 1.2 + WSS1.1 + WS-Reliability 1.1 >
<b>Functional Aspects</b>	<b>Profile Feature Set</b>
ebMS MEP	The implementation <b>MUST</b> support all ebMS simple MEPs, in either Sender or Receiver role: <ul style="list-style-type: none"> <li>• One-way / Push,</li> </ul>



	<ul style="list-style-type: none"> <li>• One-way / Pull,</li> <li>• Two-way / Sync (both Initiator and Responder roles)</li> </ul> <p>Regardless of which MEP is used, the sending of an eb:Receipt message MUST be supported:</p> <ul style="list-style-type: none"> <li>• For the One-way / Push, both “response” and “callback” reply patterns MUST be supported.</li> <li>• For the One-way / Pull, the “callback” pattern is the only viable option. The sender of the User message MUST accept (i.e. must not Fault and must process as expected) an eb:Receipt either piggybacked on a PullRequest, or sent separately. The User message receiver MUST be able to send an eb:Receipt separately from the PullRequest.</li> <li>• For the Two-way / Sync, both “response” and “callback” reply patterns must be supported for the first leg. The “callback” pattern is the only viable option for the second leg. The reply sender MUST accept an eb:Receipt either piggybacked on another User message, or sent separately. The reply receiver MUST be able to send an eb:Receipt separately.</li> </ul> <p>Use of the ebbpsig:NonRepudiationInformation element (as defined in <b>[ebBP-SIG]</b>) MUST be supported as content for the eb:Receipt message, both by sender and receiver.</p>
Reliability	<p>The following message reliability features MUST be supported:</p> <ul style="list-style-type: none"> <li>• Sender and Receiver MSH MUST support the following QoS features for pushed or pulled ebMS messages: at-least-once, at-most-once, exactly-once.</li> <li>• Receiver MSH MUST be able to acknowledge pulled messages (AtLeastOnce.Contract.AckResponse="true").</li> <li>• Receiver MSH MUST support Acknowledgments on delivery ( supports P-Mode with Reliability.AtLeastOnce.Contract.AckOnDelivery="true")</li> <li>• Sender and Receiver MSH MUST support the following reply patterns for acknowledgments (P-Mode AtLeastOnce.ReplyPattern): either “response”, or “callback” (no support for polling required)</li> </ul>
Security	<p>The following message security features MUST be supported:</p> <ul style="list-style-type: none"> <li>• Sender and Receiver MSH MUST support username / password token, digital signatures and encryption.</li> <li>• Sender and Receiver MSH MUST support content-only transforms.</li> <li>• Sender and Receiver MSH MUST support security of attachments as required.</li> <li>• Sender and Receiver MSH MUST support message authorization at P-Mode level (see 7.10 in [ebMS3]) using wsse:UsernameToken profile. Authorization of the Pull signal - for a particular MPC - must be supported at minimum.</li> </ul>

	<p>NOTE on XMLDsig: XMLDsig allows arbitrary XSLT Transformations when constructing the plaintext over which a signature or reference is created. Conforming applications that allow use of XSLT transformations when verifying either signatures or references are encouraged to maintain lists of “safe” transformations for a given partner, service, action and role combination. Static analysis of XSLT expressions with a human user audit is encouraged for trusting a given expression as “safe”</p>
Error generation and reporting	<p>The following error handling features MUST be supported:</p> <ul style="list-style-type: none"> <li>• Capability of the Receiving MSH to report errors from message processing, either as ebMS error messages or as Faults to the Sending MSH. The following modes of reporting to Sending MSH are supported: (a) sending error as a separate request (ErrorHandling.Report.ReceiverErrorsTo=&lt;URL of Sending MSH&gt;), (b) sending error on the back channel of underlying protocol (ErrorHandling.Report.AsResponse="true").</li> <li>• Capability to report to a third-party address (ErrorHandling.Report.ReceiverErrorsTo=&lt;other address&gt;).</li> <li>• Capability of Sending MSH to report generated errors as notifications to the message producer (support for Report.ProcessErrorNotifyProducer="true") ( e.g. delivery failure).</li> <li>• Generated errors: All specified errors MUST be generated when applicable, except for EBMS:0010: On Receiving MSH, no requirement to generate error EBMS:0010 for discrepancies between message header and the following P-Mode features: P-Mode.reliability and P-Mode.security, but requirement to generate such error for other discrepancies.</li> </ul>
Message Partition Channels	<p>Support for additional message channels beside the default is REQUIRED, so that selective pulling by a partner MSH is possible.</p>
Message packaging	<p>The following message packaging features MUST be supported:</p> <ul style="list-style-type: none"> <li>• Support for attachments is REQUIRED.</li> <li>• Support for MessageProperties is REQUIRED.</li> <li>• Ability to process messages that contain both a signal message unit (eb:SignalMessage) and a user message unit (eb:UserMessage) is REQUIRED.</li> </ul>
Interoperability Parameters	<p><b>Transport:</b> HTTP 1.1</p> <p><b>SOAP version:</b> 1.2</p> <p><b>Reliability Specification:</b> WS-Reliability 1.1. Only “Response” or “Callback” ReplyPattern values are required to be supported.</p> <p><b>Security Specification:</b> WSS1.0 and WSS 1.1. When using the One-way / Pull MEP or the Two-way / Sync MEP, the response message must use by default the</p>

	same WSS version as the request message. Otherwise, the version to be applied to a message is specified in the P-Mode.security
--	--

265

## 266 2.2.2 WS-I Conformance Requirements

267 The Web-Services Interoperability consortium has defined guidelines for interoperability of SOAP  
268 messaging implementations. In order to ensure maximal interoperability across different SOAP stacks,  
269 MIME and HTTP implementations, this conformance profile requires compliance with the following WS-I  
270 profiles:

- 271 ● Basic Security Profile (BSP) 1.1 [ WSIBSP11]
- 272 ● Attachment Profile (AP) 1.0, [WSIAP10] with regard to the use of MIME and SwA.

273 Notes:

- 274 – Compliance with AP1.0 would normally require compliance with BP1.1, which in turn requires the  
275 absence of SOAP Envelope in the HTTP response of a One-Way (R2714). However, recent BP  
276 versions such as BP1.2 [WSIBP12] override this requirement. Consequently, the Gateway  
277 conformance profile does not require conformance to these deprecated requirements inherited from  
278 BP1.1 (R2714, R1143) regarding the use of HTTP.
- 279 – The above WS-I profiles must be complied with within the scope of features exhibited by the Gateway  
280 RM V3 ebMS conformance profile. For example, since only SOAP 1.2 is required by Gateway RM  
281 V3, the requirements from BSP 1.1 that depend on SOAP 1.1 would not apply. Similarly, none of the  
282 requirements for DESCRIPTION (WSDL) or REGDATA (UDDI) apply here, as these are not used.

283 This conformance profile may be refined in a future version to require conformance to the following WS-I  
284 profiles, once approved and published by WS-I:

- 285 ● Basic Profile 2.0 (BP2.0)jui

286

## 287 2.2.3 Processing Mode Parameters

288 Summary of P-Mode parameters that must be supported by an implementation conforming to this profile.  
289 For each parameter, either:

- 290 – full support is required: an implementation is supposed to support the possible options for this  
291 parameter.
- 292 – Support for a subset of values is required.
- 293 – No support is required: an implementation is not required to support the features controlled by this  
294 parameter, and therefore not required to understand this parameter.

295

### 296 0. General PMode parameters:

- 297 • (**PMode.ID**: support not required)
- 298 • (**PMode.Agreement**: support not required)

- 299 • **PMode.MEP:** support for: <http://www.oasis-open.org/committees/ebxml-msg/>  
300 {one-way, two-way}
- 301 • **PMode.MEPbinding:** support for: <http://www.oasis-open.org/committees/ebxml->  
302 [msg/{ push, pull, sync}](http://www.oasis-open.org/committees/ebxml-)
- 303 • **PMode.Initiator.Party:** support required.
- 304 • **PMode.Initiator.Role:** support required.
- 305 • **PMode.Initiator.Authorization.username** and  
306 **PMode.Initiator.Authorization.password:** support for: wsse:UsernameToken.
- 307 • **PMode.Responder.Party:** support required.
- 308 • **PMode.Responder.Role:** support required.
- 309 • **PMode.Responder.Authorization.username** and  
310 **PMode.Responder.Authorization.password:** support for: wsse:UsernameToken.

311

### 312 **1. PMode[1].Protocol:**

- 313 • **PMode[1].Protocol.Address:** support for "http" scheme.
- 314 • **PMode[1].Protocol.SOAPVersion:** support for SOAP 1.2.

315

### 316 **2.PMode[1].BusinessInfo:**

- 317 • **PMode[1].BusinessInfo.Service:** support required.
- 318 • **PMode[1].BusinessInfo.Action:** support required.
- 319 • **PMode[1].BusinessInfo.Properties[]:** support required.
- 320 • **(PMode[1].BusinessInfo.PayloadProfile[]: not required)**
- 321 • **(PMode[1].BusinessInfo.PayloadProfile.maxSize: not required)**
- 322 • **PMode[1].BusinessInfo.MPC:** support required.

323

### 324 **3. PMode[1].ErrorHandling:**

- 325 • **(PMode[1].ErrorHandling.Report.SenderErrorsTo:** support not required)
- 326 • **PMode[1].ErrorHandling.Report.ReceiverErrorsTo:** support required (for address of  
327 the MSH sending the message in error or for third-party).
- 328 • **PMode[1].ErrorHandling.Report.AsResponse:** support required (true/false).
- 329 • **(PMode[1].ErrorHandling.Report.ProcessErrorNotifyConsumer** support not  
330 required)
- 331 • **PMode[1].ErrorHandling.Report.ProcessErrorNotifyProducer:** support required  
332 (true/false)

- 333 • **PMode[1].ErrorHandling.Report.DeliveryFailuresNotifyProducer:** support required  
334 (true/false)

335

#### 336 **4. PMode[1].Reliability:**

- 337 • **PMode[1].Reliability.AtLeastOnce.Contract:** support required (true/false)
- 338 • **PMode[1].Reliability.AtLeastOnce.Contract.AckOnDelivery:** true/false
- 339 • **PMode[1].Reliability.AtLeastOnce.Contract.AcksTo:** support required.
- 340 • **PMode[1].Reliability.AtLeastOnce.Contract.AckResponse:** support required  
341 (true/false)
- 342 • **PMode[1].Reliability.AtLeastOnce.ReplyPattern:** support required for: {Response,  
343 Callback}.
- 344 • **PMode[1].Reliability.AtMostOnce.Contract:** support required (true/false)
- 345 • **(PMode[1].Reliability.InOrder.Contract:** support not required)
- 346 • **(PMode[1].Reliability.StartGroup:** support not required)
- 347 • **(PMode[1].Reliability.Correlation:** support not required)
- 348 • **(PMode[1].Reliability.TerminateGroup:** support not required)

349

#### 350 **5. PMode[1].Security:**

- 351 • **PMode[1].Security.WSSVersion:** support required for: {1.0 , 1.1 }
- 352 • **PMode[1].Security.X509.Sign:** support required.
- 353 • **PMode[1].Security.X509.Signature.Certificate:** support required.
- 354 • **PMode[1].Security.X509.Signature.HashFunction:** support required.
- 355 • **PMode[1].Security.X509.Signature.Algorithm:** support required.
- 356 • **PMode[1].Security.X509.Encryption.Encrypt:** support required.
- 357 • **PMode[1].Security.X509.Encryption.Certificate:** support required.
- 358 • **PMode[1].Security.X509.Encryption.Algorithm:** support required.
- 359 • **(PMode[1].Security.X509.Encryption.MinimumStrength:** support not required)
- 360 • **PMode[1].Security.UsernameToken.username:** support required.
- 361 • **PMode[1].Security.UsernameToken.password:** support required.
- 362 • **PMode[1].Security.UsernameToken.Digest:** support required (true/false)
- 363 • **(PMode[1].Security.UsernameToken.Nonce:** not required)
- 364 • **PMode[1].Security.UsernameToken.Created:** support required.
- 365 • **PMode[1].Security.PModeAuthorize:** support required (true/false)

- 366 • **PMode[1].Security.SendReceipt**: support required (true/false)
- 367 • **Pmode[1].Security.SendReceipt.ReplyPattern**: support required (both "response"
- 368 and "callback")

369

## 370 **2.3 Conformance Profile: Gateway RX V3**

371 The Gateway RX V3 is identified by the URI:

372 <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/gateway-rxv3>

373 This section identifies the requirements for conforming to this profile.

### 374 **2.3.1 Feature Set**

375 Gateway RX V3 is equivalent to the RM V3 conformance profile feature-wise.

376 The only difference is about the way messaging reliability is ensured. This profile relies on WS-  
 377 ReliableMessaging1.1 instead of WS-Reliability1.1.

378 The feature set is therefor the same as in RM V3 except for the last table row:

379

<b>Conformance Profile:</b> <b>Gateway RX V3</b>	<b>Profile summary:</b> <"Sending+Receiving" / " gateway-rxv3" / Level 1 / HTTP1.1 + SOAP 1.2 + WSS1.1 + WS-ReliableMessaging1.1 >
<b>Functional Aspects</b>	<b>Profile Feature Set</b>
ebMS MEP	[same as in Gateway RM V3]
Reliability	[same as in Gateway RM V3, except for the following feature:] <ul style="list-style-type: none"> <li>• No support required for Acknowledgments on delivery ( supports P-Mode with Reliability.AtLeastOnce.Contract.AckOnDelivery="false")</li> </ul>
Security	[same as in Gateway RM V3]
Error generation and reporting	[same as in Gateway RM V3]
Message Partition Channels	[same as in Gateway RM V3]
Message packaging	[same as in Gateway RM V3]
Interoperability Parameters	<b>Transport:</b> HTTP 1.1 <b>SOAP version:</b> 1.2 <b>Reliability Specification:</b> WS-ReliableMessaging 1.1. Only "Response" or "Callback" ReplyPattern values are required to be supported. <b>Security Specification:</b> WSS1.0 and WSS 1.1.

## 380 2.3.2 WS-I Conformance Requirements

381 The Web-Services Interoperability consortium has defined guidelines for interoperability of SOAP  
382 messaging implementations. In order to ensure interoperability across different SOAP stacks, MIME and  
383 HTTP implementations, this conformance profile requires compliance with the following WS-I profiles.

- 384 • Basic Security Profile (BSP) 1.1 [WSIBSP11]
- 385 • Attachment Profile (AP) 1.0, [WSIAP10] with regard to the use of MIME and SwA.

386 Note: the above WS-I profiles must be complied with within the scope of features exhibited by the  
387 Gateway RX V3 ebMS conformance profile. For example, since only SOAP 1.2 is required by Gateway  
388 RX V3, the requirements from BSP 1.1 that depend on SOAP 1.1 would not apply. Also, some  
389 observations apply to compliance to AP1.0, regarding inherited BP1.1 requirements (R2714, R1143), as  
390 in Gateway RM V3.

391 The Gateway RX V3 may be refined in a future version to require conformance to the following WS-I  
392 profiles, once approved and published by WS-I:

- 393 • Basic Profile 2.0
- 394 • Reliable and Secure Profile (RSP) 1.1

## 395 2.3.3 Processing Mode Parameters

396 The P-Mode parameters to be supported are same as in Gateway RM V3, except for the following:

- 397 • **PMode[1].Reliability.AtLeastOnce.Contract.AckOnDelivery**: “false” only needs be supported.

## 398 2.4 Conformance Profile: Gateway RM V2/3

399 The Gateway RM V2/3 is identified by the URI:

400 <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/gateway-rmv2v3>

401 This section identifies the requirements for conforming to this profile.

### 402 2.4.1 Feature Set

403 Gateway RM V2/3 is defined as an extension of RM V3. As far as V3 is concerned, the features to be  
404 supported by this conformance profile are exactly the same as in RM V3.

405 Regarding ebMS V2, the features to be supported for RM V2/3 are those required in the test profile:  
406 **“UCC/EAN Basic Reliable ebXML Messaging v2.0”** defined in “UCC Global Interoperability  
407 Program for ebXML MS” [UCC-MS2]. RM V2/3 requires the following restrictions – or tolerates the  
408 following relaxations – on the UCC test profile:

- 409 • Only the HTTP1.1 + HTTP/S protocols must be used – SMTP is not part of RM V2/3.
- 410 • The value “signalsAndResponse” as well “responseOnly” do not need be supported for  
411 SyncReplyMode. This means that “synchronous” request-responses do not need be supported.
- 412 • The Message Services (Ping, Status) tests H as defined in the above UCC test profile, do not  
413 need be supported.
- 414 • The following capabilities, already optional in the UCC test profile, do not need be supported:  
415 Encrypted File Transfer (Test G), Other Languages (Test I).

416 NOTE: An additional row has been added to the table: "portability parameters", which associates a  
 417 particular processing mode (P-Mode in V3) representation with the profile so that implementations  
 418 supporting this profile can process the same processing mode representation.

419

<b>Conformance Profile:</b>  <b>Gateway RM V2/3</b>	<b>Profile summary:</b> <"Sending+Receiving" / "gateway-rmv2v3" / Level 1 / HTTP1.1 + SOAP 1.2 + WSS1.1 + WS-Reliability 1.1 > + <"Sending+Receiving" / UCC-EAN V2 handler / Level 1 / HTTP1.1>
<b>Functional Aspects</b>	<b>Profile Feature Set for ebMS V2 (to add to those for V3 in RM V3)</b>
EbMS V2 MEP	Support for the following MEPs (in either Sender or Receiver role) is REQUIRED: <ul style="list-style-type: none"> <li>• One-way / Push, defined as exchanges controlled by SyncReplyMode values: "mshSignalsOnly", "signalsOnly" or "none".</li> </ul>
V2 Reliability	Support for reliable messaging, as specified in UCC test profile under Test E and Test J, is REQUIRED: <p>Test E Acknowledgments</p> <p>E1. Unsigned Data/Unsigned Ack</p> <p>E2. Unsigned Data/Signed Ack</p> <p>E3. Signed Data/Unsigned Ack</p> <p>E4. Signed Data/Signed Ack</p> <p>E5. Signed Data/Signed Ack Secure Channel</p> <p>Test J Single-Hop Reliable Messaging</p> <p>J1. Once and Only Once Profile – Successful Retries, RetryInterval</p> <p>J2. Duplicate Detection - Original Acknowledgement to Duplicate Request</p> <p>J3. Delivery Failure Notification</p> <p>J4. Long Running Conversation</p>
V2 Security	Support for secure messaging, as specified by UCC test profile under Test A , Test B and Test D, is REQUIRED: <p>Test A Certificate Exchange</p> <p>A1. Personal Certificate</p> <p>Test B Simple Data Transfer</p> <p>B2. HTTP/S Data Transfer</p> <p>Test D Data Security</p>



	<p>D1. Signed Data</p> <p>D2. Signed Data Secure Channel (HTTP/S)</p> <p>D3. Client Authentication - Signed Data Secure Channel (HTTP/S)</p>
V2 Error generation and reporting	<p>Support for error handling, as specified by UCC test profile under Test K, is REQUIRED:</p> <p>Test K Error Handling</p> <p>K1. SOAP:Fault</p> <p>K2. ValueNotRecognized</p> <p>K3. NotSupported</p> <p>K4. Inconsistent Sync</p> <p>K5. Inconsistent Signature</p> <p>K6. Inconsistent Acknowledgment Signature</p> <p>K7. SecurityFailure</p> <p>K8. TimeToLiveExpired</p> <p>K10. MessageHeader format</p> <p>K11. Missing Payload</p>
V2 Message Partition Channels	Not applicable.
V2 Message packaging	<p>Support for the following packaging patterns, as specified by UCC test profile under Test B, Test C and Test F, is REQUIRED:</p> <p>Test B Simple Data Transfer</p> <p>B1. HTTP Data Transfer</p> <p>Test C Large File Transfer</p> <p>C1. HTTP Large File Send</p> <p>Test F Multiple Payload Handling</p> <p>F1. Multiple Payload Transfer – two payloads</p> <p>F2. Multiple Payload Transfer – five payloads</p> <p>F3. Multiple Payload Signed – two payloads</p> <p>F4. Multiple Payload Signed with Signed Acknowledgment – five payloads – secure channel</p>
V2 Interoperability Parameters	<b>Transport:</b> HTTP 1.1 and HTTP/S

V2 processing mode	<b>Processing mode representation:</b> CPPA 2.0 or CPPA 1.0
--------------------	---

420

421 This conformance profile combines ebMS V2 and V3 in the following way:

- 422 • Each one of the two messaging versions is operating separately as within two separate message  
423 handlers, without any requirement for each handler to be aware of the other handler.
- 424 • The P-Mode is a notion that has been defined only for V3. This conformance profile does not  
425 define the equivalent for V2 and there is no requirement in this profile to extend it to V2.
- 426 • This conformance profile does not extend the notion of MEP as defined in V3. No MEP is defined  
427 or supported that makes use of both V2 and V3 messages.
- 428 • Message Ids must however be unique across V2 and V3.
- 429 • Although common header elements may be used to correlate V2 messages and V3 messages –  
430 e.g. ConversationID, RefToMessageId – this conformance profile does not require a handler to  
431 support any correlation semantics across V2 and V3. A V3 message referencing a V2 message  
432 cannot be considered as part of a V3 MEP as defined in the V3 specification.

### 433 2.4.2 WS-I Conformance Requirements

434 The same compliance rules as for RM V3 apply. Only ebMS V3 messages are concerned with these  
435 rules.

### 436 2.4.3 Processing Mode Parameters

437 The P-Mode parameters to be supported for the V3 capability are same as in Gateway RM V3.

## 438 2.5 Conformance Profile: Gateway RX V2/3

439 The Gateway RX V2/3 is identified by the URI:

440 <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/gateway-rxv2v3>

441 This section identifies the requirements for conforming to this profile.

### 442 2.5.1 Feature Set

443 Gateway RX V2/3 is equivalent to the RX V3 conformance profile feature-wise.

444 The only difference is about the way messaging reliability is ensured. This profile relies on WS-  
445 ReliableMessaging1.1 instead of WS-Reliability1.1. The same difference in V3 feature set table between  
446 RM V3 and RX V3, applies here. The feature set for the V2 part is the same as in RM V2/3.

447

<b>Conformance Profile:</b> <b>Gateway RX V2/3</b>	<b>Profile summary:</b> <“Sending+Receiving” / “ gateway-rxv2v3” / Level 1 / HTTP1.1 + SOAP 1.2 + WSS1.1 + WS-ReliableMessaging 1.1 > + < “Sending+Receiving” / UCC-EAN V2 handler / Level 1 / HTTP1.1>
<b>Functional</b>	<b>Profile Feature Set</b>

Aspects	
V2 Functional Aspects (same as in RM V2/3)	(same as in RM V2/3)
V3 Functional Aspects (same as in RX V3)	(same as in RX V3)

448

449 **2.5.2 WS-I Conformance Requirements**

450 The same compliance rules as for RX V3 apply. Only ebMS V3 messages are concerned with these  
451 rules.

452 **2.5.3 Processing Mode Parameters**

453 The P-Mode parameters to be supported for the V3 capability are same as in Gateway RM V2/3, except  
454 for the following:

- 455 • **PMode[1].Reliability.AtLeastOnce.Contract.AckOnDelivery:** “false” only needs be supported.

456

## 3 Examples of Alternate Conformance Profiles

### 3.1 Purpose

Some MSH implementations may have to operate under conditions where the full capabilities of the above Gateway conformance profile (G-CP) are not only unnecessary, but also not appropriate due to limited resources. In such cases, specific conformance profiles may need be defined as an alternate baseline for interoperability. Examples of such profiles (LH-CP and AM-CP) are given below.

The conformance profile below is intended to apply to messaging devices that do not have the ability to receive incoming requests (e.g. HTTP requests), due to a lack of static IP address or firewall restrictions. These message handlers also are supposed to be limited in storage capability. It is named LH-CP, meaning Light Handler.

### 3.2 Conformance Profile: Light Handler (LH-RM CP)

The Light Handler CP is identified by the URI:

<http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/lighthandler-rm>

NOTE: For consistency with the notations used in the previous Gateway conformance profiles, an alternative light handler profile using WS-ReliableMessaging instead of WS-Reliability would be named:

<http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/lighthandler-rx>

but such profile is not defined here.

#### 3.2.1 Feature Set

<b>Conformance Profile:</b> <b>LHRM-CP</b>	<b>Profile summary:</b> <“Sending+Receiving” / “ lighthandler-rm” / Level 1 / HTTP1.1 + SOAP 1.1 + WS-Reliability 1.1>
<b>Functional Aspects</b>	<b>Profile Feature Set</b>
ebMS MEP	Support for One-way / Push (as initiator), and One-way / Pull (as initiator).
Reliability	Support for guaranteed delivery only: must be able to receive reliability acks on the SOAP response to the Push, and to resend a pushed message. Must be able to resend a non-acknowledged Pull signal. No requirement to acknowledge a pulled message.
Security	Support for username / password token
Error reporting	Support for error notification to the local message producer (e.g. reported failure to deliver pushed messages). Ability to report message processing errors for pulled messages to the remote party via Error messages (such an error may be bundled with another pushed message or a Pull signal.).
Message Partition Channels	Sending on default message partition flow channel (no support for additional message partitions required.)
Message packaging	No support for attachments required – i.e. the payload will use the SOAP body-, no support for MessageProperties required.
Interop Parameters	<b>Transport:</b> HTTP 1.1

	<b>SOAP version:</b> 1.1 <b>WSS:</b> none <b>Reliability Specification:</b> WS-Reliability 1.1
--	--

475

### 476 3.2.2 WS-I Conformance Requirements

477 This conformance profile will require compliance with the following WS-I profile, once formally approved  
478 by WS-I (currently in Board approval draft status):

- 479 • Basic Profile 1.2 [WSIBP12]

480 Note: the above WS-I profile must be complied with within the scope of features exhibited by the Light  
481 Handler ebMS conformance profile.

### 482 3.3 Conformance Profile: Activity Monitor (AM-CP)

483 The Activity Monitor CP is identified by the URI:

484 <http://docs.oasis-open.org/ebxml-msg/ebms/v3.0/ns/cprofiles/200707/activity-monitor>

#### 485 3.3.1 Feature Set

486 The following conformance profile is even more restricted in capability. It is intended to match the  
487 capability of a monitoring component that is supposed to only send messages (Sending role only), e.g.  
488 for some type of business activity monitoring where reliability is not required as the loss of one of some  
489 messages can be offset by subsequent messages.

490

<b>Conformance Profile:</b> <b>AM-CP</b>	<b>Profile summary:</b> <“Sending” / “activity-monitor” / Level 1 / HTTP1.1 + SOAP 1.1 >
<b>Functional Aspects</b>	<b>Profile Feature Set</b>
ebMS MEP	Support for One-way / Push (initiator)
Reliability	None.
Security	none
Error reporting	Support for generating errors associated with sending user messages, and notifying remote party via messages. Support for error reporting by notifying its own party (e.g. inability to open a connection).
Message Partition Channels	default message partition channel.
Message packaging	No support for attachments required, no support for MessageProperties required.
Interop Parameters	<b>Transport:</b> HTTP 1.1 <b>SOAP version:</b> 1.1 <b>WSS:</b> none

491

### 492 **3.3.2 WS-I Conformance Requirements**

493 This conformance profile requires compliance with the following WS-I profiles.

- 494 • Basic Profile 1.2 [WSIBP12]

495 Note: the above WS-I profile must be complied with within the scope of features exhibited by the Activity  
496 Monitor conformance profile.

497

---

## 498 **4 Conformance Clauses**

499

### 500 **4.1 Gateway RM V3 Conformance Clause**

501 In order to conform to the **Gateway RM V3** Profile, an implementation must comply with all normative  
502 statements and requirements in Section 2.2.

503 In particular, it must:

- 504 - implement the set of features as required in the Feature Set table of Section 2.2.1.
- 505 - comply with WS-I requirements listed in Section 2.2.2.
- 506 - support the required PMode parameters described in Section 2.2.3.

507

### 508 **4.2 Gateway RX V3 Conformance Clause**

509 In order to conform to the **Gateway RX V3** Profile, an implementation must comply with all normative  
510 statements and requirements in Section 2.3.

511 In particular, it must:

- 512 - implement the set of features as required in the Feature Set table of Section 2.3.1.
- 513 - comply with WS-I requirements listed in Section 2.3.2.
- 514 - support the required PMode parameters described in Section 2.3.3.

515

### 516 **4.3 Gateway RM V2/3 Conformance Clause**

517 In order to conform to the **Gateway RM V2/3** Profile, an implementation must comply with all normative  
518 statements and requirements in Section 2.4.

519 In particular, it must:

- 520 - implement the set of features as required in the Feature Set table of Section 2.4.1.
- 521 - comply with WS-I requirements listed in Section 2.4.2.
- 522 - support the required PMode parameters described in Section 2.4.3.
- 523

#### 524 **4.4 Gateway RX V2/3 Conformance Clause**

525 In order to conform to the **Gateway RX V2/3** Profile, an implementation must comply with all normative  
526 statements and requirements in Section 2.5.

527 In particular, it must:

- 528 - implement the set of features as required in the Feature Set table of Section 2.5.1.
- 529 - comply with WS-I requirements listed in Section 2.5.2.
- 530 - support the required PMode parameters described in Section 2.5.3.

531  
532

## Appendix A Conformance Profile Template and Terminology

533 In order to facilitate the definition and comparison of conformance profiles, it is recommended to use the  
534 following template for describing a conformance profile.

535 In each entry of this table (column 2) specify which features are REQUIRED or RECOMMENDED by this  
536 profile (this applies also to the absence of features).

Conformance Profile: <name>		Profile summary: [list of:] < ebMS Role(s) / DeploymentType / Level / InteroperabilityParameters>
<b>Functional Aspects</b>		<b>Profile Feature Set</b>
ebMS MEP		
Reliability		
Security		
Error reporting		
Message Partition Channels		
Message packaging		
Interop. Parameters	Transport and version	
	SOAP version	
	Reliability specification and version	
	Security specification and version	

537

538 Terminology:

539 A conformance profile is primarily associated with a common type of deployment or usage of an MSH  
540 implementation. It identifies a set of features that must be implemented in order for an MSH to support  
541 this type of deployment.

542 A conformance profile for ebMS is expressed using the following terms:

543 **Role:** This property refers to any possible role a message handler could take (see Section 2 in [ebMS3],  
544 which defines Sending and Receiving.)



545 **Deployment Type**: A deployment type characterizes a context in which the implementation operates  
546 and the expected functional use for this implementation. For example, the following deployment types are  
547 expected to be among the most common, nonexclusive from others:

- 548 1. "*resource-constrained handler*". This characterizes an implementation that generally is not  
549 always connected, may not be directly addressable, may have no static IP address, has limited  
550 persistent capability, and is not subject to high-volume traffic.
- 551 2. "*B2B or G2G gateway*". This characterizes an implementation that generally is acting as the  
552 gateway for an enterprise or government agency. It has a fixed address; it may have connectivity  
553 restrictions due to security; and it must support various types of connectivity with diverse  
554 partners.

555 **Level**: This property represents a level of capability for this conformance profile, expressed as a positive  
556 integer (starting from 1). All other properties being equal, an implementation that is conforming to a  
557 profile at level N (with N>1) is also conforming to the same profile at level N-1.

558 **Interoperability parameters**: This property is a composed property. It is a vector of parameters that  
559 must (in general) be similar pairwise between two implementations in order for them to interoperate.  
560 Three parameters are identified here, not exclusive from others. Some are only relevant to ebMS V3:

- 561 1. The transport protocol supported, for which a non-exhaustive list of values is: HTTP, SMTP,  
562 HTTPS.
- 563 2. SOAP version: either SOAP 1.1 or SOAP 1.2.
- 564 3. The reliability specification supported, either WS-Reliability or WS-ReliableMessaging.

565 **Conformance Profile**: A conformance profile is then fully identified by one or more quadruples of the  
566 form: < Role / DeploymentType / Level / InteropParameters>, or <R / D / L / P>, which is called the  
567 *profile summary*.

568 **Functional Aspect**: A conformance profile will impose specific requirements on different aspects of the  
569 specification, that are called here functional aspects. A set of (non-exhaustive) functional aspects is:

570 Message Exchange Patterns, Error Reporting, Reliability, Security, Message Partition Flows, Message  
571 Packaging, Transport.

572 **Profile Feature Set**: The set of specification requirements associated with a conformance profile. This  
573 set is partitioned using the functional aspects listed for the specification: it can be expressed as a list of  
574 functional aspects, annotated with the required features of each aspect.

575

576

---

## Appendix B Acknowledgments

577  
578

The following individuals have participated in the creation of this specification and are gratefully acknowledged.

579

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589

590

## Appendix C Revision History

591

Rev	Date	By Whom	What
CD 02	25 Jul 2007	J. Durand	Candidate draft for CD
CD 03	28 Oct 2008	J. Durand	Missing subsection 2.2.1, more specific profiling of eb:Receipt, more specific message authorization requirements.

592