



# SOA-EERP Business Rating of Service Version 1.0

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### Related work:

This specification is related to:

- SOA-EERP Business Service Level Agreement specification, Version 1.0, <http://docs.oasis-open.org/soa-eerp/sla/v1.0/SOA-EERP-bSLA-Specification.pdf>
- SOA-EERP Business Quality of Service, Version 1, <http://docs.oasis-open.org/soa-eerp/bqos/v1.0/SOA-EERP-bQoS-Specification.pdf>

This document is one of three closely related specifications, SOA-EERP Business Quality of Service (bQoS), SOA-EERP Business Rating (bRating) and SOA-EERP Business Service Level Agreement (bSLA) which need to be understood in combination.

### Declared XML Namespace(s):

<http://docs.oasis-open.org/ns/soa-eerp/rt/200903>

40 **Abstract:**

41 This document specifies the XML vocabulary for business rating, one of three Specifications for  
42 end-to-end resource planning (EERP). Business rating describes the business-related rating and  
43 credentials for a service.

44

45 **Status:**

46 This document was last revised or approved by the SOA-EERP TC on the above date. The level  
47 of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location  
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52 [open.org/committees/soa-eerp/](http://www.oasis-open.org/committees/soa-eerp/).

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56 [open.org/committees/soa-eerp/ipr.php](http://www.oasis-open.org/committees/soa-eerp/ipr.php)).

57 The non-normative errata page for this specification is located at [http://www.oasis-](http://www.oasis-open.org/committees/soa-eerp/)  
58 [open.org/committees/soa-eerp/](http://www.oasis-open.org/committees/soa-eerp/).

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# 1 Introduction

126 This document is the specification for Business Rating (bRating) for End-to-End Resource Planning  
127 (EERP), an XML vocabulary for information exchange on business credibility, reliability and reputation of  
128 the service providers.

129 According to OASIS Reference Model for Service Oriented Architecture [SOA-RM], the Service Oriented  
130 Architecture (SOA) is a paradigm for organizing and utilizing distributed capabilities that may be under the  
131 control of different ownership domains. The service within SOA is a mechanism to enable access to one  
132 or more capabilities, where the access is provided using a prescribed interface and is exercised  
133 consistent with constraints and policies as specified by the service description. This specification further  
134 defines the bRating for the services within the EERP technology. The applications of this specification  
135 are any kind of business services, and they are not limited to only Web Services.

136 EERP applies the well-known technique for service discovery and optimization in a novel way to improve  
137 business results. It models the business process and the range of potential services, and then guides the  
138 selection and deployment of services based on the end-to-end business value.

139 The credibility, reliability and reputation of the service need to be understood for estimating the overall  
140 business quality of the process that uses those services. The business rating characteristics of the  
141 service defined in this bRating specification will enable EERP to determine the varieties of optimization to  
142 be supported, and to select optimal end-to-end solution.

## 1.1 Terminology

144 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD  
145 NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described  
146 in [RFC2119].

### 1.1.1 Notational Conventions

148 This specification uses the following syntax to define outlines for detailed elements:

- 149 • The syntax appears as an XML instance, but values in italics indicate data types instead of literal  
150 values.
- 151 • Characters are appended to elements and attributes to indicate cardinality:
  - 152 ○ "?" (0 or 1)
  - 153 ○ "\*" (0 or more)
  - 154 ○ "+" (1 or more)
- 155 • The character "|" is used to indicate a choice between alternatives.
- 156 • The characters "(" and ")" are used to indicate that contained items are to be treated as a group  
157 with respect to cardinality or choice.
- 158 • The characters "[" and "]" are used to call out references and property names.
- 159 • Ellipses (i.e., "...") indicate points of extensibility. Additional children and/or attributes MAY be  
160 added at the indicated extension points but MUST NOT contradict the semantics of the parent  
161 and/or owner, respectively. By default, if a receiver does not recognize an extension, the receiver  
162 SHOULD ignore the extension; exceptions to this processing rule, if any, are clearly indicated  
163 below.
- 164 • XML namespace prefixes (see Table 1) are used to indicate the namespace of the element being  
165 defined.

166 Elements and Attributes defined by this specification are referred to in the text of this document using  
167 XPath 1.0 expressions. Extensibility points are referred to using an extended version of this syntax:

- 168 • An element extensibility point is referred to using {any} in place of the element name. This  
169 indicates that any element name can be used, from any namespace other than the namespace of  
170 this specification.
  - 171 • An attribute extensibility point is referred to using @{any} in place of the attribute name. This  
172 indicates that any attribute name can be used, from any namespace other than the namespace of  
173 this specification.
- 174 Extensibility points in the exemplar may not be described in the corresponding text.

## 175 1.2 Normative References

- 176 **[RFC2119]** S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*,  
177 <http://www.ietf.org/rfc/rfc2119.txt>, IETF RFC 2119, March 1997.  
178 <http://www.w3.org/TR/2003/REC-soap12-part1-20030624/>
- 179 **[SOAP]** W3C Note, "SOAP: Simple Object Access Protocol 1.1", 08 May 2000.  
180 <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>
- 181 **[SOAP12]** W3C Recommendation, "SOAP 1.2 Part 1: Messaging Framework", 24 June  
182 2003.  
183 <http://www.w3.org/TR/2003/REC-soap12-part1-20030624/>
- 184 **[URI]** T. Berners-Lee, R. Fielding, L. Masinter, "Uniform Resource Identifiers (URI):  
185 Generic Syntax", RFC 3986, MIT/LCS, Day Software, Adobe Systems, January  
186 2005.  
187 <http://www.ietf.org/rfc/rfc3986.txt>
- 188 **[UBL-20]** OASIS Standard, "Universal Business Language (UBL) v2.0", 12 December 2006  
189 <http://docs.oasis-open.org/ubl/os-UBL-2.0/UBL-2.0.pdf>
- 190 **[UBL-20-cbc]** Universal Business Language (UBL) v2.0, Common Basic Components  
191 [http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-CommonBasicComponents-2.0.xsd)  
192 [CommonBasicComponents-2.0.xsd](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-CommonBasicComponents-2.0.xsd)
- 193 **[UBL-20-udt]** Universal Business Language (UBL) v2.0. Unqualified Data Type  
194 [http://docs.oasis-open.org/ubl/os-UBL-](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd)  
195 [2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd)
- 196 **[XML-Schema1]** W3C Recommendation, "XML Schema Part 1: Structures Second Edition", 28  
197 October 2004.  
198 <http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/>
- 199 **[XML-Schema2]** W3C Recommendation, "XML Schema Part 2: Datatypes Second Edition", 28  
200 October 2004.  
201 <http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/>
- 202 **[CEFACT]** CEFACT – Core components specifications - [http://webster.disa.org/cefact-](http://webster.disa.org/cefact-groups/tmg/)  
203 [groups/tmg/](http://webster.disa.org/cefact-groups/tmg/)

### 204 1.2.1 Reference

205 In this document reference is made to some basic elements and data types in UBL 2.0, in the  
206 following schema:

- 207 • UBL 2.0 Common Basic Components ([UBL-20-cbc](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-CommonBasicComponents-2.0.xsd)), [UBL-CommonBasicComponents-2.0.xsd](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-CommonBasicComponents-2.0.xsd)
- 208 • UBL 2.0 Unqualified Data Type ([UBL-20-udt](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd)), [UnqualifiedDataTypeSchemaModule-2.0.xsd](http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd)

209 This specification is designed to work with the general Web Services framework including WSDL service  
210 descriptions, and [SOAP](#) message structure and message processing model. The XML vocabulary  
211 defined in this specification should be applicable to any version of [SOAP](#).

## 212 1.3 Non-Normative References

213 None.

---

## 214 2 Business Rating Measurement

215 The XML vocabulary for Business Rating is defined in XML Schema for this specification with several  
216 specific rating measurement indicators.

### 217 2.1 Namespaces

218 The XML namespace URI that MUST be used by implementations of this specification is:

219 `http://docs.oasis-open.org/ns/soa-eerp/rt/200903`

220 Table 1 lists XML namespaces that are used in this specification. The choice of any namespace prefix is  
221 arbitrary and not semantically significant.

222 *Table 1: Prefixes and XML Namespaces used in this specification.*

Prefix	Namespace	Specification(s)
S	<a href="http://schemas.xmlsoap.org/soap/envelope/">http://schemas.xmlsoap.org/soap/envelope/</a>	[SOAP]
S12	<a href="http://www.w3.org/2003/05/soap-envelope">http://www.w3.org/2003/05/soap-envelope</a>	[SOAP12]
xsd	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>	[XML-Schema1], [XML-Schema2]
cbc	<a href="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2">urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2</a>	[UBL-20-cbc]
udt	<a href="urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2">urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2</a>	[UBL-20-udt]
ccts	<a href="urn:un:unece:uncefact:documentation:2">urn:un:unece:uncefact:documentation:2</a>	[UBL-20]
rt	<a href="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">http://docs.oasis-open.org/ns/soa-eerp/rt/200903</a>	This specification

### 223 2.2 Schema Files

224 A normative copy of the XML Schema [XML-Schema1, XML-Schema2] description for this specification  
225 can be retrieved from the following address:

226 `http://docs.oasis-open.org/soa-eerp/rt/v1.0/EERP-bRating-cd04.xsd`

### 227 2.3 Rating Measurement Indicators

228 The BRating is the root element of Business Rating for EERP which is for business reliability and  
229 reputation of the service and its services provider. It can have one or more of the following elements:

- 230
- 231 • ListOfRating element is for the rating aspect of service which is provided by rating provider and  
232 measured in terms of rates for the service. Each Rating element in the ListOfRating element is  
233 issued by a rating provider, a third party rating organization, that has either an aggregated  
234 numeric number or an aggregated classification description to represent the rating measurement  
of the given business service.
  - 235 • Credentials element is for the rating aspect of service which is measured in terms of credentials  
236 for the service that the service provider owns or holds. Credentials are issued by organizations  
237 regulating the service, such as licenses, permissions, certifications, associations, affiliations, etc.  
238 Each credential element in the Credentials element is a non-aggregated indicator for the rating

239 measurement of the given business service, and it does not provide an aggregated value for the  
240 measurement.

- 241 • Any additional elements for the rating aspect of service. For example, this could be one or more  
242 elements of Performance:QualityAssertionEvaluation that will provide a mechanism for Service  
243 Rating Entities to render their evaluation for how well the provider fulfills the Quality Assertion(s)  
244 of its service.

245 Both the ListOfRating and Credentials elements describe information about the given business service.  
246 They are not related however. The Rating element inside the ListOfRating must be issued by a third-party  
247 rating organization. The service provider cannot issue a Rating for itself, but can claim what kind of  
248 credentials it owns or holds in the Credential elements. The Rating element and Credential element  
249 cannot be mixed. A bRating document/message, with a root element of <rt:BRating>, can have either  
250 ListOfRating element or Credentials element, or both elements.

## 251 Syntax

```
252 <rt:BRating xmlns:rt="..." ...>  
253 <rt:ListOfRating ...>rt:ListOfRatingType</rt:ListOfRating> ?  
254 <rt:Credentials ...>rt:CredentialsType</rt:Credentials> ?  
255 ...  
256 </rt:BRating >
```

257 The following describes the attributes and elements listed in the schema outlined above:

258 /rt:BRating

259 The root element of Rating for EERP

260 /rt:BRating/@{any}

261 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
262 to the element in the future. Unrecognized attributes MAY cause a fault or be silently ignored.

263 /rt:BRating/rt:ListOfRating

264 List of Rating, rating aspect of the service in BRating element, is to hold those Rating elements. It  
265 is an optional element and has one or many Rating elements, see Section 3 for more details.

266 /rt:BRating/rt:ListOfRating/@{any}

267 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
268 to the ListOfRating element in the future. Unrecognized attributes MAY cause a fault or be silently  
269 ignored.

270 /rt:BRating/rt:Credentials

271 Credentials element is for credential aspect of the service in which the service provider has such  
272 as license, certification, affiliations, associations, etc. It is optional element and has one or many  
273 Credential elements, see Section 4 for more details.

274 /rt:BRating/rt:Credentials/@{any}

275 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
276 to the Credentials element in the future. Unrecognized attributes MAY cause a fault or be silently  
277 ignored.

278 /rt:BRating/rt:BRatingExtension

279 BRatingExtension element is an optional element that keeps different (extensible) elements to be  
280 specified in the future.

281 /rt:BRating/rt:BRatingExtension/{any}

282 This is an extensibility mechanism to allow different (extensible) elements to be specified in the  
283 future. Unrecognized elements MAY cause a fault or be silently ignored. This can be one or more  
284 elements of /rt:BRating/rt:BRatingExtension/Performance/QualityAssertionEvaluation for third-  
285 party Service Rating Entities to provide their evaluation for how well the provider fulfill the Quality  
286 Assertion(s) of this service.



### 287 3 ListOfRating

288 The ListOfRating element contains the list of Rating issued by a Rating Provider. The Rating Provider is a  
289 party unaffiliated with either the requester or the target of the rating request, such as a third party rating  
290 organization, given a reference to a particular business service and provider, issues either a number or a  
291 classification description for rating. Each Rating element in the ListOfRating has one of the following two  
292 elements to represent the rating measurement of the given business service:

- 293 • An aggregated number, in <rt:RatingNumeric> **element**
- 294 • An aggregated classification description, in <rt:RatingDescription> **element**

295 There SHOULD be zero or one ListOfRating element present in the rating of service.

#### 296 Syntax

```
297 <rt:ListOfRating xmlns:rt="..." ...>  
298   <rt:Rating Type="..." ... >rt:QualityRatingType  
299     <rt:RatingIssuer ...>rt:IssuerType  
300       <rt:IssuerName languageID="...">rt:IssuerNameType</rt:IssuerName> ?  
301       <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>  
302       ...  
303     </rt:RatingIssuer>  
304     <rt:RatingDescription languageID="..." ... >  
305       rt:RatingDescriptionType</rt:RatingDescription> ?  
306     <rt:RatingNumeric ...>rt:RatingNumericType</rt:RatingNumeric> ?  
307     <rt:RatingDate ...>rt:RatingDateType</rt:RatingDate> ?  
308     <rt:RatingReferenceUri ...>rt:RatingUriType</rt:RatingReferenceUri> ?  
309     ...  
310   </rt:Rating> +  
311 </rt:ListOfRating>
```

312 The following describes the attributes and elements listed in the schema outlined above:

313 /rt:BRating/rt:ListOfRating

314 List of ratings for a service that has one or more Rating elements.

315 /rt:BRating/rt:ListOfRating/rt:Rating

316 The Rating element represents a rating measurement of the given business service. The rating  
317 measurement is issued by a third party rating organization. This is a required element for the  
318 ListOfRating element.

319 /rt:BRating/rt:ListOfRating/rt:Rating/@Type

320 Type is an optional attribute of Simple Type to identify what kind of Rating element it is.

321 /rt:BRating/rt:ListOfRating/rt:Rating/@{any}

322 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
323 to the ListOfRating element in the future. Unrecognized attributes MAY cause a fault or be silently  
324 ignored.

325 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer

326 Issuing organization for this rating includes the issuer name and the URI in the Element. This  
327 element is to represent the rating issuer organization. It is a required element for Rating.

328 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerName

329 IssuerName element, Name for the issuing organization for this rating, is an optional element for  
330 RatingIssuer.

331 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerName/@languageID

332 Language ID is a required attribute in the IssuerName element, using xsd:language type. The  
333 value can be those defined in urn:un:unece:uncefact:codelist:specification:5639:1988.

334 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri  
335 It is the URI that represent the issuer organization. It is a required element for RatingIssuer.  
336 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri/@{any}  
337 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
338 to the IssuerUri element in the future. Unrecognized attributes MAY cause a fault or be silently  
339 ignored.

340 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDescription  
341 Rating description for the rating where the rating can be represented in String format, such as  
342 Good, Fair, Average, etc. It is an optional element for Rating.

343 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDescription/@languageID  
344 Language ID is a required attribute in the RatingDescription element, using xsd:language type.  
345 The value can be found on defined in urn:un:unece:uncefact:codelist:specification:5639:1988.

346 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDescription/@{any}  
347 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
348 to the RatingDescription element in the future. Unrecognized attributes MAY cause a fault or be  
349 silently ignored.

350 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingNumeric  
351 RatingNumeric element, Numeric value for the rating, is an optional element for Rating.  
352 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingNumeric/@{any}  
353 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
354 to the RatingNumeric element in the future. Unrecognized attributes MAY cause a fault or be  
355 silently ignored.

356 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate  
357 RatingDate is the date when this Rating is obtained. It is an optional element for Rating.  
358 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate/@Expired  
359 Expired is an optional attribute to indicate this Rating is expired or not. The value of this Expired  
360 attribute is set to true means this Rating has been expired as of the RatingDate.

361 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate/@{any}  
362 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
363 to the RatingDate element in the future. Unrecognized attributes MAY cause a fault or be silently  
364 ignored.

365 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingReferenceUri  
366 RatingReferenceUri, Web page URL or other URI for this rating to reference to, is an optional  
367 element for the Rating element.

368 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingReferenceUri/@{any}  
369 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
370 to the Rating element in the future. Unrecognized attributes MAY cause a fault or be silently  
371 ignored.

## 372 Examples

373 The following non-normative example illustrates the use of List of Rating element. It describes a Rating  
374 element that is issued by Better Business Bureau:

```
375
376 (001) <?xml version="1.0" encoding="utf-8"?>
377 (002) <ListOfRating xmlns="..." ...>
```

```

378 (003) <Rating Type="BBB">
379 (004) <RatingIssuer>
380 (005) <IssuerName languageID="EN">Better Business Bureau, Inc.
381 </IssuerName>
382 (006) <IssuerUri>http://www.bbb.org/business-reviews/ratings/
383 </IssuerUri>
384 (007) </RatingIssuer>
385 (008) <RatingDescription languageID="EN">A+</RatingDescription>
386 (009) <RatingDate>2009-03-08</RatingDate>
387 (010)
388 <RatingReferenceUri>http://goldengate.bbb.org/WWWRoot/Report.aspx?site=99&
389 bbb=1116&firm=34825#bbbrating</RatingReferenceUri>
390 (011) </Rating>
391 (012) </ListOfRating>

```

392

393 The following non-normative example illustrates the use of List of Rating element. It describes a Rating  
394 element that is issued by 51Honest.org in China:

395

```

396 (001) <?xml version="1.0" encoding="UTF-8"?>
397 (002) <BRating xmlns="..." ...>
398 (003) <ListOfRating>
399 (004) <Rating Type="51honest">
400 (005) <RatingIssuer>
401 (006) <IssuerName languageID="zh-CN">农博网</IssuerName>
402 (007) <IssuerUri >www.51honet.org</IssuerUri>
403 (008) </RatingIssuer>
404 (009) <RatingDescription languageID="zh-CN">信星计划</RatingDescription>
405 (010) <RatingNumeric>175</RatingNumeric>
406 (011) <RatingDate>2009-03-06</RatingDate>
407 (012) <RatingReferenceUri
408 >http://www.51honest.org/index.jsp?url=detail.credit%3faction=hywzMemberInfo%2
409 6credcode=300001000036803
410 (013) </RatingReferenceUri>
411 (014) </Rating>
412 (015) </ListOfRating>
413 (016) </BRating>

```



414

## 4 Rating Credentials

415 The Rating Credentials element for EERP-Rating, describes the credentials held by the service  
416 provider with respect to a specific service.

417 Credentials, such as licenses, permissions, certifications, awards, associations, and affiliations, are  
418 issued with respect to a service provider and its services by organizations that regulate the service. They  
419 are different from the credentials for authentication in the security term. Credentials demonstrate the  
420 credibility of a given service offered by a service provider.

421 Unlike the Rating element inside the ListOfRating, each credential element in the Credentials element is  
422 an independent, non-aggregated indicator for the rating measurement of the given business service.

423 There MAY be zero or one Credentials element present in the rating of service.

### 424 Syntax

```
425 <rt:Credentials xmlns:bqos="..." ...>  
426   <rt:Credential>rt:CredentialType  
427     <rt:CredentialIssuer ...>rt:IssuerType  
428       <rt:IssuerName languageID="..." >rt:IssuerNameType</rt:IssuerName> ?  
429       <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>  
430       ...  
431     </rt:CredentialIssuer>  
432     <rt:CredentialClass languageID="..." ...>  
433       rt:CredentialClassType</rt:CredentialClass> ?  
434     <rt:License languageID="..." ...>rt:LisenseType</rt:License> ?  
435     <rt:CredentialDate ...>rt:CredentialDateType  
436       <rt:DateIssued ...>rt:DateIssuedType</rt:DateIssued> ?  
437       <rt:ExpirationDate ...>rt:ExpirationDateType</rt:ExpirationDate> ?  
438     </rt:CredentialDate> ?  
439     <rt:CredentialReferenceUri ...>  
440       rt:RatingUriType</rt:CredentialReferenceUri> ?  
441     ...  
442   </rt:Credential> +  
443 </rt:Credentials>
```

444 The following describes the attributes and elements listed in the schema outlined above:

445 /rt:BRating/rt:Credentials

446 Credential aspect of the service which the service provider has, including certification, affiliations  
447 and associations. It has a list of credential for Credentials.

448 /rt:BRating/rt:Credentials/rt:Credential

449 The Credential element is for each credential, certification, affiliation or association that the  
450 service provider has for the service. This is a required element for the Credentials element.

451 /rt:BRating/rt:Credentials/rt:Credential/@Type

452 Type of the credential, an optional attribute in the Credential element, using enumeration type,  
453 and the value SHOULD be one of the following:

454 Affiliation, Association, Award, Certification, License, Membership, Permission, Others

455 /rt:BRating/rt:Credentials/rt:Credential/@{any}

456 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
457 to the Credential element in the future. Unrecognized attributes MAY cause a fault or be silently  
458 ignored.

459 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer

460 CredentialIssuer element is for issuing organization for this credential, such as the issuer of  
461 certification, association, affiliation or Credential. For example, the Issuer can be AAA, BBB, or  
462 State of California, etc. This element is a required element for Credential, which includes the  
463 issuer name and the URI that represent this rating issuer organization.

464 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerName  
465 IssuerName element, Issuer's name for the issuing organization for this rating or credential, is an  
466 optional element for CredentialIssuer.

467 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerName/@languageID  
468 Language ID is a required attribute in the IssuerName element, using xsd:language type. The  
469 value can be those defined in urn:un:unece:uncefact:odelist:specification:5639:1988.

470 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerUri  
471 It is the URI that represent the issuer organization. It is a required element for CredentialIssuer.

472 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerUri/@{any}  
473 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
474 to the IssuerUri element in the future. Unrecognized attributes MAY cause a fault or be silently  
475 ignored.

476 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/{any}  
477 This is an extensibility mechanism to allow different (extensible) property or attribute elements to  
478 be specified in the future. Unrecognized elements MAY cause a fault or be silently ignored.

479 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialClass  
480 CredentialClass element is the classification of the credential such as five-stars, or golden  
481 member. It is an optional element for the Credential. It is an optional element for the Credential.

482 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialClass/@languageID  
483 Language ID is a required attribute in the CredentialClass element, using xsd:language type. The  
484 value can be those defined in urn:un:unece:uncefact:odelist:specification:5639:1988.

485 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialClass/@{any}  
486 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
487 to the CredentialClass element in the future. Unrecognized attributes MAY cause a fault or be  
488 silently ignored.

489 /rt:BRating/rt:Credentials/rt:Credential/rt:License  
490 License element, the license number or membership number of the credential, is an optional  
491 element for the Credential element.

492 /rt:BRating/rt:Credentials/rt:Credential/rt:License/@languageID  
493 Language ID is a required attribute in the License element, using xsd:language type. The value  
494 can be those defined in urn:un:unece:uncefact:odelist:specification:5639:1988.

495 /rt:BRating/rt:Credentials/rt:Credential/rt:License/@{any}  
496 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
497 to the License element in the future. Unrecognized attributes MAY cause a fault or be silently  
498 ignored.

499 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate  
500 CredentialDate element is the date on this credential, including date when this credential, license  
501 or certificate is issued and the expiration date for this license or membership. It is an optional  
502 element for the Credential element.

503 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/@{any}

504 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
505 to the CredentialDate element in the future. Unrecognized attributes MAY cause a fault or be  
506 silently ignored.

507 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/rt:Datelssued

508 Datelssued element is the date when this credential, license or certificate is issued. It is an  
509 optional element for the CredentialDate element.

510 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/rt:Datelssued/@{any}

511 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
512 to the Datelssued element in the future. Unrecognized attributes MAY cause a fault or be silently  
513 ignored.

514 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/rt:ExpirationDate

515 ExpirationDate element, Expiration date for this license or membership, is an optional element for  
516 the CredentialDate element.

517 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/rt:ExpirationDate/@{any}

518 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
519 to the ExpirationDate element in the future. Unrecognized attributes MAY cause a fault or be  
520 silently ignored.

521 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialReferenceUri

522 CredentialReferenceUri element, Web page URL or other URI for this credential reference, is an  
523 optional element for Credential.

524 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialReferenceUri/@{any}

525 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added  
526 to the CredentialReferenceUri element in the future. Unrecognized attributes MAY cause a fault  
527 or be silently ignored.

528 /rt:BRating/rt:Credentials/rt:Credential/{any}

529 This is an extensibility mechanism to allow different (extensible) property or attribute elements to  
530 be specified in the future. Unrecognized elements MAY cause a fault or be silently ignored.

### 531 Examples

532 The following non-normative example illustrates the use of rating Credentials element. It describes the  
533 credential of professional license issued by California Board For Professional Engineers And Land  
534 Surveyors:

```
535 (001) <?xml version="1.0" encoding="utf-8"?>
536 (002) <Credentials xmlns="..." ...>
537 (003)   <Credential Type="License">
538 (004)     <CredentialIssuer>
539 (005)       <IssuerName languageID="EN">California Board For Professional
540 Engineers And Land Surveyors </IssuerName>
541 (006)       <IssuerUri>http://www.pels.ca.gov/</IssuerUri>
542 (007)     </CredentialIssuer>
543 (008)     <CredentialClass languageID="EN">CIVIL ENGINEER</CredentialClass>
544 (009)     <License languageID="EN">42456</License>
545 (010)     <CredentialDate>
546 (011)       <ExpirationDate>2010-03-31</ExpirationDate>
547 (012)     </CredentialDate>
548 (013)   </Credential>
549   <CredentialReferenceUri>http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.Query
550 View?P_LICENSE_NUMBER=42456&amp;P_LTE_ID=741</CredentialReferenceUri>
551 (014) </Credential>
552 (015) </Credentials>
```

553 The following non-normative example illustrates the use of rating Credentials element. It describes the  
554 credential of member of ASCE:

```

555 (001) <?xml version="1.0" encoding="utf-8"?>
556 (002) <Credentials xmlns="..." ...>
557 (003)   <Credential Type="Membership">
558 (004)     <CredentialIssuer>
559 (005)       <IssuerName languageID="EN">American Society of Civil Engineers
560 </IssuerName>
561 (006)       <IssuerUri>http://www.asce.org/</IssuerUri>
562 (007)     </CredentialIssuer>
563 (008)     <CredentialClass languageID="EN">Member</CredentialClass>
564 (009)     <CredentialDate>
565 (010)       <DateIssued>1987-08-13</DateIssued>
566 (011)       <ExpirationDate>2010-12-31</ExpirationDate>
567 (012)     </CredentialDate>
568 (013)   </Credential>
569 (014) </Credentials>

```

570 The following non-normative example illustrates the use of rating Credentials element. It describes the  
571 credential of Association type issued by Better Business Bureau, Inc.:

```

572 (001) <?xml version="1.0" encoding="utf-8"?>
573 (002) <Credentials xmlns="..." ...>
574 (003)   <Credential Type="Association">
575 (004)     <CredentialIssuer>
576 (005)       <IssuerName languageID="EN">Better Business Bureau, Inc.
577 </IssuerName>
578 (006)       <IssuerUri>http://goldengate.bbb.org/</IssuerUri>
579 (007)     </CredentialIssuer>
580 (008)     <CredentialClass languageID="EN">3</CredentialClass>
581 (009)     <CredentialReferenceUri>http://www.res99.com/hotel/10021453-
582 102008020.html?ses=1e65c27bad81e82b07a39070fed04d87</CredentialReferenceUri>
583 (010)   </Credential>
584 (011) </Credentials>

```



585

## 5 Rating Examples

586

The examples in this section are non-normative.

587

### 5.1 Service Rating for an Engineering Service

588

The following example illustrates a Business Rating result of a civil engineering service. The service provider has the following rating and credentials for a service:

589

590

The service is classified as A+ by BBB (Better Business Bureau, Inc.), as of May 8<sup>th</sup>, 2009.

591

592

593

The service provider holds a civil engineer's professional license as one of credentials, which is issued by California Board for Professional Engineers and Land Surveyors. This license expiration date is December 31<sup>st</sup>, 2010.

594

595

In additional, the service provider is a member of ASCE (American Society of Civil Engineers since August 13<sup>th</sup>, 1987. This membership expiration date is December 31<sup>st</sup>, 2010.

596

The following example illustrates the whole Rating document for above ratings:

597

598

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634

635

636

637

638

```
(1) <?xml version="1.0" encoding="UTF-8"?>
(2) <BRating xmlns="..." ... >
(3)   <ListOfRating>
(4)     <Rating Type="BBB">
(5)       <RatingIssuer>
(6)         <IssuerName languageID="EN">Better Business Bureau, Inc.
(7)       </IssuerName>
(8)       <IssuerUri>http://www.bbb.org/business-reviews/ratings/
(9)     </IssuerUri>
(10)    </RatingIssuer>
(11)    <RatingDescription languageID="EN">A+</RatingDescription>
(12)    <RatingDate>2009-05-08</RatingDate>
(13)    <RatingReferenceUri>
(14)      http://goldengate.bbb.org/WWWRoot/Report.aspx?site=99&bbb=1116&firm=34825#bbbrating</RatingReferenceUri>
(15)    </Rating>
(16)  </ListOfRating>
(17)  <Credentials>
(18)    <Credential Type="License">
(19)      <CredentialIssuer>
(20)        <IssuerName languageID="EN">
(21)          California Board For Professional Engineers And Land Surveyors
(22)        </IssuerName>
(23)        <IssuerUri>http://www.pels.ca.gov/</IssuerUri>
(24)      </CredentialIssuer>
(25)      <CredentialClass languageID="EN">CIVIL ENGINEER</CredentialClass>
(26)      <License languageID="EN">42456</License>
(27)      <CredentialDate>
(28)        <ExpirationDate>2010-12-31</ExpirationDate>
(29)      </CredentialDate>
(30)      <CredentialReferenceUri>
(31)        http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.QueryView?P_LICENSE_NUM
(32)        BER=42456&P_LTE_ID=741</CredentialReferenceUri>
(33)      </Credential>
(34)    <Credential Type="Membership">
(35)      <CredentialIssuer>
(36)        <IssuerName languageID="EN">
(37)          American Society of Civil Engineers</IssuerName>
(38)        <IssuerUri>http://www.asce.org/</IssuerUri>
(39)      </CredentialIssuer>
(40)      <CredentialClass languageID="EN">Member</CredentialClass>
(41)      <CredentialDate>
```

```

639      (39)          <DateIssued>1987-08-13</DateIssued>
640      (40)          <ExpirationDate>2010-12-31</ExpirationDate>
641      (41)          </CredentialDate>
642      (42)          </Credential>
643      (43)          </Credentials>
644      (44) </BRating>

```

## 645 5.2 Service Rating for Gas-Meters Product

646 This Rating example illustrates the ratings and credentials for gas-meters produced by a fictitious  
647 Hangzhou Innover Technology Co. Ltd.

648 The Rating message has the following contents:

- 649 1) Credit rating on this provider is 980.1, rated by 51Honest.org (<http://www.51Honest.org>), a third-  
650 party organization in China
- 651 2) License on gas-meter production is issued in December, 1997, by a department in government  
652 that is Zhejiang Bureau of Quality and Technical Supervision in the China  
653 (<http://www.zjbts.gov.cn/>).
- 654 3) Certificate on gas-meter product is certificated as the first Dual-Explosion-Proof Certificate in  
655 November 1997, Certificate is issued by a third-party organization, National Supervision and  
656 Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) in Shanghai,  
657 China (<http://www.sipai.com/sitiias/nepsi.asp>)

```

658 (1) <?xml version="1.0" encoding="UTF-8"?>
659 (2) <BRating xmlns="...">
660 (3)   <ListOfRating>
661 (4)     <Rating Type="Credit">
662 (5)       <RatingIssuer>
663 (6)         <IssuerName languageID="zh-CN">信星计划51Honest.org</IssuerName>
664 (7)         <IssuerUri>http://www.51Honest.org</IssuerUri>
665 (8)       </RatingIssuer>
666 (9)       <RatingNumeric>980.1</RatingNumeric>
667 (10)      <RatingDate>2009-04-31</RatingDate>
668 (11)      <RatingReferenceUri/>
669 (12)    </Rating>
670 (13)  </ListOfRating>
671 (14)  <Credentials>
672 (15)    <Credential Type="License">
673 (16)      <CredentialIssuer>
674 (17)        <IssuerName languageID="zh-CN">浙江省质量技术监督局</IssuerName>
675 (18)        <IssuerUri>http://www.zjbts.gov.cn/</IssuerUri>
676 (19)      </CredentialIssuer>
677 (20)      <CredentialClass languageID="zh-
678 CN">中华人民共和国计量器具生产制造许可证</CredentialClass>
679 (21)      <License languageID="en-us">ZJJHJDJ-JL1997120001</License>
680 (22)      <CredentialDate>
681 (23)        <DateIssued>1997-12-01</DateIssued>
682 (24)      </CredentialDate>
683 (25)    </Credential>
684 (26)    <Credential Type="Certification">
685 (27)      <CredentialIssuer>
686 (28)        <IssuerName languageID="en">National Supervision and Inspection
687 Center for Explosion Protection and Safety of Instrumentation in
688 Shanghai</IssuerName>
689 (29)        <IssuerUri>http://www.sipai.com/sitiias/nepsi.asp</IssuerUri>
690 (30)      </CredentialIssuer>
691 (31)      <CredentialClass languageID="en">The first Dual-Explosion-Proof
692 Certificate</CredentialClass>
693 (32)      <License languageID="en-us">NEPSI-FB1997110001</License>
694 (33)      <CredentialDate>
695 (34)        <DateIssued>1997-11-01</DateIssued>
696 (35)      </CredentialDate>

```

```
697 (36) </Credential>  
698 (37) </Credentials>  
699 (38) </BRating>
```



---

## 701 6 Conformance

702 An implementation conforms to this specification if it satisfies all of the MUST or REQUIRED level  
703 requirements defined within this specification. A SOAP Node MUST NOT use the XML namespace  
704 identifier for this specification (listed in Section 1.1) within SOAP Envelopes unless it is compliant with this  
705 specification.

706 This specification references a number of other specifications (listed in Section 1.4.2). In order to comply  
707 with this specification, an implementation MUST implement the portions of referenced specifications  
708 necessary to comply with the required provisions of this specification. Additionally, the implementation of  
709 the portions of the referenced specifications that are specifically cited in this specification MUST comply  
710 with the rules for those portions as established in the referenced specification.

711 Normative text within this specification takes precedence over normative outlines (as described in section  
712 1.4.1), which in turn take precedence over the XML Schema [XML Schema Part 1, Part 2] and WSDL  
713 [WSDL 1.1] descriptions. That is, the normative text in this specification further constrains the schemas  
714 and/or WSDL that are part of this specification; and this specification contains further constraints on the  
715 elements defined in referenced schemas.

716 The minimum set of information exchange for Business Rating that would allow conforming applications  
717 to exchange information and satisfy the conformance should have either  
718 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri element or  
719 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerUri element, like this:

```
720 (001) <?xml version="1.0" encoding="utf-8"?>  
721 (002) <BRating xmlns="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">  
722 (003) <ListOfRating>  
723 (004) <Rating>  
724 (005) <RatingIssuer>  
725 (006) <IssuerUri>http://www.sample-rating-issuer.org</IssuerUri>  
726 (007) </RatingIssuer>  
727 (008) . . .  
728 (009) </Rating>  
729 (010) </ListOfRating>  
730 (011) </BRating>
```

731 Or like this:

```
732 (001) <?xml version="1.0" encoding="utf-8"?>  
733 (002) <BRating xmlns="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">  
734 (003) <Credentials>  
735 (004) <Credential>  
736 (005) <CredentialIssuer>  
737 (006) <IssuerUri>http://www.sample-cred-issuer.com</IssuerUri>  
738 (007) </CredentialIssuer>  
739 (008) . . .  
740 (009) </Credential>  
741 (010) </Credentials>  
742 (011) </BRating>
```

743 The following nearly empty artifacts do not conform to this specification:

```
744 (001) <?xml version="1.0" encoding="utf-8"?>  
745 (002) <BRating xmlns="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">  
746 (003) <ListOfRating/>
```

747 (004) </BRating>

748 The following nearly empty artifacts do not conform to this specification, either:

```
749 (001) <?xml version="1.0" encoding="utf-8"?>
750 (002) <BRating xmlns="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">
751 (003) <Credentials/>
752 (004) </BRating>
```

753 This specification defines a number of extensions; compliant services are NOT REQUIRED to implement  
754 those extensions defined in this specification. However, if a service implements an aspect of the  
755 specification, it MUST comply with the requirements specified (e.g. related "MUST" statements). If an  
756 implementation silently ignores unrecognized attributes where any attribute is allowed, or silently ignores  
757 unrecognized elements where any element is allowed, should be considered as an interoperable  
758 implementation.

---

759 **A. Acknowledgements**

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762 **Participants:**

763

764	Rex Brooks	Individual
765	Szu Chang	Changfeng Open Standards Platform Software Alliance
766	William Cox	Individual
767	Andy Lee	Changfeng Open Standards Platform Software Alliance
768	Carl Mattocks	Individual
769	Yulin Xu	Changfeng Open Standards Platform Software Alliance
770	Paul Yang	Changfeng Open Standards Platform Software Alliance
771	James Zhili Zhang	TIBCO Software Inc.
772	Hong Zhou	Changfeng Open Standards Platform Software Alliance

## B. XML Schema for Business Rating

774 Note: The separate machine readable schema document, listed on Section 2.2, is normative. The text  
775 included here is non-normative.

```
776 <?xml version="1.0" encoding="UTF-8"?>
777 <!--
778     Document Type:      EERP-Rating CD04
779     Create On:         09/12/2010
780
781 -->
782 <!-- ===== xsd:schema Element With Namespaces Declarations ===== -->
783 <!-- ===== Copyright Notice ===== -->
784 <!--
785 OASIS takes no position regarding the validity or scope of any
786 intellectual property or other rights that might be claimed to pertain
787 to the implementation or use of the technology described in this
788 document or the extent to which any license under such rights
789 might or might not be available; neither does it represent that it has
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808 others, and derivative works that comment on or otherwise explain
809 it or assist in its implementation may be prepared, copied,
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829 WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A
830 PARTICULAR PURPOSE.
831 -->
832 <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://docs.oasis-
833 open.org/ns/soa-eerp/rt/200903" xmlns:eerp="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
834 xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
835 xmlns:udt="urn:un:unece:unefact:data:specification:UnqualifiedDataTypesSchemaModule:2"
836 xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rt="http://docs.oasis-open.org/ns/soa-
837 eerp/rt/200903" targetNamespace="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
838 elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
839 <!-- ===== Imports ===== -->
```



```

840     <xsd:import namespace="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
841     schemaLocation="http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-CommonBasicComponents-
842     2.0.xsd"/>
843     <xsd:import
844     namespace="urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2"
845     schemaLocation="http://docs.oasis-open.org/ubl/os-UBL-
846     2.0/xsd/common/UnqualifiedDataTypesSchemaModule-2.0.xsd"/>
847     <!-- ===== Root Element ===== -->
848     <xsd:element name="BRating" type="BRatingType">
849     <xsd:annotation>
850     <xsd:documentation>The BRating is the root element of Business Rating for EERP which is for
851     business reliability and reputation of the service and its services provider. It has both
852     ListOfRating and Credentials elements which are indicators to represent for business reliability
853     and reputation of the service and its services provider. </xsd:documentation>
854     </xsd:annotation>
855     </xsd:element>
856     <!-- ===== Element Declarations ===== -->
857     <xsd:element name="Credential" type="CredentialType">
858     <xsd:annotation>
859     <xsd:documentation>The Credential element is for each credential, certification,
860     affiliation or association that the service provider has for the service. </xsd:documentation>
861     </xsd:annotation>
862     </xsd:element>
863     <xsd:element name="CredentialClass" type="CredentialClassType">
864     <xsd:annotation>
865     <xsd:documentation>CredentialClass element is the classification of the credential such as
866     five-stars, or golden member. </xsd:documentation>
867     </xsd:annotation>
868     </xsd:element>
869     <xsd:element name="CredentialDate" type="CredentialDateType">
870     <xsd:annotation>
871     <xsd:documentation>CredentialDate element is the date on this credential, including date
872     when this credential, license or certificate is issued and the expiration date for this license
873     or membership. </xsd:documentation>
874     </xsd:annotation>
875     </xsd:element>
876     <xsd:element name="CredentialIssuer" type="IssuerType">
877     <xsd:annotation>
878     <xsd:documentation>Name of affiliations or associations</xsd:documentation>
879     </xsd:annotation>
880     </xsd:element>
881     <xsd:element name="Credentials" type="CredentialsType">
882     <xsd:annotation>
883     <xsd:documentation>The Rating Credentials element for EERP-Rating, describes the
884     credentials held by the service provider with respect to a specific service.
885     Credentials may be issued with respect to a service provider and service by third-party
886     organizations, such as licenses, permissions, certifications, awards, associations, and
887     affiliations.
888     </xsd:documentation>
889     </xsd:annotation>
890     </xsd:element>
891     <xsd:element name="DateIssued" type="DateIssuedType">
892     <xsd:annotation>
893     <xsd:documentation>The date when this credential, license or certificate was
894     issued</xsd:documentation>
895     </xsd:annotation>
896     </xsd:element>
897     <xsd:element name="ExpirationDate" type="ExpirationDateType">
898     <xsd:annotation>
899     <xsd:documentation>Expiration date for this license or membership</xsd:documentation>
900     </xsd:annotation>
901     </xsd:element>
902     <xsd:element name="IssuerName" type="IssuerNameType">
903     <xsd:annotation>
904     <xsd:documentation>Name for the issuing organization for the rating or
905     credential</xsd:documentation>
906     </xsd:annotation>
907     </xsd:element>
908     <xsd:element name="IssuerUri" type="RatingUriType">
909     <xsd:annotation>
910     <xsd:documentation>the URI that represent the issuer organization. </xsd:documentation>
911     </xsd:annotation>
912     </xsd:element>

```

```

913 <xsd:element name="License" type="LicenseType">
914 <xsd:annotation>
915 <xsd:documentation>License number </xsd:documentation>
916 </xsd:annotation>
917 </xsd:element>
918 <xsd:element name="ListOfRating" type="ListOfRatingType">
919 <xsd:annotation>
920 <xsd:documentation>The ListOfRating element contains the list of Rating issued by a third
921 party rating organization. Each Rating element in the ListOfRating has one of the two elements to
922 represent the rating measurement of the given business service: 1) - an aggregated number, in
923 RatingNumeric element. 2) - an aggregated classification description, in RatingDescription
924 element </xsd:documentation>
925 </xsd:annotation>
926 </xsd:element>
927 <xsd:element name="Rating" type="RatingType">
928 <xsd:annotation>
929 <xsd:documentation>The Rating element represents a rating measurement of the given business
930 service. The rating measurement is issued by a third party rating organization.
931 </xsd:documentation>
932 </xsd:annotation>
933 </xsd:element>
934 <xsd:element name="RatingDescription" type="RatingDescriptionType">
935 <xsd:annotation>
936 <xsd:documentation>Rating description for the rating where the rating can be represented in
937 String format, such as Good, Fair, Average, etc.</xsd:documentation>
938 </xsd:annotation>
939 </xsd:element>
940 <xsd:element name="RatingDate" type="RatingDateType">
941 <xsd:annotation>
942 <xsd:documentation>Date when this Rating is obtained</xsd:documentation>
943 </xsd:annotation>
944 </xsd:element>
945 <xsd:element name="RatingIssuer" type="IssuerType">
946 <xsd:annotation>
947 <xsd:documentation>Issuing organization for this quality/rating, including the issuer name
948 and the URI that represent this rating issuer organization </xsd:documentation>
949 </xsd:annotation>
950 </xsd:element>
951 <xsd:element name="RatingNumeric" type="RatingNumericType">
952 <xsd:annotation>
953 <xsd:documentation>Rating numeric number</xsd:documentation>
954 </xsd:annotation>
955 </xsd:element>
956 <xsd:element name="RatingReferenceUri" type="RatingUriType">
957 <xsd:annotation>
958 <xsd:documentation>Web page URL or other URI for this rating to reference
959 to.</xsd:documentation>
960 </xsd:annotation>
961 </xsd:element>
962 <!-- Extension -->
963 <xsd:element name="BRaingExtension">
964 <xsd:complexType mixed="true">
965 <xsd:choice minOccurs="0" maxOccurs="unbounded">
966 <xsd:any processContents="skip" minOccurs="0" maxOccurs="unbounded"/>
967 </xsd:choice>
968 <xsd:attribute name="optional" type="xsd:boolean" use="optional" default="true"/>
969 </xsd:complexType>
970 </xsd:element>
971 <!-- ===== Type Definitions ===== -->
972 <xsd:complexType name="CredentialClassType">
973 <xsd:annotation>
974 <xsd:documentation>Complex type for membership classification </xsd:documentation>
975 </xsd:annotation>
976 <xsd:simpleContent>
977 <xsd:extension base="cbc:NameType">
978 <xsd:anyAttribute namespace="##any" processContents="lax"/>
979 </xsd:extension>
980 </xsd:simpleContent>
981 </xsd:complexType>
982 <xsd:complexType name="CredentialDateType">
983 <xsd:annotation>
984 <xsd:documentation>Complex type for the date on this credential </xsd:documentation>
985 </xsd:annotation>

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986     <xsd:sequence>
987         <xsd:element ref="DateIssued" minOccurs="0">
988             <xsd:annotation>
989                 <xsd:documentation>The date wen this credential, license or certificate is
990 issued</xsd:documentation>
991             </xsd:annotation>
992         </xsd:element>
993         <xsd:element ref="ExpirationDate" minOccurs="0">
994             <xsd:annotation>
995                 <xsd:documentation>Expiration date for this Rating, license or
996 membership</xsd:documentation>
997             </xsd:annotation>
998         </xsd:element>
999     </xsd:sequence>
1000     <xsd:anyAttribute namespace="##any" processContents="lax"/>
1001 </xsd:complexType>
1002 <xsd:complexType name="CredentialsType">
1003     <xsd:annotation>
1004         <xsd:documentation>Complex type for Credentials and association</xsd:documentation>
1005     </xsd:annotation>
1006     <xsd:sequence>
1007         <xsd:element ref="Credential" maxOccurs="unbounded">
1008             <xsd:annotation>
1009                 <xsd:documentation>The Credential element is for each credential, certification,
1010 affiliation or association that the service provider has for the service. This is a required
1011 element for the Credentials element. </xsd:documentation>
1012             </xsd:annotation>
1013         </xsd:element>
1014     </xsd:sequence>
1015     <xsd:anyAttribute namespace="##any" processContents="lax"/>
1016 </xsd:complexType>
1017 <xsd:complexType name="CredentialType">
1018     <xsd:annotation>
1019         <xsd:documentation>Complex type for one credential or association</xsd:documentation>
1020     </xsd:annotation>
1021     <xsd:sequence>
1022         <xsd:element ref="CredentialIssuer">
1023             <xsd:annotation>
1024                 <xsd:documentation>Issuing organization for this credential, such as the name of
1025 certification, association, affiliation or credential, such as AAA, BBB, or State of California,
1026 including the issuer name and the URI that represent this rating issuer organization.
1027 </xsd:documentation>
1028             </xsd:annotation>
1029         </xsd:element>
1030         <xsd:element ref="CredentialClass" minOccurs="0">
1031             <xsd:annotation>
1032                 <xsd:documentation>CredentialClass element is the classification of the credential such
1033 as five-stars, or golden member. It is an optional element for the
1034 Credential.</xsd:documentation>
1035             </xsd:annotation>
1036         </xsd:element>
1037         <xsd:element ref="License" minOccurs="0">
1038             <xsd:annotation>
1039                 <xsd:documentation>License element, the license number or membership number of the
1040 credential, is an optional element for the Credential element.</xsd:documentation>
1041             </xsd:annotation>
1042         </xsd:element>
1043         <xsd:element ref="CredentialDate" minOccurs="0"/>
1044         <xsd:element name="CredentialReferenceUri" type="RatingUriType" minOccurs="0">
1045             <xsd:annotation>
1046                 <xsd:documentation>CredentialReferenceUri element, Web page URL or other URI for this
1047 credential reference, is an optional element for Credential. </xsd:documentation>
1048             </xsd:annotation>
1049         </xsd:element>
1050     </xsd:sequence>
1051     <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1052 </xsd:complexType>
1053 <xsd:complexType name="DateIssuedType">
1054     <xsd:annotation>
1055         <xsd:documentation>Complex type of the date when this certificate or license is
1056 issued</xsd:documentation>
1057     </xsd:annotation>

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1059     </xsd:annotation>
1060     <xsd:simpleContent>
1061       <xsd:extension base="cbc:StartDateType">
1062         <xsd:anyAttribute namespace="##any" processContents="lax"/>
1063       </xsd:extension>
1064     </xsd:simpleContent>
1065   </xsd:complexType>
1066   <xsd:complexType name="BRatingType">
1067     <xsd:annotation>
1068       <xsd:documentation>Complex type for the EERP-Rating</xsd:documentation>
1069     </xsd:annotation>
1070     <xsd:sequence>
1071       <xsd:element ref="ListOfRating" minOccurs="0">
1072         <xsd:annotation>
1073           <xsd:documentation>ListOfRating element is for the rating aspect of service which is
1074 provided by third party and measured in terms of rates for the service. Each Rating element in
1075 the ListOfRating element is issued by a rating organization that has either an aggregated numeric
1076 number or an aggregated classification description to represent the rating measurement of the
1077 given business service.</xsd:documentation>
1078         </xsd:annotation>
1079       </xsd:element>
1080       <xsd:element ref="Credentials" minOccurs="0">
1081         <xsd:annotation>
1082           <xsd:documentation>Credentials element is for the rating aspect of service which is
1083 measured in terms of credentials for the service that the service provider owns or holds.
1084 Credentials are issued by organizations for the service, such as licenses, permissions,
1085 certifications, associations, affiliations, etc. Each credential element in the Credentials
1086 element is a non-aggregated indicator for the rating measurement of the given business service,
1087 and it does not provide an aggregated value for the measurement.</xsd:documentation>
1088         </xsd:annotation>
1089       </xsd:element>
1090       <xsd:element ref="BRaingExtension" minOccurs="0" maxOccurs="unbounded"/>
1091     </xsd:sequence>
1092     <xsd:anyAttribute namespace="##any" processContents="lax"/>
1093   </xsd:complexType>
1094   <xsd:complexType name="ExpirationDateType">
1095     <xsd:annotation>
1096       <xsd:documentation>Complex type of expiration date</xsd:documentation>
1097     </xsd:annotation>
1098     <xsd:simpleContent>
1099       <xsd:extension base="cbc:ExpiryDateType">
1100         <xsd:anyAttribute namespace="##any" processContents="lax"/>
1101       </xsd:extension>
1102     </xsd:simpleContent>
1103   </xsd:complexType>
1104   <xsd:complexType name="IssuerNameType">
1105     <xsd:annotation>
1106       <xsd:documentation>Complex type for the Rating issuer name</xsd:documentation>
1107     </xsd:annotation>
1108     <xsd:simpleContent>
1109       <xsd:extension base="cbc:NameType"/>
1110     </xsd:simpleContent>
1111   </xsd:complexType>
1112   <xsd:complexType name="IssuerType">
1113     <xsd:annotation>
1114       <xsd:documentation>Complex type for issuing organization, including the issuer name and the
1115 URI that represent this rating issuer organization. </xsd:documentation>
1116     </xsd:annotation>
1117     <xsd:sequence>
1118       <xsd:element ref="IssuerName" minOccurs="0">
1119         <xsd:annotation>
1120           <xsd:documentation>Name for the issuing organization for this rating or
1121 credential</xsd:documentation>
1122         </xsd:annotation>
1123       </xsd:element>
1124       <xsd:element ref="IssuerUri">
1125         <xsd:annotation>
1126           <xsd:documentation>The URI that represent the issuer organization. </xsd:documentation>
1127         </xsd:annotation>
1128       </xsd:element>
1129       <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1130     </xsd:sequence>
1131     <xsd:anyAttribute namespace="##any" processContents="lax"/>

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1132     </xsd:complexType>
1133     <xsd:complexType name="LicenseType">
1134       <xsd:annotation>
1135         <xsd:documentation>Complex type for the license number or membership
1136 number</xsd:documentation>
1137       </xsd:annotation>
1138       <xsd:simpleContent>
1139         <xsd:extension base="cbc:NameType">
1140           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1141         </xsd:extension>
1142       </xsd:simpleContent>
1143     </xsd:complexType>
1144     <xsd:complexType name="ListOfRatingType">
1145       <xsd:annotation>
1146         <xsd:documentation>Complex type for ListOfRating </xsd:documentation>
1147       </xsd:annotation>
1148       <xsd:sequence>
1149         <xsd:element ref="Rating" maxOccurs="unbounded">
1150           <xsd:annotation>
1151             <xsd:documentation>The Rating element represents a rating measurement of the given
1152 business service. The rating measurement is issued by a third party rating organization.
1153 </xsd:documentation>
1154           </xsd:annotation>
1155         </xsd:element>
1156       </xsd:sequence>
1157       <xsd:anyAttribute namespace="##any" processContents="lax"/>
1158     </xsd:complexType>
1159     <xsd:complexType name="RatingDescriptionType">
1160       <xsd:annotation>
1161         <xsd:documentation>Complex type for the description of the Rating</xsd:documentation>
1162       </xsd:annotation>
1163       <xsd:simpleContent>
1164         <xsd:extension base="cbc:NameType">
1165           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1166         </xsd:extension>
1167       </xsd:simpleContent>
1168     </xsd:complexType>
1169     <xsd:complexType name="RatingDateType">
1170       <xsd:annotation>
1171         <xsd:documentation>Complex type of the date when this Rating is
1172 obtained</xsd:documentation>
1173       </xsd:annotation>
1174       <xsd:simpleContent>
1175         <xsd:extension base="cbc:ExpiryDateType">
1176           <xsd:attribute name="Expired" type="xsd:boolean" use="optional" default="false"/>
1177           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1178         </xsd:extension>
1179       </xsd:simpleContent>
1180     </xsd:complexType>
1181     <xsd:complexType name="RatingNumericType">
1182       <xsd:annotation>
1183         <xsd:documentation>Complex type of Rating's value number</xsd:documentation>
1184       </xsd:annotation>
1185       <xsd:simpleContent>
1186         <xsd:extension base="udt:NumericType">
1187           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1188         </xsd:extension>
1189       </xsd:simpleContent>
1190     </xsd:complexType>
1191     <xsd:complexType name="RatingType">
1192       <xsd:annotation>
1193         <xsd:documentation>Complex type for Rating for EERP Rating</xsd:documentation>
1194       </xsd:annotation>
1195       <xsd:sequence>
1196         <xsd:element ref="RatingIssuer">
1197           <xsd:annotation>
1198             <xsd:documentation>Issuing organization for this rating, including the issuer name and
1199 the URI that represent this rating issuer organization. </xsd:documentation>
1200           </xsd:annotation>
1201         </xsd:element>
1202         <xsd:element ref="RatingDescription" minOccurs="0">
1203           <xsd:annotation>

```

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1204         <xsd:documentation>Rating description for the rating where the rating can be represented
1205 in String format, such as Good, Fair, Average, etc. It is an optional element for
1206 Rating.</xsd:documentation>
1207     </xsd:annotation>
1208 </xsd:element>
1209     <xsd:element ref="RatingNumeric" minOccurs="0">
1210         <xsd:annotation>
1211             <xsd:documentation>RatingNumeric element, Numeric value for the rating, is an optional
1212 element for Rating.</xsd:documentation>
1213         </xsd:annotation>
1214     </xsd:element>
1215     <xsd:element ref="RatingDate" minOccurs="0">
1216         <xsd:annotation>
1217             <xsd:documentation>Date when this Rating is obtained. It is an optional element for
1218 Rating.</xsd:documentation>
1219         </xsd:annotation>
1220     </xsd:element>
1221     <xsd:element ref="RatingReferenceUri" minOccurs="0">
1222         <xsd:annotation>
1223             <xsd:documentation>RatingReferenceUri, Web page URL or other URI for this rating to
1224 reference to, is an optional element for the Rating element.</xsd:documentation>
1225         </xsd:annotation>
1226     </xsd:element>
1227     <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1228 </xsd:sequence>
1229 <xsd:attribute name="Type" type="xs:anySimpleType" use="optional"/>
1230 <xsd:anyAttribute namespace="##any" processContents="lax"/>
1231 </xsd:complexType>
1232 <xsd:complexType name="RatingUriType">
1233     <xsd:annotation>
1234         <xsd:documentation>Complex type for the rating reference URI or Web page
1235 URL</xsd:documentation>
1236     </xsd:annotation>
1237     <xsd:simpleContent>
1238         <xsd:extension base="xsd:anyURI">
1239             <xsd:anyAttribute namespace="##any" processContents="lax"/>
1240         </xsd:extension>
1241     </xsd:simpleContent>
1242 </xsd:complexType>
1243 <xsd:simpleType name="CredentialTypeEnum">
1244     <xsd:annotation>
1245         <xsd:documentation>Credential Type enumeration</xsd:documentation>
1246     </xsd:annotation>
1247     <xsd:restriction base="xsd:string">
1248         <xsd:enumeration value="Affiliation"/>
1249         <xsd:enumeration value="Association"/>
1250         <xsd:enumeration value="Award"/>
1251         <xsd:enumeration value="Certification"/>
1252         <xsd:enumeration value="License"/>
1253         <xsd:enumeration value="Membership"/>
1254         <xsd:enumeration value="Permission"/>
1255         <xsd:enumeration value="Others"/>
1256     </xsd:restriction>
1257 </xsd:simpleType>
1258 </xsd:schema>

```

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1259 **C. Non-Normative Text**

1260 None

1261

## D. Revision History

1262

Revision	Date	Editor	Changes Made
0.9	03/17/2009	Szu Chang	Initial draft
WD01	04/23/2009	Szu Chang	Renamed draft 0.9 to working draft 01 (WD01)
WD02	05/09/2009	Szu Chang	Fixed Issue #I007, I008 and I009, and get ready for Committee Draft CD01
WD03	05/17/2009	Szu Chang	Added conformance section
WD04	06/08/2009	Szu Chang	Fixed Issue #I018
WD05	06/12/2009	Szu Chang	Fixed Issue #I018 that changed BusinessRating to BRating
WD06	06/24/2009	Szu Chang	Fixed Issue #I027, I030, I034, I037, I040, I046, and I057.
WD07	07/03/2009	Szu Chang	Fixed Issue #I027, I034, I050, and I054.
CD02	07/11/2009	Szu Chang	Changed WD07 to CD02 after approved by TC
CD03	01/06/2010	Szu Chang	Changed NS and fixed URIs from CD02 to CD03
WD08	05/10/2010	Szu Chang	Changed after the public review comments
WD09	06/23/2010	Szu Chang	Changed after the first round of review PR comments
CD04	09/12/2010	Szu Chang	Changed from WS09 to CD04 for TC to approve

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