



SOA-EERP Business Rating of Service Version 1.0

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Technical Committee:

OASIS Service-Oriented Architecture End-to-End Resource Planning (SOA-EERP) TC

Chair(s):

William Cox

Andy Lee, Changfeng Open Standards Platform Software Alliance

Editor(s):

Szu Chang, Changfeng Open Standards Platform Software Alliance

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/)
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1 Introduction

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

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

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

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

1.1 Terminology

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

1.1.1 Notational Conventions

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

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

Elements and Attributes defined by this specification are referred to in the text of this document using 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, October
191 2006.
192 <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, February
194 2005.
195 <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 Recommendation 9, January
203 1996.
204 http://www.unece.org/cefact/recommendations/rec09/rec09_ecetrd203.pdf
205
206

207 1.2.1 Reference

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

- 210 • UBL 2.0 Common Basic Components (**UBL-20-cbc**), UBL-CommonBasicComponents-2.0.xsd
- 211 • UBL 2.0 Unqualified Data Type (**UBL-20-udt**), UnqualifiedDataTypeSchemaModule-2.0.xsd

212 This specification is designed to work with the general Web Services framework including WSDL service
213 descriptions, and **SOAP** message structure and message processing model. The XML vocabulary
214 defined in this specification should be applicable to any version of **SOAP**.

215 **1.3 Non-Normative References**

216 None.

218 2 Business Rating Measurement

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

221 2.1 Namespaces

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

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

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

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

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

227 2.2 Schema Files

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

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

231 2.3 Rating Measurement Indicators

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

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

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

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

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

255 Syntax

```
256 <rt:BRating xmlns:rt="..." ...>  
257 <rt:ListOfRating ...>rt:ListOfRatingType</rt:ListOfRating> ?  
258 <rt:Credentials ...>rt:CredentialsType</rt:Credentials> ?  
259 ...  
260 </rt:BRating >
```

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

262 /rt:BRating

263 The root element of Rating for EERP

264 /rt:BRating/@{any}

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

267 /rt:BRating/rt:ListOfRating

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

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

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

274 /rt:BRating/rt:Credentials

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

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

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

282 /rt:BRating/rt:BRatingExtension

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

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

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

291 3 ListOfRating

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

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

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

300 Syntax

```
301 <rt:ListOfRating xmlns:rt="..." ...>  
302   <rt:Rating Type="..." ... >rt:QualityRatingType  
303     <rt:RatingIssuer ...>rt:IssuerType  
304       <rt:IssuerName languageID="...">rt:IssuerNameType</rt:IssuerName> ?  
305       <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>  
306       ...  
307     </rt:RatingIssuer>  
308     <rt:RatingDescription languageID="..." ... >  
309       rt:RatingDescriptionType</rt:RatingDescription> ?  
310     <rt:RatingNumeric ...>rt:RatingNumericType</rt:RatingNumeric> ?  
311     <rt:RatingDate ...>rt:RatingDateType</rt:RatingDate> ?  
312     <rt:RatingReferenceUri ...>rt:RatingUriType</rt:RatingReferenceUri> ?  
313     ...  
314   </rt:Rating> +  
315 </rt:ListOfRating>
```

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

317 /rt:BRating/rt:ListOfRating

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

319 /rt:BRating/rt:ListOfRating/rt:Rating

320 The Rating element represents a rating measurement of the given business service. The rating
321 measurement is issued by a third party rating organization. This is a required element for the
322 ListOfRating element.

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

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

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

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

329 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer

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

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

333 IssuerName element, Name for the issuing organization for this rating, is an optional element for
334 RatingIssuer.

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

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

338 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri
339 It is the URI that represent the issuer organization. It is a required element for RatingIssuer.

340 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri/@{any}
341 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added
342 to the IssuerUri element in the future. Unrecognized attributes MAY cause a fault or be silently
343 ignored.

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

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

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

354 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingNumeric
355 RatingNumeric element, Numeric value for the rating, is an optional element for Rating.

356 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingNumeric/@{any}
357 This is an extensibility mechanism to allow additional attributes, based on schemas, to be added
358 to the RatingNumeric element in the future. Unrecognized attributes MAY cause a fault or be
359 silently ignored.

360 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate
361 RatingDate is the date when this Rating is obtained. It is an optional element for Rating.

362 /rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate/@Expired
363 Expired is an optional attribute to indicate this Rating is expired or not. The value of this Expired
364 attribute is set to true means this Rating has been expired as of the RatingDate.

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

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

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

376 Examples

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

379

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

```

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

```

396

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

399

```

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

```


418

4 Rating Credentials

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

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

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

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

428 Syntax

```
429 <rt:Credentials xmlns:bqos="..." ...>  
430   <rt:Credential>rt:CredentialType  
431     <rt:CredentialIssuer ...>rt:IssuerType  
432       <rt:IssuerName languageID="..." >rt:IssuerNameType</rt:IssuerName> ?  
433       <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>  
434       ...  
435     </rt:CredentialIssuer>  
436     <rt:CredentialClass languageID="..." ...>  
437       rt:CredentialClassType</rt:CredentialClass> ?  
438     <rt:License languageID="..." ...>rt:LisenseType</rt:License> ?  
439     <rt:CredentialDate ...>rt:CredentialDateType  
440       <rt:DateIssued ...>rt:DateIssuedType</rt:DateIssued> ?  
441       <rt:ExpirationDate ...>rt:ExpirationDateType</rt:ExpirationDate> ?  
442     </rt:CredentialDate> ?  
443     <rt:CredentialReferenceUri ...>  
444       rt:RatingUriType</rt:CredentialReferenceUri> ?  
445     ...  
446   </rt:Credential> +  
447 </rt:Credentials>
```

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

449 /rt:BRating/rt:Credentials

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

452 /rt:BRating/rt:Credentials/rt:Credential

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

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

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

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

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

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

463 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer

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

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

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

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

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

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

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

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

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

493 /rt:BRating/rt:Credentials/rt:Credential/rt:License
494 License element, the license number or membership number of the credential, is an optional
495 element for the Credential element.

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

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

503 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate
504 CredentialDate element is the date on this credential, including date when this credential, license
505 or certificate is issued and the expiration date for this license or membership. It is an optional
506 element for the Credential element.

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

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

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

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

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

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

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

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

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

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

525 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialReferenceUri

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

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

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

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

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

535 Examples

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

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

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

```

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

```

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

```

576 (001) <?xml version="1.0" encoding="utf-8"?>
577 (002) <Credentials xmlns="..." ...>
578 (003)   <Credential Type="Association">
579 (004)     <CredentialIssuer>
580 (005)       <IssuerName languageID="EN">Better Business Bureau, Inc.
581 </IssuerName>
582 (006)       <IssuerUri>http://goldengate.bbb.org/</IssuerUri>
583 (007)     </CredentialIssuer>
584 (008)     <CredentialClass languageID="EN">3</CredentialClass>
585 (009)     <CredentialReferenceUri>http://www.res99.com/hotel/10021453-
586 102008020.html?ses=1e65c27bad81e82b07a39070fed04d87</CredentialReferenceUri>
587 (010)   </Credential>
588 (011) </Credentials>

```

589

5 Rating Examples

590 The examples in this section are non-normative.

5.1 Service Rating for an Engineering Service

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

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

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

598 In addition, the service provider is a member of ASCE (American Society of Civil Engineers since
599 August 13th, 1987. This membership expiration date is December 31st, 2010.

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

```
601 (1) <?xml version="1.0" encoding="UTF-8"?>
602 (2) <BRating xmlns="..." ... >
603 (3)   <ListOfRating>
604 (4)     <Rating Type="BBB">
605 (5)       <RatingIssuer>
606 (6)         <IssuerName languageID="EN">Better Business Bureau, Inc.
607 (7)       </IssuerName>
608 (8)       <IssuerUri>http://www.bbb.org/business-reviews/ratings/
609 (9)     </IssuerUri>
610 (10)    </RatingIssuer>
611 (11)    <RatingDescription languageID="EN">A+</RatingDescription>
612 (12)    <RatingDate>2009-05-08</RatingDate>
613 (13)    <RatingReferenceUri>
614 (14)    http://goldengate.bbb.org/WWWRoot/Report.aspx?site=99&bbb=1116&firm=34825#bbbrating</RatingReferenceUri>
615 (15)  </Rating>
616 (16) </ListOfRating>
617 (17) <Credentials>
618 (18)   <Credential Type="License">
619 (19)     <CredentialIssuer>
620 (20)       <IssuerName languageID="EN">
621 (21)       California Board For Professional Engineers And Land Surveyors
622 (22)     </IssuerName>
623 (23)     <IssuerUri>http://www.pels.ca.gov/</IssuerUri>
624 (24)   </CredentialIssuer>
625 (25)   <CredentialClass languageID="EN">CIVIL ENGINEER</CredentialClass>
626 (26)   <License languageID="EN">42456</License>
627 (27)   <CredentialDate>
628 (28)     <ExpirationDate>2010-12-31</ExpirationDate>
629 (29)   </CredentialDate>
630 (30)   <CredentialReferenceUri>
631 (31)   http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.QueryView?P_LICENSE_NUM
632 (32)   BER=42456&P_LTE_ID=741</CredentialReferenceUri>
633 (33) </Credential>
634 (34) <Credential Type="Membership">
635 (35)   <CredentialIssuer>
636 (36)     <IssuerName languageID="EN">
637 (37)     American Society of Civil Engineers</IssuerName>
638 (38)     <IssuerUri>http://www.asce.org/</IssuerUri>
639 (39)   </CredentialIssuer>
640 (40)   <CredentialClass languageID="EN">Member</CredentialClass>
641 (41)   <CredentialDate>
```

```

643 (39) <DateIssued>1987-08-13</DateIssued>
644 (40) <ExpirationDate>2010-12-31</ExpirationDate>
645 (41) </CredentialDate>
646 (42) </Credential>
647 (43) </Credentials>
648 (44) </BRating>

```

649 5.2 Service Rating for Gas-Meters Product

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

652 The Rating message has the following contents:

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

```

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

```

```
701 (36) </Credential>  
702 (37) </Credentials>  
703 (38) </BRating>
```

705 6 Conformance

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

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

715 Normative text within this specification takes precedence over normative outlines (as described in section
716 1.4.1), which in turn take precedence over the XML Schema [XML Schema Part 1, Part 2] and WSDL
717 [WSDL 1.1] descriptions. That is, the normative text in this specification further constrains the schemas
718 and/or WSDL that are part of this specification; and this specification contains further constraints on the
719 elements defined in referenced schemas.

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

```
724 (001) <?xml version="1.0" encoding="utf-8"?>  
725 (002) <BRating xmlns="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">  
726 (003) <ListOfRating>  
727 (004) <Rating>  
728 (005) <RatingIssuer>  
729 (006) <IssuerUri>http://www.sample-rating-issuer.org</IssuerUri>  
730 (007) </RatingIssuer>  
731 (008) . . .  
732 (009) </Rating>  
733 (010) </ListOfRating>  
734 (011) </BRating>
```

735 Or like this:

```
736 (001) <?xml version="1.0" encoding="utf-8"?>  
737 (002) <BRating xmlns="http://docs.oasis-open.org/ns/soa-eerp/rt/200903">  
738 (003) <Credentials>  
739 (004) <Credential>  
740 (005) <CredentialIssuer>  
741 (006) <IssuerUri>httphttp://www.sample-cred-issuer.com</IssuerUri>  
742 (007) </CredentialIssuer>  
743 (008) . . .  
744 (009) </Credential>  
745 (010) </Credentials>  
746 (011) </BRating>
```

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

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

751 (004) </BRating>

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

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

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

763 **A. Acknowledgements**

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766 **Participants:**

767

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

B. XML Schema for Business Rating

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

```

780 <?xml version="1.0" encoding="UTF-8"?>
781 <!--
782     Document Type:      EERP-Rating CD04
783     Create On:         09/12/2010
784
785 -->
786 <!-- ===== xsd:schema Element With Namespaces Declarations ===== -->
787 <!-- ===== Copyright Notice ===== -->
788 <!--
789     OASIS takes no position regarding the validity or scope of any
790     intellectual property or other rights that might be claimed to pertain
791     to the implementation or use of the technology described in this
792     document or the extent to which any license under such rights
793     might or might not be available; neither does it represent that it has
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800     implementors or users of this specification, can be obtained from
801     the OASIS Executive Director.
802
803     OASIS invites any interested party to bring to its attention any
804     copyrights, patents or patent applications, or other proprietary
805     rights which may cover technology that may be required to
806     implement this specification. Please address the information to the
807     OASIS Executive Director.
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810
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818     such as by removing the copyright notice or references to OASIS,
819     except as needed for the purpose of developing OASIS
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823     English.
824
825     The limited permissions granted above are perpetual and will not be
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828     This document and the information contained herein is provided on
829     an "AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES,
830     EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY
831     WARRANTY THAT THE USE OF THE INFORMATION HEREIN
832     WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED
833     WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A
834     PARTICULAR PURPOSE.
835 -->
836 <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://docs.oasis-
837 open.org/ns/soa-eerp/rt/200903" xmlns:eerp="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
838 xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
839 xmlns:udt="urn:un:unece:unefact:data:specification:UnqualifiedDataTypesSchemaModule:2"
840 xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rt="http://docs.oasis-open.org/ns/soa-
841 eerp/rt/200903" targetNamespace="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
842 elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
843 <!-- ===== Imports ===== -->

```

```

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

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

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990     <xsd:sequence>
991       <xsd:element ref="DateIssued" minOccurs="0">
992         <xsd:annotation>
993           <xsd:documentation>The date wen this credential, license or certificate is
994 issued</xsd:documentation>
995         </xsd:annotation>
996       </xsd:element>
997       <xsd:element ref="ExpirationDate" minOccurs="0">
998         <xsd:annotation>
999           <xsd:documentation>Expiration date for this Rating, license or
1000 membership</xsd:documentation>
1001         </xsd:annotation>
1002       </xsd:element>
1003     </xsd:sequence>
1004     <xsd:anyAttribute namespace="##any" processContents="lax"/>
1005 </xsd:complexType>
1006 <xsd:complexType name="CredentialsType">
1007   <xsd:annotation>
1008     <xsd:documentation>Complex type for Credentials and association</xsd:documentation>
1009   </xsd:annotation>
1010   <xsd:sequence>
1011     <xsd:element ref="Credential" maxOccurs="unbounded">
1012       <xsd:annotation>
1013         <xsd:documentation>The Credential element is for each credential, certification,
1014 affiliation or association that the service provider has for the service. This is a required
1015 element for the Credentials element. </xsd:documentation>
1016       </xsd:annotation>
1017     </xsd:element>
1018   </xsd:sequence>
1019   <xsd:anyAttribute namespace="##any" processContents="lax"/>
1020 </xsd:complexType>
1021 <xsd:complexType name="CredentialType">
1022   <xsd:annotation>
1023     <xsd:documentation>Complex type for one credential or association</xsd:documentation>
1024   </xsd:annotation>
1025   <xsd:sequence>
1026     <xsd:element ref="CredentialIssuer">
1027       <xsd:annotation>
1028         <xsd:documentation>Issuing organization for this credential, such as the name of
1029 certification, association, affiliation or credential, such as AAA, BBB, or State of California,
1030 including the issuer name and the URI that represent this rating issuer organization.
1031 </xsd:documentation>
1032       </xsd:annotation>
1033     </xsd:element>
1034     <xsd:element ref="CredentialClass" minOccurs="0">
1035       <xsd:annotation>
1036         <xsd:documentation>CredentialClass element is the classification of the credential such
1037 as five-stars, or golden member. It is an optional element for the
1038 Credential.</xsd:documentation>
1039       </xsd:annotation>
1040     </xsd:element>
1041     <xsd:element ref="License" minOccurs="0">
1042       <xsd:annotation>
1043         <xsd:documentation>License element, the license number or membership number of the
1044 credential, is an optional element for the Credential element.</xsd:documentation>
1045       </xsd:annotation>
1046     </xsd:element>
1047     <xsd:element ref="CredentialDate" minOccurs="0"/>
1048     <xsd:element name="CredentialReferenceUri" type="RatingUriType" minOccurs="0">
1049       <xsd:annotation>
1050         <xsd:documentation>CredentialReferenceUri element, Web page URL or other URI for this
1051 credential reference, is an optional element for Credential. </xsd:documentation>
1052       </xsd:annotation>
1053     </xsd:element>
1054     <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1055   </xsd:sequence>
1056   <xsd:attribute name="Type" type="CrendtialTypeEnum" use="optional"/>
1057   <xsd:anyAttribute namespace="##any" processContents="lax"/>
1058 </xsd:complexType>
1059 <xsd:complexType name="DateIssuedType">
1060   <xsd:annotation>
1061     <xsd:documentation>Complex type of the date when this certificate or license is
1062 issued</xsd:documentation>

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1063     </xsd:annotation>
1064     <xsd:simpleContent>
1065         <xsd:extension base="cbc:StartDateType">
1066             <xsd:anyAttribute namespace="##any" processContents="lax"/>
1067         </xsd:extension>
1068     </xsd:simpleContent>
1069 </xsd:complexType>
1070 <xsd:complexType name="BRatingType">
1071     <xsd:annotation>
1072         <xsd:documentation>Complex type for the EERP-Rating</xsd:documentation>
1073     </xsd:annotation>
1074     <xsd:sequence>
1075         <xsd:element ref="ListOfRating" minOccurs="0">
1076             <xsd:annotation>
1077                 <xsd:documentation>ListOfRating element is for the rating aspect of service which is
1078 provided by third party and measured in terms of rates for the service. Each Rating element in
1079 the ListOfRating element is issued by a rating organization that has either an aggregated numeric
1080 number or an aggregated classification description to represent the rating measurement of the
1081 given business service.</xsd:documentation>
1082             </xsd:annotation>
1083         </xsd:element>
1084         <xsd:element ref="Credentials" minOccurs="0">
1085             <xsd:annotation>
1086                 <xsd:documentation>Credentials element is for the rating aspect of service which is
1087 measured in terms of credentials for the service that the service provider owns or holds.
1088 Credentials are issued by organizations for the service, such as licenses, permissions,
1089 certifications, associations, affiliations, etc. Each credential element in the Credentials
1090 element is a non-aggregated indicator for the rating measurement of the given business service,
1091 and it does not provide an aggregated value for the measurement.</xsd:documentation>
1092             </xsd:annotation>
1093         </xsd:element>
1094         <xsd:element ref="BRaingExtension" minOccurs="0" maxOccurs="unbounded"/>
1095     </xsd:sequence>
1096     <xsd:anyAttribute namespace="##any" processContents="lax"/>
1097 </xsd:complexType>
1098 <xsd:complexType name="ExpirationDateType">
1099     <xsd:annotation>
1100         <xsd:documentation>Complex type of expiration date</xsd:documentation>
1101     </xsd:annotation>
1102     <xsd:simpleContent>
1103         <xsd:extension base="cbc:ExpiryDateType">
1104             <xsd:anyAttribute namespace="##any" processContents="lax"/>
1105         </xsd:extension>
1106     </xsd:simpleContent>
1107 </xsd:complexType>
1108 <xsd:complexType name="IssuerNameType">
1109     <xsd:annotation>
1110         <xsd:documentation>Complex type for the Rating issuer name</xsd:documentation>
1111     </xsd:annotation>
1112     <xsd:simpleContent>
1113         <xsd:extension base="cbc:NameType"/>
1114     </xsd:simpleContent>
1115 </xsd:complexType>
1116 <xsd:complexType name="IssuerType">
1117     <xsd:annotation>
1118         <xsd:documentation>Complex type for issuing organization, including the issuer name and the
1119 URI that represent this rating issuer organization. </xsd:documentation>
1120     </xsd:annotation>
1121     <xsd:sequence>
1122         <xsd:element ref="IssuerName" minOccurs="0">
1123             <xsd:annotation>
1124                 <xsd:documentation>Name for the issuing organization for this rating or
1125 credential</xsd:documentation>
1126             </xsd:annotation>
1127         </xsd:element>
1128         <xsd:element ref="IssuerUri">
1129             <xsd:annotation>
1130                 <xsd:documentation>The URI that represent the issuer organization. </xsd:documentation>
1131             </xsd:annotation>
1132         </xsd:element>
1133     <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1134 </xsd:sequence>
1135 <xsd:anyAttribute namespace="##any" processContents="lax"/>

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1136     </xsd:complexType>
1137     <xsd:complexType name="LicenseType">
1138       <xsd:annotation>
1139         <xsd:documentation>Complex type for the license number or membership
1140 number</xsd:documentation>
1141       </xsd:annotation>
1142       <xsd:simpleContent>
1143         <xsd:extension base="cbc:NameType">
1144           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1145         </xsd:extension>
1146       </xsd:simpleContent>
1147     </xsd:complexType>
1148     <xsd:complexType name="ListOfRatingType">
1149       <xsd:annotation>
1150         <xsd:documentation>Complex type for ListOfRating </xsd:documentation>
1151       </xsd:annotation>
1152       <xsd:sequence>
1153         <xsd:element ref="Rating" maxOccurs="unbounded">
1154           <xsd:annotation>
1155             <xsd:documentation>The Rating element represents a rating measurement of the given
1156 business service. The rating measurement is issued by a third party rating organization.
1157 </xsd:documentation>
1158           </xsd:annotation>
1159         </xsd:element>
1160       </xsd:sequence>
1161       <xsd:anyAttribute namespace="##any" processContents="lax"/>
1162     </xsd:complexType>
1163     <xsd:complexType name="RatingDescriptionType">
1164       <xsd:annotation>
1165         <xsd:documentation>Complex type for the description of the Rating</xsd:documentation>
1166       </xsd:annotation>
1167       <xsd:simpleContent>
1168         <xsd:extension base="cbc:NameType">
1169           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1170         </xsd:extension>
1171       </xsd:simpleContent>
1172     </xsd:complexType>
1173     <xsd:complexType name="RatingDateType">
1174       <xsd:annotation>
1175         <xsd:documentation>Complex type of the date when this Rating is
1176 obtained</xsd:documentation>
1177       </xsd:annotation>
1178       <xsd:simpleContent>
1179         <xsd:extension base="cbc:ExpiryDateType">
1180           <xsd:attribute name="Expired" type="xsd:boolean" use="optional" default="false"/>
1181           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1182         </xsd:extension>
1183       </xsd:simpleContent>
1184     </xsd:complexType>
1185     <xsd:complexType name="RatingNumericType">
1186       <xsd:annotation>
1187         <xsd:documentation>Complex type of Rating's value number</xsd:documentation>
1188       </xsd:annotation>
1189       <xsd:simpleContent>
1190         <xsd:extension base="udt:NumericType">
1191           <xsd:anyAttribute namespace="##any" processContents="lax"/>
1192         </xsd:extension>
1193       </xsd:simpleContent>
1194     </xsd:complexType>
1195     <xsd:complexType name="RatingType">
1196       <xsd:annotation>
1197         <xsd:documentation>Complex type for Rating for EERP Rating</xsd:documentation>
1198       </xsd:annotation>
1199       <xsd:sequence>
1200         <xsd:element ref="RatingIssuer">
1201           <xsd:annotation>
1202             <xsd:documentation>Issuing organization for this rating, including the issuer name and
1203 the URI that represent this rating issuer organization. </xsd:documentation>
1204           </xsd:annotation>
1205         </xsd:element>
1206         <xsd:element ref="RatingDescription" minOccurs="0">
1207           <xsd:annotation>

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1208         <xsd:documentation>Rating description for the rating where the rating can be represented
1209 in String format, such as Good, Fair, Average, etc. It is an optional element for
1210 Rating.</xsd:documentation>
1211     </xsd:annotation>
1212 </xsd:element>
1213     <xsd:element ref="RatingNumeric" minOccurs="0">
1214     <xsd:annotation>
1215         <xsd:documentation>RatingNumeric element, Numeric value for the rating, is an optional
1216 element for Rating.</xsd:documentation>
1217     </xsd:annotation>
1218 </xsd:element>
1219     <xsd:element ref="RatingDate" minOccurs="0">
1220     <xsd:annotation>
1221         <xsd:documentation>Date when this Rating is obtained. It is an optional element for
1222 Rating.</xsd:documentation>
1223     </xsd:annotation>
1224 </xsd:element>
1225     <xsd:element ref="RatingReferenceUri" minOccurs="0">
1226     <xsd:annotation>
1227         <xsd:documentation>RatingReferenceUri, Web page URL or other URI for this rating to
1228 reference to, is an optional element for the Rating element.</xsd:documentation>
1229     </xsd:annotation>
1230 </xsd:element>
1231     <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1232 </xsd:sequence>
1233     <xsd:attribute name="Type" type="xs:anySimpleType" use="optional"/>
1234     <xsd:anyAttribute namespace="##any" processContents="lax"/>
1235 </xsd:complexType>
1236 <xsd:complexType name="RatingUriType">
1237     <xsd:annotation>
1238         <xsd:documentation>Complex type for the rating reference URI or Web page
1239 URL</xsd:documentation>
1240     </xsd:annotation>
1241     <xsd:simpleContent>
1242         <xsd:extension base="xsd:anyURI">
1243             <xsd:anyAttribute namespace="##any" processContents="lax"/>
1244         </xsd:extension>
1245     </xsd:simpleContent>
1246 </xsd:complexType>
1247 <xsd:simpleType name="CrendtialTypeEnum">
1248     <xsd:annotation>
1249         <xsd:documentation>Crendtial Type enumeration</xsd:documentation>
1250     </xsd:annotation>
1251     <xsd:restriction base="xsd:string">
1252         <xsd:enumeration value="Affiliation"/>
1253         <xsd:enumeration value="Association"/>
1254         <xsd:enumeration value="Award"/>
1255         <xsd:enumeration value="Certification"/>
1256         <xsd:enumeration value="License"/>
1257         <xsd:enumeration value="Membership"/>
1258         <xsd:enumeration value="Permission"/>
1259         <xsd:enumeration value="Others"/>
1260     </xsd:restriction>
1261 </xsd:simpleType>
1262 </xsd:schema>

```

1263 **C. Non-Normative Text**

1264 None

1265

D. Revision History

1266

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	TC approved, changed from WS09 to CD04

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