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>http://docs.oasis-open.org/soa-eerp/rt/v1.0/SOA-EERP-bRating-Spec-cs01.doc
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>http://docs.oasis-open.org/soa-eerp/rt/v1.0/SOA-EERP-Rating-Specification.html
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Technical Committee:
>OASIS Service-Oriented Architecture End-to-End Resource Planning (SOA-EERP) TC

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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

Abstract:

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

Status:

This document was last revised or approved by the SOA-EERP TC on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

Technical Committee members should send comments on this specification to the Technical Committee's email list. Others should send comments to the Technical Committee by using the "Send A Comment" button on the Technical Committee's web page at http://www.oasis-open.org/committees/soa-eerp/.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page (http://www.oasis-open.org/committees/soa-eerp/ipr.php).

The non-normative errata page for this specification is located at http://www.oasis-open.org/committees/soa-eerp/.

Notices

Table of Contents

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:

44 • An element extensibility point is referred to using {any} in place of the element name. This
45 indicates that any element name can be used, from any namespace other than the namespace of
46 this specification.

47 • An attribute extensibility point is referred to using @{any} in place of the attribute name. This
48 indicates that any attribute name can be used, from any namespace other than the namespace of
49 this specification.

50 Extensibility points in the exemplar may not be described in the corresponding text.

1.2 Normative References

52	**[RFC2119]**	S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*,
53		http://www.ietf.org/rfc/rfc2119.txt, IETF RFC 2119, March 1997.
54		http://www.w3.org/TR/2003/REC-soap12-part1-20030624/
55	**[SOAP]**	W3C Note, "SOAP: Simple Object Access Protocol 1.1", 08 May 2000.
56		http://www.w3.org/TR/2000/NOTE-SOAP-20000508/
57	**[SOAP12]**	W3C Recommendation, "SOAP 1.2 Part 1: Messaging Framework", 24 June
58		2003.
59		http://www.w3.org/TR/2003/REC-soap12-part1-20030624/
60	**[URI]**	T. Berners-Lee, R. Fielding, L. Masinter, "Uniform Resource Identifiers (URI):
61		Generic Syntax", RFC 3986, MIT/LCS, Day Software, Adobe Systems, January
62		2005.
63		http://www.ietf.org/rfc/rfc3986.txt
64	**[UBL-20]**	OASIS Standard, "Universal Business Language (UBL) v2.0", 12 December 2006
65		http://docs.oasis-open.org/ubl/os-UBL-2.0/UBL-2.0.pdf
66	**[UBL-20-cbc]**	Universal Business Language (UBL) v2.0, Common Basic Components, October
67		2006.
68		http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-
69		CommonBasicComponents-2.0.xsd
70	**[UBL-20-udt]**	Universal Business Language (UBL) v2.0. Unqualified Data Type, February
71		2005.
72		http://docs.oasis-open.org/ubl/os-UBL-
73		2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd
74	**[XML-Schema1]**	W3C Recommendation, "XML Schema Part 1: Structures Second Edition", 28
75		October 2004.
76		http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/
77	**[XML-Schema2]**	W3C Recommendation, "XML Schema Part 2: Datatypes Second Edition", 28
78		October 2004.
79		http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/
80	**[CEFACT]**	CEFACT – Core components specifications Recommendation 9, January
81		1996.
82		http://www.unece.org/cefact/recommendations/rec09/rec09_ecetrd203.pdf

1.2.1 Reference

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

86 • UBL 2.0 Common Basic Components (UBL-20-cbc), UBL-CommonBasicComponents-2.0.xsd

87 • UBL 2.0 Unqualified Data Type (UBL-20-udt), UnqualifiedDataTypeSchemaModule-2.0.xsd

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

91 ## 1.3 Non-Normative References

92 None.

2 Business Rating Measurement

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

2.1 Namespaces

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

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

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

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

2.2 Schema Files

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

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

2.3 Rating Measurement Indicators

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

- ListOfRating element is for the rating aspect of service which is provided by rating provider and measured in terms of rates for the service. Each Rating element in the ListOfRating element is issued by a rating provider, a third party rating organization, that has either an aggregated numeric number or an aggregated classification description to represent the rating measurement of the given business service.

- Credentials element is for the rating aspect of service which is measured in terms of credentials for the service that the service provider owns or holds. Credentials are issued by organizations regulating the service, such as licenses, permissions, certifications, associations, affiliations, etc. Each credential element in the Credentials element is a non-aggregated indicator for the rating

| 118 | measurement of the given business service, and it does not provide an aggregated value for the |
| 119 | measurement. |

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

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

130 **Syntax**

```
131   <rt:BRating xmlns:rt="..." ...>
132     <rt:ListOfRating ...>rt:ListOfRatingType</rt:ListOfRating> ?
133     <rt:Credentials ...>rt:CredentialsType</rt:Credentials> ?
134     ...
135   </rt:BRating >
```

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

137 /rt:BRating

138   The root element of Rating for EERP

139 /rt:BRating/@{any}

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

142 /rt:BRating/rt:ListOfRating

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

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

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

149 /rt:BRating/rt:Credentials

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

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

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

157 /rt:BRating/rt:BRatingExtension

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

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

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

3 ListOfRating

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

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

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

Syntax

```
<rt:ListOfRating xmlns:rt="..." ...>
   <rt:Rating Type="..."  ...  >rt:QualityRatingType
     <rt:RatingIssuer ...>rt:IssuerType
       <rt:IssuerName languageID="...">rt:IssuerNameType</rt:IssuerName> ?
       <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>
       ...
     </rt:RatingIssuer>
     <rt:RatingDescription languageID="..." ... >
        rt:RatingDescriptionType</rt:RatingDescription> ?
     <rt:RatingNumeric ...>rt:RatingNumericType</rt:RatingNumeric> ?
     <rt:RatingDate ...>rt:RatingDateType</rt:RatingDate> ?
     <rt:RatingReferenceUri ...>rt:RatingUriType</rt:RatingReferenceUri> ?
     ...
   </rt:Rating> +
</rt:ListOfRating>
```

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

/rt:BRating/rt:ListOfRating

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

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

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

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

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

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

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

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

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

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

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

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

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

213　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri

214　　　It is the URI that represent the issuer organization. It is a required element for RatingIssuer.

215　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingIssuer/rt:IssuerUri/@{any}

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

219　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDescription

220　　　Rating description for the rating where the rating can be represented in String format, such as
221　　　Good, Fair, Average, etc. It is an optional element for Rating.

222　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDescription/@languageID

223　　　Language ID is a required attribute in the RatingDescription element, using xsd:language type.
224　　　The value can be found on defined in urn:un:unece:uncefact:codelist:specification:5639:1988.

225　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDescription/@{any}

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

229　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingNumeric

230　　　RatingNumeric element, Numeric value for the rating, is an optional element for Rating.

231　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingNumeric/@{any}

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

235　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate

236　　　RatingDate is the date when this Rating is obtained. It is an optional element for Rating.

237　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate/@Expired

238　　　Expired is an optional attribute to indicate this Rating is expired or not. The value of this Expired
239　　　attribute is set to true means this Rating has been expired as of the RatingDate.

240　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingDate/@{any}

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

244　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingReferenceUri

245　　　RatingReferenceUri, Web page URL or other URI for this rating to reference to, is an optional
246　　　element for the Rating element.

247　/rt:BRating/rt:ListOfRating/rt:Rating/rt:RatingReferenceUri/@{any}

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

251　**Examples**

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

254

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

```
257    (003)    <Rating Type="BBB">
258    (004)      <RatingIssuer>
259    (005)        <IssuerName languageID="EN">Better Business Bureau, Inc.
260    </IssuerName>
261    (006)        <IssuerUri>http://www.bbb.org/business-reviews/ratings/
262    </IssuerUri>
263    (007)      </RatingIssuer>
264    (008)      <RatingDescription languageID="EN">A+</RatingDescription>
265    (009)      <RatingDate>2009-03-08</RatingDate>
266    (010)
267    <RatingReferenceUri>http://goldengate.bbb.org/WWWRoot/Report.aspx?site=99&amp;
268    bbb=1116&amp;firm=34825#bbbrating</RatingReferenceUri>
269    (011)    </Rating>
270    (012) </ListOfRating>
271
```

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

274

```
275    (001) <?xml version="1.0" encoding="UTF-8"?>
276    (002) <BRating xmlns="..." ...>
277    (003)    <ListOfRating>
278    (004)     <Rating Type="51honest">
279    (005)        <RatingIssuer>
280    (006)          <IssuerName languageID="zh-CN">农博网</IssuerName>
281    (007)          <IssuerUri >www.51honet.org</IssuerUri>
282    (008)        </RatingIssuer>
283    (009)      <RatingDescription languageID="zh-CN">信星计划</RatingDescription>
284    (010)      <RatingNumeric>175</RatingNumeric>
285    (011)      <RatingDate>2009-03-06</RatingDate>
286    (012)      <RatingReferenceUri
287    >http://www.51honest.org/index.jsp?url=detail.credit%3faction=hywzMemberInfo%2
288    6credcode=300001000036803
289    (013)      </RatingReferenceUri>
290    (014)    </Rating>
291    (015)  </ListOfRating>
292    (016) </BRating>
```

293 4 Rating Credentials

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

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

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

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

303 **Syntax**

```
304  <rt:Credentials xmlns:bqos="..." ...>
305     <rt:Credential>rt:CredentialType
306       <rt:CredentialIssuer ...>rt:IssuerType
307         <rt:IssuerName languageID="..." >rt:IssuerNameType</rt:IssuerName> ?
308         <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>
309         ...
310       </rt:CredentialIssuer>
311       <rt:CredentialClass languageID="..."  ...>
312             rt:CredentialClassType</rt:CredentialClass> ?
313       <rt:License languageID="..." ...>rt:LisenseType</rt:License> ?
314       <rt:CredentialDate ...>rt:CredentialDateType
315         <rt:DateIssued ...>rt:DateIssuedType</rt:DateIssued> ?
316         <rt:ExpirationDate ...>rt:ExpirationDateType</rt:ExpirationDate> ?
317       </rt:CredentialDate> ?
318       <rt:CredentialReferenceUri ...>
319             rt:RatingUriType</rt:CredentialReferenceUri> ?
320       ...
321     </rt:Credential> +
322  </rt:Credentials>
```

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

324 /rt:BRating/rt:Credentials

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

327 /rt:BRating/rt:Credentials/rt:Credential

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

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

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

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

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

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

338 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer

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

343 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerName

344   IssuerName element, Issuer's name for the issuing organization for this rating or credential, is an
345   optional element for CredentialIssuer.

346 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerName/@languageID

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

349 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerUri

350   It is the URI that represent the issuer organization. It is a required element for CredentialIssuer.

351 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/rt:IssuerUri/@{any}

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

355 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialIssuer/{any}

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

358 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialClass

359   CredentialClass element is the classification of the credential such as five-stars, or golden
360   member. It is an optional element for the Credential. It is an optional element for the Credential.

361 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialClass/@languageID

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

364 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialClass/@{any}

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

368 /rt:BRating/rt:Credentials/rt:Credential/rt:License

369   License element, the license number or membership number of the credential, is an optional
370   element for the Credential element.

371 /rt:BRating/rt:Credentials/rt:Credential/rt:License/@languageID

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

374 /rt:BRating/rt:Credentials/rt:Credential/rt:License/@{any}

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

378 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate

379   CredentialDate element is the date on this credential, including date when this credential, license
380   or certificate is issued and the expiration date for this license or membership. It is an optional
381   element for the Credential element.

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

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

386 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/rt:DateIssued

387 DateIssued element is the date when this credential, license or certificate is issued. It is an
388 optional element for the CredentialDate element.

389 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialDate/rt:DateIssued/@{any}

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

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

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

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

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

400 /rt:BRating/rt:Credentials/rt:Credential/rt:CredentialReferenceUri

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

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

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

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

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

410 **Examples**

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

```
414    (001) <?xml version="1.0" encoding="utf-8"?>
415    (002) <Credentials xmlns="..." ...>
416    (003)   <Credential Type="License">
417    (004)     <CredentialIssuer>
418    (005)       <IssuerName languageID="EN">California Board For Professional
419    Engineers And Land Surveyors </IssuerName>
420    (006)         <IssuerUri>http://www.pels.ca.gov/</IssuerUri>
421    (007)     </CredentialIssuer>
422    (008)     <CredentialClass languageID="EN">CIVIL ENGINEER</CredentialClass>
423    (009)     <License languageID="EN">42456</License>
424    (010)     <CredentialDate>
425    (011)       <ExpirationDate>2010-03-31</ExpirationDate>
426    (012)     </CredentialDate>
427    (013)
428    <CredentialReferenceUri>http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.Query
429    View?P_LICENSE_NUMBER=42456&amp;P_LTE_ID=741</CredentialReferenceUri>
430    (014)   </Credential>
431    (015) </Credentials>
```

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

```
434  (001) <?xml version="1.0" encoding="utf-8"?>
435  (002) <Credentials xmlns="..." ...>
436  (003)    <Credential Type="Membership">
437  (004)       <CredentialIssuer>
438  (005)         <IssuerName languageID="EN">American Society of Civil Engineers
439  </IssuerName>
440  (006)         <IssuerUri>http://www.asce.org/</IssuerUri>
441  (007)       </CredentialIssuer>
442  (008)       <CredentialClass languageID="EN">Member</CredentialClass>
443  (009)       <CredentialDate>
444  (010)         <DateIssued>1987-08-13</DateIssued>
445  (011)         <ExpirationDate>2010-12-31</ExpirationDate>
446  (012)       </CredentialDate>
447  (013)    </Credential>
448  (014) </Credentials>
```

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

```
451  (001) <?xml version="1.0" encoding="utf-8"?>
452  (002) <Credentials xmlns="..." ...>
453  (003)    <Credential Type="Association">
454  (004)       <CredentialIssuer>
455  (005)         <IssuerName languageID="EN">Better Business Bureau, Inc.
456  </IssuerName>
457  (006)         <IssuerUri>http://goldengate.bbb.org/</IssuerUri>
458  (007)       </CredentialIssuer>
459  (008)       <CredentialClass languageID="EN">3</CredentialClass>
460  (009)       <CredentialReferenceUri>http://www.res99.com/hotel/10021453-
461  10200802O.html?ses=1e65c27bad81e82b07a39070fed04d87</CredentialReferenceUri>
462  (010)    </Credential>
463  (011) </Credentials>
```

5 Rating Examples

465   The examples in this section are non-normative.

5.1 Service Rating for an Engineering Service

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

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

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

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

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

```
476     (1)    <?xml version="1.0" encoding="UTF-8"?>
477     (2)    <BRating xmlns="..." ... >
478     (3)      <ListOfRating>
479     (4)        <Rating Type="BBB">
480     (5)          <RatingIssuer>
481     (6)            <IssuerName languageID="EN">Better Business Bureau, Inc.
482            </IssuerName>
483     (7)            <IssuerUri>http://www.bbb.org/business-reviews/ratings/
484            </IssuerUri>
485     (8)          </RatingIssuer>
486     (9)          <RatingDescription languageID="EN">A+</RatingDescription>
487     (10)         <RatingDate>2009-05-08</RatingDate>
488     (11)         <RatingReferenceUri>
489     (12)   http://goldengate.bbb.org/WWWRoot/Report.aspx?site=99&amp;bbb=1116&amp;f
490            irm=34825#bbbrating</RatingReferenceUri>
491     (13)       </Rating>
492     (14)     </ListOfRating>
493     (15)     <Credentials>
494     (16)       <Credential Type="License">
495     (17)         <CredentialIssuer>
496     (18)           <IssuerName languageID="EN">
497     (19)   California Board For Professional Engineers And Land Surveyors
498     (20)           </IssuerName>
499     (21)           <IssuerUri>http://www.pels.ca.gov/</IssuerUri>
500     (22)         </CredentialIssuer>
501     (23)         <CredentialClass languageID="EN">CIVIL ENGINEER</CredentialClass>
502     (24)         <License languageID="EN">42456</License>
503     (25)         <CredentialDate>
504     (26)           <ExpirationDate>2010-12-31</ExpirationDate>
505     (27)         </CredentialDate>
506     (28)         <CredentialReferenceUri>
507     (29)   http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.QueryView?P_LICENSE_NUM
508            BER=42456&amp;P_LTE_ID=741</CredentialReferenceUri>
509     (30)       </Credential>
510     (31)       <Credential Type="Membership">
511     (32)         <CredentialIssuer>
512     (33)           <IssuerName languageID="EN">
513     (34)             American Society of Civil Engineers</IssuerName>
514     (35)           <IssuerUri>http://www.asce.org/</IssuerUri>
515     (36)         </CredentialIssuer>
516     (37)         <CredentialClass languageID="EN">Member</CredentialClass>
517     (38)         <CredentialDate>
```

```
518  (39)            <DateIssued>1987-08-13</DateIssued>
519  (40)            <ExpirationDate>2010-12-31</ExpirationDate>
520  (41)          </CredentialDate>
521  (42)        </Credential>
522  (43)      </Credentials>
523  (44)  </BRating>
```

5.2 Service Rating for Gas-Meters Product

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

The Rating message has the following contents:

1) Credit rating on this provider is 980.1, rated by 51Honest.org (http://www.51Honest.org), a third-party organization in China

2) License on gas-meter production is issued in December, 1997, by a department in government that is Zhejiang Bureau of Quality and Technical Supervision in the China (http://www.zjbts.gov.cn/).

3) Certificate on gas-meter product is certificated as the first Dual-Explosion-Proof Certificate in November 1997, Certificate is issued by a third-party organization, National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) in Shanghai, China (http://www.sipai.com/sitiias/nepsi.asp)

```
537  (1)   <?xml version="1.0" encoding="UTF-8"?>
538  (2)   <BRating xmlns="...">
539  (3)     <ListOfRating>
540  (4)       <Rating Type="Credit">
541  (5)         <RatingIssuer>
542  (6)           <IssuerName languageID="zh-CN">信星计划51Honest.org</IssuerName>
543  (7)           <IssuerUri>http://www.51Honest.org</IssuerUri>
544  (8)         </RatingIssuer>
545  (9)         <RatingNumeric>980.1</RatingNumeric>
546  (10)        <RatingDate>2009-04-31</RatingDate>
547  (11)        <RatingReferenceUri/>
548  (12)      </Rating>
549  (13)    </ListOfRating>
550  (14)    <Credentials>
551  (15)      <Credential Type="License">
552  (16)        <CredentialIssuer>
553  (17)          <IssuerName languageID="zh-CN">浙江省质量技术监督局</IssuerName>
554  (18)          <IssuerUri>http://www.zjbts.gov.cn/</IssuerUri>
555  (19)        </CredentialIssuer>
556  (20)        <CredentialClass languageID="zh-
557       CN">中华人民共和国计量器具生产制造许可证</CredentialClass>
558  (21)        <License languageID="en-us">ZJJHJDJ-JL1997120001</License>
559  (22)        <CredentialDate>
560  (23)          <DateIssued>1997-12-01</DateIssued>
561  (24)        </CredentialDate>
562  (25)      </Credential>
563  (26)      <Credential Type="Certification">
564  (27)        <CredentialIssuer>
565  (28)          <IssuerName languageID="en">National Supervision and Inspection
566       Center for Explosion Protection and Safety of Instrumentation in
567       Shanghai</IssuerName>
568  (29)          <IssuerUri>http://www.sipai.com/sitiias/nepsi.asp</IssuerUri>
569  (30)        </CredentialIssuer>
570  (31)        <CredentialClass languageID="en">The first Dual-Explosion-Proof
571       Certificate</CredentialClass>
572  (32)        <License languageID="en-us">NEPSI-FB1997110001</License>
573  (33)        <CredentialDate>
574  (34)          <DateIssued>1997-11-01</DateIssued>
575  (35)        </CredentialDate>
```

```
576   (36)        </Credential>
577   (37)      </Credentials>
578   (38)  </BRating>
```

6 Conformance

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

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

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

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

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

Or like this:

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

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

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

```
625    (004) </BRating>
```

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

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

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

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Participants:

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Hong Zhou	Changfeng Open Standards Platform Software Alliance

B. XML Schema for Business Rating

651

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

```
654  <?xml version="1.0" encoding="UTF-8"?>
655  <!--
656    Document Type:    EERP-Rating CD04
657    Create On:        09/12/2010
658
659  -->
660  <!-- ===== xsd:schema Element With Namespaces Declarations ===== -->
661  <!-- ===== Copyright Notice ===== -->
662  <!--
663    OASIS takes no position regarding the validity or scope of any
664    intellectual property or other rights that might be claimed to pertain
665    to the implementation or use of the technology described in this
666    document or the extent to which any license under such rights
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674    implementors or users of this specification, can be obtained from
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705    WARRANTY THAT THE USE OF THE INFORMATION HEREIN
706    WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED
707    WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A
708    PARTICULAR PURPOSE.
709  -->
710  <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://docs.oasis-
711  open.org/ns/soa-eerp/rt/200903" xmlns:eerp="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
712  xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
713  xmlns:udt="urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2"
714  xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rt="http://docs.oasis-open.org/ns/soa-
715  eerp/rt/200903" targetNamespace="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
716  elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
717    <!-- ===== Imports ===== -->
```

```
718      <xsd:import namespace="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
719    schemaLocation="http://docs.oasis-open.org/ubl/os-UBL-2.0/xsd/common/UBL-CommonBasicComponents-
720    2.0.xsd"/>
721      <xsd:import
722    namespace="urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2"
723    schemaLocation="http://docs.oasis-open.org/ubl/os-UBL-
724    2.0/xsd/common/UnqualifiedDataTypeSchemaModule-2.0.xsd"/>
725      <!-- ===== Root Element ===== -->
726      <xsd:element name="BRating" type="BRatingType">
727        <xsd:annotation>
728          <xsd:documentation>The BRating is the root element of Business Rating for EERP which is for
729    business reliability and reputation of the service and its services provider. It has both
730    ListOfRating and Credentials elements which are indicators to represent for business reliability
731    and reputation of the service and its services provider. </xsd:documentation>
732        </xsd:annotation>
733      </xsd:element>
734      <!-- ===== Element Declarations ===== -->
735      <xsd:element name="Credential" type="CredentialType">
736        <xsd:annotation>
737          <xsd:documentation>The Credential element is for each credential, certification,
738    affiliation or association that the service provider has for the service. </xsd:documentation>
739        </xsd:annotation>
740      </xsd:element>
741      <xsd:element name="CredentialClass" type="CredentialClassType">
742        <xsd:annotation>
743          <xsd:documentation>CredentialClass element is the classification of the credential such as
744    five-stars, or golden member. </xsd:documentation>
745        </xsd:annotation>
746      </xsd:element>
747      <xsd:element name="CredentialDate" type="CredentialDateType">
748        <xsd:annotation>
749          <xsd:documentation>CredentialDate element is the date on this credential, including date
750    when this credential, license or certificate is issued and the expiration date for this license
751    or membership. </xsd:documentation>
752        </xsd:annotation>
753      </xsd:element>
754      <xsd:element name="CredentialIssuer" type="IssuerType">
755        <xsd:annotation>
756          <xsd:documentation>Name of affiliations or associations</xsd:documentation>
757        </xsd:annotation>
758      </xsd:element>
759      <xsd:element name="Credentials" type="CredentialsType">
760        <xsd:annotation>
761          <xsd:documentation>The Rating Credentials element for EERP-Rating, describes the
762    credentials held by the service provider with respect to a specific service.
763    Credentials may be issued with respect to a service provider and service by third-party
764    organizations, such as licenses, permissions, certifications, awards, associations, and
765    affiliations.
766    </xsd:documentation>
767        </xsd:annotation>
768      </xsd:element>
769      <xsd:element name="DateIssued" type="DateIssuedType">
770        <xsd:annotation>
771          <xsd:documentation>The date when this credential, license or certificate was
772    issued</xsd:documentation>
773        </xsd:annotation>
774      </xsd:element>
775      <xsd:element name="ExpirationDate" type="ExpirationDateType">
776        <xsd:annotation>
777          <xsd:documentation>Expiration date for this license or membership</xsd:documentation>
778        </xsd:annotation>
779      </xsd:element>
780      <xsd:element name="IssuerName" type="IssuerNameType">
781        <xsd:annotation>
782          <xsd:documentation>Name for the issuing organization for the rating or
783    credential</xsd:documentation>
784        </xsd:annotation>
785      </xsd:element>
786      <xsd:element name="IssuerUri" type="RatingUriType">
787        <xsd:annotation>
788          <xsd:documentation>the URI that represent the issuer organization. </xsd:documentation>
789        </xsd:annotation>
790      </xsd:element>
```

```
791      <xsd:element name="License" type="LicenseType">
792        <xsd:annotation>
793          <xsd:documentation>License number </xsd:documentation>
794        </xsd:annotation>
795      </xsd:element>
796      <xsd:element name="ListOfRating" type="ListOfRatingType">
797        <xsd:annotation>
798          <xsd:documentation>The ListOfRating element contains the list of Rating issued by a third
799  party rating organization. Each Rating element in the ListOfRating has one of the two elements to
800  represent the rating measurement of the given business service: 1) - an aggregated number, in
801  RatingNumeric element. 2) - an aggregated classification description, in RatingDescription
802  element </xsd:documentation>
803        </xsd:annotation>
804      </xsd:element>
805      <xsd:element name="Rating" type="RatingType">
806        <xsd:annotation>
807          <xsd:documentation>The Rating element represents a rating measurement of the given business
808  service. The rating measurement is issued by a third party rating organization.
809  </xsd:documentation>
810        </xsd:annotation>
811      </xsd:element>
812      <xsd:element name="RatingDescription" type="RatingDescriptionType">
813        <xsd:annotation>
814          <xsd:documentation>Rating description for the rating where the rating can be represented in
815  String format, such as Good, Fair, Average, etc.</xsd:documentation>
816        </xsd:annotation>
817      </xsd:element>
818      <xsd:element name="RatingDate" type="RatingDateType">
819        <xsd:annotation>
820          <xsd:documentation>Date when this Rating is obtained</xsd:documentation>
821        </xsd:annotation>
822      </xsd:element>
823      <xsd:element name="RatingIssuer" type="IssuerType">
824        <xsd:annotation>
825          <xsd:documentation>Issuing organization for this quality/rating, including the issuer name
826  and the URI that represent this rating issuer organization </xsd:documentation>
827        </xsd:annotation>
828      </xsd:element>
829      <xsd:element name="RatingNumeric" type="RatingNumericType">
830        <xsd:annotation>
831          <xsd:documentation>Rating numeric number</xsd:documentation>
832        </xsd:annotation>
833      </xsd:element>
834      <xsd:element name="RatingReferenceUri" type="RatingUriType">
835        <xsd:annotation>
836          <xsd:documentation>Web page URL or other URI for this rating to reference
837  to.</xsd:documentation>
838        </xsd:annotation>
839      </xsd:element>
840      <!-- Extension -->
841      <xsd:element name="BRaingExtension">
842        <xsd:complexType mixed="true">
843          <xsd:choice minOccurs="0" maxOccurs="unbounded">
844            <xsd:any processContents="skip" minOccurs="0" maxOccurs="unbounded"/>
845          </xsd:choice>
846          <xsd:attribute name="optional" type="xsd:boolean" use="optional" default="true"/>
847        </xsd:complexType>
848      </xsd:element>
849      <!-- ===== Type Definitions ===== -->
850      <xsd:complexType name="CredentialClassType">
851        <xsd:annotation>
852          <xsd:documentation>Complex type for membership classification </xsd:documentation>
853        </xsd:annotation>
854        <xsd:simpleContent>
855          <xsd:extension base="cbc:NameType">
856            <xsd:anyAttribute namespace="##any" processContents="lax"/>
857          </xsd:extension>
858        </xsd:simpleContent>
859      </xsd:complexType>
860      <xsd:complexType name="CredentialDateType">
861        <xsd:annotation>
862          <xsd:documentation>Complex type for the date on this credential </xsd:documentation>
863        </xsd:annotation>
```

```
864        <xsd:sequence>
865          <xsd:element ref="DateIssued" minOccurs="0">
866            <xsd:annotation>
867              <xsd:documentation>The date wen this credential, license or certificate is
868      issued</xsd:documentation>
869            </xsd:annotation>
870          </xsd:element>
871          <xsd:element ref="ExpirationDate" minOccurs="0">
872            <xsd:annotation>
873              <xsd:documentation>Expiration date for this Rating, license or
874      membership</xsd:documentation>
875            </xsd:annotation>
876          </xsd:element>
877        </xsd:sequence>
878        <xsd:anyAttribute namespace="##any" processContents="lax"/>
879      </xsd:complexType>
880      <xsd:complexType name="CredentialsType">
881        <xsd:annotation>
882          <xsd:documentation>Complex type for Credentials and association</xsd:documentation>
883        </xsd:annotation>
884        <xsd:sequence>
885          <xsd:element ref="Credential" maxOccurs="unbounded">
886            <xsd:annotation>
887              <xsd:documentation>The Credential element is for each credential, certification,
888      affiliation or association that the service provider has for the service. This is a required
889      element for the Credentials element. </xsd:documentation>
890            </xsd:annotation>
891          </xsd:element>
892        </xsd:sequence>
893        <xsd:anyAttribute namespace="##any" processContents="lax"/>
894      </xsd:complexType>
895      <xsd:complexType name="CredentialType">
896        <xsd:annotation>
897          <xsd:documentation>Complex type for one credential or association</xsd:documentation>
898        </xsd:annotation>
899        <xsd:sequence>
900          <xsd:element ref="CredentialIssuer">
901            <xsd:annotation>
902              <xsd:documentation>Issuing organization for this credential, such as the name of
903      certification, association, affiliation or credential, such as AAA, BBB, or State of California,
904      including the issuer name and the URI that represent this rating issuer organization.
905      </xsd:documentation>
906            </xsd:annotation>
907          </xsd:element>
908          <xsd:element ref="CredentialClass" minOccurs="0">
909            <xsd:annotation>
910              <xsd:documentation>CredentialClass element is the classification of the credential such
911      as five-stars, or golden member. It is an optional element for the
912      Credential.</xsd:documentation>
913            </xsd:annotation>
914          </xsd:element>
915          <xsd:element ref="License" minOccurs="0">
916            <xsd:annotation>
917              <xsd:documentation>License element, the license number or membership number of the
918      credential, is an optional element for the Credential element.</xsd:documentation>
919            </xsd:annotation>
920          </xsd:element>
921          <xsd:element ref="CredentialDate" minOccurs="0"/>
922          <xsd:element name="CredentialReferenceUri" type="RatingUriType" minOccurs="0">
923            <xsd:annotation>
924              <xsd:documentation>CredentialReferenceUri element, Web page URL or other URI for this
925      credential reference, is an optional element for Credential. </xsd:documentation>
926            </xsd:annotation>
927          </xsd:element>
928          <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
929        </xsd:sequence>
930        <xsd:attribute name="Type" type="CrendtialTypeEnum" use="optional"/>
931        <xsd:anyAttribute namespace="##any" processContents="lax"/>
932      </xsd:complexType>
933      <xsd:complexType name="DateIssuedType">
934        <xsd:annotation>
935          <xsd:documentation>Complex type of the date when this certificate or license is
936      issued</xsd:documentation>
```

```
937          </xsd:annotation>
938          <xsd:simpleContent>
939            <xsd:extension base="cbc:StartDateType">
940              <xsd:anyAttribute namespace="##any" processContents="lax"/>
941            </xsd:extension>
942          </xsd:simpleContent>
943        </xsd:complexType>
944        <xsd:complexType name="BRatingType">
945          <xsd:annotation>
946            <xsd:documentation>Complex type for the EERP-Rating</xsd:documentation>
947          </xsd:annotation>
948          <xsd:sequence>
949            <xsd:element ref="ListOfRating" minOccurs="0">
950              <xsd:annotation>
951                <xsd:documentation>ListOfRating element is for the rating aspect of service which is
952     provided by third party and measured in terms of rates for the service. Each Rating element in
953     the ListOfRating element is issued by a rating organization that has either an aggregated numeric
954     number or an aggregated classification description to represent the rating measurement of the
955     given business service.</xsd:documentation>
956              </xsd:annotation>
957            </xsd:element>
958            <xsd:element ref="Credentials" minOccurs="0">
959              <xsd:annotation>
960                <xsd:documentation>Credentials element is for the rating aspect of service which is
961     measured in terms of credentials for the service that the service provider owns or holds.
962     Credentials are issued by organizations for the service, such as licenses, permissions,
963     certifications, associations, affiliations, etc.  Each credential element in the Credentials
964     element is a non-aggregated indicator for the rating measurement of the given business service,
965     and it does not provide an aggregated value for the measurement.</xsd:documentation>
966              </xsd:annotation>
967            </xsd:element>
968            <xsd:element ref="BRaingExtension" minOccurs="0" maxOccurs="unbounded"/>
969          </xsd:sequence>
970          <xsd:anyAttribute namespace="##any" processContents="lax"/>
971        </xsd:complexType>
972        <xsd:complexType name="ExpirationDateType">
973          <xsd:annotation>
974            <xsd:documentation>Complex type of expiration date</xsd:documentation>
975          </xsd:annotation>
976          <xsd:simpleContent>
977            <xsd:extension base="cbc:ExpiryDateType">
978              <xsd:anyAttribute namespace="##any" processContents="lax"/>
979            </xsd:extension>
980          </xsd:simpleContent>
981        </xsd:complexType>
982        <xsd:complexType name="IssuerNameType">
983          <xsd:annotation>
984            <xsd:documentation>Complex type for the Rating issuer name</xsd:documentation>
985          </xsd:annotation>
986          <xsd:simpleContent>
987            <xsd:extension base="cbc:NameType"/>
988          </xsd:simpleContent>
989        </xsd:complexType>
990        <xsd:complexType name="IssuerType">
991          <xsd:annotation>
992            <xsd:documentation>Complex type for issuing organization, including the issuer name and the
993     URI that represent this rating issuer organization. </xsd:documentation>
994          </xsd:annotation>
995          <xsd:sequence>
996            <xsd:element ref="IssuerName" minOccurs="0">
997              <xsd:annotation>
998                <xsd:documentation>Name for the issuing organization for this rating or
999     credential</xsd:documentation>
1000             </xsd:annotation>
1001           </xsd:element>
1002           <xsd:element ref="IssuerUri">
1003             <xsd:annotation>
1004               <xsd:documentation>The URI that represent the issuer organization. </xsd:documentation>
1005             </xsd:annotation>
1006           </xsd:element>
1007           <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1008         </xsd:sequence>
1009         <xsd:anyAttribute namespace="##any" processContents="lax"/>
```

```
1010        </xsd:complexType>
1011        <xsd:complexType name="LicenseType">
1012          <xsd:annotation>
1013            <xsd:documentation>Complex type for the license number or membership
1014    number</xsd:documentation>
1015          </xsd:annotation>
1016          <xsd:simpleContent>
1017            <xsd:extension base="cbc:NameType">
1018              <xsd:anyAttribute namespace="##any" processContents="lax"/>
1019            </xsd:extension>
1020          </xsd:simpleContent>
1021        </xsd:complexType>
1022        <xsd:complexType name="ListOfRatingType">
1023          <xsd:annotation>
1024            <xsd:documentation>Complex type for ListOfRating </xsd:documentation>
1025          </xsd:annotation>
1026          <xsd:sequence>
1027            <xsd:element ref="Rating" maxOccurs="unbounded">
1028              <xsd:annotation>
1029                <xsd:documentation>The Rating element represents a rating measurement of the given
1030    business service. The rating measurement is issued by a third party rating organization.
1031    </xsd:documentation>
1032              </xsd:annotation>
1033            </xsd:element>
1034          </xsd:sequence>
1035          <xsd:anyAttribute namespace="##any" processContents="lax"/>
1036        </xsd:complexType>
1037        <xsd:complexType name="RatingDescriptionType">
1038          <xsd:annotation>
1039            <xsd:documentation>Complex type for the description of the Rating</xsd:documentation>
1040          </xsd:annotation>
1041          <xsd:simpleContent>
1042            <xsd:extension base="cbc:NameType">
1043              <xsd:anyAttribute namespace="##any" processContents="lax"/>
1044            </xsd:extension>
1045          </xsd:simpleContent>
1046        </xsd:complexType>
1047        <xsd:complexType name="RatingDateType">
1048          <xsd:annotation>
1049            <xsd:documentation>Complex type of the date when this Rating is
1050    obtained</xsd:documentation>
1051          </xsd:annotation>
1052          <xsd:simpleContent>
1053            <xsd:extension base="cbc:ExpiryDateType">
1054              <xsd:attribute name="Expired" type="xsd:boolean" use="optional" default="false"/>
1055              <xsd:anyAttribute namespace="##any" processContents="lax"/>
1056            </xsd:extension>
1057          </xsd:simpleContent>
1058        </xsd:complexType>
1059        <xsd:complexType name="RatingNumericType">
1060          <xsd:annotation>
1061            <xsd:documentation>Complex type of Rating's value  number</xsd:documentation>
1062          </xsd:annotation>
1063          <xsd:simpleContent>
1064            <xsd:extension base="udt:NumericType">
1065              <xsd:anyAttribute namespace="##any" processContents="lax"/>
1066            </xsd:extension>
1067          </xsd:simpleContent>
1068        </xsd:complexType>
1069        <xsd:complexType name="RatingType">
1070          <xsd:annotation>
1071            <xsd:documentation>Complex type for Rating for EERP Rating</xsd:documentation>
1072          </xsd:annotation>
1073          <xsd:sequence>
1074            <xsd:element ref="RatingIssuer">
1075              <xsd:annotation>
1076                <xsd:documentation>Issuing organization for this rating, including the issuer name and
1077    the URI that represent this rating issuer organization. </xsd:documentation>
1078              </xsd:annotation>
1079            </xsd:element>
1080            <xsd:element ref="RatingDescription" minOccurs="0">
1081              <xsd:annotation>
```

```
1082            <xsd:documentation>Rating description for the rating where the rating can be represented
1083    in String format, such as Good, Fair, Average, etc. It is an optional element for
1084    Rating.</xsd:documentation>
1085          </xsd:annotation>
1086        </xsd:element>
1087        <xsd:element ref="RatingNumeric" minOccurs="0">
1088          <xsd:annotation>
1089            <xsd:documentation>RatingNumeric element, Numeric value for the rating, is an optional
1090    element for Rating.</xsd:documentation>
1091          </xsd:annotation>
1092        </xsd:element>
1093        <xsd:element ref="RatingDate" minOccurs="0">
1094          <xsd:annotation>
1095            <xsd:documentation>Date when this Rating is obtained. It is an optional element for
1096    Rating.</xsd:documentation>
1097          </xsd:annotation>
1098        </xsd:element>
1099        <xsd:element ref="RatingReferenceUri" minOccurs="0">
1100          <xsd:annotation>
1101            <xsd:documentation>RatingReferenceUri, Web page URL or other URI for this rating to
1102    reference to,  is an optional element for the Rating element.</xsd:documentation>
1103          </xsd:annotation>
1104        </xsd:element>
1105        <xsd:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
1106      </xsd:sequence>
1107      <xsd:attribute name="Type" type="xs:anySimpleType" use="optional"/>
1108      <xsd:anyAttribute namespace="##any" processContents="lax"/>
1109    </xsd:complexType>
1110    <xsd:complexType name="RatingUriType">
1111      <xsd:annotation>
1112        <xsd:documentation>Complex type for the rating reference URI or Web page
1113    URL</xsd:documentation>
1114      </xsd:annotation>
1115      <xsd:simpleContent>
1116        <xsd:extension base="xsd:anyURI">
1117          <xsd:anyAttribute namespace="##any" processContents="lax"/>
1118        </xsd:extension>
1119      </xsd:simpleContent>
1120    </xsd:complexType>
1121    <xsd:simpleType name="CrendtialTypeEnum">
1122      <xsd:annotation>
1123        <xsd:documentation>Crendtial Type enumeration</xsd:documentation>
1124      </xsd:annotation>
1125      <xsd:restriction base="xsd:string">
1126        <xsd:enumeration value="Affiliation"/>
1127        <xsd:enumeration value="Association"/>
1128        <xsd:enumeration value="Award"/>
1129        <xsd:enumeration value="Certification"/>
1130        <xsd:enumeration value="License"/>
1131        <xsd:enumeration value="Membership"/>
1132        <xsd:enumeration value="Permission"/>
1133        <xsd:enumeration value="Others"/>
1134      </xsd:restriction>
1135    </xsd:simpleType>
1136    </xsd:schema>
```

C. Non-Normative Text

None

D. Revision History

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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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