

SOA-EERP Business Rating of Service Version 1.0

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Related work:

This specification is related to:

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

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

Declared XML Namespace(s):

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

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.

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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:

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

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

1.2 Normative References

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

1.2.1 Reference

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

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

This specification is designed to work with the general Web Services framework including WSDL service descriptions, and **SOAP** message structure and message processing model. The XML vocabulary 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

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

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

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

Syntax

```
<rt:BRating xmlns:rt="..." ...>
  <rt:ListOfRating ...>rt:ListOfRatingType</rt:ListOfRating> ?
  <rt:Credentials ...>rt:CredentialsType</rt:Credentials> ?
  ...
</rt:BRating >
```

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

/rt:BRating

The root element of Rating for EERP

/rt:BRating/@{any}

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

/rt:BRating/rt:ListOfRating

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

/rt:BRating/rt:ListOfRating/@{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:Credentials

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

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

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

/rt:BRating/rt:BRatingExtension

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

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

This is an extensibility mechanism to allow different (extensible) elements to be specified in the future. Unrecognized elements MAY cause a fault or be silently ignored. This can be one or more elements of /rt:BRating/rt:BRatingExtension/Performance/QualityAssertionEvaluation for third-party Service Rating Entities to provide their evaluation for how well the provider fulfill the Quality 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:unefact: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:unefact: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="..." ...>
```

```

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

```

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

```

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

```

4 Rating Credentials

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

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

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

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

Syntax

```
<rt:Credentials xmlns:bqos="..." ...>
  <rt:Credential>rt:CredentialType
    <rt:CredentialIssuer ...>rt:IssuerType
      <rt:IssuerName languageID="..." >rt:IssuerNameType</rt:IssuerName> ?
      <rt:IssuerUri ...>rt:RatingUriType</rt:IssuerUri>
      ...
    </rt:CredentialIssuer>
    <rt:CredentialClass languageID="..." ...>
      rt:CredentialClassType</rt:CredentialClass> ?
    <rt:License languageID="..." ...>rt:LisenseType</rt:License> ?
    <rt:CredentialDate ...>rt:CredentialDateType
      <rt:DateIssued ...>rt:DateIssuedType</rt:DateIssued> ?
      <rt:ExpirationDate ...>rt:ExpirationDateType</rt:ExpirationDate> ?
    </rt:CredentialDate> ?
    <rt:CredentialReferenceUri ...>
      rt:RatingUriType</rt:CredentialReferenceUri> ?
    ...
  </rt:Credential> +
</rt:Credentials>
```

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

/rt:BRating/rt:Credentials

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

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

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

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

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

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

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

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

/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:odelist: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:odelist: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:odelist: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)   </Credential>
428   <CredentialReferenceUri>http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.Query
429 View?P_LICENSE_NUMBER=42456&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>

```

449 The following non-normative example illustrates the use of rating Credentials element. It describes the
 450 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 102008020.html?ses=1e65c27bad81e82b07a39070fed04d87</CredentialReferenceUri>
462 (010)   </Credential>
463 (011) </Credentials>

```

5 Rating Examples

The examples in this section are non-normative.

5.1 Service Rating for an Engineering Service

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

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

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

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

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

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

```

524 5.2 Service Rating for Gas-Meters Product

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

527 The Rating message has the following contents:

- 528 1) Credit rating on this provider is 980.1, rated by 51Honest.org (<http://www.51Honest.org>), a third-
529 party organization in China
- 530 2) License on gas-meter production is issued in December, 1997, by a department in government
531 that is Zhejiang Bureau of Quality and Technical Supervision in the China
532 (<http://www.zjbts.gov.cn/>).
- 533 3) Certificate on gas-meter product is certificated as the first Dual-Explosion-Proof Certificate in
534 November 1997, Certificate is issued by a third-party organization, National Supervision and
535 Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) in Shanghai,
536 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

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

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
  Document Type:      EERP-Rating CD04
  Create On:          09/12/2010
-->
<!-- ===== xsd:schema Element With Namespaces Declarations ===== -->
<!-- ===== Copyright Notice ===== -->
<!--
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  WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A
  PARTICULAR PURPOSE.
-->
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://docs.oasis-
open.org/ns/soa-eerp/rt/200903" xmlns:eerp="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
xmlns:cbc="urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2"
xmlns:udt="urn:un:unece:uncefact:data:specification:UnqualifiedDataTypesSchemaModule:2"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rt="http://docs.oasis-open.org/ns/soa-
eerp/rt/200903" targetNamespace="http://docs.oasis-open.org/ns/soa-eerp/rt/200903"
elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.0">
  <!-- ===== 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/UnqualifiedDataTypesSchemaModule-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>

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864     <xsd:sequence>
865         <xsd:element ref="DateIssued" minOccurs="0">
866             <xsd:annotation>
867                 <xsd:documentation>The date when 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="CredntialTypeEnum" 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>

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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"/>

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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>

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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>

```

1137 **C. Non-Normative Text**

1138 None

D. Revision History

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