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semantically valid.
In XQueryX expressions, Item names are mapped to variable names.

Any other constraint language MAY be equally or better suited for particular purposes.

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6 Compliance of Offers with Templates

The purpose of templates is to give guidance on what forms of offer an agreement responder wishes to receive. As such, offers SHOULD in general comply with one of the templates advertised by the responder. However, the responder MAY accept offers which do not match any template, and the responder also MAY reject offers that do match for other policy reasons. In this section we define the concept of agreement template compliance.

Definition: An agreement template offer is *compliant* with a template advertised by an agreement responder if and only if each term of service described in the Terms section of the agreement offer complies with the term constraints expressed in the wsag:CreationConstraints section of the agreement template.

In addition, certain portions of the Context section of the offer have a required relation to corresponding portions of the Context in the template. These are:

- wsag:AgreementResponder:The AgreementResponder value provided in the offer MUST match the value, if any, specified in the template.
- wsag:TemplateId: The TemplateId in the offer must exactly match the name provided in the template document against which compliance is being checked. If the TemplateId is not provided, the provider MAY use any policy to determine compliance. These MAY include rejecting all, testing against all templates, or evaluating independently of the templates advertised.

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7 Runtime States

Agreements and Terms have a runtime state that can be monitored. The objective of term status monitoring is to observe agreement compliance at runtime. To interpret the state of a guarantee, the service term state must be known. If a service is not running, a guarantee term might not be determined. To interpret the state of a service term, the overall Agreement state must be known. If the Agreement is not accepted, the service and guarantee term states are not determined.

Verifying agreement and – particularly – terms states requires significant infrastructure and is dependent on the application environment and the domain. Hence, the verification of agreement and, term states is outside the scope of this specification.

7.1 Agreement States

The overall Agreement has a state derived from the Agreement protocol.

- Pending. The Pending state means that an Agreement offer has been made but it has been neither accepted nor rejected
- Observed. The Observed state means that an Agreement offer has been made and accepted. This state MAY follow Pending.
- Rejected. The Rejected state means that an Agreement offer has been made and rejected. This state MAY follow Pending.
- Complete. The Complete state means that an Agreement offer has been received and accepted, and that all activities pertaining to the Agreement are finished. This state MAY follow Observed.

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- Terminated. The terminated state means that an Agreement offer has been terminated by the Agreement Initiator and that the obligation no longer exists. This state May follow Pending or Observed. The fact that the Agreement is in this state MAY imply that a domain specific penalty is imposed.

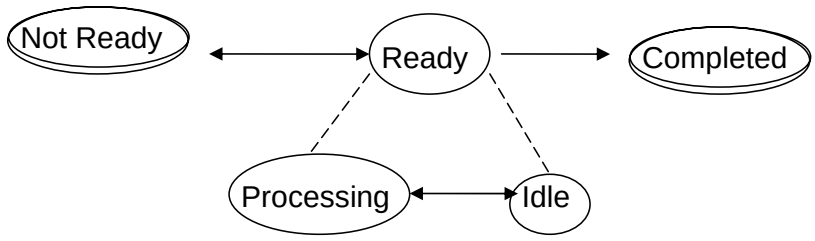
コメント [Toshi33]: Actually in a race condition, Agreement State might have been in Complete state.

The Pending and Rejected states indicate that the responder is not obligated in any way. The Pending state indicates that the initiator is obligated if and only if the responder accepts the offer. The Observed and Complete states both indicate that both parties are obligated, and furthermore they are a simple conjunction of the term-level states. The accepted Agreement is Complete only when all service states are Complete, and the accepted Agreement is otherwise Observed. The Terminated state indicate that neither parties are obligated.

7.2 Service Runtime States

The property exposes a **service state** for each service description term that abstractly describes the state of a service, independent of its domain. Each list element is a tuple (term ID, service term state).

The service term state observes the following state model:



Not Ready, **Ready** and **Completed** are the normative primary states of a service description term. Each state can be extended with one or more sub-states in a specific usage domain. **Processing** and **Idle** are two normative sub-states of the primary state **Ready.**

The semantics of the states is as follows:

- **Not Ready** – The service cannot be used yet.
- **Ready** – The service can now start to be used by a client or to be executed by the service provider.
- **Processing** – The service is ready and currently processing a request or is otherwise active.
- **Idle** – The service is ready, however currently not being used.
- **Completed** – The service cannot be used any more and any service provider activity, e.g. performing a job, is finished. This state does not express whether an execution of a job or service was successful.

コメント [Toshi34]: Stephen's 45
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コメント [Toshi35]: Stephen's 46

Not Ready is the initial state of a service description term while the service is being activated or provisioned. Once a service is ready, it may cycle through the periods of active use and idling, represented by the sub-states of **Processing** and **Idle,** respectively. Once a service is completed and can not be reused further, the service description term reaches the terminal state, marked **Completed**.

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```
<wsag:AcceptResponse>
    <xsd:any> … </xsd:any> *
</wsag:AcceptResponce>
```

The result is usually empty, but the wsag:Accept operation follows the same extensibility pattern as is described in wsag:createAgreement.

9.3.1.3 Faults

A fault indicates that acceptance of this AgreementAcceptance resource is not possible and also MAY include the reason.

9.3.2 Operation wsag:Reject

An AgreementAcceptance resource that is in the Pending state MAY be rejected to transition to the Rejected state.

9.3.2.1 Input

The form of the wsag:Reject input message is:

```
<wsag:RejectInput>
    <wsag:NoncriticalExtension/> *
    <xsd:any> ... </xsd:any> *
</wsag:RejectInput>
```

The input is usually empty, but the wsag:Reject operation follows the same extensibility pattern as is described in wsag:createAgreement.

9.3.2.2 Result

The successful result of wsag:Reject indicates that the associated Agreement is now understood to be Rejected.

```
<wsag:RejectResponse>
    <xsd:any> ... </xsd:any> *
</wsag:RejectResponce>
```

The result is usually empty, but the wsag:Reject operation follows the same extensibility pattern as is described in wsag:createAgreement.

9.3.2.3 Faults

A fault indicates that rejection of this AgreementAcceptance resource is not possible and also MAY include the reason.

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9.4 Port Type wsag:Agreement

削除: The wsag:Agreement port type does not expose any WS-Agreement-specific operations

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9.4.1. Operation wsag:Terminate

Terminates an Agreement, if permissible. Terminating an Agreement may result in domain-specific penalty imposed on the Agreement Initiator.

9.4.1.1 Input

The form of the wsag:Terminate input message is:

```
<wsag:TerminateInput>
      xsd:any
</wsag:TerminateInput>
```

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The contents of the input message are further described as follows:

/wsag:terminate/xsd:any

Any domain-specific content may be added. This content may be used for a variety of purposes such as logging the termination condition, or evaluating if a domain-specific cause for termination is sufficient to permit the agreement to be terminated.

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9.4.1.2 Result

The result of the wsag:Terminate operation is always empty.

```
<wsag:TerminateResponse>
</wsag:TerminateResponse>
```

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9.4.1.3 Faults

A fault response indicates that the termination was rejected and may also indicate domain-specific reasons.

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9.4.2 Resource Property wsag:Name

The wsag:Name resource property is of type xsd:NCName. It MAY be empty if no name has been defined in the offer submitted.

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9.4.3 Resource Property wsag:Id

The wsag:Id resource property is of type xsd:string. It MUST be a defined and represents the ID (unique between the parties to the agreement) of the present agreement version.

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9.4.4 Resource Property wsag:Context

The wsag:Context resource property is of type wsag:AgreementContextType. The context is static information about the agreement such as the parties involved in the agreement. See the section in this document about the agreement context.

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9.4.5 Resource Property wsag:Terms

This property specifies the terms of the agreement.

Note: In some application cases it might be worthwhile to decorate a specialized Agreement port type with a QueryResourceProperty operation as defined in **[WS-ResourceProperties]**, in order to enable queries on the terms of the agreement in a more fine-grained manner.

書式変更: フォント : 太字, 下線, コンプレックス スクリプト用のフォント : 太字
コメント [Toshi41]: Stephen's 55

9.4.6 Resource Property wsag:AgreementServiceReferenceList

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This OPTIONAL property specifies a list of named handles to the services of the agreement. The property MAY not be set and not all services MUST be listed with their references.

9.5 Port Type wsag:AgreementState

The purpose of this port type is to define a resource document type for monitoring the state of the agreement. This port type is not meant to be used as is but instead, its resource properties MAY be composed into a domain-specific Agreement port type.

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9.5.1 Resource Property wsag:AgreementState

The property exposes an **Agreement state** for the whole agreement as defined in section 7.1.

The property has the following structure:

```
<wsag:AgreementState>
    <wsag:Pending>
      <xsd:any##other/> *
    </wsag:Pending> ?
    <wsag:Observed>
      <xsd:any##other/> *
    </wsag:Observed> ?
    <wsag:Rejected>
      <xsd:any##other/> *
    </wsag:Rejected> ?
    <wsag:Complete>
      <xsd:any##other/> *
    </wsag:Complete> ?
    <wsag:Terminated>
      <xsd:any##other/> *
    </wsag:Terminated> ?

</wsag:AgreementState>
```

書式変更: インデント : 最初の行 : 2.5 字

/wsag:AgreementState

This element MUST have exactly one child from: Pending, Observed, Rejected, Complete and Terminated to indicate the overall state of the Agreement resource. Each of these states for the entire agreement have open content so that additional domain-specific state information can be expressed. The individual states are as described in Section 7.1.

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削除: 7.1

/wsag:AgreementState/wsag:Pending

An agreement state which is in state Pending.

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/wsag:AgreementState/wsag:Observed

An agreement state which is in state Observed.

削除: o

/wsag:AgreementState/wsag:Rejected

An agreement state which is in state Rejected

削除: r

/wsag:AgreementState/wsag:Complete

An agreement state which is in state Complete

削除: c

/wsag:AgreementState/wsag:Terminated

An agreement state which is in state Terminated

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書式変更: DefItem

9.5.2 Resource Property wsag:ServiceTermStateList

The property exposes a **service state** for each service description term that abstractly describes the state of a service, as defined in section 7.2.

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```
  xmlns:wsrf-rp="http://docs.oasis-open.org/wsrf/rp-2"
  xmlns:wsrf-bf=http://docs.oasis-open.org/wsrf/bf-2
  xmlns:wsrf-rw="http://docs.oasis-open.org/wsrf/rw-2"
  xmlns:wsrf-rpw="http://docs.oasis-open.org/wsrf/rpw-2"
  targetNamespace="http://schemas.ggf.org/graap/2005/09/ws-agreement">

  <wsdl:import
    namespace="http://docs.oasis-open.org/wsrf/rpw-2"
    location="http://docs.oasis-open.org/wsrf/rpw-2.wsdl"/>
  <wsdl:import
    namespace="http://docs.oasis-open.org/wsrf/rw-2"
    location="http://docs.oasis-open.org/wsrf/rw-2.wsdl" />

  <wsdl:types>
    <xs:schema
      targetNamespace="http://www.ggf.org/namespaces/ws-agreement"
     xmlns:wsag=""http://schemas.ggf.org/graap/2005/09/ws-agreement"
      xmlns:wsa="http://www.w3.org/2005/08/addressing"
      elementFormDefault="qualified"
      attributeFormDefault="qualified">
      <xs:include schemaLocation="agreement_types.xsd"/>
      <xs:include schemaLocation="agreement_state_types.xsd"/>

      <!--Resource property element declarations-->
      <!--global elements are defined in the included schema-->
      <!--Resource property document declaration-->
      <xs:element name="agreementProperties"
                  type="wsag:AgreementPropertiesType"/>
      <xs:complexType name="AgreementPropertiesType">
        <xs:sequence>
          <xs:element ref="wsag:Name" minOccurs="0"/>
            <xs:element ref="wsag:Id"/>
            <xs:element ref="wsag:Context"/>
            <xs:element ref="wsag:Terms"/>
            <xs:element ref="wsag:AgreementServiceReferenceList"
                        minOccurs="0"/>
        </xs:sequence>
      </xs:complexType>
      <!--======================-->
      <!-- Operational input/output type declarations -->
      <xs:element name="TerminateInput"
type="wsag:TerminateInputType"/>
```

削除: wsrp
削除: "http://www.ibm.com/xmlns/stdwip/web-services/WS-ResourceProperties"
削除: wsbf
削除: "http://www.ibm.com/xmlns/stdwip/web-services/WS-BaseFaults"
削除: "http://www.ibm.com/xmlns/stdwip/web-services/WS-ResourceProperties"
削除: "
削除: WS-ResourceProperties.wsdl"
書式変更: ドイツ語 ドイツ
削除: xmlns:wssg="http://www.ibm.com/xmlns/stdwip/web-services/WS-ServiceGroup"
削除: http://www.ggf.org/namespaces/ws-agreement"
書式変更: ドイツ語 ドイツ
削除: "http://schemas.xmlsoap.org/ws/2003/03/addressing"
削除: <xs:import
namespace="http://www.ibm.com/xmlns/stdwip/web-services/WS-ServiceGroup"
schemaLocation="WS-ServiceGroup.xsd"/>
書式変更: ドイツ語 ドイツ
削除: Agreement
削除: <xs:element ref="wssg:MembershipContentRule"
minOccurs="1"
maxOccurs="unbounded">
<xs:annotation>
<xs:documentation>
Contains at least one membershipContentRule element such that membershipContentRule1/@memberInterface=
"wsag:Agreement"
</xs:documentation>
</xs:annotation>
</xs:element>
... [47]
書式変更: 英語 米国

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```
      <xs:element name="TerminateResponse"
type="wsag:TerminateOutputType"/>
      <xs:complexType name="TerminateInputType">
            <xs:sequence>
                  <xs:any processContents="lax" namespace="##any"/>
            </xs:sequence>
      </xs:complexType>
      <xs:complexType name="TerminateOutputType"/>
    </xs:schema>
```

削除:

```
  </wsdl:types>
      <wsdl:message name="TerminateInputMessage">
            <wsdl:part name="parameters"
element="wsag:TerminateInput"/>
      </wsdl:message>
      <wsdl:message name="TerminateOuputMessage">
            <wsdl:part name="parameters"
element="wsag:TerminateResponse"/>
      </wsdl:message>
  <wsdl:portType name="Agreement"
                wsrf-rp:ResourceProperties="wsag:agreementProperties">
```

削除: wsrp

```
  <!-- resource property accessor definitions from WSRF-RP -->
```

削除: WSRP

```
    <wsdl:operation name="GetResourceProperty">
      <wsdl:input name="GetResourcePropertyRequest"
                  message="wsrf-rpw:GetResourcePropertyRequest"/>
```

削除: wsrp

```
      <wsdl:output name="GetResourcePropertyResponse"
                  message="wsrf-rpw:GetResourcePropertyResponse"/>
```

削除: wsrp

```
      <wsdl:fault name="ResourceUnknownFault"
                  message="wsrf-rw:ResourceUnknownFault"/>
```

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```
        <wsdl:fault name="ResourceUnavailableFault"
            message="wsrf-rw:ResourceUnavailableFault" />
      <wsdl:fault name="InvalidResourcePropertyQNameFault"
                message="wsrf-rpw:InvalidResourcePropertyQNameFault"/>
```

削除:

削除: wsrp

```
    </wsdl:operation>
      <wsdl:operation name="Terminate">
                  <wsdl:input name="TerminateRequest"
message="wsag:TerminateInputMessage"/>
                  <wsdl:output name="TerminateResponse"
message="wsag:TerminateOuputMessage"/>
                  <wsdl:fault name="ResourceUnknownFault"
message="wsrp:ResourceUnknownFault"/>
            </wsdl:operation>
  </wsdl:portType>
```

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```
          <xs:element ref="wsag:ServiceTermStateList"/>
        </xs:sequence>
      </xs:complexType>
    </xs:schema>

    </wsdl:types>
      <wsdl:portType
        name="AgreementState"
        wsrf-rp:ResourceProperties="wsag:AgreementStateProperties">
      <!-- resource property accessor definitions from WSRF-RP -->
        <wsdl:operation name="GetResourceProperty">
          <wsdl:input name="GetResourcePropertyRequest"
                      message="wsrf-rpw:GetResourcePropertyRequest"/>
          <wsdl:output name="GetResourcePropertyResponse"
                       message="wsrf-rpw:GetResourcePropertyResponse"/>
          <wsdl:fault name="ResourceUnknownFault"
                      message="wsrf-rw:ResourceUnknownFault"/>
         <wsdl:fault name="ResourceUnavailableFault"
            message="wsrf-rw:ResourceUnavailableFault" />
          <wsdl:fault name="InvalidResourcePropertyQNameFault"
               message="wsrf-rpw:InvalidResourcePropertyQNameFault"/>
        </wsdl:operation>
      </wsdl:portType>
</wsdl:definitions>
```

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Agreement State Types Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  targetNamespace="http://schemas.ggf.org/graap/2005/09/ws-agreement"
  elementFormDefault="qualified" attributeFormDefault="qualified"
  xmlns:wsag="http://schemas.ggf.org/graap/2005/09/ws-agreement"
  xmlns:wsrf-bf="http://docs.oasis-open.org/wsrf/bf-2"
  xmlns:wsa="http://www.w3.org/2005/08/addressing"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">

  <xs:complexType name="AgreementStateType">
    <xs:choice>
      <xs:element name="Pending" type="wsag:InnerAgreementStateType"/>
      <xs:element name="Observed" type="wsag:InnerAgreementStateType"/>
      <xs:element name="Rejected" type="wsag:InnerAgreementStateType"/>
      <xs:element name="Complete" type="wsag:InnerAgreementStateType"/>
```

削除: wsbf
削除: "http://www.ibm.com/xml ns/stdwip/web-services/WS-BaseFaults"
削除: "http://schemas.xmlsoap .org/ws/2003/03/addressing"

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削除: 11/1/2005

```
      <xs:element name="Terminated"
type="wsag:InnerAgreementStateType"/>
    </xs:choice>
 </xs:complexType>

 <xs:complexType name="InnerAgreementStateType">
   <xs:sequence>
     <xs:any namespace="##other" processContents="lax" minOccurs="0"/>
   </xs:sequence>
 </xs:complexType>

  <xs:complexType name="TermStateType">
    <xs:choice minOccurs="0">
      <xs:any namespace="##other" processContents="lax"/>
      <!--Processing and Idle only as substates of Ready-->
      <xs:element name="Processing" type="wsag:InnerTermStateType"/>
      <xs:element name="Idle" type="wsag:InnerTermStateType"/>
    </xs:choice>
    <xs:attribute name="termName" type="xs:string"/>
  </xs:complexType>

  <xs:complexType name="InnerTermStateType">
    <xs:sequence>
      <xs:any namespace="##other" processContents="lax" />
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="GuaranteeTermStateListType">
    <xs:choice maxOccurs="unbounded">
      <xs:element name="NotDetermined" type="wsag:TermStateType"/>
      <xs:element name="Fulfilled" type="wsag:TermStateType"/>
      <xs:element name="Violated" type="wsag:TermStateType"/>
    </xs:choice>
  </xs:complexType>

  <xs:complexType name="ServiceTermStateListType">
    <xs:choice maxOccurs="unbounded">
      <xs:element name="NotReady" type="wsag:TermStateType"/>
      <xs:element name="Ready" type="wsag:TermStateType"/>
      <xs:element name="Completed" type="wsag:TermStateType" />
    </xs:choice>
  </xs:complexType>
```