Refine Agreement

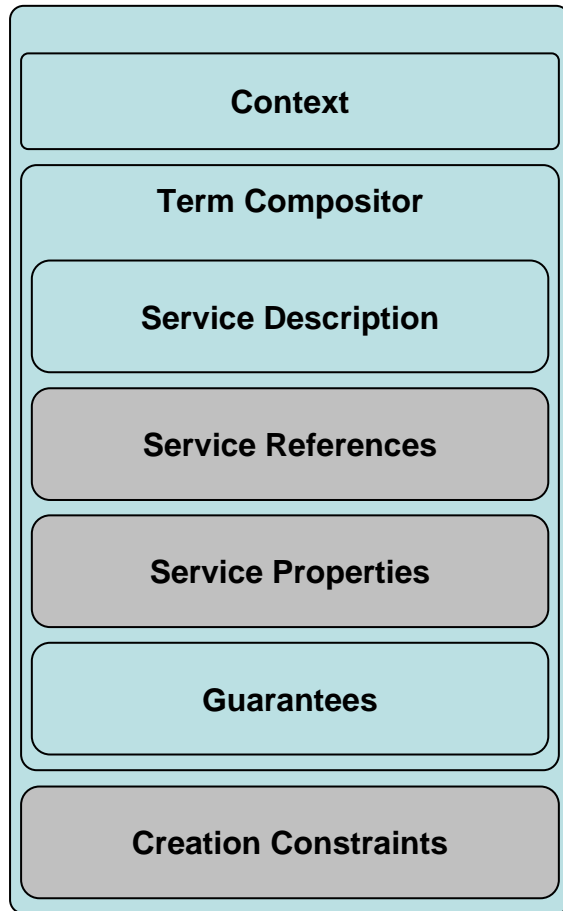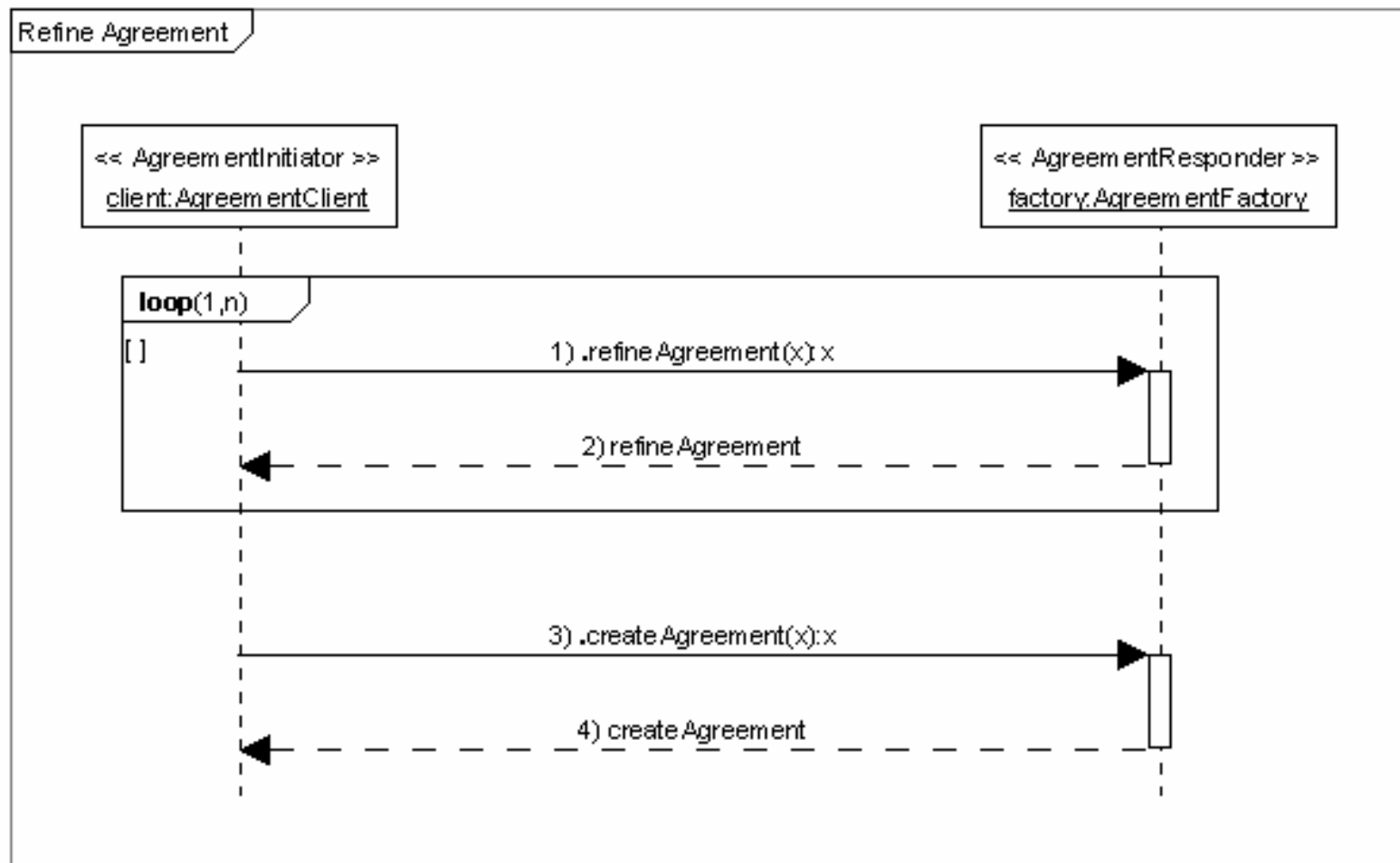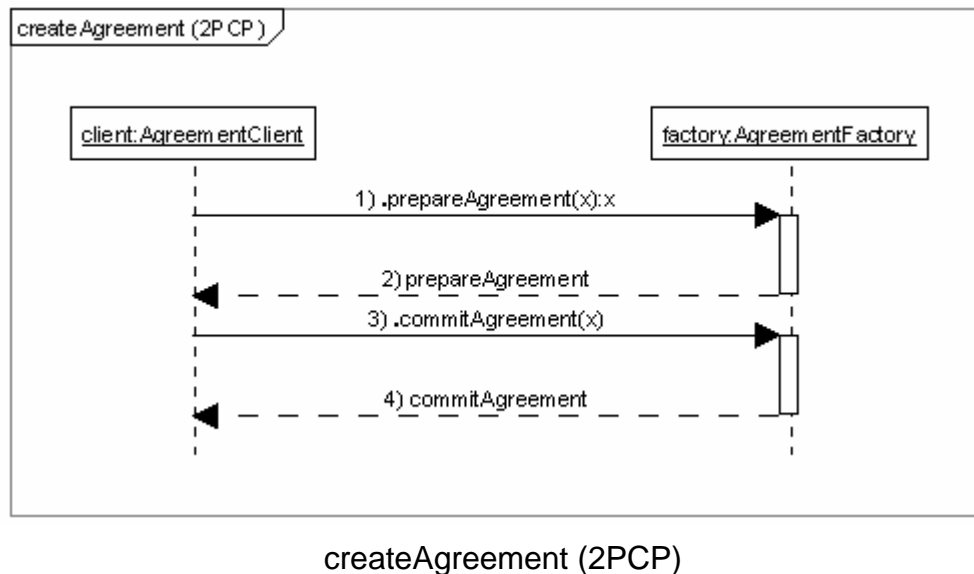| Context |
| Term Compositor |
| Service Description |
| Service References |
| Service Properties |
| Guarantees |
| Creation Constraints |

Refine agreement in/output

- New method CounterOffer refineAgreement(Offer)

- Input is a *normal* agreement offer (see WSAG specification)

- No agreement is created / no EPR is sent back

- Response is an (possibly refined) counter offer

- Content may change
  - e.g. ranges (CPU, memory, …) may be refined
- refineAgreement can be called multiple times subsequently in the negotiation phase
  - Negotiating start times, resources, …
- Only valid counter offers are returned
  - Counter offer can be created in principle
- Counter offer is only a hint (no guarantee)
  - No pre-reservation implied here

- Grey terms may be skipped in a first step (needed?)

refine agreement and agreement creation

Create Agreement (2PCP)

createAgreement (2PCP)

EPR prepareAgreement(offer)

- Same signature as createAgreement

- Creates a new Agreement

- Created Agreement is in new state Prepared

- Short lifetime (e.g. one minute)

- Includes resource pre-reservation

- No or reduced Penalties???

void commitAgreement(EPR)

- Commits the prepared agreement referenced by the EPR

- Changes the state to observed

- Regular lifetime

- Agreement costs/rewards/penalties become active

- No errors are thrown, since resources are pre-reserved

Communication errors are out of scope

RefineAgreement Extension

```
Types

<xs:element name="refineAgreementInput"
          type="wsag:RefineAgreementType"/>
<xs:element name="refineAgreementResponse"
          type="wsag:RefineAgreementType"/>


<xs:complexType name="RefineAgreementType">
       <xs:sequence>
         <xs:element name="initiatorAgreementEPR"
                    type="wsa:EndpointReferenceType" minOccurs="0"/>
         <xs:element ref="wsag:AgreementOffer"/>
         <xs:element name="NoncriticalExtension"
                    type="wsag:NoncriticalExtensionType"
                    minOccurs="0" maxOccurs="unbounded"/>
         <xs:any namespace="##other" processContents="lax"
                minOccurs="0" maxOccurs="unbounded"/>
       </xs:sequence>
</xs:complexType>

<wsdl:message name="refineAgreementInputMessage">
      <wsdl:part name="parameters" element="wsag:refineAgreementInput"/>
</wsdl:message>
<wsdl:message name="refineAgreementOuputMessage">
      <wsdl:part name="parameters" element="wsag:refineAgreementResponse"/>
</wsdl:message>
```