

CVR Online

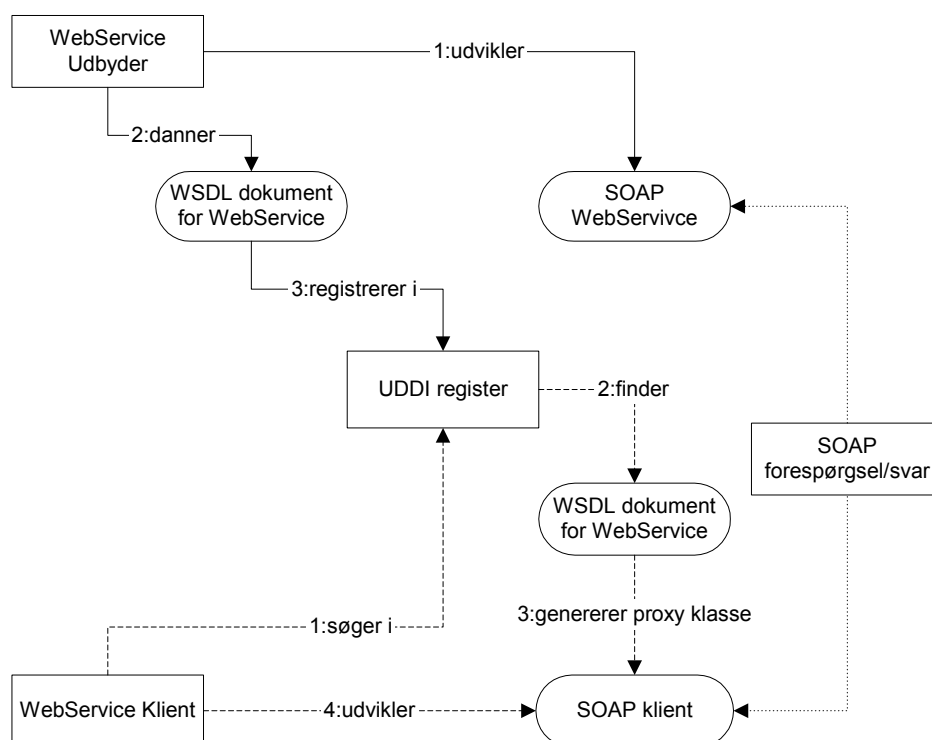
Brugerdokumentation

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1 Introduktion

Nærværende dokument henvender sig til udviklere af klientprogrammer til CVR Web Service. Det beskriver overordnet, hvorledes man udvikler en klient applikation til CVR Web Service. Det centrale element i denne udvikling er WSDL dokumentet, der i detaljer beskriver, hvorledes funktionaliteten i CVR Web Service skal tilgås fra en klient - mange udviklingsværktøjer kan efterhånden læse et WSDL dokument og f.eks. integrere en proxyklasse direkte i klient applikationen. Nedenstående figur viser i generelle træk de enkelte trin i henholdsvis udviklingen og benyttelsen af en Web Service.



WSDL dokumentet vil på sigt kunne hentes fra Infostrukturbasen¹ men indtil videre kan man hente dokumentet via internettet fra CVR's hjemmeside. WSDL dokumentet er gengivet i bilag A og bygger på den vedtagne standard WSDL version 1.1² gengivet i bilag B.

¹ Infostrukturbasen, som er en type UDDI register, er et tiltag fra Ministeriet for Videnskab, Teknologi og Udvikling til lettelse af indberetning til det offentlige for den enkelte borger. Desuden skal den lette udvekslingen af data mellem forskellige myndigheder. Basen vil være tilgængelig for alle parter inden udgangen af 2002.

² WSDL er en forkortelse for Web Services Description Language. Specifikationen er tilgængelig på URL <http://www.w3.org/TR/wsdl>

2 Overordnet beskrivelse

CVR Web Service giver adgang til CVR Systemets data via standard protokollen SOAP. Adgang til CVR Web Service foregår via https, som er beskrevet nærmere i afsnit 2.3.

2.1 SOAP forespørgsel

En SOAP forespørgsel består af en såkaldt Envelope, som indeholder de parametre, som skal bruges i forespørgslen til CVR Web Service. Herunder er givet eksempler på, hvordan SOAP forespørgslen ser ud for de implementerede funktionaliteter.

2.1.1 getLegalUnit på niveau 1

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getLegalUnit xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <CVRNumber>19552101</CVRNumber>
    </getLegalUnit>
  </soap:Body>
</soap:Envelope>
```

2.1.2 getProductionUnit på niveau 1

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getProductionUnit xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <ProductionUnitNumber>1003388631</ProductionUnitNumber>
    </getProductionUnit>
  </soap:Body>
</soap:Envelope>
```

2.1.3 getRelatedProductionUnits

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getRelatedProductionUnits xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <CVRNumber>19552101</CVRNumber>
    </getRelatedProductionUnits>
  </soap:Body>
</soap:Envelope>
```

2.1.4 Søgning efter juridisk enhed

2.1.4.1 getLegalUnitSeekName på niveau 1

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
```

```
<getLegalUnitSeekName xmlns="urn:cvrwebservice">
  <UserID>Test</UserID>
  <Password>Test</Password>
  <Level>1</Level>
  <LegalUnitName>HERBERT%</LegalUnitName>
</getLegalUnitSeekName>
</soap:Body>
</soap:Envelope>
```

2.1.4.2 getLegalUnitSeekAddress på niveau 1

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getLegalUnitSeekAddress xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <Address>
        <RoadName>Algade</RoadName>
        <HouseNumberFrom>13</HouseNumberFrom>
        <PostalCode>4000</PostalCode>
      </Address>
    </getLegalUnitSeekAddress>
  </soap:Body>
</soap:Envelope>
```

2.1.4.3 getLegalUnitSeekTele på niveau 1

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getLegalUnitSeekTele xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <Tele>
        <TelephoneNumber>12345678</TelephoneNumber>
      </Tele>
    </getLegalUnitSeekTele>
  </soap:Body>
</soap:Envelope>
```

2.1.4.4 getLegalUnitSeekNameAddress på niveau 1

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getLegalUnitSeekNameAddress xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <LegalUnitName>HERBERT%</LegalUnitName>
      <RoadName>Algade</RoadName>
      <PostalCode>4000</PostalCode>
    </getLegalUnitSeekNameAddress>
  </soap:Body>
</soap:Envelope>
```

2.1.5 Søgning efter produktionsenhed

2.1.5.1 getProductionUnitSeekName

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getProductionUnitSeekName xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <ProductionUnitName>HERBERT%</ProductionUnitName>
    </getProductionUnitSeekName>
  </soap:Body>
</soap:Envelope>
```

2.1.5.2 getProductionUnitSeekAddress

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getProductionUnitSeekAddress xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <Address>
        <RoadName>Algade</RoadName>
        <HouseNumberFrom>13</HouseNumberFrom>
        <MunicipalityCode>807</MunicipalityCode>
      </Address>
    </getProductionUnitSeekAddress>
  </soap:Body>
</soap:Envelope>
```

2.1.5.3 getProductionUnitSeekTele

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getProductionUnitSeekTele xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <Tele>
        <TelephoneNumber>12345678</TelephoneNumber>
      </Tele>
    </getProductionUnitSeekTele>
  </soap:Body>
</soap:Envelope>
```

2.1.5.4 getProductionUnitSeekNameAddress

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <getProductionUnitSeekNameAddress xmlns="urn:cvrwebservice">
      <UserID>Test</UserID>
      <Password>Test</Password>
      <Level>1</Level>
      <ProductionUnitName>HERBERT%</ProductionUnitName>
      <RoadName>Algade</RoadName>
      <PostalCode>4000</PostalCode>
    </getProductionUnitSeekNameAddress>
  </soap:Body>
</soap:Envelope>
```

2.2 SOAP svar

Et SOAP svar består ligeledes af en Envelope, som indeholder svaret på forespørgslen i XML format i overensstemmelse med de associerede skemadefinitioner. Herunder er givet eksempler på, hvordan SOAP svaret ser ud for de implementerede funktionaliteter.

2.2.1 getLegalUnit

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:getLegalUnitResponse xmlns="urn:cvrwebservice"
xmlns:ACT="http://rep.oio.dk/cvr.dk/xml/schemas/Activity/2002/07/03"
xmlns:ADR="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03"
xmlns:EMP="http://rep.oio.dk/cvr.dk/xml/schemas/Employment/2002/07/03"
xmlns:TEL="http://rep.oio.dk/cvr.dk/xml/schemas/Telecom/2002/07/03" xmlns:ns1="urn:cvrwebservice">
      <ns2:LegalUnit xmlns="http://rep.oio.dk/cvr.dk/xml/schemas/LegalUnit/2002/07/03"
xmlns:ns2="http://rep.oio.dk/cvr.dk/xml/schemas/LegalUnit/2002/07/03">
        <ns2:TransactionID>29270608</ns2:TransactionID>
        <ns2:CVRnumber>19552101</ns2:CVRnumber>
        <ns2:AdvertisingProtection>0</ns2:AdvertisingProtection>
        <ns2:NumberOfProductionUnits>68</ns2:NumberOfProductionUnits>
        <ns2:SimultaneityID>6</ns2:SimultaneityID>
        <ns2:LegalUnitNameInfo>
          <ns2:ValidFromDate>10000101</ns2:ValidFromDate>
          <ns2:LegalUnitName>Told · Skat</ns2:LegalUnitName>
        </ns2:LegalUnitNameInfo>
        <ns2:PeriodOfActivities>
          <ns2:StartDateType>1</ns2:StartDateType>
          <ns2>Status>1</ns2>Status>
          <ns2:StartDate>19690618</ns2:StartDate>
        </ns2:PeriodOfActivities>
        <ns2:ProductionUnits>
          <ns2:ProductionUnitNumber>1003388618</ns2:ProductionUnitNumber>
          -
          -
          -
          <ns2:ProductionUnitNumber>1008188234</ns2:ProductionUnitNumber>
        </ns2:ProductionUnits>
        <ns2:OfficialAddress>
          <ns3:CPRValidAddress xmlns:ns3="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03">
            <ns3:ValidFromDate>10000101</ns3:ValidFromDate>
            <ns3:MunicipalityCode>101</ns3:MunicipalityCode>
            <ns3:RoadCode>8572</ns3:RoadCode>
            <ns3:RoadName>Østbanegade</ns3:RoadName>
            <ns3:HouseNumberFrom>123</ns3:HouseNumberFrom>
            <ns3:PostalCode>2100</ns3:PostalCode>
            <ns3:PostalDistrict>København Ø</ns3:PostalDistrict>
            <ns3:PostVejAfsnitId>0000002173</ns3:PostVejAfsnitId>
            <ns3:VejAfsnitId>0000002392</ns3:VejAfsnitId>
            <ns3:PartnerProtectedAddress>0</ns3:PartnerProtectedAddress>
          </ns3:CPRValidAddress>
        </ns2:OfficialAddress>
      </ns2:LegalUnit>
    </ns1:getLegalUnitResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

2.2.2 getProductionUnit

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:getProductionUnitResponse xmlns="urn:cvrwebservice">
```

```

xmlns:ACT="http://rep.oio.dk/cvr.dk/xml/schemas/Activity/2002/07/03"
xmlns:ADR="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03"
xmlns:EMP="http://rep.oio.dk/cvr.dk/xml/schemas/Employment/2002/07/03"
xmlns:TEL="http://rep.oio.dk/cvr.dk/xml/schemas/Telecom/2002/07/03" xmlns:ns1="urn:cvrwebservice">
  <ns2:ProductionUnit xmlns="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnit/2002/07/03"
xmlns:ns2="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnit/2002/07/03">
    <ns2:TransactionID>29270610</ns2:TransactionID>
    <ns2:ProductionUnitNumber>1003388631</ns2:ProductionUnitNumber>
    <ns2:AdvertisingProtection>0</ns2:AdvertisingProtection>
    <ns2:ProductionUnitNameInfo>
      <ns2:ValidFromDate>10000101</ns2:ValidFromDate>
      <ns2:ProductionUnitName>TOLD- OG SKATTESTYRELSEN</ns2:ProductionUnitName>
    </ns2:ProductionUnitNameInfo>
    <ns2:LegalUnitAffiliationInfo>
      <ns2:CVRnumber>19552101</ns2:CVRnumber>
    </ns2:LegalUnitAffiliationInfo>
    <ns2:PeriodOfActivities>
      <ns2:Status>1</ns2:Status>
      <ns2:StartDate>19930101</ns2:StartDate>
    </ns2:PeriodOfActivities>
    <ns2:LocationAddress>
      <ns3:GeneralAddress xmlns:ns3="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03">
        <ns3:ValidFromDate>10000101</ns3:ValidFromDate>
        <ns3:MunicipalityCode>101</ns3:MunicipalityCode>
        <ns3:RoadCode>8572</ns3:RoadCode>
        <ns3:RoadName>Østbanegade</ns3:RoadName>
        <ns3:HouseNumberFrom>123</ns3:HouseNumberFrom>
        <ns3:PostalCode>2100</ns3:PostalCode>
        <ns3:PostalDistrict>København Ø</ns3:PostalDistrict>
        <ns3:PartnerProtectedAddress>0</ns3:PartnerProtectedAddress>
      </ns3:GeneralAddress>
    </ns2:LocationAddress>
  </ns2:ProductionUnit>
</ns1:getProductionUnitResponse>
</soapenv:Body>
</soapenv:Envelope>

```

2.2.3 getRelatedProductionUnits

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:getRelatedProductionUnitsResponse xmlns="urn:cvrwebservice" xmlns:ns1="urn:cvrwebservice">
      <ns2:RelatedProductionUnits xmlns="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnits/2002/07/03"
xmlns:ns2="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnits/2002/07/03">
        <ns2:TransactionID>29270905</ns2:TransactionID>
        <ns2:ProductionUnits>
          <ns2:ProductionUnit>
            <ns2:ProductionUnitNumber>1003036415</ns2:ProductionUnitNumber>
            <ns2:ProductionUnitName>MÆRSK DATA A/S KØBENHAVNS LUFTHAVN SYD BYGNING
242</ns2:ProductionUnitName>
          </ns2:ProductionUnit>
          <ns2:ProductionUnit>
            <ns2:ProductionUnitNumber>1003036427</ns2:ProductionUnitNumber>
            <ns2:ProductionUnitName>MÆRSK DATA A/S</ns2:ProductionUnitName>
            <ns2:AdvertisingProtection>0</ns2:AdvertisingProtection>
          </ns2:ProductionUnit>
          <ns2:ProductionUnit>
            <ns2:ProductionUnitNumber>1003036439</ns2:ProductionUnitNumber>
            <ns2:ProductionUnitName>Mærsk Data A/S Bullerup Skovgård</ns2:ProductionUnitName>
            <ns2:AdvertisingProtection>0</ns2:AdvertisingProtection>
          </ns2:ProductionUnit>
        </ns2:ProductionUnits>
      </ns2:RelatedProductionUnits>
    </ns1:getRelatedProductionUnitsResponse>
  </soapenv:Body>
</soapenv:Envelope>

```



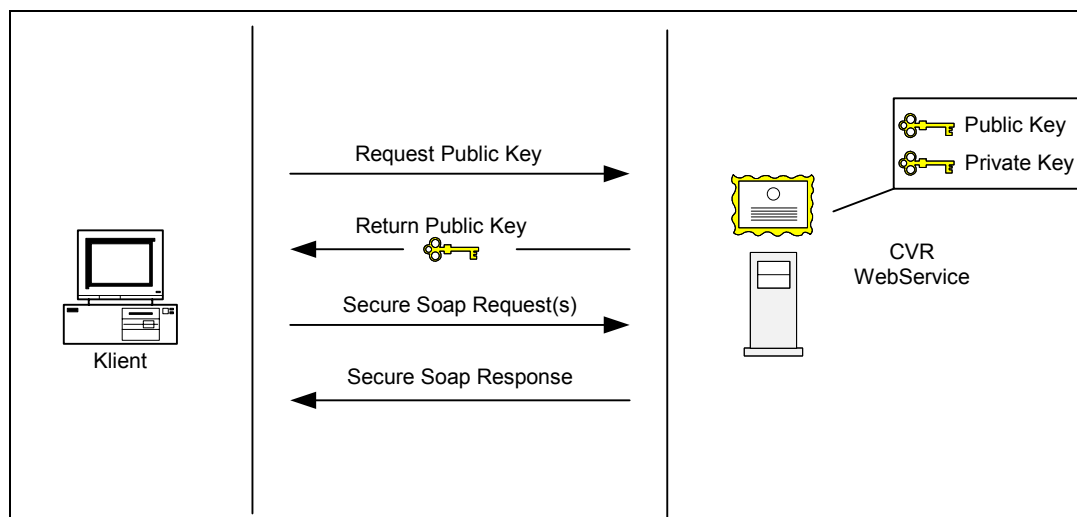
```
</soapenv:Body>  
</soapenv:Envelope>
```

2.2.4 Svar på øvrige søgninger

SOAP svar på getLegalUnitSeekName, getLegalUnitSeekAddress, getLegalUnitSeekTele, getProductionUnitSeekName, getProductionUnitSeekAddress og getProductionUnitSeekTele er principielt magen til de i 2.2.1 og 2.2.2 viste svar. Blot kan svarene indeholde en følge af henholdsvis juridiske enheder og produktionsenheder.

2.3 SSL

For at beskytte klientens forespørgsel, der indeholder brugernavn og password, er kommunikationen mellem Klient og Web Service krypteret vha. SSL. Det er derfor nødvendigt, at klienten besidder den offentlige nøgle for CVR Web Service. Det benyttede X.509 certifikat vil være tilgængelig fra samme web-server, som CVR Web Service eksekverer på.



Figur 1

Figur 1. viser, hvorledes håndteringen af den Offentlige og den Private nøgle foregår i systemet.

1. Før en klient kan kommunikere med CVR Web Service, er det nødvendigt at være i besiddelse af den offentlige nøgle. Før klienten kan indkode forespørgsler til CVR Web Service, er det nødvendigt at erhverve den offentlige nøgle fra CVR Web Service. Den offentlige nøgle ligger indlejret i et certifikat på serveren og fremskaffes ved at hente certifikatet og gemme dette i sin lokale "keyring" – "keyring" er et opbevaringssted for de certifikater, som en klient har hentet. Derefter kan klienten kryptere sine forespørgsler med den offentlige nøgle fra CVR Web Service. Desuden kan man bruge certifikatet til at verificere den pågældende server, idet certifikatet indeholder oplysninger om CVR Web Service serveren. I Bilag B er givet et

eksempel på en lille Java applikation, der indlæser et certifikat, validerer dets gyldighed og gemmer det i en keyring (KeyStore i Java). Herefter demonstreres det, hvordan man får adgang til den offentlige nøgle ved først at tilgå certifikatet via keyring og efterfølgende ekstrahere nøglen fra dette.

2. Den offentlige nøgle skal være tilgængelig for den implementerede klient - enten som lokal ressource eller ved at hente den over internettet, hver gang klienten startes op. Fordelen ved at hente nøglen ved hver opstart er, at det er nemmere at udgive/påføre nye certifikater til opretholdelse af sikkerheden uden at varsko kunderne. I dette tilfælde er det ikke nødvendigt med en keyring.
3. CVR Web Service forespørgslen krypteres med CVR' offentlige nøgle, hvilket garanterer, at kun CVR Web Service kan afkode de data, som klienten sender til CVR Web Service, da det som krypteres med den offentlige nøgle kun kan afkodes med den private (og omvendt).
4. CVR Web Service modtager og dekrypterer forespørgslen, der efterfølgende behandles i CVR systemet. Endelig danner CVR Web Service et svar, som returneres til klienten. Svaret indkodes med den private nøgle for CVR Web Service og kan derefter kun afkodes med den offentlige nøgle, som den enkelte klient er i besiddelse af. Mao. kan enhver, der er i besiddelse af den offentlige nøgle og samtidig har held til at opfange svaret fra CVR Web Service, læse indholdet i SOAP svaret. Dette giver imidlertid ikke anledning til slækkelse af sikkerheden, da svaret kun indeholder et XML formateret svar på den oprindelige forespørgsel.

3 WSDL dokumentet

3.1 Generelt

WSDL dokumentet er en standardiseret beskrivelse af en Web Service skrevet i XML format. Dokumentet fungerer som en form for kontrakt mellem den enkelte klient og den pågældende Web Service til sikring af en effektiv kommunikation mellem de to parter. Den overordnede struktur i et WSDL dokument som beskrevet i W3C standarden er vist herunder:

```
<wsdl:definitions name="nmtoken"? targetNamespace="uri"?>
  <import namespace="uri" location="uri"/>*
  <wsdl:documentation .... /> ?
  <wsdl:types> ?
    <wsdl:documentation .... /> ?
    <xsd:schema .... />*
    <!-- extensibility element --> *
  </wsdl:types>
  <wsdl:message name="nmtoken"> *
    <wsdl:documentation .... /> ?
    <part name="nmtoken" element="qname"? type="qname"?/> *
  </wsdl:message>
  <wsdl:portType name="nmtoken">*
    <wsdl:documentation .... /> ?
    <wsdl:operation name="nmtoken">*
      <wsdl:documentation .... /> ?
      <wsdl:input name="nmtoken"? message="qname">?
        <wsdl:documentation .... /> ?
      </wsdl:input>
      <wsdl:output name="nmtoken"? message="qname">?
        <wsdl:documentation .... /> ?
      </wsdl:output>
      <wsdl:fault name="nmtoken" message="qname"> *
        <wsdl:documentation .... /> ?
      </wsdl:fault>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="nmtoken" type="qname">*
    <wsdl:documentation .... /> ?
    <!-- extensibility element --> *
    <wsdl:operation name="nmtoken">*
      <wsdl:documentation .... /> ?
      <!-- extensibility element --> *
      <wsdl:input> ?
        <wsdl:documentation .... /> ?
        <!-- extensibility element -->
      </wsdl:input>
      <wsdl:output> ?
        <wsdl:documentation .... /> ?
        <!-- extensibility element --> *
      </wsdl:output>
      <wsdl:fault name="nmtoken"> *
        <wsdl:documentation .... /> ?
        <!-- extensibility element --> *
      </wsdl:fault>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="nmtoken"> *
    <wsdl:documentation .... /> ?
    <wsdl:port name="nmtoken" binding="qname"> *
      <wsdl:documentation .... /> ?
      <!-- extensibility element -->
    </wsdl:port>
    <!-- extensibility element -->
  </wsdl:service>
```

```
<!-- extensibility element --> *
</wsdl:definitions>
```

3.1.1 WSDL types

types elementet giver information om de datatyper, som benyttes til beskrivelse af, hvorledes **message** elementet udveksler data mellem klient og Web Service. For at opnå maksimal platform neutralitet benyttes XML skema syntaks til definition af disse elementer. De **types**, som CVR Web Service benytter, er defineret i de importerede skemaer:

```
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/LegalUnit/2002/07/03" location="schemas/LegalUnit.xsd"/>
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnit/2002/07/03"
location="schemas/ProductionUnit.xsd"/>
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnits/2002/07/03"
location="schemas/RelatedProductionUnits.xsd"/>
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Activity/2002/07/03" location="schemas/Activity.xsd"/>
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03" location="schemas/Address.xsd"/>
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Telecom/2002/07/03" location="schemas/Telecom.xsd"/>
<import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Employment/2002/07/03"
location="schemas/Employment.xsd"/>
```

samt under **types** elementet i WSDL dokumentet:

```
<xs:schema targetNamespace="urn:cvrwebservice">
  <xs:simpleType name="CVRStringWildCard">
    <xs:restriction base="xs:string">
      <xs:minLength value="3"/>
      <xs:pattern value="[^\%]{3,}%?" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="CVRString">
    <xs:restriction base="xs:string">
      <xs:minLength value="3"/>
      <xs:pattern value="[^\%]{3,}" />
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="UserID" type="xs:string"/>
  <xs:element name="Password" type="xs:string"/>
  <xs:element name="Level" type="xs:int"/>
  <xs:element name="ProductionUnitNumber" type="xs:int"/>
  <xs:element name="CVRNumber" type="xs:int"/>
  <xs:element name="LegalUnitName" type="ws:CVRStringWildCard"/>
  <xs:element name="ProductionUnitName" type="ws:CVRStringWildCard"/>
  <xs:element name="RoadName" type="ws:CVRStringWildCard"/>
  <xs:element name="HouseNumberFrom" type="xs:string"/>
  <xs:element name="PostalCode" type="xs:string"/>
  <xs:element name="MunicipalityCode" type="xs:string"/>
  <xs:element name="TelephoneNumber" type="xs:string"/>
  <xs:element name="FaxNumber" type="xs:string"/>
  <xs:element name="EmailAddress" type="xs:string"/>
  <xs:element name="ForeignTelephoneNumber" type="xs:string"/>
  <xs:element name="ForeignFaxNumber" type="xs:string"/>
  <xs:complexType name="getBaseNoLevel">
    <xs:sequence>
      <xs:element ref="ws:UserID" minOccurs="1" maxOccurs="1"/>
      <xs:element ref="ws:Password" minOccurs="1" maxOccurs="1"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="getBase">
    <xs:complexContent>
      <xs:extension base="ws:getBaseNoLevel">
        <xs:sequence>
          <xs:element ref="ws:Level" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
```

```

</xs:complexContent>
</xs:complexType>
<xs:complexType name="getAddress">
  <xs:sequence>
    <xs:element ref="ws:RoadName" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:HouseNumberFrom" minOccurs="0" maxOccurs="1"/>
    <xs:choice>
      <xs:element ref="ws:PostalCode" minOccurs="1" maxOccurs="1"/>
      <xs:element ref="ws:MunicipalityCode" minOccurs="1" maxOccurs="1"/>
    </xs:choice>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="getTeleInfo">
  <xs:choice>
    <xs:element ref="ws:TelephoneNumber" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:FaxNumber" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:EmailAddress" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:ForeignTelephoneNumber" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:ForeignFaxNumber" minOccurs="1" maxOccurs="1"/>
  </xs:choice>
</xs:complexType>
<xs:element name="getLegalUnit">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:CVRNumber" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnit">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:ProductionUnitNumber" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getRelatedProductionUnits">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBaseNoLevel">
        <xs:sequence>
          <xs:element ref="ws:CVRNumber" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekName">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:LegalUnitName" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekName">
  <xs:complexType>
    <xs:complexContent>

```

```

        <xs:extension base="ws:getBase">
            <xs:sequence>
                <xs:element ref="ws:ProductionUnitName" minOccurs="1" maxOccurs="1"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekAddress">
    <xs:complexType>
        <xs:complexContent>
            <xs:extension base="ws:getBase">
                <xs:sequence>
                    <xs:element name="Address" type="ws:getAddress" minOccurs="1" maxOccurs="1"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekAddress">
    <xs:complexType>
        <xs:complexContent>
            <xs:extension base="ws:getBase">
                <xs:sequence>
                    <xs:element name="Address" type="ws:getAddress" minOccurs="1" maxOccurs="1"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekTele">
    <xs:complexType>
        <xs:complexContent>
            <xs:extension base="ws:getBase">
                <xs:sequence>
                    <xs:element name="Tele" type="ws:getTeleInfo" minOccurs="1" maxOccurs="1"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekTele">
    <xs:complexType>
        <xs:complexContent>
            <xs:extension base="ws:getBase">
                <xs:sequence>
                    <xs:element name="Tele" type="ws:getTeleInfo" minOccurs="1" maxOccurs="1"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekNameAddress">
    <xs:complexType>
        <xs:complexContent>
            <xs:extension base="ws:getBase">
                <xs:sequence>
                    <xs:element ref="ws:LegalUnitName" minOccurs="1" maxOccurs="1"/>
                    <xs:element ref="ws:RoadName" minOccurs="1" maxOccurs="1"/>
                    <xs:element ref="ws:PostalCode" minOccurs="1" maxOccurs="1"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekNameAddress">
    <xs:complexType>
        <xs:complexContent>

```

```

        <xs:extension base="ws:getBase">
            <xs:sequence>
                <xs:element ref="ws:ProductionUnitName" minOccurs="1" maxOccurs="1"/>
                <xs:element ref="ws:RoadName" minOccurs="1" maxOccurs="1"/>
                <xs:element ref="ws:PostalCode" minOccurs="1" maxOccurs="1"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
</xs:element>
<xs:element name="getLegalUnitResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="StyleLUns:LegalUnit" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="StylePUns:ProductionUnit" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="getRelatedProductionUnitsResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="StylePUsns:RelatedProductionUnits" minOccurs="1"
maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="StyleLUns:LegalUnit" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="StylePUns:ProductionUnit" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
</xs:schema>

```

3.1.2 WSDL message

message elementet giver en abstrakt beskrivelse af, hvad der sendes af data mellem klient og Web Service. Alle message elementer består af én eller flere logiske enheder. Enhederne kan sammenlignes med parametrene i et metodekald i et traditionelt programmeringssprog. CVR Web Service benytter 14 forskellige message elementer svarende til: én forespørgsel og ét svar for hver af operationerne getLegalUnit, getProductionUnit og getRelatedProductionUnits samt seks forskellige forespørgsler for søgeoperationerne (getLegalUnitSeekName, getLegalUnitSeekAddress, getLegalUnitSeekTele, getProductionUnitSeekName, getProductionUnitSeekAddress og getProductionUnitSeekTele) og de to tilhørende svar:

```

<message name="getProductionUnitRequest">
  <part name="requestParameters" element="ws:getProductionUnit"/>
</message>
<message name="getProductionUnitResponse">
  <part name="ProductionUnit" element="ws:getProductionUnitResponse"/>
</message>
<message name="getLegalUnitRequest">
  <part name="requestParameters" element="ws:getLegalUnit"/>
</message>
<message name="getLegalUnitResponse">
  <part name="LegalUnit" element="ws:getLegalUnitResponse"/>
</message>
<message name="getRelatedProductionUnitsRequest">
  <part name="requestParameters" element="ws:getRelatedProductionUnits"/>
</message>
<message name="getRelatedProductionUnitsResponse">
  <part name="ProductionUnits" element="ws:getRelatedProductionUnitsResponse"/>
</message>
<message name="getLegalUnitSeekNameRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekName"/>
</message>
<message name="getLegalUnitSeekAddressRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekAddress"/>
</message>
<message name="getLegalUnitSeekTeleRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekTele"/>
</message>
<message name="getLegalUnitSeekNameAddressRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekNameAddress"/>
</message>
<message name="getProductionUnitSeekNameRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekName"/>
</message>
<message name="getProductionUnitSeekAddressRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekAddress"/>
</message>
<message name="getProductionUnitSeekTeleRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekTele"/>
</message>
<message name="getProductionUnitSeekNameAddressRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekNameAddress"/>
</message>
<message name="getLegalUnitSeekResponse">
  <part name="LegalUnits" element="ws:getLegalUnitSeekResponse"/>
</message>
<message name="getProductionUnitSeekResponse">
  <part name="ProductionUnits" element="ws:getProductionUnitSeekResponse"/>
</message>

```

3.1.3 WSDL Port Types

portType elementet beskriver grænsesnippet til en given Web Service. Det giver således information om de operationer, som den pågældende Web Service udstiller. En **portType** kan sammenlignes med metodebibliotek (eller et modul, eller en klasse) i et traditionelt programmeringssprog. Hver **portType** kan således bestå af en eller flere operationer. CVR Web Service benytter 11 forskellige **portType** elementer. Der benyttes overloading af operationerne således at 5 operationer defineres:

```

<operation name="getProductionUnit">
  <input message="y:getProductionUnitRequest"/>
  <output message="y:getProductionUnitResponse"/>
</operation>
<operation name="getLegalUnit">

```



```

    <input message="y:getLegalUnitRequest"/>
    <output message="y:getLegalUnitResponse"/>
  </operation>
  <operation name="getRelatedProductionUnits">
    <input message="y:getRelatedProductionUnitsRequest"/>
    <output message="y:getRelatedProductionUnitsResponse"/>
  </operation>
  <operation name="getLegalUnitSeek">
    <input message="y:getLegalUnitSeekAddressRequest"/>
    <output message="y:getLegalUnitSeekResponse"/>
  </operation>
  <operation name="getLegalUnitSeek">
    <input message="y:getLegalUnitSeekNameRequest"/>
    <output message="y:getLegalUnitSeekResponse"/>
  </operation>
  <operation name="getLegalUnitSeek">
    <input message="y:getLegalUnitSeekTeleRequest"/>
    <output message="y:getLegalUnitSeekResponse"/>
  </operation>
  <operation name="getLegalUnitSeek">
    <input message="y:getLegalUnitSeekNameAddressRequest"/>
    <output message="y:getLegalUnitSeekResponse"/>
  </operation>
  <operation name="getProductionUnitSeek">
    <input message="y:getProductionUnitSeekAddressRequest"/>
    <output message="y:getProductionUnitSeekResponse"/>
  </operation>
  <operation name="getProductionUnitSeek">
    <input message="y:getProductionUnitSeekNameRequest"/>
    <output message="y:getProductionUnitSeekResponse"/>
  </operation>
  <operation name="getProductionUnitSeek">
    <input message="y:getProductionUnitSeekTeleRequest"/>
    <output message="y:getProductionUnitSeekResponse"/>
  </operation>
  <operation name="getProductionUnitSeek">
    <input message="y:getProductionUnitSeekNameAddressRequest"/>
    <output message="y:getProductionUnitSeekResponse"/>
  </operation>

```

3.1.4 WSDL binding

binding elementet giver information om de protokoller, som skal benyttes til kommunikationen mellem klient og Web Service. Endvidere specificerer det dataformatet for operationer og **message** elementer defineret for en given **portType**:

```

<binding name="CVRBinding" type="y:CVRPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <operation name="getProductionUnit">
    <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
  </operation>
  <operation name="getLegalUnit">
    <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
  </operation>

```

```

        </output>
      </operation>
      <operation name="getRelatedProductionUnits">
        <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
        <input>
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
      </operation>
      <operation name="getLegalUnitSeek">
        <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
        <input>
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
      </operation>
      <operation name="getProductionUnitSeek">
        <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
        <input>
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
      </operation>
    </binding>

```

3.1.5 WSDL port

port elementet, der giver information om forbindelsen mellem en protokolspecifik adresse og et givet **binding** element. Porten definerer således tilslutningspunktet til en Web Service og indeholder desuden en samling af operationer. En port kan derfor sammenlignes med metodebibliotek (eller et modul, eller en klasse):

```

<port name="CVRPort" binding="y:CVRBinding">
  <soap:address location="https://online.cvr.dk/CVRWebService/services/CVR"/>
</port>

```

3.1.6 WSDL service

service elementet, som samler information om **portType**, **binding** og den aktuelle URI for den pågældende Web Service.

```

<service name="CVRWebService">
  <port name="CVRPort" binding="y:CVRBinding">
    <soap:address location="https://online.cvr.dk/CVRWebService/services/CVR"/>
  </port>
</service>

```

4 Bilag A: WSDL

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns="http://schemas.xmlsoap.org/wsdl/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:y="http://cvrwebsevice" xmlns:emp="http://rep.oio.dk/cvr.dk/xml/schemas/Employment/2002/07/03"
xmlns:tele="http://rep.oio.dk/cvr.dk/xml/schemas/Telecom/2002/07/03"
xmlns:add="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03"
xmlns:act="http://rep.oio.dk/cvr.dk/xml/schemas/Activity/2002/07/03"
xmlns:StylePUUns="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnit/2002/07/03"
xmlns:StyleLUns="http://rep.oio.dk/cvr.dk/xml/schemas/LegalUnit/2002/07/03"
xmlns:StylePUUns="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnits/2002/07/03" xmlns:ws="urn:cvrwebsevice"
targetNamespace="http://cvrwebsevice">
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/LegalUnit/2002/07/03"
location="schemas/LegalUnit.xsd"/>
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnit/2002/07/03"
location="schemas/ProductionUnit.xsd"/>
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnits/2002/07/03"
location="schemas/RelatedProductionUnits.xsd"/>
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Activity/2002/07/03" location="schemas/Activity.xsd"/>
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03" location="schemas/Address.xsd"/>
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Telecom/2002/07/03" location="schemas/Telecom.xsd"/>
  <import namespace="http://rep.oio.dk/cvr.dk/xml/schemas/Employment/2002/07/03"
location="schemas/Employment.xsd"/>
  <types>
    <!-- the follwing block must be "commented out" when the WSDL document is to be used remote, i.e. the WSDL
and schemas are retrieved over the net, or when using XMLSPy.-->
    <!--The block must be "commented in" when the wsdl and schemas are used locally-->
    <!--start of block to comment in/out>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/LegalUnit/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/LegalUnit.xsd"/>
    </xs:schema>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnit/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/ProductionUnit.xsd"/>
    </xs:schema>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/ProductionUnits/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/RelatedProductionUnits.xsd"/>
    </xs:schema>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/Activity/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/Activity.xsd"/>
    </xs:schema>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/Address/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/Address.xsd"/>
    </xs:schema>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/Telecom/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/Telecom.xsd"/>
    </xs:schema>
    <xs:schema targetNamespace="http://rep.oio.dk/cvr.dk/xml/schemas/Employment/2002/07/03"
elementFormDefault="qualified">
      <xs:include schemaLocation="schemas/Employment.xsd"/>
    </xs:schema>
    <end of block to comment in/out-->
    <xs:schema targetNamespace="urn:cvrwebsevice">
      <xs:simpleType name="CVRStringWildCard">
        <xs:restriction base="xs:string">
          <xs:minLength value="3"/>
          <xs:pattern value="[^\s]{3,}%?" />
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="CVRString">
```

```
<xs:restriction base="xs:string">
  <xs:minLength value="3"/>
  <xs:pattern value="^[%]{3,}"/>
</xs:restriction>
</xs:simpleType>
<xs:element name="UserID" type="xs:string"/>
<xs:element name="Password" type="xs:string"/>
<xs:element name="Level" type="xs:int"/>
<xs:element name="ProductionUnitNumber" type="xs:int"/>
<xs:element name="CVRNumber" type="xs:int"/>
<xs:element name="LegalUnitName" type="ws:CVRStringWildCard"/>
<xs:element name="ProductionUnitName" type="ws:CVRStringWildCard"/>
<xs:element name="RoadName" type="ws:CVRStringWildCard"/>
<xs:element name="HouseNumberFrom" type="xs:string"/>
<xs:element name="PostalCode" type="xs:string"/>
<xs:element name="MunicipalityCode" type="xs:string"/>
<xs:element name="TelephoneNumber" type="xs:string"/>
<xs:element name="FaxNumber" type="xs:string"/>
<xs:element name="EmailAddress" type="xs:string"/>
<xs:element name="ForeignTelephoneNumber" type="xs:string"/>
<xs:element name="ForeignFaxNumber" type="xs:string"/>
<xs:complexType name="getBaseNoLevel">
  <xs:sequence>
    <xs:element ref="ws:UserID" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:Password" minOccurs="1" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="getBase">
  <xs:complexContent>
    <xs:extension base="ws:getBaseNoLevel">
      <xs:sequence>
        <xs:element ref="ws:Level" minOccurs="1" maxOccurs="1"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="getAddress">
  <xs:sequence>
    <xs:element ref="ws:RoadName" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:HouseNumberFrom" minOccurs="0" maxOccurs="1"/>
    <xs:choice>
      <xs:element ref="ws:PostalCode" minOccurs="1" maxOccurs="1"/>
      <xs:element ref="ws:MunicipalityCode" minOccurs="1" maxOccurs="1"/>
    </xs:choice>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="getTeleInfo">
  <xs:choice>
    <xs:element ref="ws:TelephoneNumber" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:FaxNumber" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:EmailAddress" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:ForeignTelephoneNumber" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="ws:ForeignFaxNumber" minOccurs="1" maxOccurs="1"/>
  </xs:choice>
</xs:complexType>
<xs:element name="getLegalUnit">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:CVRNumber" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnit">
  <xs:complexType>
```

```
<xs:complexContent>
  <xs:extension base="ws:getBase">
    <xs:sequence>
      <xs:element ref="ws:ProductionUnitNumber" minOccurs="1" maxOccurs="1"/>
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>
</xs:element>
<xs:element name="getRelatedProductionUnits">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBaseNoLevel">
        <xs:sequence>
          <xs:element ref="ws:CVRNumber" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekName">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:LegalUnitName" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekName">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:ProductionUnitName" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekAddress">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element name="Address" type="ws:getAddress" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekAddress">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element name="Address" type="ws:getAddress" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekTele">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
```

```

        <xs:sequence>
          <xs:element name="Tele" type="ws:getTeleInfo" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekTele">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element name="Tele" type="ws:getTeleInfo" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekNameAddress">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:LegalUnitName" minOccurs="1" maxOccurs="1"/>
          <xs:element ref="ws:RoadName" minOccurs="1" maxOccurs="1"/>
          <xs:element ref="ws:PostalCode" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitSeekNameAddress">
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="ws:getBase">
        <xs:sequence>
          <xs:element ref="ws:ProductionUnitName" minOccurs="1" maxOccurs="1"/>
          <xs:element ref="ws:RoadName" minOccurs="1" maxOccurs="1"/>
          <xs:element ref="ws:PostalCode" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="StyleLUns:LegalUnit" minOccurs="1" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="getProductionUnitResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="StylePUns:ProductionUnit" minOccurs="1" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="getRelatedProductionUnitsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="StylePUsns:RelatedProductionUnits" minOccurs="1"
maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="getLegalUnitSeekResponse">
  <xs:complexType>

```

```

        <xs:sequence>
          <xs:element ref="StyleLUns:LegalUnit" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="getProductionUnitSeekResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element ref="StylePUns:ProductionUnit" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:schema>
</types>
<message name="getProductionUnitRequest">
  <part name="requestParameters" element="ws:getProductionUnit"/>
</message>
<message name="getProductionUnitResponse">
  <part name="ProductionUnit" element="ws:getProductionUnitResponse"/>
</message>
<message name="getLegalUnitRequest">
  <part name="requestParameters" element="ws:getLegalUnit"/>
</message>
<message name="getLegalUnitResponse">
  <part name="LegalUnit" element="ws:getLegalUnitResponse"/>
</message>
<message name="getRelatedProductionUnitsRequest">
  <part name="requestParameters" element="ws:getRelatedProductionUnits"/>
</message>
<message name="getRelatedProductionUnitsResponse">
  <part name="ProductionUnits" element="ws:getRelatedProductionUnitsResponse"/>
</message>
<message name="getLegalUnitSeekNameRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekName"/>
</message>
<message name="getLegalUnitSeekAddressRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekAddress"/>
</message>
<message name="getLegalUnitSeekTeleRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekTele"/>
</message>
<message name="getLegalUnitSeekNameAddressRequest">
  <part name="requestParameters" element="ws:getLegalUnitSeekNameAddress"/>
</message>
<message name="getProductionUnitSeekNameRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekName"/>
</message>
<message name="getProductionUnitSeekAddressRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekAddress"/>
</message>
<message name="getProductionUnitSeekTeleRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekTele"/>
</message>
<message name="getProductionUnitSeekNameAddressRequest">
  <part name="requestParameters" element="ws:getProductionUnitSeekNameAddress"/>
</message>
<message name="getLegalUnitSeekResponse">
  <part name="LegalUnits" element="ws:getLegalUnitSeekResponse"/>
</message>
<message name="getProductionUnitSeekResponse">
  <part name="ProductionUnits" element="ws:getProductionUnitSeekResponse"/>
</message>
<portType name="CVRPortType">
  <operation name="getProductionUnit">
    <input message="y:getProductionUnitRequest"/>
    <output message="y:getProductionUnitResponse"/>
  </operation>
  <operation name="getLegalUnit">

```



```

        <input message="y:getLegalUnitRequest"/>
        <output message="y:getLegalUnitResponse"/>
    </operation>
    <operation name="getRelatedProductionUnits">
        <input message="y:getRelatedProductionUnitsRequest"/>
        <output message="y:getRelatedProductionUnitsResponse"/>
    </operation>
    <operation name="getLegalUnitSeek">
        <input message="y:getLegalUnitSeekAddressRequest"/>
        <output message="y:getLegalUnitSeekResponse"/>
    </operation>
    <operation name="getLegalUnitSeek">
        <input message="y:getLegalUnitSeekNameRequest"/>
        <output message="y:getLegalUnitSeekResponse"/>
    </operation>
    <operation name="getLegalUnitSeek">
        <input message="y:getLegalUnitSeekTeleRequest"/>
        <output message="y:getLegalUnitSeekResponse"/>
    </operation>
    <operation name="getLegalUnitSeek">
        <input message="y:getLegalUnitSeekNameAddressRequest"/>
        <output message="y:getLegalUnitSeekResponse"/>
    </operation>
    <operation name="getProductionUnitSeek">
        <input message="y:getProductionUnitSeekAddressRequest"/>
        <output message="y:getProductionUnitSeekResponse"/>
    </operation>
    <operation name="getProductionUnitSeek">
        <input message="y:getProductionUnitSeekNameRequest"/>
        <output message="y:getProductionUnitSeekResponse"/>
    </operation>
    <operation name="getProductionUnitSeek">
        <input message="y:getProductionUnitSeekTeleRequest"/>
        <output message="y:getProductionUnitSeekResponse"/>
    </operation>
    <operation name="getProductionUnitSeek">
        <input message="y:getProductionUnitSeekNameAddressRequest"/>
        <output message="y:getProductionUnitSeekResponse"/>
    </operation>
</portType>
<binding name="CVRBinding" type="y:CVRPortType">
    <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="getProductionUnit">
        <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
        <input>
            <soap:body use="literal"/>
        </input>
        <output>
            <soap:body use="literal"/>
        </output>
    </operation>
    <operation name="getLegalUnit">
        <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
        <input>
            <soap:body use="literal"/>
        </input>
        <output>
            <soap:body use="literal"/>
        </output>
    </operation>
    <operation name="getRelatedProductionUnits">
        <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
        <input>
            <soap:body use="literal"/>
        </input>
        <output>
            <soap:body use="literal"/>
        </output>
    </operation>

```



```
</operation>
<operation name="getLegalUnitSeek">
  <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
  <input>
    <soap:body use="literal"/>
  </input>
  <output>
    <soap:body use="literal"/>
  </output>
</operation>
<operation name="getProductionUnitSeek">
  <soap:operation soapAction="urn:CVRSearchAction" style="document"/>
  <input>
    <soap:body use="literal"/>
  </input>
  <output>
    <soap:body use="literal"/>
  </output>
</operation>
</binding>
<service name="CVRWebService">
  <port name="CVRPort" binding="y:CVRBinding">
    <soap:address location="https://online.cvr.dk/CVRWebService/services/CVR"/>
  </port>
</service>
</definitions>
```

