Registratie parkeer- en verblijfsrechten

Interface Description

Related to Registratie parkeer- en verblijfsrechten (RPV)

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1 Table of content

1 Introduction
This document describes the interactions with the "**R**egistratie **P**arkeer- en **V**erblijfsrechten".

1.1 Goal
This document is aiming at a clear understanding of all possible interfaces to the "**R**egistratie **P**arkeer- en **V**erblijfsrechten" for all potential stakeholders.

1.2 Overview and scope
The RPV enables participants to register rights, retrieve rights information for enforcing and settlement. RPV is hosted at RDW and made accessible through open and standard protocols.

Starting points:
- Stakeholders will be governmental entities like municipalities, private owners of parking garages, private service providers, connecting to the RPV for acquiring parking or staying rights or for enforcement on behalf of municipalities;
- The design is driven by the NORA ;
  - Adoption of the NORA guidelines makes it easier to copy implementations across different stakeholders
- Interface will be equal to all stakeholders;
  - Through standardization the system will offer more agility
- Interface definition will be loosely coupled to RDW technology and standards
  - Using open and standardized technology makes the interfaces platform- and implementation independent
  - To avoid unnecessary transformations data mnemonics will be defined according to the RDW data dictionary (RDD)

1.3 References

ID	Name	Version	Date	Authors
[NORA]	NORA reference architecture http://www.e-overheid.nl/onderwerpen/e-overheid/architectuur/nora-familie	3.0	01-11-2011	ICTU
[OSB]	Overheidsservicebus or Digikoppeling http://www.logius.nl/english/products/exchange-of-data/	2.0	25-03-2009	Logius, Ministry of Internal Affairs

1.4 Definitions

AreaManager	Party responsible for exploiting the Parking and stay right in a specific area like Municipalities, Government or private parties.
Digikoppeling	Digikoppeling is also known as "Overheidsservicebus" (OSB). In this document, the term OSB is used.
Enforcer	Party responsible for enforcement of the parking rights (i.e. parking officer)
Identity	PKI enables the use of certificates to assure the integrity and authenticity of the identity of the certificate holder.
KPS	Koppelnet Publieke Sector, closed network dedicated for Dutch governmental parties
NORA	Nederlandse Overheid Referentie Architectuur (Dutch Government Reference Architecture). Design principles, models and standards regarding e-government.
OIN	Overheids Identificatie Nummer (Government Identification Number). Unique id of the user on a PKI-overheid certificate. An OIN is issued by the Digikoppeling/OSB organisation
OSB	(or Digikoppeling) OSB is the government's "internal postman". OSB/Digikoppeling comprises a set of standards for electronic messaging between government organizations. If you implement these standards in your own software, you can easily exchange digital messages with fellow government organizations. This is done through the connectivity of Diginetwerk, the Internet or a different type of connection. OSB/Digikoppeling is an NUP (National Implementation Programme for Service Provision and e-Government) building block.

	Governmental parties communicating with RPV use the OSB set of standards.
PIN	Private Identification Number. Unique id of the user on a RDW issued certificate. A PIN is issued by RDW.
PKI	Public Key Infrastructure
PSB	Private Service Bus. A set of standards for electronic messaging between private parties, derived from OSB. See also OSB and Digikoppeling. Private parties communicating with RPV use the PSB set of standards.
RPV	Registratie Parkeer- en Verblijfsrechten. The information system hosted at RDW premises.
Service	The result or effect of a task of an organization, employee or application based on legal obligations or agreements and provides the needs of multiple organizations, employees or applications.
Servicebus	An integration infrastructure (middleware) which is necessary to facilitate SOA architectures
SHPV	Servicehuis Parkeer- en Verblijfsrechten (Service House Parking and Staying Rights), the cooperation that makes RPV available for the parties registering, checking and managing parking and staying rights.
Webserviceprovider	A party who publishes a webservice
Webservicerequestor	A party who consumes a webservice
Webservice	A webservice is a special occurrence of a service focussed at the service between applications.
WSDL	WSDL is an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information. The operations and messages are described abstractly, and then bound to a concrete network protocol and message format to define an endpoint. Related concrete endpoints are combined into abstract endpoints (services). WSDL is extensible to allow description of endpoints and their messages regardless of what message formats or network protocols are used to communicate, however, the only bindings described in this document describe how to use WSDL in conjunction with SOAP 1.1, HTTP GET/POST, and MIME.
WUS	WSDL/UDDI/SOAP stack. System based on W3C WS-* standards.

2   Global Design

2.1   Context

In figure 1 the context of the RPV is depicted. Concerning the interfaces three significant entities can be defined:
- Enforcers
  On the instructions of municipalities and private parties (who own parking space), the enforcement of the system will be done. Therefore the enforcer role needs interfaces to check an executed parking right
- Area Managers
  Area managers own or exploit sparking space and regulate and charge the useage. Rights based on other vehicle related useage of streets, areas or buildings can also be registrated.
- Providers
  Providers will on behalf of their customers acquire parking or staying rights for areas based on contracts with municipalities and private parties. People that want to acquire a parking or staying right, will interact with the providers to get it. For electronic registration of a right, the provider will interact with the RPV system in a few well described, standardized interfaces.

PSRight : Parking/Stay Right
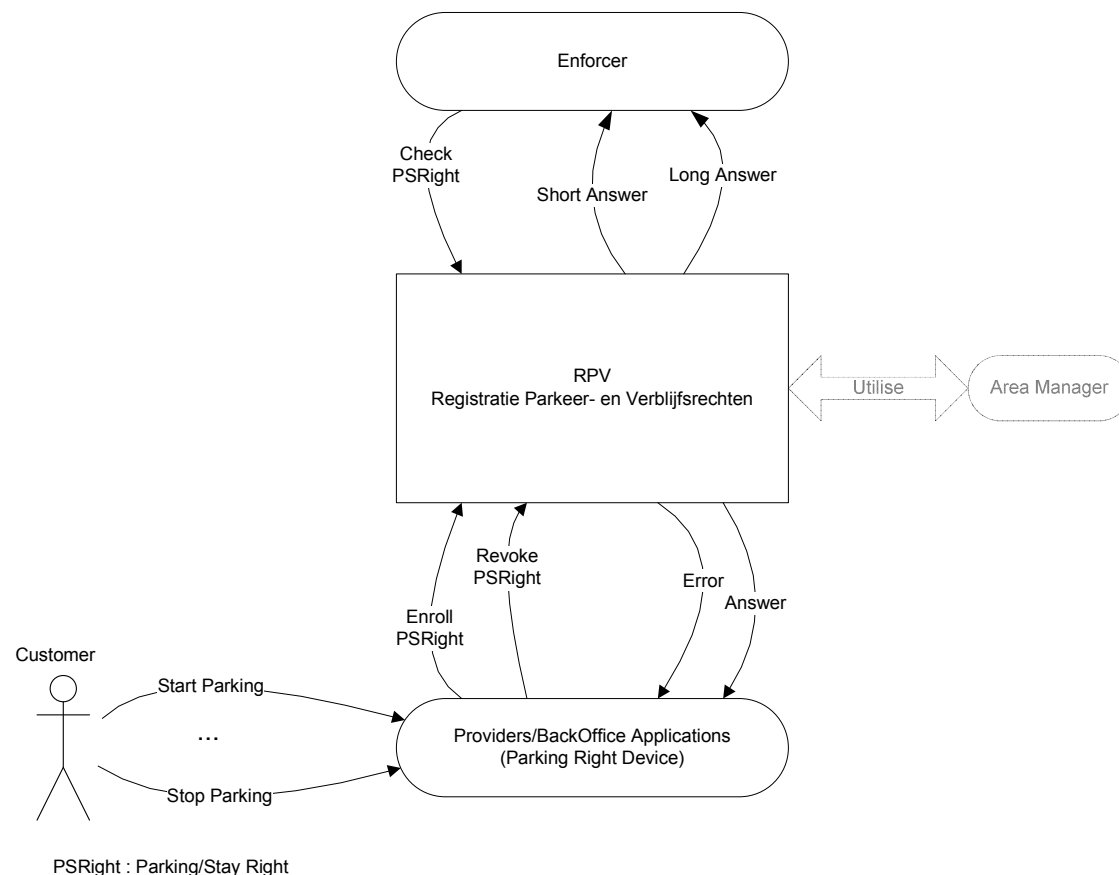
Figure 1 Context Registratie Parkeer- en Verblijfsrechten

2.2   Technology guidelines message exchange

The interfaces will be implemented according the OSB/Digikoppeling standards. Because OSB/Digikoppeling is reserved for only Dutch governments, the private parties will be using equivalent standards but will use different means of authentication. Within the context of RPV, this variant will identified as PSB, Private ServiceBus. The PSB will use the same set of standards and protocols but will use RDW certificates to identify users and will only use Internet as transport network. The OSB uses PKI-O

(http://www.logius.nl/english/products/access/pkioverheid/) certificates and will use Internet instead of the closed network KPS as preferred network.
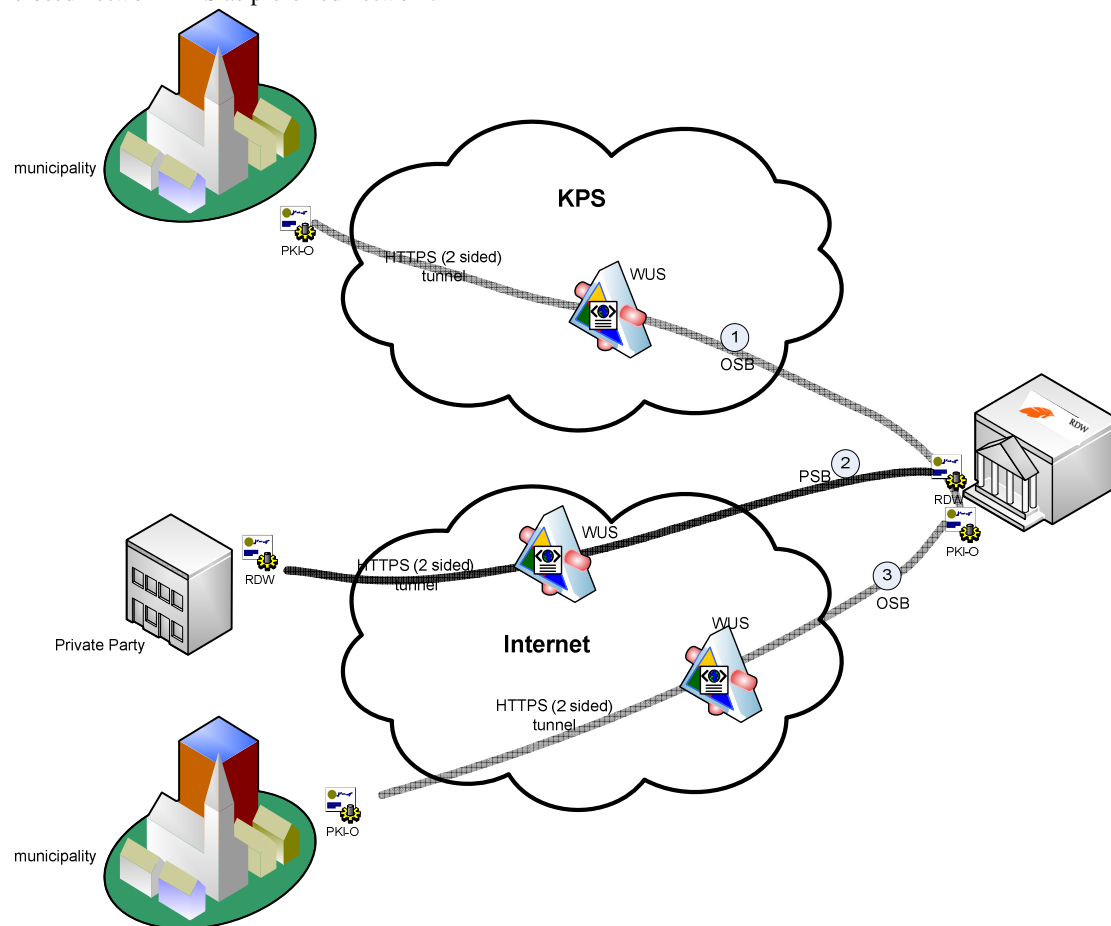
Figure 2 Interaction between RDW, Municipalities and private parties

The exchange of information can be divided in 3 layers:
- Transport layer
  In this layer the actual connection is established through either Internet or KPS. KPS is a closed network for governmental parties and therefore dedicated for OSB users. For all transport layer communication 2-sided TLS/SSL must be used according the OSB2W-be profile. OSB guideline:
  - TLS 1.0/SSLv3.0 as recommended in WS-I BSP 1.0 for security at transport level.
- Logistic Layer
  Messages are defined according the OSB standard WUS (WS-*):
  - WS-I BP 1.1 which is based on SOAP 1.1, WSDL 1.1, XML 1.0 (second edition)
  - WS-I BP 1.2 with respect to the optional parts of WS-addressing and MTOM
  - WS-I BSP 1.0 with respect to message security based on WS-security
  - WS-I Simple SOAP Binding Profile 1.0
- Content Layer
  The content is based on the functional specification. Content definition is based on the starting points in 1.2.

Figure 2 shows some examples of these layers between different entities:
- Flow 1 describes the interaction between RDW and a municipality according OSB
  - Transport: KPS
  - Logistic: WUS
  - Content: See chapter 3
  - Identification: PKI-O Certificate
- Flow 2 describes the interaction between RDW and a private party
  - Transport: Internet

- o   Logistic: WUS
- o   Content: See chapter 3
- o   Identification: RDW Certificate
- Flow 3 describes the interaction between RDW and a municipality according OSB
  - o   Transport: Internet
  - o   Logistic: WUS
  - o   Content: See chapter 3
  - o   Identification: PKI-O Certificate

2.3   Security

Although OSB is supporting End-to-End security between webserviceprovider and webservicerequester, only transport level security will be implemented based on OSB OSB2W-be profile. Transport between requester and provider must use 2-sided TLS or SSLv3.

Identification of both webservicerequester and webserviceprovider will be done by PKI certificates. In case of OSB parties, like municipalities, a PKI-O certificates will be used to terminate both sides of the transport tunnel. In case of private parties RDW certificates will be used to terminate both sides of the transport tunnel.

These certificates will also be used to identify both requester and provider. Therefore the message specification also contains a field which relates to the certificates, see chapter 3.

Parties using a PKI-O certificate will be identified by the OIN on the certificate.
Parties using a RDW certificate will be identified by the PIN on the certificate.

2.4   How to get WSDL and XSD

The WSDL of the web services that are described in this document can be obtained by typing the URL of the service, followed by "?wsdl".
The XSD of the web services that are described in this document can be obtained by typing the following:
<Server name>/Registration.svc?xsd=xsd0.

3 Overview of webservice messages

The RPV webservice is used by all entities to interact with RPV.

The following messages are available:

❑ Messages to be used by rights acquirers (providers) (see Ch 4)
- o EnrollPSRight
- o RevokePSRight

❑ Messages to be used by enforcers (see Ch 5)
- o CheckPSRight

❑ Messages to be used by area managers (See Ch 6).
- o RetrieveRightInfo
- o RetrieveCheckInfo

❑ Messages to be used by all entities (See Ch 7).
- o CalculatePrice
- o RetrieveAreasByLocation
- o RetrieveAreaRegulationFareInfo
- o StatusRequest

4 Messages to be used by providers

4.1 Enroll PSRight

4.1.1 Message dialogue EnrollPSRight

A rights acquirer sends a request message **`PSRightEnrollRequest`** to RPV, containing the data of one PS Right to be registered in RPV. RPV sends a response message **`PSRightEnrollResponse`**, containing the message part **`PSRightEnrollResponseData`** if registration was successful. If not, the message contains the element **`PSRightEnrollResponseError`**.

The request message contains at least the following information:
❑ Identification of an area. The way to specify an area should be one of the following:
  1. *AreaManagerId* and *AreaId*.
  2. A location (*PSRightLocation*), consisting of a *Latitude* and *Longitude* in WGS84 format.
  3. *SellingPointId*.
  If more than one identification is provided, RPV will use the list above to determine priority, e.g. if *AreaManagerId/AreaId + PSRightLocation* are provided, the combination *AreaManager/AreaId* will be used to specify the area, and the location will be omitted.
  If the identification provided does not match any of the supported methods, the PSRight will not be recorded and the rights acquirer will receive an error message.
❑ Usage of the PSRight (*UsageId*)
❑ Identification of a vehicle (*VehicleId)*
❑ *StartTimePSRight*
❑ *UUID (*MessageID)

EndTimePSRight can be provided immediately, but it can also be provided at a later stage, using a request message **`PSRightRevokeRequest.`**
Business Rule: A rights acquirer is obliged to terminate any PSRight he acquires, either by immediately providing an *EndTimePSRight*, or provide it later via a *PSRightRevokeRequest* message.

For usage and rules concerning the other elements in the request message, see Annex A.

The rights acquirer is identified by the OIN or PIN in its certificate. Each request message contains either the OIN or the PIN from the certificate.
The rights acquirer should be authorised for the provided area, if not, the right is not registered and an error message is sent.

To record a PSRight properly, RPV needs to know the area and the area manager to which the area belongs.
When an area is specified through *AreaManagerId/AreaId*, these data are known immediately.
When an area is specified through a location, RPV collects all areas containing the specified location, and the area corresponding with the specified usage will be selected as the area to record with the PSRight.
When an area is specified through a selling point, RPV collects all areas containing the specified selling point, and the area corresponding with the specified usage will be selected as the area to record with the PSRight.
If the area determination results in "no area found" or "more than one area found", the PSRight will not be recorded and the rights acquirer will receive an error message.

If no error occurs, the PS right is recorded in RPV. The response message sent by RPV contains

❑ The area manager and area for which the PSRight is recorded, except when these were already specified in the input (*AreaManagerId/AreaId*)
❑ Calculated price (*AmountPSRightCalculated, VATPSRightCalculated*), based on the regulation imposed on the area by the area manager. A price calculation is done only when *EndTimePSRight* was provided in the request message. A specification of the calculated price is added if the calculation involved another regulation than the standard regulation, or when more than one regulation was involved in the calculation. In these cases, the price is lower than the usual price according to the standard regulation, because a rebate applies. Examples of rebate regulations are day ticket, evening ticket etc.

NOTE 1: if RPV was not able to do a calculation, *AmountPSRightCalculated* and *VATPSRightCalculated* will be absent.

NOTE 2: A PSrightWindow is not taken in account in the calculation of AmountPSRightCalculated.

❑ Remarks (*PSRightRemarkList*), if applicable. For more information on remarks, see Appendix B..

❑ Adjusted end time (*EndTimePSRightAdjusted*).

        RPV will provide an adjusted end time in two cases.

         o   When a right can only be acquired for a limited duration (e.g. maximum parking time one hour). In this case an adjusted end time will be given when no EndTimePSRight was provided, and also when an EndTimePSRight was provided that extends the maximum allowed duration.

         o   When the EndTimePSRight was provided in the request, and it is possible to extend duration for the same PS right price.

        An adjusted end time overrules the end time provided by the rights acquirer (but does not take away the obligation for the rights acquirer to terminate the PSRight).

4.1.2   Example messages

The following example messages are given:

Requests

1. Area identified by *AreaManagerId/AreaId*. *StartTimePSRight* provided, no *EndTimePSRight*. Minimum request.
2. Area identified by *Location*[1]. Both *StartTimePSRight* and *EndTimePSRight* provided.
3. Area identified by *SellingPointId*.
4. Area identified by *SellingPointId*. PSRight with a validity restricting window.
5. Erroneous request.

Replies

1. Minimum response.
2. Response with remarks and standard price calculation, i.e. no specification.
3. Response with adjusted end time (extended duration) and price calculation including specification[2]
4. Minimum response.
5. Response when an error situation occurs.

4.1.2.1   Example request message 1

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRight</a:Action>
    <h:PIN xmlns="http://rdw.nl/rpv/1.0"
xmlns:h="http://rdw.nl/rpv/1.0">5678904321227673</h:PIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollRequestData>
        <VehicleId>AB10CD</VehicleId>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <UsageId>PARKEREN</UsageId>
        <StartTimePSright>2009-12-10T10:00:00</StartTimePSright>
      </PSRightEnrollRequestData>
    </PSRightEnrollRequest>
  </s:Body>
```

---

[1] The location used in the example is the Artis Zoo in Amsterdam.

[2] Part of the price is according to the standard regulation, part of the price is a rebate ticket, in this specific case a rebate ticket for afternoon parking.

```
</s:Envelope>
```

4.1.2.2 *Example response message 1*

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollResponseData>
        <PSRightId>93641424</PSRightId>
      </PSRightEnrollResponseData>
    </PSRightEnrollResponse>
  </s:Body>
</s:Envelope>
```

4.1.2.3 *Example request message 2*

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRight</a:Action>
    <h:PIN xmlns="http://rdw.nl/rpv/1.0"
xmlns:h="http://rdw.nl/rpv/1.0">5678904321227673</h:PIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d89</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollRequestData>
        <VehicleId>AB10CD</VehicleId>
        <CountryCodeVehicle>NL</CountryCodeVehicle>
        <LocationPSRight>
           <Latitude>52.36695</Latitude>
           <Longitude>4.91252</Longitude>
        </LocationPSRight>
        <UsageId>PLANG</UsageId>
        <StartTimePSright>2009-12-10T10:00:00</StartTimePSright>
        <EndTimePSright>2009-12-17T23:59:00</EndTimePSright>
        <AmountPSright>1.55</AmountPSright>
        <VATPSright>0.15</VATPSright>
        <ReferencePSright>ABCDE</ReferencePSright>
      </PSRightEnrollRequestData>
    </PSRightEnrollRequest>
  </s:Body>
</s:Envelope>
```

4.1.2.4 *Example response message 2*

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d89</a:RelatesTo>
```

```
      </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollResponseData>
        <PSRightId>93641425</PSRightId>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <AmountPSRightCalculated>1.65</AmountPSRightCalculated>
        <VATPSRightCalculated>0.16</VATPSRightCalculated>
        <PSRightRemarkList>
          <PSRightRemarkData>
            <PSRightRemarkType>1</PSRightRemarkType>
            <StartTimeRemark>2009-12-10T15:00:00</StartTimeRemark>
            <EndTimeRemark>2009-12-10T16:00:00</EndTimeRemark>
          </PSRightRemarkData>
          <PSRightRemarkData>
            <PSRightRemarkType>1</PSRightRemarkType>
            <StartTimeRemark>2009-12-11T07:00:00</StartTimeRemark>
            <EndTimeRemark>2009-12-11T09:00:00</EndTimeRemark>
          </PSRightRemarkData>
        </PSRightRemarkList>
      </PSRightEnrollResponseData>
    </PSRightEnrollResponse>
  </s:Body>
</s:Envelope>
```

4.1.2.5 Example request message 3

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRight</a:Action>
    <h:PIN xmlns="http://rdw.nl/rpv/1.0"
xmlns:h="http://rdw.nl/rpv/1.0">5678904321227673</h:PIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d90</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollRequestData>
        <VehicleId>AB10CD</VehicleId>
        <CountryCodeVehicle>NL</CountryCodeVehicle>
        <SellingPointId>39881</SellingPointId>
        <UsageId>PKORT</UsageId>
        <StartTimePSright>2009-12-10T10:00:00</StartTimePSright>
        <EndTimePSright>2009-12-10T16:45:00</EndTimePSright>
        <AmountPSright>10.55</AmountPSright>
        <VATPSright>2.15</VATPSright>
        <ReferencePSright>ABCDE</ReferencePSright>
      </PSRightEnrollRequestData>
    </PSRightEnrollRequest>
  </s:Body>
</s:Envelope>
```

4.1.2.6 Example response message 3

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRightResponse</a:Action>
```

```
        <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d90</a:RelatesTo>
    </s:Header>
    <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <PSRightEnrollResponse xmlns="http://rdw.nl/rpv/1.0">
            <PSRightEnrollResponseData>
                <PSRightId>93641426</PSRightId>
                <AreaManagerId>1234</AreaManagerId>
                <AreaId>ABCDEFGHIJ</AreaId>
                <EndTimePSRightAdjusted>2009-12-10T18:00:00</EndTimePSRightAdjusted>
                <AmountPSRightCalculated>10.65</AmountPSRightCalculated>
                <VATPSRightCalculated>2.16</VATPSRightCalculated>
                <SpecifCalcAmountList>
                    <SpecifCalcAmountData>
                        <RegulationId>1</RegulationId>
                        <StartTimeApplied>2009-12-10T10:00:00</StartTimeApplied>
                        <EndTimeApplied>2009-12-10T12:00:00</EndTimeApplied>
                        <AmountFraction>1.65</AmountFraction>
                        <VATAmountFraction>0.16</VATAmountFraction>
                    </SpecifCalcAmountData>
                    <SpecifCalcAmountData>
                        <RegulationId>MIDDAGKRT</RegulationId>
                        <StartTimeApplied>2009-12-10T12:00:00</StartTimeApplied>
                        <EndTimeApplied>2009-12-10T18:00:00</EndTimeApplied>
                        <AmountFraction>9.00</AmountFraction>
                        <VATAmountFraction>2.00</VATAmountFraction>
                    </SpecifCalcAmountData>
                </SpecifCalcAmountList>
            </PSRightEnrollResponseData>
        </PSRightEnrollResponse>
    </s:Body>
</s:Envelope>
```

4.1.2.7 *Example request message 4*

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
    <s:Header>
        <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRight</a:Action>
        <h:PIN xmlns="http://rdw.nl/rpv/1.0"
xmlns:h="http://rdw.nl/rpv/1.0">5678904321227673</h:PIN>
        <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d91</a:MessageID>
        <a:ReplyTo>
            <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
        </a:ReplyTo>
    </s:Header>
    <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <PSRightEnrollRequest xmlns="http://rdw.nl/rpv/1.0">
            <PSRightEnrollRequestData>
                <VehicleId>AB10CD</VehicleId>
                <CountryCodeVehicle>NL</CountryCodeVehicle>
                <SellingPointId>39881</SellingPointId>
                <UsageId>PKORT</UsageId>
                <StartTimePSright>2009-12-01T09:00:00</StartTimePSright>
                <EndTimePSright>2009-12-31T23:59:59</EndTimePSright>
                <AmountPSright>1.55</AmountPSright>
                <VATPSright>0.15</VATPSright>
                <ReferencePSright>ABCDE</ReferencePSright>
                <PSRightWindowList>
                    <PSRightWindowData>
                        <StartTimePSRightDayWindow>MAANDAG</StartTimePSRightDayWindow>
                        <EndTimePSRightDayWindow>VRIJDAG</EndTimePSRightDayWindow>
                        <StartTimePSRightWindow>900</StartTimePSRightWindow>
                        <EndTimePSRightWindow>1800</EndTimePSRightWindow>
```

```
        </PSRightWindowData>
        <PSRightWindowData>
          <StartTimePSRightDayWindow>ZONDAG</StartTimePSrightDayWindow>
          <EndTimePSRightDayWindow>ZONDAG</EndTimePSrightDayWindow>
          <StartTimePSRightWindow>1200</StartTimePSRightWindow>
          <EndTimePSRightWindow>2400</EndTimePSRightWindow>
        </PSRightWindowData>
      </PSRightWindowList>
    </PSRightEnrollRequestData>
  </PSRightEnrollRequest>
  </s:Body>
</s:Envelope>
```

4.1.2.8 *Example response message 4*

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d91</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollResponseData>
        <PSRightId>93641427</PSRightId>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
      </PSRightEnrollResponseData>
    </PSRightEnrollResponse>
  </s:Body>
</s:Envelope>
```

4.1.2.9 *Example request message 5*

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRight</a:Action>
    <h:PIN xmlns="http://rdw.nl/rpv/1.0"
xmlns:h="http://rdw.nl/rpv/1.0">5678904321227673</h:PIN>
<a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d92</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollRequestData>
        <VehicleId>AB10CD</VehicleId>
        <CountryCodeVehicle>NL</CountryCodeVehicle>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <UsageId>PLANG</UsageId>
        <StartTimePSright>2009-12-10T10:00:00</StartTimePSright>
        <EndTimePSright>2009-12-10T09:00:00</EndTimePSright>
        <AmountPSright>1.55</AmountPSright>
        <VATPSright>0.15</VATPSright>
        <ReferencePSright>ABCDE</ReferencePSright>
      </PSRightEnrollRequestData>
    </PSRightEnrollRequest>
  </s:Body>
```

```
</s:Envelope>
```

4.1.2.10 Example response message 5

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/EnrollPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d92</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightEnrollResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightEnrollResponseError>
        <VehicleId>AB10CD</VehicleId>
        <CountryCodeVehicle>NL</CountryCodeVehicle>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <ErrorCode>103</ErrorCode>
        <ErrorDesc> Invalid parking duration</ErrorDesc>
      </PSRightEnrollResponseError>
    </PSRightEnrollResponse>
  </s:Body>
</s:Envelope>
```

4.2   RevokePSRight

4.2.1   Message dialogue RevokePSRight

A rights acquirer sends a request message **PSRightRevokeRequest** to RPV, containing the identification of a PS right, and a time at which the right should end. RPV sends a response message **PSRightRevokeResponse**, containing the message part **PSRightRevokeResponseData** if registration was successful. If not, the message contains the element **PSRightRevokeResponseError**.

The request message contains at least the following information:
❑ Identification of a PS right (*PSRightId*)
❑ *EndTimePSRight*
❑ *UUID (*MessageID)

The rights acquirer is identified by the OIN or PIN in his certificate. Each request message contains either the OIN or the PIN from the certificate.
The rights acquirer should be the same as the one that registered the PS Right.
If the right already has an end time, it is possible to shorten the duration of the right, but it is not possible to extend duration.

The response message contains:
❑ Calculated price (*AmountPSRightCalculated, VATPSRightCalculated*), based on the regulation imposed on the area by the area manager. A specification of the calculated price is added if the calculation involved another regulation than the standard regulation, or when more than one regulation was involved in the calculation. In these cases, the price is lower than the usual price according to the standard regulation, because a rebate applies. Examples of rebate regulations are day ticket, evening ticket etc.
   NOTE 1: if RPV was not able to do a calculation, *AmountPSRightCalculated* and *VATPSRightCalculated* will be absent.
   NOTE 2: A PSrightWindow is not taken in account in the calculation of AmountPSRightCalculated.
❑ Remarks (*PSRightRemarkList*), if applicable. For more information on remarks, see Appendix B..
❑ Adjusted end time (*EndTimePSRightAdjusted*).
      An adjusted end time will be provided in the following cases:
      o   When a right can only be acquired for a limited duration (e.g. maximum parking time one hour).
      o   When it is possible to extend duration for the same PS right price.

An adjusted end time overrules the end time provided by the rights acquirer.

4.2.2   Example messages

The following example messages are given:
Requests
   1.   Standard request.
   2.   Standard request.
   3.   Erroneous request.

Replies
   1.   Response with an adjusted end time and a price calculation including specification.
   2.   Response with remarks and a standard price calculation, i.e. no specification.
   3.   Response when an error situation occurs.

4.2.2.1   Example request message 1

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://rdw.nl/rpv/1.0">
  <soapenv:Header>
    <ns:PIN>23423</ns:PIN>
    <ns:MessageID>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f918</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <ns:PSRightRevokeRequest>
      <ns:PSRightRevokeRequestData>
        <ns:PSRightId>1234</ns:PSRightId>
        <ns:EndTimePSRight>2009-12-10T14:52:00</ns:EndTimePSRight>
      </ns:PSRightRevokeRequestData>
    </ns:PSRightRevokeRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

4.2.2.2   Example response message 1

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <soapenv:Header>
      <ns:RelatesTo>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f918</ns:RelatesTo>
  </soapenv:Header>
  <soapenv:Body>
    <ns:PSRightRevokeResponse>
      <ns:PSRightRevokeResponseData>
        <ns:EndTimePSRightAdjusted>2009-12-10T18:00:00</ns:EndTimePSRightAdjusted>
        <ns:AmountPSRightCalculated>7.60</ns:AmountPSRightCalculated>
        <ns:VATPSRightCalculated>0.76</ns:VATPSRightCalculated>
        <ns:SpecifCalcAmountList>
           <ns:SpecifCalcAmountData>
               <ns:RegulationId>MIDDAGKRT</ns:RegulationId>
               <ns:StartTimeApplied>2009-12-10T12:19:00</ns:StartTimeApplied>
               <ns:EndTimeApplied>2009-12-10T18:00:00</ns:EndTimeApplied>
             <ns:AmountFraction>7.60</ns:AmountFraction>
               <ns:VATAmountFraction>0.76</ns:VATAmountFraction>
           </ns:SpecifCalcAmountData>
        </ns:SpecifCalcAmountList>
      </ns:PSRightRevokeResponseData>
    </ns:PSRightRevokeResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

4.2.2.3 Example request message 2

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://rdw.nl/rpv/1.0">
  <soapenv:Header>
    <ns:PIN>23423</ns:PIN>
    <ns:MessageID>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f918</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <ns:PSRightRevokeRequest>
      <ns:PSRightRevokeRequestData>
        <ns:PSRightId>1235</ns:PSRightId>
        <ns:EndTimePSRight>2009-12-10T14:52:00</ns:EndTimePSRight>
      </ns:PSRightRevokeRequestData>
    </ns:PSRightRevokeRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

4.2.2.4 Example response message 2

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <soapenv:Header>
    <ns:RelatesTo>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f918</ns:RelatesTo>
  </soapenv:Header>
  <soapenv:Body>
    <ns:PSRightRevokeResponse>
      <ns:PSRightRevokeResponseData>
        <ns:AmountPSRightCalculated>2.34</ns:AmountPSRightCalculated>
        <ns:VATPSRightCalculated>0.236</ns:VATPSRightCalculated>
        <ns:PSRightRemarkList>
          <ns:PSRightRemarkData>
            <ns:PSRightRemarkType>1</ns:PSRightRemarkType>
            <ns:StartTimeRemark>2009-12-10T10:00:00</ns:StartTimeRemark>
            <ns:EndTimeRemark>2009-12-10T11:00:00</ns:EndTimeRemark>
          </ns:PSRightRemarkData>
          <ns:PSRightRemarkData>
            <ns:PSRightRemarkType>1</ns:PSRightRemarkType>
            <ns:StartTimeRemark>2009-12-10T11:30:00</ns:StartTimeRemark>
            <ns:EndTimeRemark>2009-12-10T12:00:00</ns:EndTimeRemark>
          </ns:PSRightRemarkData>
        </ns:PSRightRemarkList>
      </ns:PSRightRevokeResponseData>
    </ns:PSRightRevokeResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

4.2.2.5 Example request message 3

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://rdw.nl/rpv/1.0">
  <soapenv:Header>
    <ns:PIN>23423</ns:PIN>
    <ns:MessageID>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f918</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <ns:PSRightRevokeRequest>
      <ns:PSRightRevokeRequestData>
        <ns:PSRightId>9999</ns:PSRightId>
        <ns:EndTimePSRight>2009-12-10T14:52:00</ns:EndTimePSRight>
      </ns:PSRightRevokeRequestData>
    </ns:PSRightRevokeRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

4.2.2.6 Example response message 3

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/RevokePSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f920</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightRevokeResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightRevokeResponseError>
        <PSRightId>9999</PSRightId>
        <EndTimePSRight>2009-12-10T14:52:00</EndTimePSRight>
        <ErrorCode>110</ErrorCode>
        <ErrorDesc>PS right not found</ErrorDesc>
      </PSRightRevokeResponseError>
    </PSRightRevokeResponse>
  </s:Body>
</s:Envelope>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <soapenv:Header>
      <ns:RelatesTo>urn:uuid:64bc725c-2a72-4410-b7ba-bab7d734f918</ns:RelatesTo>
  </soapenv:Header>
  <soapenv:Body>
    <ns:PSRightRevokeResponse>
      <ns:PSRightRevokeResponseError>
        <ns:PSRightId>9999</ns:PSRightId>
        <ns:EndTimePSRight>2009-12-10T14:52:00</ns:EndTimePSRight>
        <ns:ErrorCode>110</ns:ErrorCode>
        <ns:ErrorDesc>PS right not found</ns:ErrorDesc>
      </ns:PSRightRevokeResponseError>
    </ns:PSRightRevokeResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

5 Messages to be used by enforcers

5.1 CheckPSRight

5.1.1 Message dialogue CheckPSRight

A checking organisation sends a request message **PSRightCheckRequest**. RPV responds with a message **PSRightCheckResponse**, containing the message part `PSRightCheckResponseData` if the message was processed succesfully. If not, the message contains the element `PSRightCheckResponseError.`

The request message contains at least the following information:
❑ Identification of an area. The way to specify an area should be one of the following:
  1. *AreaManagerId* and *AreaId.*
  2. A location (*CheckLocation*), consisting of a *Latitude* and *Longitude* in WGS84 format.
  3. An address (*CheckAddress*)*,* consisting of *StreetCode* or *StreetName*, *HouseNumber*, *HouseNumberAdditions*and *PlaceOfResidence*.
     If more than one identification is provided, RPV will use the list above to determine priority, e.g. if *AreaManagerId/AreaId + CheckLocation* are provided, the combination *AreaManager/AreaId* will be used to specify the area, and the location will be omitted. If *StreetCode* and *StreetName* are both provided, RPV will use *StreetCode* and omit *StreetName*.
     If the identification provided does not match any of the supported methods, RPV will return an error message and no information will be given.
❑ Usage that is checked (*UsageId*)
❑ Identification of a vehicle (*VehicleId)*
❑ *CheckTime*
❑ *ExtraInfoIndicator*. If this indicator is set to "N" (no), the checking organisation wants a response that consists of a CheckAnswer only. If this indicator is set to "Y" (yes), a response is given that consists of a CheckAnswer with additional information when available.
❑ *UUID (*`MessageID`)

The checking organisation is identified by the OIN or PIN in its certificate. Each request message contains either the OIN or the PIN from the certificate.
The checking organisation should be authorised to check for PS rights in the provided area, if not, RPV will send an error message and no information is given.

To check for PSRights properly, RPV needs to know the area that is checked and the area manager to which the area belongs.
When an area is specified through *AreaManagerId/AreaId*, these data are known immediately.
When an area is specified through a *CheckLocation*, RPV collects the areas containing the specified location.
When an area is specified through a *CheckAddress,* the location of the address is determined, and the resulting CheckLocation is used to determine the areas to consider.
All areas with a usage either matching the specified usage, or with a usage that is more specific than the specified usage, will be considered in the check for PSRights.
If the area determination results in "no area found", RPV will return an error message and no information will be given.

RPV checks for the presence of a PSRight as well as the necessity of a PSRight (during periods when no paid parking regulation applies, it is not required that a PSRight is present). In the check, all rights that might be valid at the specified area on *CheckTime*, are taken into account, i.e. also rights issued for other areas than the specified area. Furthermore, grace periods (both before and after) that apply for the specified area, are taken into account.

The check results in a *CheckAnswer*, which is contained in the response message. The following *CheckAnswer*s are possible:

'Y'(es), meaning that either a PSRight was found that is valid in the specified area at *CheckTime*, or at *Check-Time* no PSRight is required for the specified area.

'N'(o), meaning that no PSRight was found that is valid in the specified area at *CheckTime*, while at *CheckTime* the presence of a valid PSRight is required.

Together with CheckAnswer, the list of areas that have been considered, is returned. This is not done when the area was specifically denoted in the request message.

If the ExtraInfoIndicator was set to "Y" in the request, RPV will provide extra information, which is:
In case of CheckAnswer = "Y"
> o   Information about the PSRight that was found, or a message that a PSRight is not required.

In case of CheckAnswer = "N"
- Information about PSRights found in other areas of the same area manager code and the same UsageId (Note: a checking organisation receives only information about areas where the organisation is authorised to check).
- Information about PSRights found in the area provided, before and after check time, within a time frame of 24 hours.

Every check for PS rights is logged in RPV. The logging consists of the data provided in the request message *PSRightCheckRequest*, and the *CheckAnswer* (Y or N) that RPV has given.

5.1.2   Example messages

The following example messages are given:
Requests
1. Area defined by *AreaManager/AreaId*. Minimum request, *ExtraInfoIndicator* = 'N'
2. Area defined by *CheckLocation*[3]. Maximum request. *ExtraInfoIndicator* = 'Y'.
3. Area defined by *AreaManager/AreaId*. Maximum request. *ExtraInfoIndicator* = 'Y'
4. Area defined by *CheckAddress*. Maximum request. *ExtraInfoIndicator* = 'Y'
5. Erroneous request.

Replies
1. Minimum response.
2. Response CheckAnswer ='Y', including extra info about the found PSRight.
3. Response CheckAnswer = 'N', however, several PSRights found in other areas than the specified area.
4. Response CheckAnswer = 'Y', when a PSRight is not required.
5. Response when an error situation occurs.

5.1.2.1   Request message 1

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header>
    <ns:PIN>5678902276734</ns:PIN>
    <ns:MessageID>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445a</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <PSRightCheckRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckRequestData>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <UsageId>PARKEREN</UsageId>
        <VehicleId>AB01CD</VehicleId>
        <CheckTime>2009-12-10T14:42:00</CheckTime>
        <ExtraInfoIndicator>N</ExtraInfoIndicator>
      </PSRightCheckRequestData>
    </PSRightCheckRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

---

[3] The location used in the example is the Artis Zoo in Amsterdam.

5.1.2.2   Response message 1

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IEnforcement/CheckPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445a</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightCheckResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckResponseData>
        <CheckAnswer>Y</CheckAnswer>
      </PSRightCheckResponseData>
    </PSRightCheckResponse>
  </s:Body>
</s:Envelope>
```

5.1.2.3   Request message 2

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header>
    <ns:PIN>5678902276734</ns:PIN>
    <ns:MessageID>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445a</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <PSRightCheckRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckRequestData>
        <CheckLocation>
           <Latitude>52.36695</Latitude>
           <Longitude>4.91252</Longitude>
        </CheckLocation>
        <UsageId>PARKEREN</UsageId>
        <VehicleId>AB01CD</VehicleId>
        <CountryCodeVehicle>PL</CountryCodeVehicle>
        <CheckTime>2009-12-10T14:42:00</CheckTime>
        <ReferenceCheckOrg>ABC</ReferenceCheckOrg>
        <ExtraInfoIndicator>Y</ExtraInfoIndicator>
      </PSRightCheckRequestData>
    </PSRightCheckRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

5.1.2.4   Response message 2

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IEnforcement/CheckPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445b</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightCheckResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckResponseData>
        <CheckAnswer>Y</CheckAnswer>
        <AreaManagerId>1234</AreaManagerId>
        <AreaTable>
          <AreaData>
            <AreaId>393</AreaId>
          </AreaData>
```

```
        <AreaData>
          <AreaId>CENTRUM-ZO</AreaId>
        </AreaData>
        <Areaata>
          <AreaId>HELESTAD</AreaId>
        </AreaData>
      <AreaTable>
      <PSRightCheckPSRightDataList>
        <PSRightCheckPSRightData>
          <PSRightId>7499160</PSRightId>
          <AreaId>ABCDEFGHIJ</AreaId>
          <AreaDesc>Centrum 1</AreaDesc>
          <StartTimePSRight>2009-07-01T08:00:00</StartTimePSRight>
          <EndTimePSRight>2009-12-31T23:59:59</EndTimePSRight>
          <ReferencePSRight>ABC</ReferencePSRight>
          <PSRightIndicator>Y</PSRightIndicator>
          <UsageId>BEWVERG</UsageId>
          <UsageDesc>Bewonersvergunning</UsageDesc>
          <RegulationDesc>Bewonersvergunning Centrum-3</RegulationDesc>
          <GracePeriodBefore>0</GracePeriodBefore>
          <GracePeriodAfter>0</GracePeriodAfter>
        </PSRightCheckPSRightData>
      </PSRightCheckPSRightDataList>
    </PSRightCheckResponseData>
  </PSRightCheckResponse>
  </s:Body>
</s:Envelope>
```

5.1.2.5 Request message 3

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header>
    <ns:PIN>5678902276734</ns:PIN>
    <ns:MessageID>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445a</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <PSRightCheckRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckRequestData>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <UsageId>PARKEREN</UsageId>
        <VehicleId>AB01CD</VehicleId>
        <CountryCodeVehicle>PL</CountryCodeVehicle>
        <CheckTime>2009-12-10T14:42:00</CheckTime>
        <ReferenceCheckOrg>ABC</ReferenceCheckOrg>
        <ExtraInfoIndicator>Y</ExtraInfoIndicator>
      </PSRightCheckRequestData>
    </PSRightCheckRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

5.1.2.6 Response message 3

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IEnforcement/CheckPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445c</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightCheckResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckResponseData>
        <CheckAnswer>N</CheckAnswer>
```

```
        <PSRightCheckPSRightDataList>
          <PSRightCheckPSRightData>
            <PSRightId>7499160</PSRightId>
            <AreaId>ABCDEFGHIJ</AreaId>
            <AreaDesc>Centrum 1</AreaDesc>
            <StartTimePSRight>2009-12-10T13:00:00</StartTimePSRight>
            <EndTimePSRight>2009-12-10T15:00:00</EndTimePSRight>
            <EndTimePSRightAdjusted>2009-12-10T14:00:00</EndTimePSRightAdjusted>
            <ReferencePSRight>ABC</ReferencePSRight>
            <PSRightIndicator>Y</PSRightIndicator>
            <SellingPointId>1234567890</SellingPointId>
            <SellingPointDesc>AUTOMAAT KERKSTRAAT</SellingPointDesc>
            <UsageId>INCPARK</UsageId>
            <UsageDesc>Incidenteel Parkeren</UsageDesc>
            <RegulationDesc>Centrum Zuid 1</RegulationDesc>
            <GracePeriodBefore>12</GracePeriodBefore>
            <GracePeriodAfter>9</GracePeriodAfter>
            <AmountRatePart>0.234</AmountRatePart>
            <StepSizeFarePart>1</StepSizeFarePart>
          </PSRightCheckPSRightData>
          <PSRightCheckPSRightData>
            <PSRightId>7499161</PSRightId>
            <AreaManagerId>1234</AreaManagerId>
            <AreaId>KLM</AreaId>
            <StartTimePSRight>2009-07-01T00:00:00</StartTimePSRight>
            <EndTimePSRight>2009-12-31T23:59:00</EndTimePSRight>
            <PSRightWindowList>
              <PSRightWindowData>
                <StartTimePSRightDayWindow>MAANDAG</StartTimePSRightDayWindow>
                <EndTimePSRightDayWindow>VRIJDAG</EndTimePSRightDayWindow>
                <StartTimePSRightWindow>900</StartTimePSRightWindow>
                <EndTimePSRightWindow>1800</EndTimePSRightWindow>
              </PSRightWindowData>
              <PSRightWindowData>
                <StartTimePSRightDayWindow>ZONDAG</StartTimePSRightDayWindow>
                <EndTimePSRightDayWindow>ZONDAG</EndTimePSRightDayWindow>
                <StartTimePSRightWindow>1200</StartTimePSRightWindow>
                <EndTimePSRightWindow>2400</EndTimePSRightWindow>
              </PSRightWindowData>
            </PSRightWindowList>
            <ReferencePSRight>ABC</ReferencePSRight>
            <PSRightIndicator>Y</PSRightIndicator>
            <UsageId>BEWVERG</UsageId>
            <UsageDesc>Bewonersvergunning</UsageDesc>
            <RegulationDesc>Vergunning Woon-Werk Centrum</RegulationDesc>
            <GracePeriodBefore>12</GracePeriodBefore>
            <GracePeriodAfter>9</GracePeriodAfter>
          </PSRightCheckPSRightData>
          <PSRightCheckPSRightData>
            <PSRightId>7499162</PSRightId>
            <AreaManagerId>1234</AreaManagerId>
            <AreaId>NOP</AreaId>
            <AreaDesc>Stationskwartier</AreaDesc>
            <StartTimePSRight>2009-12-10T12:00:00</StartTimePSRight>
            <ReferencePSRight>ABC</ReferencePSRight>
            <PSRightIndicator>Y</PSRightIndicator>
            <SellingPointId>1234567890</SellingPointId>
            <SellingPointDesc>AUTOMAAT EMMAPLEIN</SellingPointDesc>
            <UsageId>INCPARK</UsageId>
            <UsageDesc>Incidenteel Parkeren</UsageDesc>
            <RegulationDesc>Centrum 1</RegulationDesc>
            <GracePeriodBefore>12</GracePeriodBefore>
            <GracePeriodAfter>9</GracePeriodAfter>
            <AmountRatePart>4.68</AmountRatePart>
            <StepSizeFarePart>60</StepSizeFarePart>
          </PSRightCheckPSRightData>
        </PSRightCheckPSRightDataList>
      </PSRightCheckResponseData>
```

```
      </PSRightCheckResponse>
   </s:Body>
</s:Envelope>
```

5.1.2.7 Request message 4

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header>
    <ns:PIN>5678902276734</ns:PIN>
    <ns:MessageID>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445a</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <PSRightCheckRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckRequestData>
       <CheckAddress>
           <StreetCode>12345</StreetCode>
           <StreetName>Stadionweg</StreetName>
           <HouseNumber>192</HouseNumber>
           <HouseNumberAdditions>bis</HouseNumberAdditions>
           <PlaceOfResidence>Amsterdam</PlaceOfResidence>
       </CheckAddress>
       <UsageId>PARKEREN</UsageId>
       <VehicleId>AB01CD</VehicleId>
       <CountryCodeVehicle>ABC</CountryCodeVehicle>
       <CheckTime>2009-12-10T23:42:00</CheckTime>
       <ReferenceCheckOrg>ABC</ReferenceCheckOrg>
       <ExtraInfoIndicator>Y</ExtraInfoIndicator>
      </PSRightCheckRequestData>
    </PSRightCheckRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

5.1.2.8 Response message 4

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IEnforcement/CheckPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445b</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightCheckResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckResponseData>
        <CheckAnswer>Y</CheckAnswer>
        <AreaTable>
          <AreaListData>
            <AreaId>394</AreaId>
          </AreaData>
          <AreaData>
            <AreaId>OUD-ZUID-3</AreaId>
          </AreaData>
          <AreaData>
            <AreaId>HELESTAD</AreaId>
          </AreaData>
        <AreaTable>
        <PSRightCheckPSRightDataList>
          <PSRightCheckPSRightData>
            <InfoMessageCode>1</InfoMessageCode>
            <InfoMessageDesc>PSRight not required</InfoMessageDesc>
          </PSRightCheckPSRightData>
        </PSRightCheckPSRightDataList>
      </PSRightCheckResponseData>
    </PSRightCheckResponse>
  </s:Body>
```

```
</s:Envelope>
```

5.1.2.9   Request message 5

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header>
    <ns:PIN>5678902276734</ns:PIN>
    <ns:MessageID>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445a</ns:MessageID>
  </soapenv:Header>
  <soapenv:Body>
    <PSRightCheckRequest xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckRequestData>
        <CheckAddress>
           <StreetName>Stadionweg</StreetName>
           <HouseNumber>192</HouseNumber>
           <HouseNumberAdditions>bis</HouseNumberAdditions>
           <PlaceOfResidence>Amsterdam</PlaceOfResidence>
        </CheckAddress>
        <UsageId>PARKEREN</UsageId>
        <VehicleId>AB01CD</VehicleId>
        <CountryCodeVehicle>ABC</CountryCodeVehicle>
        <CheckTime>2009-12-10T14:42:00</CheckTime>
        <ReferenceCheckOrg>DEF</ReferenceCheckOrg>
       <ExtraInfoIndicator>Y</ExtraInfoIndicator>
      </PSRightCheckRequestData>
    </PSRightCheckRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

5.1.2.10 Response message 5

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IEnforcement/CheckPSRightResponse</a:Action>
    <a:RelatesTo>urn:uuid:e6638c6e-bf27-4acd-a689-60aaee83445e</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PSRightCheckResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightCheckResponseError>
        <VehicleId>AB01CD</VehicleId>
        <CountryCodeCheck>ABC</CountryCodeCheck>
        <CheckTime>2009-12-10T14:42:00</CheckTime>
        <ReferenceCheckOrg>DEF</ReferenceCheckOrg>
        <CheckAddress>
           <StreetName>Stadionweg</StreetName>
           <HouseNumber>192</HouseNumber>
           <HouseNumberAdditions>bis</HouseNumberAdditions>
           <PlaceOfResidence>Amsterdam</PlaceOfResidence>
        </CheckAddress>
        <ExtraInfoIndicator>Y</ExtraInfoIndicator>
        <ErrorCode>102</ErrorCode>
        <ErrorDesc>No Authorisation</ErrorDesc>
      </PSRightCheckResponseError>
    </PSRightCheckResponse>
  </s:Body>
</s:Envelope>
```

6 Messages to be used by area managers

6.1 RetrieveRightInfo

6.1.1 Message dialogue RetrieveRightInfo

This message can be used to retrieve the rights that were present for a certain vehicle around a certain date-time. Example of usage: in cases of parking tax additional assessments, or objections to additional assessments.

The area manager employee sends a request message *RetrieveRightInfo*. RPV responds with a message *RetrieveRightInfoResponse*.

The area manager for which information is retrieved, is identified by the OIN or PIN in its certificate. Each request message contains either the OIN or the PIN from the certificate.

The request message contains the following information:
❑ Identification of a vehicle (*VehicleId)*
❑ *IndicatorTime*
❑ *UUID (*MessageID)

For the specified area manager, the information of all rights registered in RPV for the vehicle that were started or stopped within 24 hrs. of IndicatorTime, are returned. If no rights were found, the response consists of an empty message.

6.1.2 Example messages

The following example messages are given:
Requests
    1. Standard request
Replies
    1. Standard response

6.1.2.1 Request message

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/RetrieveRightInfo</a:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">00100010</h:OIN>
    <a:MessageID>urn:uuid:1b7a4676-8922-4466-8b1d-00fb34b7a6f4</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveRightInfoRequest xmlns="http://rdw.nl/rpv/1.0">
      <RightInfoRequestData>
        <VehicleId>HDV182</VehicleId>
        <IndicatorTime>2010-02-10T13:05:00</IndicatorTime>
      </RightInfoRequestData>
    </RetrieveRightInfoRequest>
  </s:Body>
</s:Envelope>
```

6.1.2.2 Response message

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/RetrieveRightInfoResponse</a:Acti
on>
    <a:RelatesTo>urn:uuid:25f3fe82-686f-43f7-a9b9-3d5463bc7733</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveRightInfoResponse xmlns="http://rdw.nl/rpv/1.0">
      <PSRightInfoResponseData>
        <VehicleId>HDV182</VehicleId>
        <IndicatorTime>2010-02-10T13:05:00</IndicatorTime>
        <PSRightInfoList>
          <PSRightInfoData>
            <StartTimePSRight>2010-02-10T08:00:00</StartTimePSRight>
            <EndTimePSRight>2010-02-10T18:00:00</EndTimePSRight>
            <EndTimePSRightAdjusted>2010-02-10T09:00:00</EndTimePSRightAdjusted>
            <PSRightAcquirerCode>10</PSRightAcquirerCode>
            <PSRightAcquirerDesc>RechtsVerwerverIntermediair-
1</PSRightAcquirerDesc>
            <AreaManagerId>22</AreaManagerId>
            <AreaManagerDesc>Gemeente Leek</AreaManagerDesc>
            <AreaId>P1</AreaId>
            <AreaDesc>Parkeren centrum</AreaDesc>
            <UsageId>PARKEREN</UsageId>
            <UsageDesc>Parkeren</UsageDesc>
          </PSRightInfoData>
          <PSRightInfoData>
            <StartTimePSRight>2010-01-01T00:00:00</StartTimePSRight>
            <EndTimePSRight>2010-12-31T23:59:00</EndTimePSRight>
             <PSRightWindowList>
              <PSRightWindowData>
                <StartTimePSRightDayWindow>MAANDAG</StartTimePSrightDayWindow>
                <EndTimePSRightDayWindow>VRIJDAG</EndTimePSrightDayWindow>
                <StartTimePSRightWindow>900</StartTimePSRightWindow>
                <EndTimePSRightWindow>1800</EndTimePSRightWindow>
              </PSRightWindowData>
              <PSRightWindowData>
                <StartTimePSRightDayWindow>ZONDAG</StartTimePSrightDayWindow>
                <EndTimePSRightDayWindow>ZONDAG</EndTimePSrightDayWindow>
                <StartTimePSRightWindow>1200</StartTimePSRightWindow>
                <EndTimePSRightWindow>2400</EndTimePSRightWindow>
              </PSRightWindowData>
             </PSRightWindowList>
            <PSRightAcquirerCode>10</PSRightAcquirerCode>
            <PSRightAcquirerDesc>RechtsVerwerverIntermediair-
1</PSRightAcquirerDesc>
            <AreaManagerId>22</AreaManagerId>
            <AreaManagerDesc>Gemeente Leek</AreaManagerDesc>
            <AreaId>V1</AreaId>
            <AreaDesc>Overdag Leek-Nietap-Tolbert-Midwolde</AreaDesc>
            <UsageId>PARKEREN</UsageId>
            <UsageDesc>Parkeren</UsageDesc>
          </PSRightInfoData>
        </PSRightInfoList>
      </PSRightInfoResponseData>
    </RetrieveRightInfoResponse>
  </s:Body>
</s:Envelope>
```

6.2 RetrieveCheckInfo

6.2.1 Message dialogue RetrieveCheckInfo

This message can be used to determine if a certain vehicle was checked around a certain time, and what check result was given by RPV.

Example of usage: in cases of parking tax additional assessments, or objections to additional assessments.

The area manager employee sends a request message ***RetrieveCheckInfo***. RPV responds with a message ***RetrieveCheckInfoResponse***.

The area manager for which information is retrieved, is identified by the OIN or PIN in its certificate. Each request message contains either the OIN or the PIN from the certificate.

The request message contains the following information:
❑ Identification of a vehicle (*VehicleId)*
❑ *IndicatorTime*
❑ *UUID (*MessageID)

For the specified area manager, information of all logged check answers registered in RPV for the vehicle, with a reference date-time within 24 hrs. of IndicatorTime, are returned. If no check answers were found, the response consists of an empty message.

6.2.2 Example messages

The following example messages are given:
Requests
    1.   Standard request
Replies
    1.   Standard response

6.2.2.1 Request message

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/RetrieveCheckInfo</a:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">00100010</h:OIN>
    <a:MessageID>urn:uuid:605dd0aa-f5e8-46c4-91e3-5e819060f825</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveCheckInfoRequest xmlns="http://rdw.nl/rpv/1.0">
      <CheckInfoRequestData>
        <VehicleId>03VB32</VehicleId>
        <IndicatorTime>2010-03-01T13:05:00</IndicatorTime>
      </CheckInfoRequestData>
    </RetrieveCheckInfoRequest>
  </s:Body>
</s:Envelope>
```

6.2.2.2 Response message

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
```

```
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/RetrieveCheckInfoResponse</a:Acti
on>
    <a:RelatesTo>urn:uuid:f23f70c1-f593-479b-b2a1-0cd1e1337bfc</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveCheckInfoResponse xmlns="http://rdw.nl/rpv/1.0">
      <CheckInfoResponseData>
        <VehicleId>03VB32</VehicleId>
        <AreaManagerId>22</AreaManagerId>
        <AreaManagerDesc>Gemeente Leek</AreaManagerDesc>
        <CheckInfoList>
          <CheckInfoData>
            <CountryCodeCheck>NL</CountryCodeCheck>
            <CheckTime>2010-03-01T12:00:00</CheckTime>
            <ExtraInfoIndicator>N</ExtraInfoIndicator>
            <ReferenceCheckOrg>X</ReferenceCheckOrg>
            <CheckAnswer>N</CheckAnswer>
            <CheckOrgCode>1</CheckOrgCode>
            <CheckOrgDesc>De 01 handhaver</CheckOrgDesc>
            <UsageId>PARKEREN</UsageId>
            <AreaId>P1</AreaId>
            <AreaDesc>Parkeren centrum</AreaDesc>
          </CheckInfoData>
          <CheckInfoData>
            <CheckTime>2010-03-01T17:00:00</CheckTime>
            <ExtraInfoIndicator>Y</ExtraInfoIndicator>
            <ReferenceCheckOrg>X</ReferenceCheckOrg>
            <CheckAnswer>Y</CheckAnswer>
            <CheckOrgCode>2</CheckOrgCode>
            <CheckOrgDesc>De Graaf voor al uw handhaaf</CheckOrgDesc>
            <CheckLocation>
                <Latitude>52.36695</Latitude>
                <Longitude>4.91252</Longitude>
            </CheckLocation>
          </CheckInfoData>
          <CheckInfoData>
            <CheckTime>2010-03-01T19:30:00</CheckTime>
            <ExtraInfoIndicator>Y</ExtraInfoIndicator>
            <ReferenceCheckOrg>X</ReferenceCheckOrg>
            <CheckAnswer>N</CheckAnswer>
            <CheckOrgCode>2</CheckOrgCode>
            <CheckOrgDesc>De Graaf voor al uw handhaaf</CheckOrgDesc>
          <CheckAddress>
            <StreetName>Stadionweg</StreetName>
            <HouseNumber>192</HouseNumber>
            <PlaceOfResidence>Amsterdam</PlaceOfResidence>
          </CheckAddress>
         </CheckInfoData>
        </CheckInfoList>
      </CheckInfoResponseData>
    </RetrieveCheckInfoResponse>
  </s:Body>
</s:Envelope>
```

7   Messages to be used by all entities

7.1   CalculatePrice

7.1.1   Message dialogue CalculatePrice

An entity sends a request message **`CalculatePriceRequest`** to RPV, containing the data of a potential or fictional PS Right, to calculate its price. RPV sends a response message **`CalculatePriceResponse`**, containing the message part **`CalculatePriceResponseData`** if price calculation was successful. If not, the message contains the element **`CalculatePriceResponseError`**.

The request message contains the information necessary to calculate the price of a PSRight, that could be an actual PSRight (calculate before recording), a potential PS Right (price inquiry) or a hypothetical PSRight (e.g testing, what if?).

 The following information is provided in the request message:
❑ Identification of an area. The way to specify an area should be one of the following:
1. *AreaManagerId* and *AreaId*.
2. A location (*PSRightLocation*), consisting of a *Latitude* and *Longitude* in WGS84 format.
3. *SellingPointId*.
   If more than one identification is provided, RPV will use the list above to determine priority, e.g. if *AreaManagerId/AreaId* + *PSRightLocation* are provided, the combination *AreaManager/AreaId* will be used to specify the area, and the location will be omitted.
   If the identification provided does not match any of the supported methods, the PSRight will not be recorded and the rights acquirer will receive an error message.
❑ *UsageId*
❑ *StartTimePSRight*
❑ *EndTimePSRight*
❑ *UUID (*`MessageID`)

To be able to calculate the price of a PSRight properly, RPV needs to know the area and the area manager to which the area belongs.
When an area is specified through *AreaManagerId/AreaId*, these data are known immediately.
When an area is specified through a location, RPV collects all areas containing the specified location, and the area corresponding with the specified usage will be selected as the area to calculate a price for.
When an area is specified through a selling point, RPV collects all areas containing the specified selling point, and the area corresponding with the specified usage will be selected as the area to calculate a price for.
If the area determination results in "no area found" or "more than one area found", the rights acquirer will receive an error message.

If price calculation fails because of an internal system error (e.g. calculation parameters are set incorrectly), the rights acquirer will receive an error message.

If no error occurs, the response message sent by RPV contains
❑ The area and area manager for which a calculation was done, unless this was already specified in the input (*AreaManagerId/AreaId*)
❑ Calculated price (*AmountPSRightCalculated, VATPSRightCalculated*), based on the regulation imposed on the area by the area manager.
❑ A specification of the calculated price is added if the calculation involved another regulation than the standard regulation, or when more than one regulation was involved in the calculation. In these cases, the price is lower than the usual price according to the standard regulation, because a rebate applies. Examples of rebate regulations are day ticket, evening ticket etc.
❑ Adjusted end time (*EndTimePSRightAdjusted*).
   RPV will provide an adjusted end time in two cases.
   o   When a right can only be acquired for a limited duration (e.g. maximum parking time one hour). In this case an adjusted end time will be given when no EndTimePSRight was provided, and also when an EndTimePSRight was provided that extends the maximum allowed duration.

  o When the EndTimePSRight was provided in the request, and it is possible to extend duration for the same PS right price.
  An adjusted end time overrules the end time provided by the rights acquirer.

7.1.2 Example messages

The following example messages are given:

Requests
1. Area identified by *AreaManagerId/AreaId*.
2. Area identified by *Location*[4].
3. Area identified by *SellingPointId*.
4. Area identified by *SellingPointId*.
5. Erroneous request.

Replies
1. Response with standard price calculation, i.e. no specification.
2. Response with price calculation including specification.
3. Response with price calculation including specification, adjusted time.
4. Response when RPV can't calculate a price because the price parameters in RPV are set incorrectly.
5. Response when an error situation occurs.

7.1.2.1 Example request message 1

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePrice</a:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceRequest xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceRequestData>
        <StartTimePSright>2009-12-10T10:00:00</StartTimePSright>
        <EndTimePSright>2009-12-10T12:30:00</EndTimePSright>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <UsageId>PARKEREN</UsageId>
      </CalculatePriceRequestData>
    </CalculatePriceRequest>
  </s:Body>
</s:Envelope>
```

7.1.2.2 Example response message 1

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePriceResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceResponse xmlns="http://rdw.nl/rpv/1.0">
```

---

[4] The location used in the example is the Artis Zoo in Amsterdam.

```
      <CalculatePriceResponseData>
        <AmountPSRightCalculated>10.65</AmountPSRightCalculated>
        <VATPSRightCalculated>0.00</VATPSRightCalculated>
      </CalculatePriceResponseData>
    </CalculatePriceResponse>
  </s:Body>
</s:Envelope>
```

7.1.2.3 Example request message 2

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePrice</a:Action>
    <h:PIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:PIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d89</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceRequest xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceRequestData>
        <StartTimePSright>2009-12-10T10:00:00</StartTimePSright>
        <EndTimePSright>2009-12-10T23:59:00</EndTimePSright>
        <LocationPSRight>
           <Latitude>52.36695</Latitude>
           <Longitude>4.91252</Longitude>
        </LocationPSRight>
        <UsageId>PLANG</UsageId>
      </CalculatePriceRequestData>
    </CalculatePriceRequest>
  </s:Body>
</s:Envelope>
```

7.1.2.4 Example response message 2

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePriceResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceResponse xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceResponseData>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <AmountPSRightCalculated>22.50</AmountPSRightCalculated>
        <VATPSRightCalculated>2.50</VATPSRightCalculated>
        <SpecifCalcAmountList>
           <SpecifCalcAmountData>
               <RegulationId>DAGKRT</RegulationId>
               <StartTimeApplied>2009-12-10T10:00:00</StartTimeApplied>
               <EndTimeApplied>2009-12-10T23:59:00</EndTimeApplied>
              <AmountFraction>22.50</AmountFraction>
              <VATAmountFraction>2.50</VATAmountFraction>
           </SpecifCalcAmountData>
        </SpecifCalcAmountList>
      </CalculatePriceResponseData>
    </CalculatePriceResponse>
  </s:Body>
</s:Envelope>
```

7.1.2.5 *Example request message 3*

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePrice</a:Action>
    <h:PIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:PIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d90</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceRequest xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceRequestData>
        <StartTimePSright>2009-12-10T11:45:00</StartTimePSright>
        <EndTimePSright>2009-12-10T16:45:00</EndTimePSright>
        <SellingPointId>39881</SellingPointId>
        <UsageId>PKORT</UsageId>
      </CalculatePriceRequestData>
    </CalculatePriceRequest>
  </s:Body>
</s:Envelope>
```

7.1.2.6 *Example response message 3*

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePriceResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceResponse xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceResponseData>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <AmountPSRightCalculated>12.50</AmountPSRightCalculated>
        <VATPSRightCalculated>2.51</VATPSRightCalculated>
        <EndTimePSRightAdjusted>2009-12-10T18:00:00</EndTimePSRightAdjusted>
        <SpecifCalcAmountList>
          <SpecifCalcAmountData>
             <RegulationId>1</RegulationId>
             <StartTimeApplied>2009-12-10T11:45:00</StartTimeApplied>
             <EndTimeApplied>2009-12-10T12:00:00</EndTimeApplied>
            <AmountFraction>0.50</AmountFraction>
             <VATAmountFraction>0.01</VATAmountFraction>
          </SpecifCalcAmountData>
          <SpecifCalcAmountData>
             <RegulationId>MIDDAGKRT</RegulationId>
             <StartTimeApplied>2009-12-10T12:00:00</StartTimeApplied>
             <EndTimeApplied>2009-12-10T18:00:00</EndTimeApplied>
            <AmountFraction>12.00</AmountFraction>
             <VATAmountFraction>2.50</VATAmountFraction>
          </SpecifCalcAmountData>
        </SpecifCalcAmountList>
      </CalculatePriceResponseData>
    </CalculatePriceResponse>
  </s:Body>
</s:Envelope>
```

7.1.2.7 *Example request message 4*

```xml
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePrice</a:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d91</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceRequest xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceRequestData>
        <StartTimePSright>2009-12-10T09:00:00</StartTimePSright>
        <EndTimePSright>2009-12-10T12:00:00</EndTimePSright>
        <LocationPSRight>
          <Latitude>52.36695</Latitude>
          <Longitude>4.91252</Longitude>
        </LocationPSRight>
        <UsageId>PKORT</UsageId>
      </CalculatePriceRequestData>
    </CalculatePriceRequest>
  </s:Body>
</s:Envelope>
```

7.1.2.8 *Example response message 4*

```xml
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePriceResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d92</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <CalculatePriceResponse xmlns="http://rdw.nl/rpv/1.0">
      <CalculatePriceResponseError>
        <StartTimePSright>2009-12-10T09:00:00</StartTimePSright>
        <EndTimePSright>2009-12-10T11:00:00</EndTimePSright>
        <LocationPSRight>
          <Latitude>52.36695</Latitude>
          <Longitude>4.91252</Longitude>
        </LocationPSRight>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>ABCDEFGHIJ</AreaId>
        <ErrorCode>132</ErrorCode>
        <ErrorDesc> RPV price parameter error, calculation not
possible</ErrorDesc>
      </CalculatePriceResponseError>
    </CalculatePriceResponse>
  </s:Body>
</s:Envelope>
```

7.1.2.9 *Example request message 5*

```xml
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePrice</a:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d91</a:MessageID>
    <a:ReplyTo>
```

```
        <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
      </a:ReplyTo>
   </s:Header>
   <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
      <CalculatePriceRequest xmlns="http://rdw.nl/rpv/1.0">
        <CalculatePriceRequestData>
          <StartTimePSright>2009-12-10T09:00:00</StartTimePSright>
          <EndTimePSright>2009-12-10T12:00:00</EndTimePSright>
          <LocationPSRight>
             <Latitude>52.36695</Latitude>
             <Longitude>4.91252</Longitude>
          </LocationPSRight>
        </CalculatePriceRequestData>
      </CalculatePriceRequest>
   </s:Body>
</s:Envelope>
```

7.1.2.10 Example response message 5

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
   <s:Header>
     <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/IRegistration/CalculatePriceResponse</a:Action>
     <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d92</a:RelatesTo>
   </s:Header>
   <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
      <CalculatePriceResponse xmlns="http://rdw.nl/rpv/1.0">
        <CalculatePriceResponseError>
          <StartTimePSright>2009-12-10T09:00:00</StartTimePSright>
          <EndTimePSright>2009-12-10T11:00:00</EndTimePSright>
          <LocationPSRight>
             <Latitude>52.36695</Latitude>
             <Longitude>4.91252</Longitude>
          </LocationPSRight>
          <ErrorCode>133</ErrorCode>
          <ErrorDesc> Usage Id not provided</ErrorDesc>
        </CalculatePriceResponseError>
      </CalculatePriceResponse>
   </s:Body>
</s:Envelope>
```

7.2   RetrieveAreasByLocation

7.2.1   Message dialogue RetrieveAreasByLocation

An entity sends a request message ***RetrieveAreasByLocationRequest***, containing a location. RPV
sends a response message ***RetrieveAreasByLocationResponse***, containing a list of areas matching the
specified location, together with their usage, as well as the address that is closest to the specified location.

The following information is provided in the request message:
❑ A location (*AreaLocation*) (mandatory), consisting of a *Latitude* and *Longitude* in WGS84 format.

❑ (optional) *ReferenceTime*
❑ (optional) *UsageId*
❑ *UUID (*MessageID)

If no reference date-time is provided, all current and future areas matching the specified location, are retrieved,
otherwise all areas valid at reference date-time, matching the specified location, are retrieved.
If a UsageId is provided, only found areas matching the specified UsageId are returned, otherwise all areas are
returned. The hierarchy in the UsageIds is not taken in account.

Besides the area or areas that were found, the address that is closest to the specified location, is returned. Note that an address will only be returned if there were areas found.

If no error occurs, the response message sent by RPV consists of the following
List of areas matching the specified location (*AreaTable*)
❑ *AreaManagerId/AreaId*
❑ *UsageId*
❑ *PriceOneHourParking*, if applicable.
❑ Address closest to the specified location (*LocationAddress*)
       o   *StreetCode*
       o   *StreetName*
       o   *HouseNumber*
       o   *HouseNumberAdditions*
       o   *PlaceOfResidence*

7.2.2   Example messages

The following example messages are given:

Requests
1.   Maximum request (With a location).
2.   Minimum request (With a location).
3.   Erroneous request[5] (With a location).

Replies
1.   Response with 1 area.
2.   Response with a list of areas.
3.   Response when an error situation occurs.

7.2.2.1 Example request message 1

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreasByLocation</a:Action
>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreasByLocationRequest xmlns="http://rdw.nl/rpv/1.0">
      <RetrieveAreasByLocationRequestData>
        <AreaLocation>
          <Latitude>52.36695</Latitude>
          <Longitude>4.91252</Longitude>
        </AreaLocation>
        <ReferenceTime>2011-01-01T00:00:00</ReferenceTime>
        <UsageId>BEWVERG</UsageId>
      </RetrieveAreasByLocationRequestData>
    </RetrieveAreasByLocationRequest>
  </s:Body>
</s:Envelope>
```

---

[5] The location specified is somewhere in the Pacific Ocean.

7.2.2.2 Example response message 1

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreasByLocationResponse</
a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreasByLocationResponse xmlns="http://rdw.nl/rpv/1.0">
       <RetrieveAreasByLocationResponseData>
         <AreaManagerId>1<AreaManagerId>
         <AreaTable>
           <AreaData>
              <AreaId>393</AreaId>
              <UsageId>BEWVERG</UsageId>
           </AreaData>
         </AreaTable>
         <LocationAddress>
              <StreetCode>06521</StreetCode>
              <StreetName>Bilderdijkstraat</StreetName>
              <HouseNumber>169</HouseNumber>
              <HouseNumberAdditions>A</HouseNumberAdditions>
              <PlaceOfResidence>Amsterdam</PlaceOfResidence>
         </LocationAddress>
       </RetrieveAreasByLocationResponseData>
    </RetrieveAreasByLocationResponse>
  </s:Body>
</s:Envelope>
```

7.2.2.3 Example request message 2

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreasByLocation</a:Action
>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreasByLocationRequest xmlns="http://rdw.nl/rpv/1.0">
      <RetrieveAreasByLocationRequestData>
        <AreaLocation>
           <Latitude>52.36695</Latitude>
           <Longitude>4.91252</Longitude>
        </AreaLocation>
      </RetrieveAreasByLocationRequestData>
    </RetrieveAreasByLocationRequest>
  </s:Body>
</s:Envelope>
```

7.2.2.4 Example response message 2

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreasByLocationResponse</
a:Action>
```

```xml
        <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <RetrieveAreasByLocationResponse xmlns="http://rdw.nl/rpv/1.0">
      <RetrieveAreasByLocationResponseData>
        <AreaManagerId>1</AreaManagerId>
        <AreaTable>
           <AreaData>
              <AreaId>391</AreaId>
              <UsageId>INCPARK</UsageId>
              <PriceOneHourParking>4.00</PriceOneHourParking>
           </AreaData>
           <AreaData>
              <AreaId>392</AreaId>
              <UsageId>BEDRVERG</UsageId>
           </AreaData>
           <AreaData>
              <AreaId>393</AreaId>
              <UsageId>BEWVERG</UsageId>
           </AreaData>
           <AreaData>
              <AreaId>394</AreaId>
              <UsageId>PARKEREN</UsageId>
              <PriceOneHourParking>2.40</PriceOneHourParking>
           </AreaData>
        </AreaTable>
        <LocationAddress>
              <StreetCode>06521</StreetCode>
              <StreetName>Bilderdijkstraat</StreetName>
              <HouseNumber>169</HouseNumber>
              <PlaceOfResidence>Amsterdam</PlaceOfResidence>
        </LocationAddress>
      </RetrieveAreasByLocationResponseData>
    </RetrieveAreasByLocationResponse>
  </s:Body>
</s:Envelope>
```

7.2.2.5 Example request message 3

```xml
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreasByLocation</a:Action
>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:MessageID>
    <a:ReplyTo>
     <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreasByLocationRequest xmlns="http://rdw.nl/rpv/1.0">
      <RetrieveAreasByLocationRequestData>
        <AreaLocation>
           <Latitude>52.36695</Latitude>
           <Longitude>4.91252</Longitude>
        </AreaLocation>
      </RetrieveAreasByLocationRequestData>
    </RetrieveAreasByLocationRequest>
  </s:Body>
</s:Envelope>
```

7.2.2.6 *Example response message 3*

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreasByLocationResponse</
a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreasByLocationResponse xmlns="http://rdw.nl/rpv/1.0">
      <RetrieveAreasByLocationResponseError>
        <AreaLocation>
          <Latitude>52.36695</Latitude>
          <Longitude>4.91252</Longitude>
        </AreaLocation>
        <ErrorCode>135</ErrorCode>
        <ErrorDesc>No area found</ErrorDesc>
      </RetrieveAreasByLocationResponseError>
    </RetrieveAreasByLocationResponse>
  </s:Body>
</s:Envelope>
```

7.3   RetrieveAreaRegulationFareInfo

7.3.1   Message dialogue RetrieveAreaRegulationFareInfo

An area manager can ask for information about the areas, regulations and fares that are recorded in RPV on his behalf. It is possible to ask information about one specific area, as well as information about all recorded areas.

The area manager for which information is retrieved, is identified by the OIN or PIN in its certificate. Each request message contains either the OIN or the PIN from the certificate.

The request message contains the following information:
❑ UUID *(MessageID)*
❑ Identification of an area manager (*AreaManagerId*)

Optionally, the following search criteria can be given:
❑ Identification of an area (*AreaId)*
❑ Reference date-time *(CheckTime)*

The area and regulation and fare data of the area manager denoted in the request message, are retrieved.

If no reference date-time is provided, the current and future data will be retrieved, otherwise the data that are valid on reference date-time will be retrieved.
If no AreaId is provided, all recorded areas will be retrieved, as well as all recorded regulations and all recorded fares.
If an AreaId is provided, the specified area is retrieved, together with the associated regulation(s) and the associated fare(s).

If no areas were found, the response consists of an empty message.

7.3.2   Example messages

The following example messages are given:
Requests
    1.   Request for 1 area
    2.   Request for all areas.

Replies
    1.   Response containing 1 area
    2.   Response containing a list of areas.

7.3.2.1 Request message 1

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreaRegulationFareInfo</a
:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">00100010</h:OIN>
    <a:MessageID>urn:uuid:3385bdb3-3e11-407c-8c77-c76ebcf611d7</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreaRegulationFareInfoRequest xmlns="http://rdw.nl/rpv/1.0">
      <AreaArrangeAccountInfoRequestData>
        <AreaManagerId>1234</AreaManagerId>
        <AreaId>P1</AreaId>
        <CheckTime>2010-03-23T15:14:00</CheckTime>
      </AreaArrangeAccountInfoRequestData>
    </RetrieveAreaRegulationFareInfoRequest>
  </s:Body>
</s:Envelope>
```

7.3.2.2 Response message 1

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreaRegulationFareInfoRes
ponse</a:Action>
    <a:RelatesTo>urn:uuid:3385bdb3-3e11-407c-8c77-c76ebcf611d7</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreaRegulationFareInfoResponse xmlns="http://rdw.nl/rpv/1.0">
      <AreaRegulationFareInfoResponseData>
        <AreaTable>
          <AreaData>
            <AreaId>P1</AreaId>
            <AreaDesc>Parkeren centrum</AreaDesc>
            <StartDateArea>20090101</StartDateArea>
            <EndDateArea>29991231</EndDateArea>
            <UsageDesc>GARAGE</UsageDesc>
            <GracePeriodBefore>0</GracePeriodBefore>
            <GracePeriodAfter>0</GracePeriodAfter>
            <AreaRegulationTable>
               <AreaRegulationData>
                  <RegulationIdArea>R1</RegulationIdArea>
                  <StartDateAreaRegula-
tion>20090101T09:00:00</StartDateAreaRegulation>
                  <EndDateAreaRegulation>29991231T00:00:00</EndDateAreaRegulation>
               </AreaRegulationData>
               <AreaRegulationData>
                  <RegulationIdArea>AANV1</RegulationIdArea>
                  <StartDateAreaRegula-
tion>20090101T09:00:00</StartDateAreaRegulation>
                  <EndDateAreaRegulation>29991231T00:00:00</EndDateAreaRegulation>
               </AreaRegulationData>
            </AreaRegulationTable>
          </AreaData>
        </AreaTable>
        <RegulationTable>
          <RegulationData>
            <RegulationId>R1</RegulationId>
```

```
      <RegulationDesc>Regeling-1</RegulationDesc>
      <RegulationType>B</RegulationType>
      <StartDateRegulation>20100101</StartDateRegulation>
      <EndDateRegulation>20101231</EndDateRegulation>
      <TimeFrameTable>
        <TimeFrameData>
          <DayTimeFrame>DINSDAG</DayTimeFrame>
          <StartTimeTimeFrame>0</StartTimeTimeFrame>
          <EndTimeTimeFrame>700</EndTimeTimeFrame>
          <ClaimRightPossible>J</ClaimRightPossible>
          <MaxDurationRight>30</MaxDurationRight>
          <FareTimeFrame>TAR-1</FareTimeFrame>
        </TimeFrameData>
      </TimeFrameTable>
    </RegulationData>
    <RegulationData>
      <RegulationId>AANV1</RegulationId>
      <RegulationDesc>Dagkaart</RegulationDesc>
      <RegulationType>A</RegulationType>
      <StartDateRegulation>20100101</StartDateRegulation>
      <EndDateRegulation>20101231</EndDateRegulation>
      <TimeFrameTable>
        <TimeFrameData>
          <DayTimeFrame>DINSDAG</DayTimeFrame>
          <StartTimeTimeFrame>900</StartTimeTimeFrame>
          <EndTimeTimeFrame>2400</EndTimeTimeFrame>
          <ClaimRightPossible>J</ClaimRightPossible>
          <FareTimeFrame>TAR-2</FareTimeFrame>
        </TimeFrameData>
      </TimeFrameTable>
    </RegulationData>
  </RegulationTable>
  <FareTable>
    <FareData>
      <FareCalculationCode>TAR-1</FareCalculationCode>
      <FareCalculationDesc>TariefBerekeningsCode-1</FareCalculationDesc>
      <StartDateFare>20090101</StartDateFare>
      <EndDateFare>29991231</EndDateFare>
      <VATPercentage>20.0</VATPercentage>
      <FarePartTable>
        <FarePartData>
          <StartDateFarePart>20100101</StartDateFarePart>
          <EndDateFarePart>29991231</EndDateFarePart>
          <StartDurationFarePart>0</StartDurationFarePart>
          <EndDurationFarePart>9999</EndDurationFarePart>
          <TotalAmountParts>0.00</TotalAmountParts>
          <AmountFarePart>0.05</AmountFarePart>
          <StepSizeFarePart>1</StepSizeFarePart>
        </FarePartData>
      </FarePartTable>
    </FareData>
    <FareData>
      <FareCalculationCode>TAR-2</FareCalculationCode>
      <FareCalculationDesc>TariefBerekeningsCode-2</FareCalculationDesc>
      <StartDateFare>20090101</StartDateFare>
      <EndDateFare>29991231</EndDateFare>
      <VATPercentage>20.0</VATPercentage>
      <FarePartTable>
        <FarePartData>
          <StartDateFarePart>20100101</StartDateFarePart>
          <EndDateFarePart>29991231</EndDateFarePart>
          <StartDurationFarePart>0</StartDurationFarePart>
          <EndDurationFarePart>9999</EndDurationFarePart>
          <TotalAmountParts>0.00</TotalAmountParts>
          <AmountFarePart>24.99</AmountFarePart>
          <StepSizeFarePart>900</StepSizeFarePart>
        </FarePartData>
      </FarePartTable>
```

```
          </FareData>
        </FareTable>
      </AreaRegulationFareInfoResponseData>
    </RetrieveAreaRegulationFareInfoResponse>
  </s:Body>
</s:Envelope>
```

7.3.2.3   Request message 2

Note: this request message is basically an empty message (the OIN or PIN on the certificate is the only data needed to process the message). This means that in this case the tag AreaArrangeAccountInfoRequestData, which is mandatory, is empty.

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreaRegulationFareInfo</a
:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">00100010</h:OIN>
    <a:MessageID>urn:uuid:3385bdb3-3e11-407c-8c77-c76ebcf611d7</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreaRegulationFareInfoRequest xmlns="http://rdw.nl/rpv/1.0">
      <AreaArrangeAccountInfoRequestData>
        <AreaManagerId>1234</AreaManagerId>
      </AreaArrangeAccountInfoRequestData>
    </RetrieveAreaRegulationFareInfoRequest>
  </s:Body>
</s:Envelope>
```

7.3.2.4   Response message 2

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/RetrieveAreaRegulationFar
eInfoResponse</a:Action>
    <a:RelatesTo>urn:uuid:3385bdb3-3e11-407c-8c77-
c76ebcf611d7</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <RetrieveAreaRegulationFareInfoResponse xmlns="http://rdw.nl/rpv/1.0">
      <AreaRegulationFareInfoResponseData>
        <AreaTable>
          <AreaData>
            <AreaId>P1</AreaId>
            <AreaDesc>Parkeren centrum</AreaDesc>
            <StartDateArea>20090101</StartDateArea>
            <EndDateArea>29991231</EndDateArea>
            <UsageDesc>GARAGE</UsageDesc>
            <GracePeriodBefore>0</GracePeriodBefore>
            <GracePeriodAfter>0</GracePeriodAfter>
            <AreaRegulationTable>
              <AreaRegulationData>
                  <RegulationIdArea>R1</RegulationIdArea>
```

```
                    <StartDateAreaRegula-
tion>20090101T09:00:00</StartDateAreaRegulation>
                    <EndDateAreaRegulation>29991231T00:00:00</EndDateAreaRegulation>
                 </AreaRegulationData>
                 <AreaRegulationData>
                    <RegulationIdArea>AANV1</RegulationIdArea>
                    <StartDateAreaRegula-
tion>20090101T09:00:00</StartDateAreaRegulation>
                    <EndDateAreaRegulation>29991231T00:00:00</EndDateAreaRegulation>
                 </AreaRegulationData>
              </AreaRegulationTable>
          </AreaData>
          <AreaData>
            <AreaId>P2</AreaId>
            <AreaDesc>Parkeren buitenwijken</AreaDesc>
            <StartDateArea>20090101</StartDateArea>
            <EndDateArea>29991231</EndDateArea>
            <UsageDesc>GARAGE</UsageDesc>
            <GracePeriodBefore>5</GracePeriodBefore>
            <GracePeriodAfter>10</GracePeriodAfter>
            <AreaRegulationTable>
               <AreaRegulationData>
                  <RegulationIdArea>R2</RegulationIdArea>
                  <StartDateAreaRegula-
tion>20090101T09:00:00</StartDateAreaRegulation>
                  <EndDateAreaRegulation>29991231T00:00:00</EndDateAreaRegulation>
               </AreaRegulationData>
               <AreaRegulationData>
                  <RegulationIdArea>AANV1</RegulationIdArea>
                  <StartDateAreaRegula-
tion>20090101T09:00:00</StartDateAreaRegulation>
                  <EndDateAreaRegulation>29991231T00:00:00</EndDateAreaRegulation>
               </AreaRegulationData>
            </AreaRegulationTable>
          </AreaData>
       </AreaTable>
       <RegulationTable>
         <RegulationData>
           <RegulationId>R1</RegulationId>
           <RegulationDesc>Regeling-1</RegulationDesc>
           <RegulationType>B</RegulationType>
           <StartDateRegulation>20100101</StartDateRegulation>
           <EndDateRegulation>20101231</EndDateRegulation>
           <TimeFrameTable>
             <TimeFrameData>
               <DayTimeFrame>MAANDAG</DayTimeFrame>
               <StartTimeTimeFrame>900</StartTimeTimeFrame>
               <EndTimeTimeFrame>1700</EndTimeTimeFrame>
               <MaxDurationRight>60</MaxDurationRight>
               <ClaimRightPossible>Y</ClaimRightPossible>
               <FareTimeFrame>TAR-1</FareTimeFrame>
             </TimeFrameData>
             <TimeFrameData>
               <DayTimeFrame>DINSDAG</DayTimeFrame>
               <StartTimeTimeFrame>800</StartTimeTimeFrame>
               <EndTimeTimeFrame>2000</EndTimeTimeFrame>
               <ClaimRightPossible>Y</ClaimRightPossible>
               <FareTimeFrame>TAR-2</FareTimeFrame>
             </TimeFrameData>
           </TimeFrameTable>
         </RegulationData>
         <RegulationData>
           <RegulationId>R2</RegulationId>
           <RegulationDesc>Regeling-2</RegulationDesc>
```

```
                    <StartDateRegulation>20100101</StartDateRegulation>
                    <EndDateRegulation>20101231</EndDateRegulation>
                    <TimeFrameTable>
                      <TimeFrameData>
                        <DayTimeFrame>DINSDAG</DayTimeFrame>
                        <StartTimeTimeFrame>900</StartTimeTimeFrame>
                        <EndTimeTimeFrame>1700</EndTimeTimeFrame>
                        <ClaimRightPossible>N</ClaimRightPossible>
                      </TimeFrameData>
                    </TimeFrameTable>
                  </RegulationData>
                  <RegulationData>
                   <RegulationId>AANV1</RegulationId>
                   <RegulationDesc>Dagkaart</RegulationDesc>
                   <RegulationType>A</RegulationType>
                   <StartDateRegulation>20100101</StartDateRegulation>
                   <EndDateRegulation>20101231</EndDateRegulation>
                   <TimeFrameTable>
                     <TimeFrameData>
                       <DayTimeFrame>DINSDAG</DayTimeFrame>
                       <StartTimeTimeFrame>900</StartTimeTimeFrame>
                       <EndTimeTimeFrame>2400</EndTimeTimeFrame>
                       <ClaimRightPossible>J</ClaimRightPossible>
                       <FareTimeFrame>TAR-3</FareTimeFrame>
                     </TimeFrameData>
                   </TimeFrameTable>
                  </RegulationData>
                </RegulationTable>
                <FareTable>
                  <FareData>
                    <FareCalculationCode>TAR-1</FareCalculationCode>
                    <FareCalculationDesc>TariefBerekeningsCode-
1</FareCalculationDesc>
                    <StartDateFare>20080101</StartDateFare>
                    <EndDateFare>29991231</EndDateFare>
                    <VATPercentage>7.5</VATPercentage>
                    <FarePartTable>
                      <FarePartData>
                        <StartDateFarePart>20100101</StartDateFarePart>
                        <EndDateFarePart>20101231</EndDateFarePart>
                        <StartDurationFarePart>0</StartDurationFarePart>
                        <EndDurationFarePart>9999</EndDurationFarePart>
                        <TotalAmountParts>0.00</TotalAmountParts>
                        <AmountFarePart>1.00</AmountFarePart>
                        <StepSizeFarePart>1</StepSizeFarePart>
                      </FarePartData>
                    </FarePartTable>
                  </FareData>
                  <FareData>
                    <FareCalculationCode>TAR-2</FareCalculationCode>
                    <FareCalculationDesc>TariefBerekeningsCode-
2</FareCalculationDesc>
                    <StartDateFare>20080101</StartDateFare>
                    <EndDateFare>29991231</EndDateFare>
                    <FarePartTable>
                      <FarePartData>
                        <StartDateFarePart>20100101</StartDateFarePart>
                        <EndDateFarePart>20101231</EndDateFarePart>
                        <StartDurationFarePart>0</StartDurationFarePart>
                        <EndDurationFarePart>600</EndDurationFarePart>
                        <TotalAmountParts>0.00</TotalAmountParts>
                        <AmountFarePart>0.06</AmountFarePart>
                        <StepSizeFarePart>1</StepSizeFarePart>
```

```
              </FarePartData>
              <FarePartData>
                <StartDateFarePart>20100101</StartDateFarePart>
                <EndDateFarePart>20101231</EndDateFarePart>
                <StartDurationFarePart>601</StartDurationFarePart>
                <EndDurationFarePart>9999</EndDurationFarePart>
                <TotalAmountParts>36.00</TotalAmountParts>
                <AmountFarePart>1.00</AmountFarePart>
                <StepSizeFarePart>30</StepSizeFarePart>
              </FarePartData>
            </FarePartTable>
          </FareData>
          <FareData>
           <FareCalculationCode>TAR-3</FareCalculationCode>
           <FareCalculationDesc>TariefBerekeningsCode-3</FareCalculationDesc>
           <StartDateFare>20090101</StartDateFare>
           <EndDateFare>29991231</EndDateFare>
           <VATPercentage>20.0</VATPercentage>
           <FarePartTable>
             <FarePartData>
                <StartDateFarePart>20100101</StartDateFarePart>
                <EndDateFarePart>29991231</EndDateFarePart>
                <StartDurationFarePart>0</StartDurationFarePart>
                <EndDurationFarePart>9999</EndDurationFarePart>
                <TotalAmountParts>0.00</TotalAmountParts>
                <AmountFarePart>24.99</AmountFarePart>
                <StepSizeFarePart>900</StepSizeFarePart>
             </FarePartData>
           </FarePartTable>
          </FareData>
         </FareTable>
       </AreaRegulationFareInfoResponseData>
   </s:Body>
</s:Envelope>
```

7.4 StatusRequest

A Connected system is always allowed to send a Status Request in order to check the availability of RPV and the connection. The Response by RPV (if possible) contains OK or NOK and the error

7.4.1 Message dialogue StatusRequest

An entity sends a request message *StatusRequestRequest*. RPV sends a response message *StatusRequestResponse*, containing the status OK/NOK and if applicable an error or information message
The following information is provided in the request message:
❑ *StatusTime* (request)
❑ (optional) *StatusReference*
❑ *UUID (*MessageID)

The response message sent by RPV contains
❑ *StatusTime* (response)
❑ *StatusRPV*

7.4.2 Example messages

Request
1. Request

Replies
1. Response with OK.
2. Response with NOK.

7.4.2.1 Example request message

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <a:Action s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/Status</a:Action>
    <h:OIN xmlns="http://rdw.nl/rpv/1.0" xmlns:h="rdw.nl/rpv/1.0">123</h:OIN>
    <a:MessageID>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    < StatusRequestRequest xmlns="http://rdw.nl/rpv/1.0">
      <StatusRequestRequestData>
        <StatusTime>2010-09-24T16:45:00</StatusTime>
        <StatusReference>Test5</StatusReference>
      </StatusRequestRequestData>
    </StatusRequestRequest>
  </s:Body>
</s:Envelope>
```

7.4.2.2 Example response message 1

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/StatusResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <StatusRequestResponse xmlns="http://rdw.nl/rpv/1.0">
      <StatusRequestResponseData>
```

```
      <StatusTime>2010-09-24T16:45:03</StatusTime>
      <StatusRPV>OK</StatusRPV>
    </StatusRequestResponseData>
  </StatusRequestResponse>
  </s:Body>
</s:Envelope>
```

7.4.2.3 Example response message 2

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">rdw.nl/rpv/1.0/Iregistration/StatusResponse</a:Action>
    <a:RelatesTo>urn:uuid:53d5046f-f8c4-422e-a5ad-0ae640ab3d88</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
   <StatusRequestResponse xmlns="http://rdw.nl/rpv/1.0">
      <StatusRequestResponseData>
         <StatusTime>2010-09-24T16:45:03</StatusTime>
         <StatusRPV>NOK</StatusRPV>
      </StatusRequestResponseData>
    </StatusRequestResponse>
  </s:Body>
</s:Envelope>
```

8 Error handling

8.1 Error procedure

In this chapter the procedure for connected systems is described in case of an error situation. From the point of view of the connected system two types of errors can occur after sending a Request[6] to RPV:

1. *Error:* Reply from RPV with an error code, other than 302 and 201
2. *Communication lost:* no Reply from RPV is received within a time-out period, set by the Connected system (e.g. 10s) or a Reply with error code 302 and 201.

Ad 1 Reply with an error messsage 100 – 205:

All error messages except 302 and 201 are errors in the content of the Request. A resend of the Request is not allowed because it will result in the same error: repair of the content of the Request is required. Contact the help desk if analysis of the Request shows that a parameter in RPV seems incorrect.

Ad 2 State "Communication lost":

This state is started when the Connected system does not get a Reply on a Request within a certain period (e.g. a time-out after 10 seconds). Or when the Reply indicates error code 302 or 201. The following procedure starts:

1. The Connected system should decide after certain retries (e.g. 3 times) to stop sending Requests to RPV and buffer them.(In case of error code 302 or 201, the RPV system will, after a certain period, automatically stop sending error code 302 or 201 and produce a time-out)
2. Start sending StatusRequests, for example every 60 seconds.
3. After 5 minutes of communication loss, contact Help desk at SHPV
4. After communication is re-established (according to Help desk SHPV or when StatusResponse OK is received), start sending buffered messages with the original UUID.

8.2 Resending a Request

A Connected system can always resend a Request with the original UUID, the original Reply based on the UUID is replied. The Request is only processed in the situation that the Requests UUID is new for RPV. If RPV already created a Reply, the original Reply is resent without reprocessing. Thereby changes in the content of the resent Request are neglected.

A. Annex A – Description of XML elements

In alphabetical order this annex the elements used in the messages are described in detail. The following information is provided:

▪ Item

The name of the XML element. Some elements have values, others have not, e.g. nesting elements to support multiple occurrences.

▪ Type

The data type, only applicable to those elements that have a value.

Type	Description
Text	A sequence of characters.
DT	Date and Time in UTC format (Co-ordinated Universal Time) as *'CCYY-MM-DDThh:mm:ssZ'* or Date and Time in local time ± offset to UTC '*CCYY-MM-DDThh:mm:ss±hh:mm*'
Date	Date in format CCYYMMDD, area manager local time.
Int	Numeric, integer values only.
Dec	Numeric, fractional numbers possible.
Enum	Enumeration; the element has a specified set of values. The possible values will be listed.

• Len

This column indicates the length of the element.

▪ 'n' indicates a fixed length where 'n' is the number of characters
▪ 'm-n' indicates a variable length where "m" is the minimum and "n" is the maximum

▪ Description

Information about the purpose of the element, rules for usage and examples of usage. For elements of type "Enum", i.e. elements with a fixed set of values, in the description the possible values will be listed.

General message rules
❑ The order in which to put tags, is specified in the XSD. Putting tags in the wrong order, will result in an error while processing the request.The XSD is leading for defining the tag order.
❑ In request messages, optional elements that are not applicable, can be delivered in two ways:
  o Leave out the tag
  o Include the tag, but state explicitly that it has no value, i.e. value xsi:nil="**true**".
  Note: If an empty tag is sent with no explicit "nil" value, this will result in an XSD validation error.
❑ In response messages, RPV delivers optional elements that have no value, by including the tag in the message, stating explicitly that it has no value, i.e. value xsi:nil="**true**".
❑ Dates and times of PS Rights and reference date-times are either delivered as UTC , i.e. format *CCYY-MM-DDThh:mm:ssZ*, or delivered in local time with an offset to UTC, i.e. format *CCYY-MM-DDThh:mm:ss±hh:mm*. If no Z or offset is provided, UTC is assumed.
❑ Dates and times used for managing areas, regulations and fares, as well as dates and times concerning price calculation, are area manager local dates and times.
❑ The format of tags with price values is €.cc

Item	Type	Len	Description
AmountFarePart	Dec	1.8-7.8	Amount per step size that has to be paid in this fare
AmountFraction	Dec	1.2-8.2	Amount, being a fraction of `AmountPSRightCalculated`. Is used within a `SpecifCalcAmountList`.
AmountPSRight	Dec	1.2-8.2	The price to pay for the PS right. VAT included. Format €.cc. The price for the PS right, calculated by the rights acquirer or the selling point (e.g. parking meter) that was used for acquiring the PS right.
AmountPSRightCalculated	Dec	1.2-8.2	Price to pay for the PS right, VAT included. Format €.cc. A price calculated by RPV, being the price set by the area manager. The calculation is based on the regulation applicable to the area where the PS right was acquired, and

Item	Type	Len	Description
			depends on the day or days the right was acquired, the duration of the right, and the fare per hour.
			A price is calculated anytime a request message is sent that contains *EndTimePSRight* (new or changed).
AmountRatePart	Dec	1.2-8.2	The minimum amount that has to be paid for acquiring a PS right. Format €.cc.
			This amount is the minimum timeframe to pay, multiplied by the fare at time = *CheckTime*.
AreaData			Data of 1 specific area.
AreaDesc	Text	1-80	Description of the Area in the RPV, as set by the area manager.
AreaId	Text	1-10	Identification of the Area in the RPV. The area ids in RPV are set by the area manager, they are unique for the area manager but not necessarily unique for RPV.
AreaLocation			This node contains the location of an area
AreaManagerId	Int	1-4	Identification of the area manager in the RPV. Area manager identifications are unique in RPV, and are issued by SHPV.
AreaManagerDesc	Text	1-80	Description of the Area Manager in RPV.
AreaRegulationData			Data of 1 specific regulation applying to an area.
AreaRegulationTable			Table containing the regulations that apply to a certain area.
AreaTable			Table containing the data of 1 or more areas.
CheckAddress			Node in which an address is given, specifying the area that should be checked for the presence of PSRights.
CheckAnswer	Text	1	Answer given by RPV at a request to check for a PS Right for a certain vehicle in a certain area at a certain time. Value list:
			Y = Yes, a PS right is found.
			N = No, a PS right is not found.
CheckInfoData			Information on one specific logged check.
CheckInfoList			A list of information on logged checks.
CheckLocation			Node in which a location is given, specifying the area that should be checked for the presence of PSRights.
CheckOrgCode	Int	5	Code of a PS Right checking organisation. CheckOrgCodes are unique in RPV, and are issued by SHPV.
CheckOrgDesc	Text	1-80	Description of a PS Right checking organisation.
CheckTime	DT		Date and time at which must be checked whether or not a PS Right is present.
ClaimRightPossible	Int	1	Indicator whether or not its possible to claim rights in this timeframe.
			Y = Yes, it's possible to claim rights.
			N = No, it's not possible to claim rights.
CountryCodeCheck	Text	1-3	Denotes the country of origin of the vehicle licence plate, as provided by the enforcer in a check for PS rights. The coding scheme used is UN agreed. For the list of possible codes
			http://www.unece.org/trans/conventn/Distsigns.pdf.
CountryCodeVehicle	Text	1-3	Denotes the country of origin of the vehicle licence plate. The coding scheme used is UN agreed. For the list of possible codes
			.http://www.unece.org/trans/conventn/Distsigns.pdf.
			Advise: to avoid problems in enforcement, omit the CountryCode if unknown: don't use NL as default.
DayTimeframe	Text	20	Name of a regular day of the week, in the language of the area manager (i.e. zondag, maandag etc.), or name of a special day where special fares apply (e.g. marktdag or christelijke feestdag).
EndDateArea	Date	8	End date of an area (inclusive).

Item	Type	Len	Description
EndDateAreaRegulation	DT		End date-time of a regulation of an area (time inclusive).
EndDateFare	Date	8	End date of a fare (inclusive).
EndDateFarePart	Date	8	End date of a fare part (inclusive).
EndDateRegulation	Date	8	End date of a regulation (inclusive).
EndDurationFarePart	Int	6	Duration of the PS Right when this fare part ends to be applicable.
EndTimeApplied	DT		Date and time when a certain regulation ends to be applicable (time exclusive). Is used within a SpecifCalcAmountList.
EndTimeTimeFrame	Int	4	End time of a timeframe, format uumm (time exclusive). This is the area manager local time when a certain fare ends to be applicable.
EndTimePSRight	DT		Date and time when the PS right ends (time exclusive). In price calculations, maximum significance is minutes, i.e. the seconds are ignored. However, if seconds are delivered, they will be recorded.
EndTimePSRightAdjusted	DT		System calculated date and time (time exclusive) when a PS Right ends, overrules the *EndTimePSRight* provided by the rights acquirer.
EndTimePSRightDayWindow	Text	1-20	If this element is present, *StartTimePSRightDayWindow* is also present. The day provided is inclusive.For further information see *StartTimePSRightDayWindow*.
EndTimePSRightWindow	Int	4	If this element is present, *StartTimePSRightWindow* is also present. Consists of a time value in format hhmm (time exclusive). For further information see *StartTimePSRightWindow*.
EndTimeRemark	DT		Time associated with a PSRightRemark. Date and time at which the remark ends to be applicable (time exclusive)
ErrorCode	Int	3	Code explaining an error situation.
ErrorDesc	Text	1-80	Description explaining an error situation.
ErrorVariable	Text	1-200	In this element, when an error situation occurs, extra information that might be useful for the recipient can be given.
ExtraInfoIndicator	Text	1	Indicator denoting if the checking organisation wants to receive extra information, on checking for PS rights. Value list: Y = Yes, I want extra information N = No, I don't want extra information
FareCalculationCode	Text	1-10	Code of a certain fare. The fare calculation ids in RPV are set by the area manager, they are unique for the area manager but not necessarily unique for RPV.
FareCalculationDesc	Text	1-80	Description of a certain fare, as set by the area manager.
FareData			Data of one specific fare
FarePartData			Data of one specific fare part
FarePartTable			Table containing the data of 1 or more fare parts
FareTable			Table containing the data of 1 or more fares
FareTimeFrame	Text	10	Code of the fare that is applied within this timeframe.
GracePeriodAfter	Int	2	Grace period to apply beyond end date-time PS Right, e.g. after expiration of a parking right, the time in minutes a customer is still allowed to stay on the parking spot.
GracePeriodBefore	Int	2	Grace period to apply before start date-time PS Right, e.g. after actual parking, time in minutes a customer is granted to acquire a parking right.
IndicatorTime	DT		Date and time around which something should be retrieved, e.g. rights or check answers.
InfoMessageCode	Int	3	Code denoting an informational message.
InfoMessageDesc	Text	1-80	Description of an informational message.

Item	Type	Len	Description
Latitude	Dec	3.10	Latitude of a location for which a PSRight is acquired Coordinate frame WGS84, decimal format. If no sign is provided, a positive sign is assumed. Maximum significance: 10 digits behind the decimal point.
AddressLocation			Node containing the data of an address related to (closest to) a certain location.
LocationPSRight			Node in which a location is given, specifying the area for which a PSRight should be recorded.
Longitude	Dec	4.10	Longitude of a location for which a PSRight is acquired Coordinate frame WGS84, decimal format. If no sign is provided, a positive sign is assumed. Maximum significance: 10 digits behind the decimal point.
MaxDurationRight	Int	4	Maximum possible duration of a PS Right (in minutes) within this timeframe.
PlaceOfResidence	Text	1-24	The place of residence of an address.
PriceOneHourParking	Dec	1.2-8.2	The price to pay for one hour of parking, using the fare applicable at a certain referencetime, and applying it for exactly 60 minutes.
PSRightAcquirerCode	Int	5	The code of the right acquirer as known in RPV. Right acquirer codes are unique in RPV, and are issued by SHPV.
PSRightAcquirerDesc	Text	1-80	The description of the right acquirer as recorded in RPV.
PSRightCheckPSRightData			Element containing the data of a single PSRight, associated with a check for PS rights.
PSRightCheckPSRight-DataList			Element containing a list of 1 or more PS Rights, associated with a check for PS rights, for which information is given
PSRightId	Int	1-10	Unique, system issued, identification of a PS right in RPV.
PSRightIndicator	Text	1	Indicator denoting whether or not acquired rights are usable.Value list Y = Usage of acquired rights is possible N = Usage of acquired rights is not possible
PSRightInfoData			Information of one specific PS Right.
PSRightInfoList			A list of information on PS Rights
PSRightRemarkData			Element containing the data of a single PSRightRemark. On registering a right, RPV gives remarks if applicable. Known remarks are: a. Periods when it is forbidden to acquire a PS Right.
PSRightRemarkList			Element containing a list of 1 or more remarks given by RPV
PSRightRemarkType	Int		Denotes the kind of remark. For more information on remark types, see Appendix B.
PSRightWindowData			Element containing the data of one validity window.
PSRightWindowList			List of validity windows of a PSRight, PSRights with 1 or more validity windows are only valid during window days/times and not outside the windows days/times.
ReferenceCheckOrg	Text	1-40	Identification or description that a checking organisation can register with the logging in RPV of a check. If, how and when to use this element, is to be decided by the checking organisation.
ReferencePSRight	Text	1-40	Identification or description that a rights acquirer can register with a PS right. If, how and when to use this element, is to be decided by the rights acquirer.
ReferenceTime	DT		Reference time used for selection of data, in UTC.
ReferenceTimeRegulation	DT		Reference time used to select the valid regulation(s) to apply.
RegulationData			Data of 1 specific regulation

Item	Type	Len	Description
RegulationDesc	Text	1-80	Description of a regulation imposed by the area manager.
RegulationId	Text	1-10	Identification of a regulation imposed by the area manager. The regulation ids in RPV are set by the area manager, they are unique for the area manager but not necessarily unique for RPV.
RegulationIdArea	Text	1-10	RegulationId that is applicable to the associated area.
RegulationTable			Table containing the data of 1 or more regulations
RegulationType	Enum		Denotes the kind of regulation. Possible values: B = base regulation, i.e. the regulation applying for paid parking. A = additional regulation, e.g. discount regulations like evening ticket or day ticket.
SellingPointDesc	Text	1-80	Description of a selling point
SellingPointId	Int	1-10	Identification of the selling point where the right was acquired. Selling point ids are unique within RPV, and are issued by SHPV.
SpecifCalcAmountData			This node contains one specific entry in a `SpecifCalcAmountList`.
SpecifCalcAmountList			List that further specifies `AmountPSRightCalculated` The list is only present when the calculated amount is based on additional regulation(s), besides the standard regulation, of the area.
StartDateArea	Date	8	Start date of an area (inclusive).
StartDateAreaRegulation	DT		Start date-time of a regulation of an area (inclusive).
StartDateFare	Date	8	Start date of a fare (inclusive).
StartDateFarePart	Date	8	Start date of a fare part (inclusive).
StartDateRegulation	Date	8	Start date of a regulation (inclusive).
StartDurationFarePart	Int	6	Duration of a PS Right when this fare part starts to be applicable.
StartTimeApplied	DT		Date and time (inclusive) when a certain regulation starts to be applicable. Is used within a `SpecifCalcAmountList`.
StartTimeTimeFrame	Int	4	Start time of a timeframe, format uumm (inclusive). This is the area manager local time when a certain fare starts to be applicable.
StartTimePSRight	DT		Date and time when the PS right starts (inclusive). In price calculations, maximum significance is minutes, i.e. the seconds are ignored. However, if seconds are delivered, they will be recorded.
StartTimePSRightDayWindow	Text	1-20	If this element is present, *EndTimePSRightDayWindow* is also present. Consists of a day name value. The day name values that can be used are ZONDAG, MAANDAG, DINSDAG, WOENSDAG, DONDERDAG, VRIJDAG, ZATERDAG. The day provided is inclusive.
StartTimePSRightWindow	Int	4	If this element is present, *EndTimePSRightWindow* is also present. Consists of a time value in format uumm (inclusive). Used when a PS right is only valid only during a time window per day. The right itself is valid for a period of 1 day or more, but each day the validity is only a few hours. Examples monthly parking ticket for mornings: 08.00-12.00 or evenings. 19.00-23.00.
StartTimeRemark	DT		Time associated with a PS RightRemark (inclusive). Date and time at which the remark starts to be applicable
StatusReference	Text	1-10	A reference that the initiator of a status request can provide with the status request. It will be returned in the status request response.

Item	Type	Len	Description
StatusTime	DT		Time at which a StatusRequest was sent (in the request) or processed (in the response).
StatusRPV	Text	1-10	OK or NOK: RPV available or not
StepSizeFarePart	Int	6	Step size (in minutes) of the fare. The amount to pay for a PS Right is always equal to N times the step size of the fare, i.e. the minimum amount to pay is one step.
StreetCode	Text	1-5	The code of a street. Using a street code instead of a street name in the geographic determination of RPV areas, eliminates the influence of spelling errors, mismatch in diacritic characters etc. Street codes shorter than 5 digits should be preceded by leading zeroes.
StreetName	Text	1-24	The street name of an address
HouseNumber	Int	5	The house number of an address, without additions, i.e. without "huisnummertoevoeging" or "huisletter" or "aanduiding bij huisnummer".
HouseNumberAdditions	Text	10	Additions to the house number, like "huisnummertoevoeging" and/or "huisletter" and/or "aanduiding bij huisnummer".
TimeFrameTable			A table containing timeframes when a certain fare applies.
TimeFrameTableData			The data of one individual timeframe
TotalAmountParts	Dec	1.2-8.2	Total amount in €.cc of the previous fare parts before this fare part.
UsageDesc	Text	1-80	Description of the usage of a certain area (or set of areas) in RPV.
UsageId	Text	1-10	Identification of the usage of an area, regulation or PSRight in the RPV. A general set of usage identifications are issued by SHPV, to be used by all area managers. Each area manager can extend the general usages, subdividing the general usages into more specific usages. To correctly determine the validity of rights, it is necessary that the subdivision of usages matches the ruling set in parking legislation. E.g. when the validity rules of a parking permit for residents and the validity rules of a parking permit for companies are not the same, it is required that a PSRight "parking permit resident" has a different UsageId than a PSRight "parking permit company", therefore, the area manager will distinguish these usages. However, when the validity rules for these two permits are the same any time, any place, then it is not necessary to distinguish, and the PSRights of these two permits can have the same UsageId.
VATamountFraction	Dec	1.2-8.2	Amount, being a fraction of VATPSRightCalculated. Is used within a SpecifCalcAmountList.
VATPercentage	Dec	3.1	Percentage VAT of a certain fare.
VATPSRight	Dec	1.2-8.2	Format €cc.VAT portion of *AmountPSRight*, only present if applicable.
VATPSRightCalculated	Dec	1.2-8.2	Format €.cc.VAT portion of *AmountPSRightCalculated*, only present if applicable.
VehicleId	Text	1-25	Usually the licence plate number of a vehicle, in some cases another identification, e.g. the number of a disabled person's parking card. Before storage in RPV, or before retrieval, the vehicle id provided in a request message is stripped of non alphabetical characters (-, spaces) and converted to uppercase.

B.   Annex B – Remarks

Some response messages contain an optional table (`PSRightRemarkList`), containing one or more remarks. A remark might be accompanied by a `StartTimeRemark` and/or an `EndTimeRemark`, both in UTC.

The following table lists the remarks that can be given and the meaning of the remark.

PSRightRemarkType	StartTimeRemark	EndTimeRemark	Meaning of the remark
1	Present	Present	Period in which an acquired PS Right is not valid. The remark is given when a PSRight is acquired without an end time, or when a PSRight is acquired or revoked, with an end time that lies in or beyond the period in which the remark applies. The remark is only given when the period starts within 24 hours of `StartTimePSRight`.
2	Not present	Present	This remark is given when a PSRight is acquired without an end time, and a maximum parking duration applies. RPV now returns the last time at which the PSRight is valid. Beyond `EndTimeRemark`, RPV will consider the PSRight to be invalid.

The handling of the remark is up to the rights acquirer. The acquirer can present them as warnings to its customers (but leave the responsibility to terminate a PSRight in time to the customer). He can also actively ensure that an acquired PSRight cannot lose its validity before its end of use e.g. by sending a Revoke.

C.   Annex B – List of error messages and informational messages

ErrorCode	ErrorDesc
1	No current regulation for areamanager id <AreaManagerId>, area id <AreaId>
2	Local time for areamanager id <AreaManagerId>, area id <AreaId>unknown
3	No timeframe for day <DayTimeframe>, areamanager id <AreaManagerId>, area id <AreaId>
4	Fare for area manager id <AreaManagerId>, area id <AreaId>, <CalculationCode> unknown
5	No PSRight required
7	No information available for price calculation
8	Usage Id does not exist or is not valid
9	Area could not be determined uniquely
10	Area does not exist or is not valid
11	Area manager does not exist or is not valid
12	Geographical position is not provided
13	Sellingpoint is not valid
14	Date input is not valid
100	Area is not provided
101	Area is not valid
102	No authorisation
103	Invalid parking duration
104	Checking organisation has no authorisation to check
110	PS right not found
111	Erroneous validity restricting window
112	Invalid AmountPSRight
113	Invalid VATPSRight
114	Extension of parking duration is not allowed
115	Message already sent; deviating start or end time
123	No information found for provided selection criteria
201	Invalid process function
202	Tag is not filled properly
203	Rights acquirer not known
204	It is not possible tot grant PSRightId
205	Selling point not known
206	Required data not filled
302	Technical failure, please contact Service House Parking