



INFORMATION TECHNOLOGY

Automated Railcar Release, Switch and Resequencing XML and WSDL documentation

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1 Introduction

1.1 Purpose of this document

This document describes the WSDL and XML documents related to CN's Automated Railcar Release, Switch and Resequence web service. The name of the webservice is unchanged ([SRORelease](#)) but now provides the additional Switch and Resequence functionalities.

2 Automated Railcar Release, Switch and Resequencing Web Service WSDL document

The WSDL allows a service provider to specify the following characteristics of a Web service, in this case the Railcar Automated Release Web Service:

- Name of the Web service and addressing information.
- Protocol and encoding style to be used when accessing the public **operations** of the Web service.
- Type information: operations, parameters, and data types comprising the interface of the Web Service, plus a name for this interface.

Figure 1: Automated Railcar Release, Switch and Resequencing Web Service WSDL document in textual format

```
<wsdl:definitions xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://www.cn.ca/SRO/"
xmlns:tns="http://www.cn.ca/SRO/"
xmlns:sro="http://www.cn.ca/SRO/Release">
  <wsdl:import namespace="http://www.cn.ca/SRO/Release"
location="http://ecprod.cn.ca/velocity/xml/SRORelease.xsd"/></wsdl:import>
  <wsdl:types>
    <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" targetNamespace="http://www.cn.ca/SRO/"></xsd:schema>
  </wsdl:types>
  <wsdl:message name="sroReleaseReply">
    <wsdl:part name="sroReleaseReplyPart" element="sro:SROReleaseReply"/>
  </wsdl:message>
  <wsdl:message name="sroReleaseRequest">
    <wsdl:part name="sroReleaseRequestPart" element="sro:SROReleaseRequest"/></wsdl:part>
  </wsdl:message>
  <wsdl:portType name="SROReleaseProvider">
    <wsdl:operation name="execute">
      <wsdl:input name="sroReleaseRequestInput" message="tns:sroReleaseRequest"/>
      <wsdl:output name="sroReleaseReplyOutput" message="tns:sroReleaseReply"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="SROReleaseProviderSoapBinding" type="tns:SROReleaseProvider">
    <wsdlsoap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="execute">
      <wsdl:input>
        <wsdlsoap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <wsdlsoap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="SRORelease">
    <wsdl:port name="SROReleaseProvider" binding="tns:SROReleaseProviderSoapBinding">
      <wsdlsoap:address location="https://automate.cn.ca/ecomsrvs/services/SRORelease"/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

Many XML editor tools provide the feature of a Documentation generator. The following is the documentation for the AUTOMATED RAILCAR RELEASE Web Service WSDL document. It helps to

identify the main components of the Web service, most notably the Input, Output, and Fault “messages” which are further described in the next sections as XML documents.

Figure 2: Automated Railcar Release, Switch and Resequence Web Service WSDL Generated documentation

WSDL SROWebService.wsdl

WSDL location:	http://ecprod.cn.ca/velocity/xml/SROWebService.wsdl
targetnamespace:	http://www.cn.ca/SRO/

services	bindings	porttypes	messages
SRORelease	SROReleaseProviderSoapBinding	SROReleaseProvider	sroReleaseReply sroReleaseRequest

service SRORelease

ports	SROReleaseProvider binding tns:SROReleaseProviderSoapBinding extensibility <wsdlsoap:address location="https://automate.cn.ca/ecomsrvc/services/SRORelease"/>
source	<pre><wsdl:service name="SRORelease"> <wsdl:port name="SROReleaseProvider" binding="tns:SROReleaseProviderSoapBinding"> <wsdlsoap:address location="https://automate.cn.ca/ecomsrvc/services/SRORelease"/> </wsdl:port> </wsdl:service></pre>

binding SROReleaseProviderSoapBinding

type	tns:SROReleaseProvider
extensibility	<wsdlsoap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
operations	execute extensibility input <wsdlsoap:body use="literal"/> output <wsdlsoap:body use="literal"/>
Used by	Service SRORelease in Port SROReleaseProvider
source	<pre><wsdl:binding name="SROReleaseProviderSoapBinding" type="tns:SROReleaseProvider"> <wsdlsoap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/> <wsdl:operation name="execute"> <wsdl:input> <wsdlsoap:body use="literal"/> </wsdl:input> <wsdl:output> <wsdlsoap:body use="literal"/> </wsdl:output> </wsdl:operation> </wsdl:binding></pre>

porttype **SROReleaseProvider**

operations	execute input tns:sroReleaseRequest output tns:sroReleaseReply
Used by	binding SROReleaseProviderSoapBinding
source	<pre><wsdl:portType name="SROReleaseProvider"> <wsdl:operation name="execute"> <wsdl:input name="sroReleaseRequestInput" message="tns:sroReleaseRequest"/> <wsdl:output name="sroReleaseReplyOutput" message="tns:sroReleaseReply"/> </wsdl:operation> </wsdl:portType></pre>

message **sroReleaseReply**

parts	sroReleaseReplyPart element sro:SROReleaseReply
used by	PortType SROReleaseProvider in Operation execute
source	<pre><wsdl:message name="sroReleaseReply"> <wsdl:part name="sroReleaseReplyPart" element="sro:SROReleaseReply"/> </wsdl:message></pre>

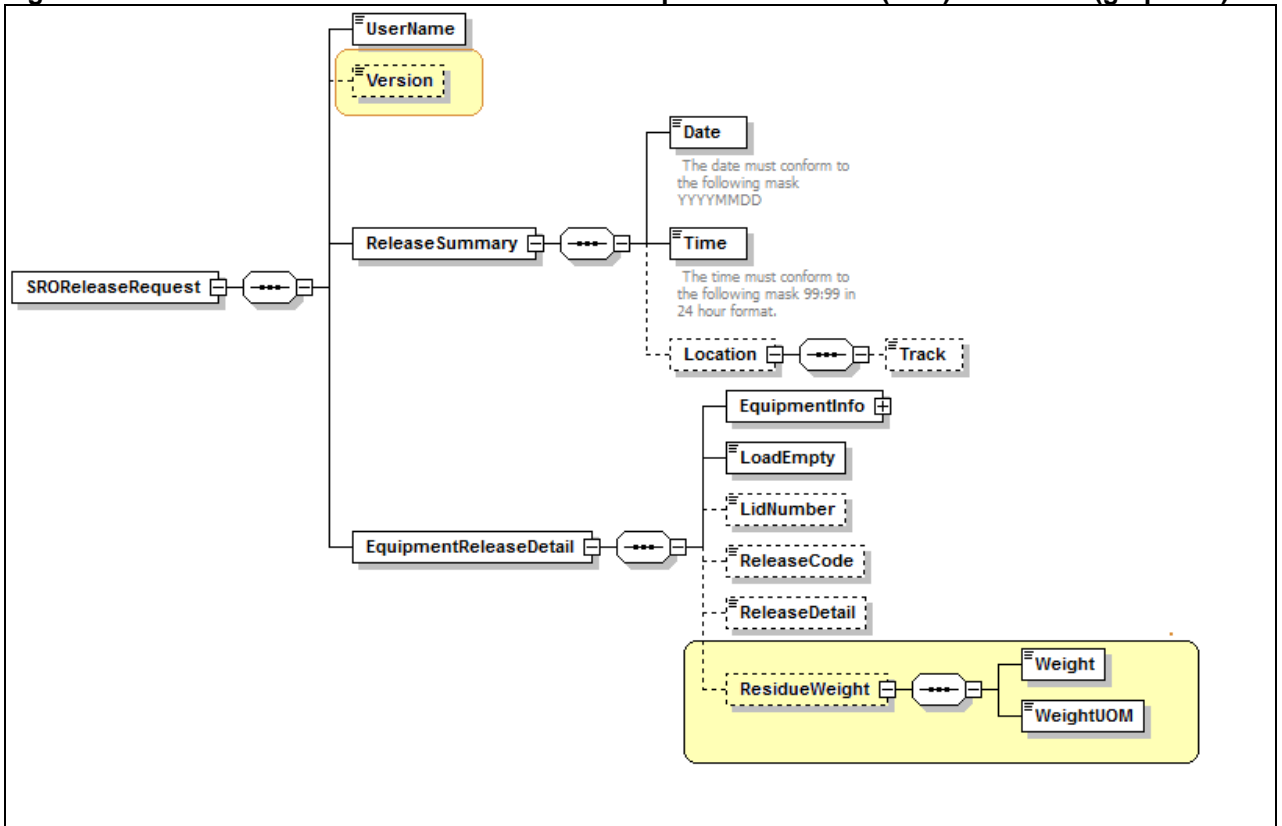
message **sroReleaseRequest**

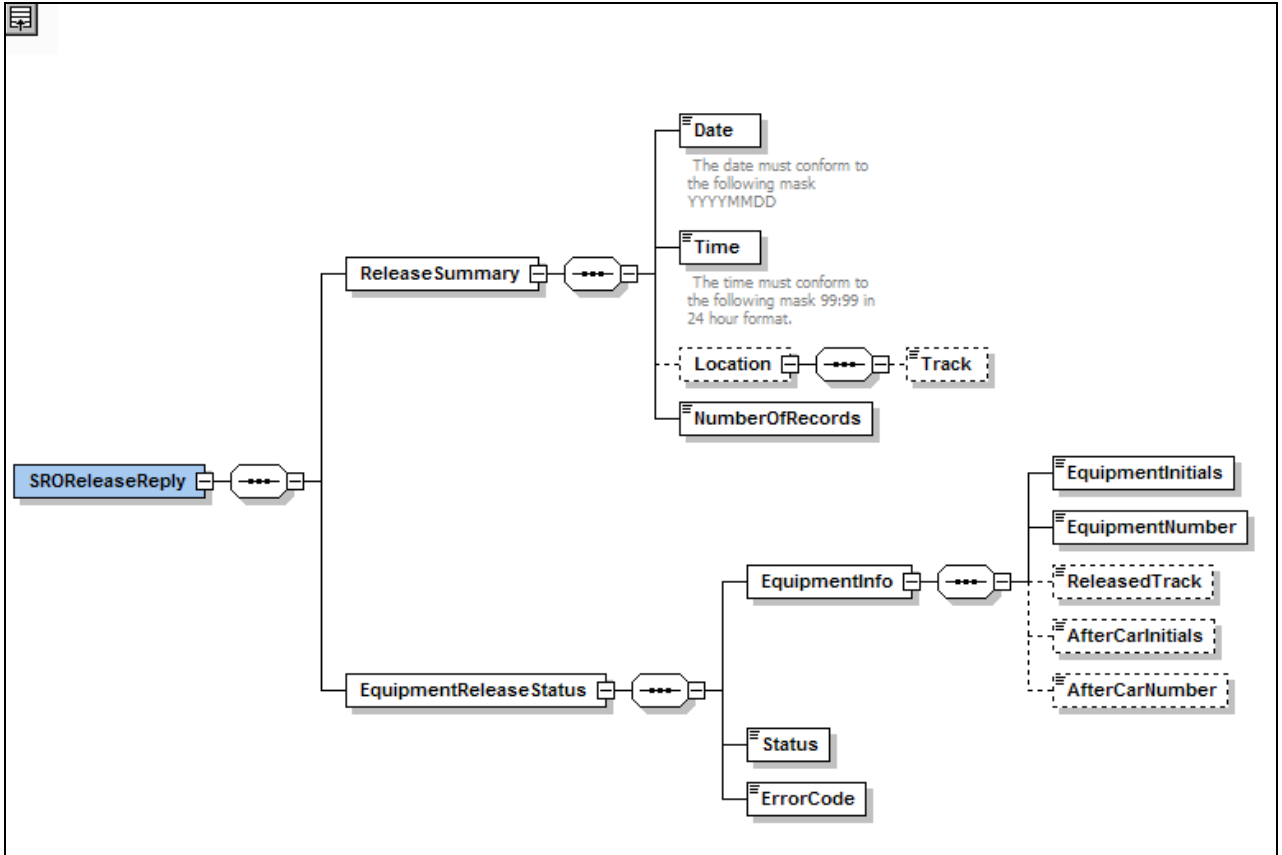
parts	sroReleaseRequestPart element sro:SROReleaseRequest
used by	PortType SROReleaseProvider in Operation execute
source	<pre><wsdl:message name="sroReleaseRequest"> <wsdl:part name="sroReleaseRequestPart" element="sro:SROReleaseRequest"/> </wsdl:message></pre>

3 Automated Railcar Release, Switch and Resequence Web Service XML Input & Output document

- The main input to Automated Railcar Release, Switch and Resequence will be an XML document submitted by a SOAP Client. This input XML document is the “SROReleaseRequest” “Input” described in the WSDL document.
- The schema (.xsd file extension) document for the Input XML (.xml file extension) document will define the data elements more precisely (datatype, number of elements (ex. EquipmentInfo)) to allow for the validation of the input values submitted. The following are graphical and textual representations of the schema document. There are two new elements (Weight and WeightUOM) had been added to EquipmentReleaseDetail.

Figure 3: Automated Railcar Release Web Service Input XML schema (.xsd) document (graphical)





Schema **SRORelease.xsd**

schema location:	http://ecprod.cn.ca/velocity/xml/SRORelease.xsd
targetNamespace:	http://www.cn.ca/SRO/Release

Elements
SROReleaseReply
SROReleaseRequest

element **SROReleaseReply**

diagram	
namespace	http://www.cn.ca/SRO/Release
children	ReleaseSummary EquipmentReleaseStatus
source	<pre> <xs:element name="SROReleaseReply"> <xs:complexType> <xs:sequence> <xs:element name="ReleaseSummary"> <xs:complexType> <xs:sequence> </pre>

```

<xs:element name="Date" nillable="true">
  <xs:annotation>
    <xs:documentation> The date must conform to the following mask YYYYMMDD</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:pattern value=".{7}."/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Time" nillable="true">
  <xs:annotation>
    <xs:documentation> The time must conform to the following mask 99:99 in 24 hour format.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:pattern value=".{1}::{1}."/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Location" nillable="true" minOccurs="0">
  <xs:complexType>
    <xs:annotation>
      <xs:documentation>Location data entity definition</xs:documentation>
    </xs:annotation>
    <xs:sequence>
      <xs:element name="Track" nillable="true" minOccurs="0">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:minLength value="2"/>
            <xs:maxLength value="4"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="NumberOfRecords" type="xs:integer"/>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="EquipmentReleaseStatus">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="EquipmentInfo">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="EquipmentInitials" nillable="false">
              <xs:simpleType>
                <xs:restriction base="xs:string">
                  <xs:minLength value="2"/>
                  <xs:maxLength value="4"/>
                </xs:restriction>
              </xs:simpleType>
            </xs:element>
            <xs:element name="EquipmentNumber" nillable="false">
              <xs:simpleType>
                <xs:restriction base="xs:integer">
                  <xs:minInclusive value="000000"/>
                  <xs:maxInclusive value="999999"/>
                </xs:restriction>
              </xs:simpleType>
            </xs:element>
            <xs:element name="ReleasedTrack" nillable="true" minOccurs="0">
              <xs:simpleType>
                <xs:restriction base="xs:string">
                  <xs:minLength value="4"/>
                  <xs:maxLength value="4"/>
                </xs:restriction>
              </xs:simpleType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

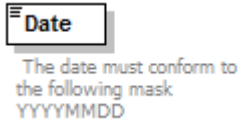
	<pre> </xs:element> <xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="Status" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="Accepted"/> <xs:enumeration value="Rejected"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ErrorCode" type="xs:string" nillable="true"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	---

element SROReleaseReply/ReleaseSummary

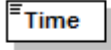
diagram	
namespace	http://www.cn.ca/SRO/Release
children	Date Time Location NumberOfRecords
source	<pre> <xs:element name="ReleaseSummary"> <xs:complexType> <xs:sequence> <xs:element name="Date" nillable="true"> <xs:annotation> <xs:documentation> The date must conform to the following mask YYYYMMDD</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> </pre>

	<pre> <xs:pattern value=".{7}."/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="Time" nillable="true"> <xs:annotation> <xs:documentation> The time must conform to the following mask 99:99 in 24 hour format.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{1}..{1}."/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="Location" nillable="true" minOccurs="0"> <xs:complexType> <xs:annotation> <xs:documentation>Location data entity definition</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="Track" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> <xs:element name="NumberOfRecords" type="xs:integer"/> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	--


element **SROReleaseReply/ReleaseSummary/Date**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	pattern <code>.{7}.</code>
annotation	documentation The date must conform to the following mask YYYYMMDD
source	<pre> <xs:element name="Date" nillable="true"> <xs:annotation> <xs:documentation> The date must conform to the following mask YYYYMMDD</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{7}."/> </xs:restriction> </xs:simpleType> </xs:element> </pre>


element **SROReleaseReply/ReleaseSummary/Time**

diagram	 <p>The time must conform to the following mask 99:99 in 24 hour format.</p>
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	pattern <code>.{1}..{1}</code> .
annotation	documentation The time must conform to the following mask 99:99 in 24 hour format.
source	<pre><xs:element name="Time" nillable="true"> <xs:annotation> <xs:documentation> The time must conform to the following mask 99:99 in 24 hour format.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{1}..{1}"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseReply/ReleaseSummary/Location**


diagram	
namespace	http://www.cn.ca/SRO/Release
children	Track
source	<pre><xs:element name="Location" nillable="true" minOccurs="0"> <xs:complexType> <xs:annotation> <xs:documentation>Location data entity definition</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="Track" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element></pre>

element **SROReleaseReply/ReleaseSummary/Location/Track**

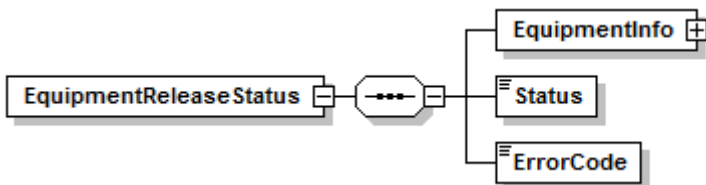
diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string

facets	<pre>minLength 2 maxLength 4</pre>
source	<pre><xs:element name="Track" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseReply/ReleaseSummary/NumberOfRecords**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	xs:integer
source	<pre><xs:element name="NumberOfRecords" type="xs:integer"/></pre>

element **SROReleaseReply/EquipmentReleaseStatus**

diagram	
namespace	http://www.cn.ca/SRO/Release
children	EquipmentInfo Status ErrorCode
source	<pre><xs:element name="EquipmentReleaseStatus"> <xs:complexType> <xs:sequence> <xs:element name="EquipmentInfo"> <xs:complexType> <xs:sequence> <xs:element name="EquipmentInitials" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="EquipmentNumber" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ReleasedTrack" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="4"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element></pre>

	<pre> </xs:element> <xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="Status" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="Accepted"/> <xs:enumeration value="Rejected"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ErrorCode" type="xs:string" nillable="true"/> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	--

element **SROReleaseReply/EquipmentReleaseStatus/EquipmentInfo**

diagram	<p>The diagram illustrates the structure of the EquipmentInfo element. It is a sequence of five components: EquipmentInitials, EquipmentNumber, ReleasedTrack, AfterCarInitials, and AfterCarNumber. EquipmentInitials and EquipmentNumber are shown as solid boxes, while ReleasedTrack, AfterCarInitials, and AfterCarNumber are shown as dashed boxes, indicating they are optional or have different constraints.</p>
namespace	http://www.cn.ca/SRO/Release
children	EquipmentInitials EquipmentNumber ReleasedTrack AfterCarInitials AfterCarNumber
source	<pre> <xs:element name="EquipmentInfo"> <xs:complexType> <xs:sequence> <xs:element name="EquipmentInitials" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="EquipmentNumber" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> </pre>

	<pre> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ReleasedTrack" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="4"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	--

element **SROReleaseReply/EquipmentReleaseStatus/EquipmentInfo/EquipmentInitials**


diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 2 maxLength 4
source	<pre> <xs:element name="EquipmentInitials" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

element **SROReleaseReply/EquipmentReleaseStatus/EquipmentInfo/EquipmentNumber**

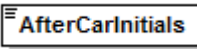
diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:integer
facets	minInclusive 000000 maxInclusive 999999
source	<pre> <xs:element name="EquipmentNumber" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> </pre>

	<pre> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>
--	---


element **SROReleaseReply/EquipmentReleaseStatus/EquipmentInfo/ReleasedTrack**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	<pre> minLength 4 maxLength 4 </pre>
source	<pre> <xs:element name="ReleasedTrack" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="4"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

element **SROReleaseReply/EquipmentReleaseStatus/EquipmentInfo/AfterCarInitials**

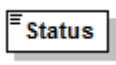
diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	<pre> minLength 2 maxLength 4 </pre>
source	<pre> <xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

element **SROReleaseReply/EquipmentReleaseStatus/EquipmentInfo/AfterCarNumber**


diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:integer
facets	<pre> minInclusive 000000 maxInclusive 999999 </pre>
source	<pre> <xs:element name="AfterCarNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

	<code></xs:element></code>
--	----------------------------------

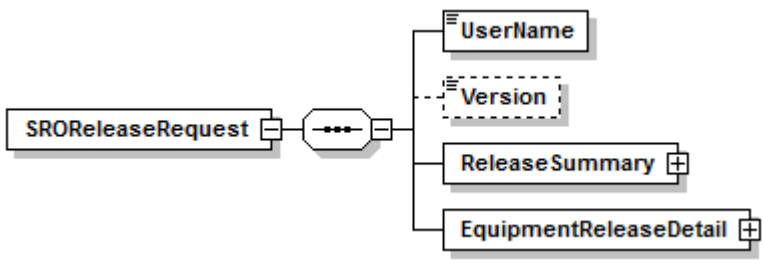
element **SROReleaseReply/EquipmentReleaseStatus/Status**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	enumeration Accepted enumeration Rejected
source	<pre><xs:element name="Status" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="Accepted"/> <xs:enumeration value="Rejected"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseReply/EquipmentReleaseStatus/ErrorCode**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	xs:string
source	<pre><xs:element name="ErrorCode" type="xs:string" nillable="true"/></pre>

element **SROReleaseRequest**

diagram	
namespace	http://www.cn.ca/SRO/Release
children	UserName Version ReleaseSummary EquipmentReleaseDetail
source	<pre><xs:element name="SROReleaseRequest"> <xs:complexType> <xs:sequence> <xs:element name="UserName" type="xs:string"/> <xs:element name="Version" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> <xs:maxLength value="20"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ReleaseSummary"> <xs:complexType></pre>

```


<xs:sequence>
  <xs:element name="Date" nillable="true">
    <xs:annotation>
      <xs:documentation> The date must conform to the following mask YYYYMMDD</xs:documentation>
    </xs:annotation>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:pattern value=".{7}."/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Time" nillable="true">
    <xs:annotation>
      <xs:documentation> The time must conform to the following mask 99:99 in 24 hour format.</xs:documentation>
    </xs:annotation>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:pattern value=".{1}::.{1}."/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Location" nillable="true" minOccurs="0">
    <xs:complexType>
      <xs:annotation>
        <xs:documentation>Location data entity definition</xs:documentation>
      </xs:annotation>
      <xs:sequence>
        <xs:element name="Track" nillable="true" minOccurs="0">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:minLength value="2"/>
              <xs:maxLength value="4"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="EquipmentReleaseDetail">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="EquipmentInfo">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="EquipmentInitials" nillable="false">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:minLength value="2"/>
                    <xs:maxLength value="4"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="EquipmentNumber" nillable="false">
                <xs:simpleType>
                  <xs:restriction base="xs:integer">
                    <xs:minInclusive value="000000"/>
                    <xs:maxInclusive value="999999"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="ReleasedTrack" nillable="true" minOccurs="0">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:minLength value="4"/>
                    <xs:maxLength value="4"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```


```
</xs:element>
<xs:element name="AfterCarInitials" nillable="true" minOccurs="0">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="2"/>
      <xs:maxLength value="4"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="AfterCarNumber" nillable="true" minOccurs="0">
  <xs:simpleType>
    <xs:restriction base="xs:integer">
      <xs:minInclusive value="000000"/>
      <xs:maxInclusive value="999999"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="LoadEmpty" nillable="false">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="LOAD"/>
      <xs:enumeration value="Load"/>
      <xs:enumeration value="load"/>
      <xs:enumeration value="EMPTY"/>
      <xs:enumeration value="Empty"/>
      <xs:enumeration value="empty"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="LidNumber" nillable="true" minOccurs="0">
  <xs:simpleType>
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
</xs:element>
<xs:element name="ReleaseCode" nillable="true" minOccurs="0">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="0"/>
      <xs:maxLength value="2"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="ReleaseDetail" nillable="true" minOccurs="0">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="0"/>
      <xs:maxLength value="215"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="ResidueWeight" nillable="true" minOccurs="0">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Weight" nillable="false">
        <xs:simpleType>
          <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="99999999"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
      <xs:element name="WeightUOM" nillable="false">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:minLength value="0"/>
            <xs:maxLength value="2"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

	<pre> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	--

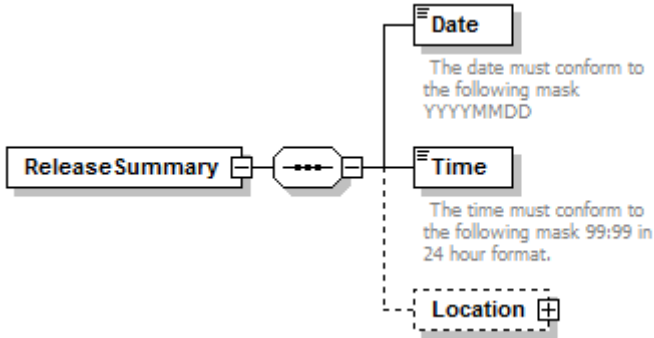
element **SROReleaseRequest/UserName**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	xs:string
source	<code><xs:element name="UserName" type="xs:string"/></code>

element **SROReleaseRequest/Version**


diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 1 maxLength 20
source	<pre> <xs:element name="Version" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="1"/> <xs:maxLength value="20"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

element **SROReleaseRequest/ReleaseSummary**

diagram	 <p>The diagram shows a sequence diagram for the ReleaseSummary element. It starts with a box labeled 'Release Summary' followed by a sequence container (a rounded rectangle with three dots). Inside this container, there are three elements: 'Date', 'Time', and 'Location'. The 'Date' element has a note: 'The date must conform to the following mask YYYYMMDD'. The 'Time' element has a note: 'The time must conform to the following mask 99:99 in 24 hour format.'. The 'Location' element is shown in a dashed box with a plus sign, indicating it is optional.</p>
namespace	http://www.cn.ca/SRO/Release
children	Date Time Location

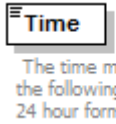
source	<pre> <xs:element name="ReleaseSummary"> <xs:complexType> <xs:sequence> <xs:element name="Date" nillable="true"> <xs:annotation> <xs:documentation> The date must conform to the following mask YYYYMMDD</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{7}."/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="Time" nillable="true"> <xs:annotation> <xs:documentation> The time must conform to the following mask 99:99 in 24 hour format.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{1}..{1}."/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="Location" nillable="true" minOccurs="0"> <xs:complexType> <xs:annotation> <xs:documentation>Location data entity definition</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="Track" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>
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element **SROReleaseRequest/ReleaseSummary/Date**


diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	pattern <code>.{7}.</code>
annotation	documentation The date must conform to the following mask YYYYMMDD
source	<pre> <xs:element name="Date" nillable="true"> <xs:annotation> <xs:documentation> The date must conform to the following mask YYYYMMDD</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{7}."/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

	<pre></xs:simpleType> </xs:element></pre>
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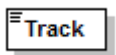
element **SROReleaseRequest/ReleaseSummary/Time**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	pattern <code>.{1}..{1}</code> .
annotation	documentation The time must conform to the following mask 99:99 in 24 hour format.
source	<pre><xs:element name="Time" nillable="true"> <xs:annotation> <xs:documentation> The time must conform to the following mask 99:99 in 24 hour format.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value=".{1}..{1}"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseRequest/ReleaseSummary/Location**

diagram	
namespace	http://www.cn.ca/SRO/Release
children	Track
source	<pre><xs:element name="Location" nillable="true" minOccurs="0"> <xs:complexType> <xs:annotation> <xs:documentation>Location data entity definition</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="Track" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element></pre>

element **SROReleaseRequest/ReleaseSummary/Location/Track**

diagram	
namespace	http://www.cn.ca/SRO/Release

type	restriction of xs:string
facets	minLength 2 maxLength 4
source	<pre><xs:element name="Track" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseRequest/EquipmentReleaseDetail**

diagram	
namespace	http://www.cn.ca/SRO/Release
children	EquipmentInfo LoadEmpty LidNumber ReleaseCode ReleaseDetail ResidueWeight
source	<pre><xs:element name="EquipmentReleaseDetail"> <xs:complexType> <xs:sequence> <xs:element name="EquipmentInfo"> <xs:complexType> <xs:sequence> <xs:element name="EquipmentInitials" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="EquipmentNumber" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ReleasedTrack" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="4"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType></pre>


```

        <xs:restriction base="xs:string">
            <xs:minLength value="2"/>
            <xs:maxLength value="4"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<xs:element name="AfterCarNumber" nillable="true" minOccurs="0">
    <xs:simpleType>
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="000000"/>
            <xs:maxInclusive value="999999"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="LoadEmpty" nillable="false">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:enumeration value="LOAD"/>
            <xs:enumeration value="Load"/>
            <xs:enumeration value="load"/>
            <xs:enumeration value="EMPTY"/>
            <xs:enumeration value="Empty"/>
            <xs:enumeration value="empty"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<xs:element name="LidNumber" nillable="true" minOccurs="0">
    <xs:simpleType>
        <xs:restriction base="xs:string"/>
    </xs:simpleType>
</xs:element>
<xs:element name="ReleaseCode" nillable="true" minOccurs="0">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:minLength value="0"/>
            <xs:maxLength value="2"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<xs:element name="ReleaseDetail" nillable="true" minOccurs="0">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:minLength value="0"/>
            <xs:maxLength value="215"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<xs:element name="ResidueWeight" nillable="true" minOccurs="0">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="Weight" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:integer">
                        <xs:minInclusive value="0"/>
                        <xs:maxInclusive value="99999999"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="WeightUOM" nillable="false">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:minLength value="0"/>
                        <xs:maxLength value="2"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

```

	<pre> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	---

element **SROReleaseRequest/EquipmentReleaseDetail/EquipmentInfo**

diagram	
namespace	http://www.cn.ca/SRO/Release
children	EquipmentInitials EquipmentNumber ReleasedTrack AfterCarInitials AfterCarNumber
source	<pre> <xs:element name="EquipmentInfo"> <xs:complexType> <xs:sequence> <xs:element name="EquipmentInitials" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="EquipmentNumber" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="ReleasedTrack" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="4"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="AfterCarNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>

	<pre> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </pre>
--	---

element **SROReleaseRequest/EquipmentReleaseDetail/EquipmentInfo/EquipmentInitials**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 2 maxLength 4
source	<pre> <xs:element name="EquipmentInitials" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

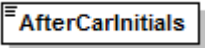
element **SROReleaseRequest/EquipmentReleaseDetail/EquipmentInfo/EquipmentNumber**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:integer
facets	minInclusive 000000 maxInclusive 999999
source	<pre> <xs:element name="EquipmentNumber" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

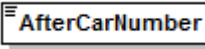
element **SROReleaseRequest/EquipmentReleaseDetail/EquipmentInfo/ReleasedTrack**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 4 maxLength 4
source	<pre> <xs:element name="ReleasedTrack" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="4"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element> </pre>

element **SROReleaseRequest/EquipmentReleaseDetail/EquipmentInfo/AfterCarInitials**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 2 maxLength 4
source	<pre><xs:element name="AfterCarInitials" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="2"/> <xs:maxLength value="4"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseRequest/EquipmentReleaseDetail/EquipmentInfo/AfterCarNumber**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:integer
facets	minInclusive 000000 maxInclusive 999999
source	<pre><xs:element name="AfterCarNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="000000"/> <xs:maxInclusive value="999999"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseRequest/EquipmentReleaseDetail/LoadEmpty**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	enumeration LOAD enumeration Load enumeration load enumeration EMPTY enumeration Empty enumeration empty
source	<pre><xs:element name="LoadEmpty" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="LOAD"/> <xs:enumeration value="Load"/> <xs:enumeration value="load"/> <xs:enumeration value="EMPTY"/> <xs:enumeration value="Empty"/> <xs:enumeration value="empty"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

	<pre></xs:restriction> </xs:simpleType> </xs:element></pre>
--	---

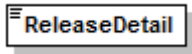
element **SROReleaseRequest/EquipmentReleaseDetail/LidNumber**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
source	<pre><xs:element name="LidNumber" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"/> </xs:simpleType> </xs:element></pre>

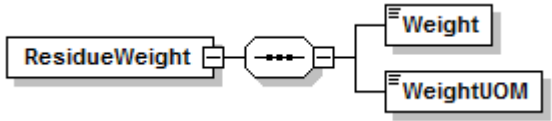
element **SROReleaseRequest/EquipmentReleaseDetail/ReleaseCode**

diagram																																					
namespace	http://www.cn.ca/SRO/Release																																				
type	restriction of xs:string																																				
facets	<pre>minLength 0 maxLength 2</pre> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>BA</td><td>Release-Side Doors (Box Type Cars)</td></tr> <tr><td>BC</td><td>Release-Wood Lining</td></tr> <tr><td>BD</td><td>Release-Account Dirty</td></tr> <tr><td>BE</td><td>Release-Bulkheads Defective</td></tr> <tr><td>BG</td><td>Release-Bad End Gates</td></tr> <tr><td>BJ</td><td>Release-Floor Defective</td></tr> <tr><td>BL</td><td>Release-Hatch Covers</td></tr> <tr><td>BP</td><td>Release-Roof Defective</td></tr> <tr><td>BQ</td><td>Release-Grain Product Loss</td></tr> <tr><td>BS</td><td>Release-Hopper Gates Defective</td></tr> <tr><td>BV</td><td>Release-Unloading System</td></tr> <tr><td>BW</td><td>Release-Lining Hopper</td></tr> <tr><td>DE</td><td>Release-Declared Empty</td></tr> <tr><td>CP</td><td>Release-Car has been cleaned/purged</td></tr> <tr><td>BM</td><td>Reject-Unloading System-Full Load</td></tr> <tr><td>BN</td><td>Reject-Unloading System-Partial Load</td></tr> <tr><td>SW</td><td>Switch / Re-sequence Only</td></tr> </tbody> </table>	Code	Description	BA	Release-Side Doors (Box Type Cars)	BC	Release-Wood Lining	BD	Release-Account Dirty	BE	Release-Bulkheads Defective	BG	Release-Bad End Gates	BJ	Release-Floor Defective	BL	Release-Hatch Covers	BP	Release-Roof Defective	BQ	Release-Grain Product Loss	BS	Release-Hopper Gates Defective	BV	Release-Unloading System	BW	Release-Lining Hopper	DE	Release-Declared Empty	CP	Release-Car has been cleaned/purged	BM	Reject-Unloading System-Full Load	BN	Reject-Unloading System-Partial Load	SW	Switch / Re-sequence Only
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BM	Reject-Unloading System-Full Load																																				
BN	Reject-Unloading System-Partial Load																																				
SW	Switch / Re-sequence Only																																				
source	<pre><xs:element name="ReleaseCode" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="0"/> <xs:maxLength value="2"/> </xs:restriction> </xs:simpleType> </xs:element></pre>																																				

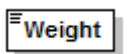
element **SROReleaseRequest/EquipmentReleaseDetail/ReleaseDetail**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 0 maxLength 215
source	<pre><xs:element name="ReleaseDetail" nillable="true" minOccurs="0"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="0"/> <xs:maxLength value="215"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseRequest/EquipmentReleaseDetail/ResidueWeight**


diagram	
namespace	http://www.cn.ca/SRO/Release
children	Weight WeightUOM
source	<pre><xs:element name="ResidueWeight" nillable="true" minOccurs="0"> <xs:complexType> <xs:sequence> <xs:element name="Weight" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="0"/> <xs:maxInclusive value="99999999"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="WeightUOM" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="0"/> <xs:maxLength value="2"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:sequence> </xs:complexType> </xs:element></pre>

element **SROReleaseRequest/EquipmentReleaseDetail/ResidueWeight/Weight**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:integer

facets	minInclusive 0 maxInclusive 99999999
source	<pre><xs:element name="Weight" nillable="false"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="0"/> <xs:maxInclusive value="99999999"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

element **SROReleaseRequest/EquipmentReleaseDetail/ResidueWeight/WeightUOM**

diagram	
namespace	http://www.cn.ca/SRO/Release
type	restriction of xs:string
facets	minLength 0 maxLength 2
source	<pre><xs:element name="WeightUOM" nillable="false"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:minLength value="0"/> <xs:maxLength value="2"/> </xs:restriction> </xs:simpleType> </xs:element></pre>

4 Soap Fault

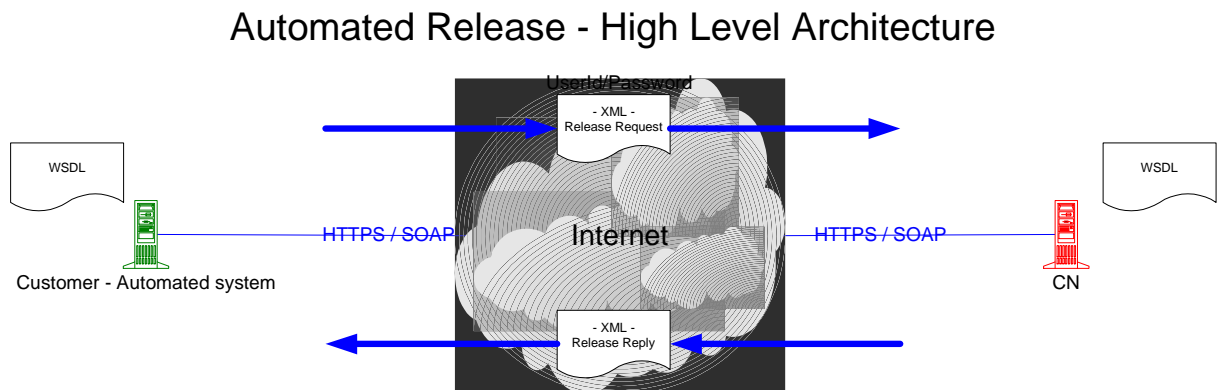
SOAP Fault errors will be handled via the standard exception handling of web services. Errors will be captured with:

```
. faultcode  
. faultstring
```

A list of SOAP Fault errors can be found in the <http://www.cn.ca/-/media/Files/Customer%20Centre/Customer-Centre-Documents/automated-railcar-release-error-codes-en.pdf> document.

5 Security

5.1 Diagram



5.2 Authentication

The customers will use the same userid/password as the one they are using for online transaction on the eBusiness site. The client needs to be a registered customer on the eBusiness site.

5.3 Confidentiality

Like all eBusiness applications, this service will run under encryption (SSL – 128 bits).

5.4 Client configuration

Basic Authentication will be used for this service. CN's infrastructure will be doing the Authentication & Authorization. Basically, all WebService clients will have to provide the following information within the HTTP header:

- AUTH_TYPE = "basic"
- USERNAME = "joe123"
- PASSWORD = "mypassword"

Important: The information above is inside the HTTP header, not in the XML document.

6 References

Web services overview and architecture, IBM Corp, 2002.

Web Services: <http://www.w3.org/2002/ws/>

WSDL: <http://www.w3.org/TR/wsdl12/>

SOAP: <http://www.w3.org/TR/soap12-part0/>