GNS-WSI version 3

(Grid Network Service – Web Services

Interface, version 3)

Appendices

DRAFT

PRELIMINARY INFORMATION

The G-lambda project   http://www.g-lambda.net/

Dec. 25 2008

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Appendix A. ReservationFactory WSDL

```xml
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions name="ReservationFactoryService"
        targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/reservationfactory"
        xmlns:tns="http://schemas.glambda.net/gnswsi3/2008/12/reservationfactory"
        xmlns:types="http://schemas.glambda.net/gnswsi3/2008/12/reservationfactory/types"
        xmlns:rdl="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
        xmlns:wsa="http://www.w3.org/2005/08/addressing"
        xmlns:wsbf="http://docs.oasis-open.org/wsrf/bf-2"
        xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
        xmlns:wsdlpp="http://www.globus.org/namespaces/2004/10/WSDLPreprocessor"
        xmlns:wsrp="http://docs.oasis-open.org/wsrf/rp-2"
        xmlns:wsrpw="http://docs.oasis-open.org/wsrf/rpw-2"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema">

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

    <!--============================================================
                                    T Y P E S
    ============================================================-->
    <wsdl:types>
        <xsd:schema targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/reservationfactory/types"
                xmlns:xsd="http://www.w3.org/2001/XMLSchema">

            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
schemaLocation="rdl.xsd"/>
            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/ndl"
schemaLocation="ndl.xsd"/>
            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/cdl"
schemaLocation="cdl.xsd"/>

            <xsd:element name="createRequest">
                <xsd:annotation>
                    <xsd:documentation>Request for creating a resource</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:DistinguishedName"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
            <xsd:element name="createResponse">
                <xsd:annotation>
                    <xsd:documentation>Response against a createRequest</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationEPR"/>
                    </xsd:sequence>
                </xsd:complexType>
```

```xml
            </xsd:element>

            <xsd:element name="getAvailableResourcesRequest">
                <xsd:annotation>
                    <xsd:documentation>Request for discovering available resources</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:DistinguishedName"/>
                        <xsd:element ref="rdl:AvailableResourceQuery" maxOccurs="unbounded"
minOccurs="1"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
            <xsd:element name="getAvailableResourcesResponse">
                <xsd:annotation>
                    <xsd:documentation>Response against a getAvailableRequest</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element ref="rdl:AvailableResourceQueryResult" maxOccurs="unbounded"
minOccurs="0"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>

            <xsd:element name="checkResourceAvailabilityRequest">
                <xsd:annotation>
                    <xsd:documentation>Request for checking resource availability</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:DistinguishedName"/>
                        <xsd:element ref="rdl:ReservationResources" maxOccurs="unbounded" minOccurs="1"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
            <xsd:element name="checkResourceAvailabilityResponse">
                <xsd:annotation>
                    <xsd:documentation>Response against a
checkResourceAvailabilityRequest</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element ref="rdl:ResourceStatus" maxOccurs="unbounded" minOccurs="1"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>

        </xsd:schema>
    </wsdl:types>
```

```xml
<!--============================================================
                            M E S S A G E S
============================================================-->
<wsdl:message name="createInputMessage">
    <wsdl:part element="types:createRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="createOutputMessage">
    <wsdl:part element="types:createResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="getAvailableResourcesInputMessage">
    <wsdl:part element="types:getAvailableResourcesRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="getAvailableResourcesOutputMessage">
    <wsdl:part element="types:getAvailableResourcesResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="checkResourceAvailabilityInputMessage">
    <wsdl:part element="types:checkResourceAvailabilityRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="checkResourceAvailabilityOutputMessage">
    <wsdl:part element="types:checkResourceAvailabilityResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="reservationFactoryFaultMessage">
    <wsdl:part element="rdl:ReservationFactoryFault" name="fault"/>
</wsdl:message>


<!--============================================================
                            P O R T T Y P E
============================================================-->
<wsdl:portType name="ReservationFactoryPortType">

    <wsdl:operation name="create">
        <wsdl:input message="tns:createInputMessage"/>
        <wsdl:output message="tns:createOutputMessage"/>
        <wsdl:fault message="tns:reservationFactoryFaultMessage" name="reservationFactoryFault"/>
        <xsd:annotation>
            <xsd:documentation></xsd:documentation>
        </xsd:annotation>
    </wsdl:operation>

    <wsdl:operation name="getAvailableResources">
        <wsdl:input message="tns:getAvailableResourcesInputMessage"/>
        <wsdl:output message="tns:getAvailableResourcesOutputMessage"/>
        <wsdl:fault message="tns:reservationFactoryFaultMessage" name="reservationFactoryFault"/>
        <xsd:annotation>
            <xsd:documentation></xsd:documentation>
        </xsd:annotation>
    </wsdl:operation>

    <wsdl:operation name="checkResourceAvailability">
        <wsdl:input message="tns:checkResourceAvailabilityInputMessage"/>
```

```
            <wsdl:output message="tns:checkResourceAvailabilityOutputMessage"/>
            <wsdl:fault message="tns:reservationFactoryFaultMessage" name="reservationFactoryFault"/>
            <xsd:annotation>
                <xsd:documentation></xsd:documentation>
            </xsd:annotation>
        </wsdl:operation>
    </wsdl:portType>
</wsdl:definitions>
```

Appendix B. Reservation WSDL

```xml
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions name="ReservationService"
            targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/reservation"
            xmlns:tns="http://schemas.glambda.net/gnswsi3/2008/12/reservation"
            xmlns:types="http://schemas.glambda.net/gnswsi3/2008/12/reservation/types"
            xmlns:rdl="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
            xmlns:wsa="http://www.w3.org/2005/08/addressing"
            xmlns:wsbf="http://docs.oasis-open.org/wsrf/bf-2"
            xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
            xmlns:wsdlpp="http://www.globus.org/namespaces/2004/10/WSDLPreprocessor"
            xmlns:wsrp="http://docs.oasis-open.org/wsrf/rp-2"
            xmlns:wsrpw="http://docs.oasis-open.org/wsrf/rpw-2"
            xmlns:wsrl="http://docs.oasis-open.org/wsrf/rl-2"
            xmlns:wsrlw="http://docs.oasis-open.org/wsrf/rlw-2"
            xmlns:xsd="http://www.w3.org/2001/XMLSchema">

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


    <!--============================================================
                                    T Y P E S
    ============================================================-->
    <wsdl:types>
        <xsd:schema targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/reservation/types"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">

            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
schemaLocation="rdl.xsd"/>
            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/ndl"
schemaLocation="ndl.xsd"/>
            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/cdl"
schemaLocation="cdl.xsd"/>

            <xsd:element name="ReservationResourceProperties">
                <xsd:annotation>
                    <xsd:documentation>Properties of reserved resource</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element ref="rdl:DistinguishedName" minOccurs="0" maxOccurs="1"/>
                        <xsd:element ref="rdl:ResourceInformation" maxOccurs="unbounded" minOccurs="0"/>
                        <xsd:element ref="rdl:ReservationCommandHistory" maxOccurs="unbounded"
minOccurs="0"/>
                        <xsd:element ref="rdl:ErrorInfo" maxOccurs="1" minOccurs="0"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
```

```xml
<xsd:element name="reserveRequest">
    <xsd:annotation>
        <xsd:documentation>Request for reserving a resource</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ResourceRequirements"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="reserveResponse">
    <xsd:annotation>
        <xsd:documentation>Response against a reserveRequest</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationCommandEPR"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="modifyRequest">
    <xsd:annotation>
        <xsd:documentation>Request for modifying specified reservation
resources</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ResourceRequirements"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="modifyResponse">
    <xsd:annotation>
        <xsd:documentation>Response against a modifyRequest</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationCommandEPR"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="modifyAllRequest">
    <xsd:annotation>
        <xsd:documentation>Request for modifying all reservation resources</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:Timeframe"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
```

```xml
<xsd:element name="modifyAllResponse">
    <xsd:annotation>
        <xsd:documentation>Response against a modifyAllRequest</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationCommandEPR"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="releaseRequest">
    <xsd:annotation>
        <xsd:documentation>Request for releasing specified reservation
resources</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element minOccurs="1" maxOccurs="unbounded" ref="rdl:ReservationID"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="releaseResponse">
    <xsd:annotation>
        <xsd:documentation>Response against a releaseRequest</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationCommandEPR"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="releaseAllRequest">
    <xsd:annotation>
        <xsd:documentation>Request for releasing all reservation resources</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType/>
</xsd:element>
<xsd:element name="releaseAllResponse">
    <xsd:annotation>
        <xsd:documentation>Response against a releaseAllRequest</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationCommandEPR"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="getReservationStatusRequest">
    <xsd:annotation>
        <xsd:documentation>Request to check a specified ReservationResource
property</xsd:documentation>
```

```xml
            </xsd:annotation>
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element maxOccurs="unbounded" minOccurs="0" ref="rdl:ReservationID"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="getReservationStatusResponse">
            <xsd:annotation>
                <xsd:documentation>Response against a getReservationStatusRequest</xsd:documentation>
            </xsd:annotation>
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element maxOccurs="unbounded" minOccurs="1"
ref="rdl:ReservationStatusHolder"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
    </xsd:schema>
</wsdl:types>


<!--============================================================
                                                       M E S S A G E S
============================================================-->
<wsdl:message name="reserveInputMessage">
    <wsdl:part element="types:reserveRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="reserveOutputMessage">
    <wsdl:part element="types:reserveResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="modifyInputMessage">
    <wsdl:part element="types:modifyRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="modifyOutputMessage">
    <wsdl:part element="types:modifyResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="modifyAllInputMessage">
    <wsdl:part element="types:modifyAllRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="modifyAllOutputMessage">
    <wsdl:part element="types:modifyAllResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="releaseInputMessage">
    <wsdl:part element="types:releaseRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="releaseOutputMessage">
    <wsdl:part element="types:releaseResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="releaseAllInputMessage">
```

```xml
        <wsdl:part element="types:releaseAllRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="releaseAllOutputMessage">
        <wsdl:part element="types:releaseAllResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="getReservationStatusInputMessage">
        <wsdl:part element="types:getReservationStatusRequest" name="parameters"/>
</wsdl:message>
<wsdl:message name="getReservationStatusOutputMessage">
        <wsdl:part element="types:getReservationStatusResponse" name="parameters"/>
</wsdl:message>

<wsdl:message name="reservationFaultMessage">
        <wsdl:part element="rdl:ReservationFault" name="fault"/>
</wsdl:message>

<!--============================================================
                                                        P O R T T Y P E
============================================================-->
<wsdl:portType name="ReservationPortType"
        wsdlpp:extends="wsrpw:GetResourceProperty
                                                wsrpw:GetMultipleResourceProperties
                                                wsrlw:ScheduledResourceTermination
                                                wsrlw:ImmediateResourceTermination"
        wsrp:ResourceProperties="types:ReservationResourceProperties">

    <wsdl:operation name="reserve">
        <wsdl:input message="tns:reserveInputMessage"/>
        <wsdl:output message="tns:reserveOutputMessage"/>
        <wsdl:fault message="tns:reservationFaultMessage" name="reservationFault"/>
        <xsd:annotation>
            <xsd:documentation></xsd:documentation>
        </xsd:annotation>
    </wsdl:operation>

    <wsdl:operation name="modify">
        <wsdl:input message="tns:modifyInputMessage"/>
        <wsdl:output message="tns:modifyOutputMessage"/>
        <wsdl:fault message="tns:reservationFaultMessage" name="reservationFault"/>
        <xsd:annotation>
            <xsd:documentation></xsd:documentation>
        </xsd:annotation>
    </wsdl:operation>

    <wsdl:operation name="modifyAll">
        <wsdl:input message="tns:modifyAllInputMessage"/>
        <wsdl:output message="tns:modifyAllOutputMessage"/>
        <wsdl:fault message="tns:reservationFaultMessage" name="reservationFault"/>
        <xsd:annotation>
            <xsd:documentation></xsd:documentation>
        </xsd:annotation>
    </wsdl:operation>
```

```xml
<wsdl:operation name="release">
    <wsdl:input message="tns:releaseInputMessage"/>
    <wsdl:output message="tns:releaseOutputMessage"/>
    <wsdl:fault message="tns:reservationFaultMessage" name="reservationFault"/>
    <xsd:annotation>
        <xsd:documentation></xsd:documentation>
    </xsd:annotation>
</wsdl:operation>

<wsdl:operation name="releaseAll">
    <wsdl:input message="tns:releaseAllInputMessage"/>
    <wsdl:output message="tns:releaseAllOutputMessage"/>
    <wsdl:fault message="tns:reservationFaultMessage" name="reservationFault"/>
    <xsd:annotation>
        <xsd:documentation></xsd:documentation>
    </xsd:annotation>
</wsdl:operation>

<wsdl:operation name="getReservationStatus">
    <wsdl:input message="tns:getReservationStatusInputMessage"/>
    <wsdl:output message="tns:getReservationStatusOutputMessage"/>
    <wsdl:fault message="tns:reservationFaultMessage" name="reservationFault"/>
    <xsd:annotation>
        <xsd:documentation></xsd:documentation>
    </xsd:annotation>
</wsdl:operation>

    </wsdl:portType>
</wsdl:definitions>
```

Appendix C. ReservationCommand WSDL

```xml
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions name="ReservationCommandService"
          targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/reservationcommand"
          xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
          xmlns:tns="http://schemas.glambda.net/gnswsi3/2008/12/reservationcommand"
          xmlns:types="http://schemas.glambda.net/gnswsi3/2008/12/reservationcommand/types"
          xmlns:rdl="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
          xmlns:wsa="http://www.w3.org/2005/08/addressing"
          xmlns:wsdlpp="http://www.globus.org/namespaces/2004/10/WSDLPreprocessor"
          xmlns:wsrp="http://docs.oasis-open.org/wsrf/rp-2"
          xmlns:wsrpw="http://docs.oasis-open.org/wsrf/rpw-2"
          xmlns:wsrl="http://docs.oasis-open.org/wsrf/rl-2"
          xmlns:wsrlw="http://docs.oasis-open.org/wsrf/rlw-2">

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



    <!--============================================================
                                                        T Y P E S
    ============================================================-->
    <wsdl:types>
        <xsd:schema

          targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/reservationcommand/types"
                    xmlns="http://schemas.glambda.net/gnswsi3/2008/12/reservationcommand/types"
                    xmlns:xsd="http://www.w3.org/2001/XMLSchema">

            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
schemaLocation="rdl.xsd"/>
            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/ndl"
schemaLocation="ndl.xsd"/>
            <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/cdl"
schemaLocation="cdl.xsd"/>

            <xsd:element name="ReservationCommandResourceProperties">
                <xsd:annotation>
                    <xsd:documentation>A set of properties related to a
ReservationCommandResource.</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:CommandStatus"/>
                        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:ResourceInformation"/>
                        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:ErrorInfo"/>
                        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationResourceKey"/>
                    </xsd:sequence>
```

```xml
                </xsd:complexType>
            </xsd:element>

            <xsd:element name="commitRequest">
                <xsd:annotation>
                    <xsd:documentation>A request to commit the operation
(reserve/modify/release).</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType/>
            </xsd:element>
            <xsd:element name="commitResponse">
                <xsd:annotation>
                    <xsd:documentation>A response against a commitRequest.</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType/>
            </xsd:element>

            <xsd:element name="abortRequest">
                <xsd:annotation>
                    <xsd:documentation>A request to abort the operation
(reserve/modify/release).</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType/>
            </xsd:element>
            <xsd:element name="abortResponse">
                <xsd:annotation>
                    <xsd:documentation>A response against an abortRequest.</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType/>
            </xsd:element>

            <xsd:element name="getCommandStatusRequest">
                <xsd:annotation>
                    <xsd:documentation>A request to obtain the status of the
ReservationCommandResource.</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType/>
            </xsd:element>
            <xsd:element name="getCommandStatusResponse">
                <xsd:annotation>
                    <xsd:documentation>A response against a
getCommandStatusRequest.</xsd:documentation>
                </xsd:annotation>
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:CommandStatus"/>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>

        </xsd:schema>
    </wsdl:types>
```

```
<!--=============================================================
                                            M E S S A G E S
=============================================================-->
<wsdl:message name="commitInputMessage">
    <wsdl:part element="types:commitRequest" name="request"/>
</wsdl:message>
<wsdl:message name="commitOutputMessage">
    <wsdl:part element="types:commitResponse" name="response"/>
</wsdl:message>

<wsdl:message name="abortInputMessage">
    <wsdl:part element="types:abortRequest" name="request"/>
</wsdl:message>
<wsdl:message name="abortOutputMessage">
    <wsdl:part element="types:abortResponse" name="response"/>
</wsdl:message>

<wsdl:message name="getCommandStatusInputMessage">
    <wsdl:part element="types:getCommandStatusRequest" name="request"/>
</wsdl:message>
<wsdl:message name="getCommandStatusOutputMessage">
    <wsdl:part element="types:getCommandStatusResponse" name="response"/>
</wsdl:message>

<wsdl:message name="reservationCommandFaultMessage">
    <wsdl:part element="rdl:ReservationCommandFault" name="reservationCommandFault"/>
</wsdl:message>


<!--=============================================================
                                            P O R T T Y P E
=============================================================-->
<wsdl:portType name="ReservationCommandPortType"
                    wsdlpp:extends="wsrpw:GetResourceProperty
                                                    wsrpw:GetMultipleResourceProperties
                                                    wsrlw:ScheduledResourceTermination
                                                    wsrlw:ImmediateResourceTermination"
                    wsrp:ResourceProperties="types:ReservationCommandResourceProperties">

    <wsdl:operation name="commit">
        <wsdl:input message="tns:commitInputMessage"/>
        <wsdl:output message="tns:commitOutputMessage"/>
        <wsdl:fault message="tns:reservationCommandFaultMessage" name="reservationCommandFault"/>
    </wsdl:operation>

    <wsdl:operation name="abort">
        <wsdl:input message="tns:abortInputMessage"/>
        <wsdl:output message="tns:abortOutputMessage"/>
        <wsdl:fault message="tns:reservationCommandFaultMessage" name="reservationCommandFault"/>
    </wsdl:operation>

    <wsdl:operation name="getCommandStatus">
        <wsdl:input message="tns:getCommandStatusInputMessage"/>
        <wsdl:output message="tns:getCommandStatusOutputMessage"/>
```

```
            <wsdl:fault message="tns:reservationCommandFaultMessage" name="reservationCommandFault"/>
        </wsdl:operation>

    </wsdl:portType>
</wsdl:definitions>
```

Appendix D. Reservation-related Data Types

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
            xmlns:rdl="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
            xmlns:wsa="http://www.w3.org/2005/08/addressing"
            xmlns:wsbf="http://docs.oasis-open.org/wsrf/bf-2"
            attributeFormDefault="unqualified" elementFormDefault="qualified">

    <xsd:import namespace="http://www.w3.org/2005/08/addressing"
                    schemaLocation="../ws/addressing/ws-addr.xsd"/>
    <xsd:import namespace="http://docs.oasis-open.org/wsrf/bf-2"
                    schemaLocation="../wsrf/faults/bf-2.xsd"/>

    <!-- ============================================================ -->
    <!-- ============================================================ -->

    <xsd:element name="ReservationEPR" type="wsa:EndpointReferenceType">
        <xsd:annotation>
            <xsd:documentation>An end point reference for the ReservationResource</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationCommandEPR" type="wsa:EndpointReferenceType">
        <xsd:annotation>
            <xsd:documentation>An end point reference for the
ReservationCommandResource</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationFactoryFault" type="wsbf:BaseFaultType">
        <xsd:annotation>
            <xsd:documentation>Fault type of ReservationFactory service</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationFault" type="wsbf:BaseFaultType">
        <xsd:annotation>
            <xsd:documentation>Fault type of Reservation service</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationCommandFault" type="wsbf:BaseFaultType">
        <xsd:annotation>
            <xsd:documentation>Fault type of ReservationCommand service</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <xsd:element name="ResourceInformation" type="rdl:ResourceInformation_Type">
        <xsd:annotation>
            <xsd:documentation>Category for resources, for example computing or network
resource</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationResources" type="rdl:ReservationResources_Type">
        <xsd:annotation>
```

```xml
            <xsd:documentation>Reservation resources, each of which includes the reservation ID and the time
specification</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="AvailableResourceQuery" type="rdl:AvailableResourceQuery_Type">
        <xsd:annotation>
            <xsd:documentation>Query to discover available resources</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="AvailableResourceQueryResult" type="rdl:AvailableResourceQueryResult_Type">
        <xsd:annotation>
            <xsd:documentation>Result of getAvailableResourceQuery, which includes available reservation
resources</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ResourceStatus" type="rdl:ResourceStatus_Type">
        <xsd:annotation>
            <xsd:documentation>Status of a specified resource. The order should be the same of
ReservationResources</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="SLADocument" type="rdl:SLADocument_Type">
        <xsd:annotation>
            <xsd:documentation>Service Level Agreement (SLA) document</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ResourceRequirements" type="rdl:ResourceRequirements_Type">
        <xsd:annotation>
            <xsd:documentation>Information including resource requirements, time resources, and
DistinguishedName</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="CoallocationTimeframe" type="rdl:CoallocationTimeframe_Type">
        <xsd:annotation>
            <xsd:documentation>Coallocation time frame</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <xsd:element name="DistinguishedName" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>A character string containing a user name who reserved this resource. When the
DistinguishedName is null, the operation is processed as an anonymous user</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationStatus" type="rdl:ReservationStatus_Type">
        <xsd:annotation>
            <xsd:documentation>Current reservation status for a reservation request</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ReservationStatusHolder" type="rdl:ReservationStatusHolder_Type">
        <xsd:annotation>
            <xsd:documentation>A holder of ReservationStatus and the ReservationID for the
getReservationStatus request</xsd:documentation>
        </xsd:annotation>
```

```xml
        </xsd:element>
        <xsd:element name="ReservationCommandHistory" type="rdl:ReservationCommandHistory_Type">
            <xsd:annotation>
                <xsd:documentation>History of user request information</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="Timestamp" type="xsd:dateTime">
            <xsd:annotation>
                <xsd:documentation>Time stamp</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="OperationName" type="xsd:string">
            <xsd:annotation>
                <xsd:documentation>Name of an operation</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="OperationArg" type="xsd:string">
            <xsd:annotation>
                <xsd:documentation>Argument of an operation</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="FinalCommandStatus" type="rdl:CommandStatus_Type">
            <xsd:annotation>
                <xsd:documentation>Final CommandStatus</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="CommandStatus" type="rdl:CommandStatus_Type">
            <xsd:annotation>
                <xsd:documentation>Status of a command</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="ErrorInfo" type="wsbf:BaseFaultType">
            <xsd:annotation>
                <xsd:documentation>Reason when ResourceStatus / CommandStatus becomes an
error</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="ReservationResourceKey" type="xsd:string">
            <xsd:annotation>
                <xsd:documentation>Key of a ReservationResource</xsd:documentation>
            </xsd:annotation>
        </xsd:element>

        <xsd:element name="TimeSpecification" type="rdl:TimeSpecification_Type">
            <xsd:annotation>
                <xsd:documentation>Time specification</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="CoallocationTimeSpecification" type="rdl:CoallocationTimeSpecification_Type">
            <xsd:annotation>
                <xsd:documentation>Time specification for co-allocation</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="Timeframe" type="rdl:Timeframe_Type">
```

```xml
            <xsd:annotation>
                <xsd:documentation>Time frame of a reservation</xsd:documentation>
            </xsd:annotation>
    </xsd:element>
    <xsd:element name="ExactTimeframe" type="rdl:ExactTimeframe_Type">
        <xsd:annotation>
            <xsd:documentation>Exact time frame type</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="RangeTimeframe" type="rdl:RangeTimeframe_Type">
        <xsd:annotation>
            <xsd:documentation>Ranged time frame type</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="CoallocationTimeframeID" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>Coallocation time frame ID</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="StartTime" type="xsd:dateTime">
        <xsd:annotation>
            <xsd:documentation>Start time of a reservation</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="EndTime" type="xsd:dateTime">
        <xsd:annotation>
            <xsd:documentation>End time of a reservation</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="EarliestStartTime" type="xsd:dateTime">
        <xsd:annotation>
            <xsd:documentation>Earliest start time of a reservation</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="LatestStartTime" type="xsd:dateTime">
        <xsd:annotation>
            <xsd:documentation>Latest start time of a reservation</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Duration" type="rdl:Duration_Type">
        <xsd:annotation>
            <xsd:documentation>Duration</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DurationValue" type="xsd:long">
        <xsd:annotation>
            <xsd:documentation>A value of duration</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="TimeUnit" type="rdl:TimeUnit_Type">
        <xsd:annotation>
            <xsd:documentation>A unit of time</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
```

```xml
<xsd:element name="ReservationID" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>ReservationID is used to identify a set of requested or reserved resources which
is requested by a reserve operation. ReservationID is generated by the requestee of the reserve
operation.</xsd:documentation>
    </xsd:annotation>
</xsd:element>

<xsd:element name="ResourceAttribute" type="rdl:ResourceAttribute_Type">
    <xsd:annotation>
        <xsd:documentation>The resource is related to zero or more attributes</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="SLAAttribute" type="rdl:SLAAttribute_Type">
    <xsd:annotation>
        <xsd:documentation>The SLADocument is related to zero or more attributes</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Key" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>An attribute name</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Value" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>A value for the attribute</xsd:documentation>
    </xsd:annotation>
</xsd:element>


<!-- EPR? -->

<!-- ============================================================ -->

<xsd:complexType name="ResourceInformation_Type">
    <xsd:sequence>
        <xsd:element ref="rdl:ReservationResources" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType abstract="true" name="ReservationResources_Type">
    <xsd:sequence>
        <xsd:element ref="rdl:ReservationID" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="rdl:ReservationStatus" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="rdl:TimeSpecification" minOccurs="1" maxOccurs="1"/>
        <xsd:element ref="rdl:ResourceAttribute" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="AvailableResourceQuery_Type">
    <xsd:sequence>
        <xsd:element ref="rdl:ReservationResources" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
```

```xml
        </xsd:complexType>

        <xsd:complexType name="AvailableResourceQueryResult_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:ReservationResources" minOccurs="0" maxOccurs="unbounded"/>
            </xsd:sequence>
        </xsd:complexType>

        <xsd:simpleType name="ResourceStatus_Type">
            <xsd:restriction base="xsd:string">
                <xsd:enumeration value="Available">
                    <xsd:annotation>
                        <xsd:documentation>Resource is available</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
                <xsd:enumeration value="NotAvailable">
                    <xsd:annotation>
                        <xsd:documentation>Resource is not available</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
            </xsd:restriction>
        </xsd:simpleType>

        <xsd:complexType abstract="true" name="SLADocument_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:Timestamp" minOccurs="1" maxOccurs="unbounded"/>
                <xsd:element ref="rdl:SLAAttribute" minOccurs="0" maxOccurs="unbounded"/>
            </xsd:sequence>
        </xsd:complexType>

        <xsd:complexType name="ResourceRequirements_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:CoallocationTimeframe" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element ref="rdl:ReservationResources" minOccurs="1" maxOccurs="unbounded"/>
            </xsd:sequence>
        </xsd:complexType>

        <xsd:complexType name="CoallocationTimeframe_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:CoallocationTimeframeID" minOccurs="1" maxOccurs="1"/>
                <xsd:element ref="rdl:Timeframe" minOccurs="1" maxOccurs="1"/>
            </xsd:sequence>
        </xsd:complexType>

        <xsd:complexType name="ReservationStatusHolder_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:ReservationID" minOccurs="1" maxOccurs="1"/>
                <xsd:element ref="rdl:ReservationStatus" minOccurs="1" maxOccurs="1"/>
            </xsd:sequence>
        </xsd:complexType>

        <xsd:simpleType name="ReservationStatus_Type">
            <xsd:restriction base="xsd:string">
                <xsd:enumeration value="Created">
```

```xml
                    <xsd:annotation>
                        <xsd:documentation>A registration request is accepted (ReservationResource is
create)</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
                <xsd:enumeration value="Reserved">
                    <xsd:annotation>
                        <xsd:documentation>The requested resource is booked</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
                <xsd:enumeration value="Activated">
                    <xsd:annotation>
                        <xsd:documentation>The resource is activated</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
                <xsd:enumeration value="Released">
                    <xsd:annotation>
                        <xsd:documentation>The resource is released</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
                <xsd:enumeration value="Error">
                    <xsd:annotation>
                        <xsd:documentation>Errors have occurred</xsd:documentation>
                    </xsd:annotation>
                </xsd:enumeration>
            </xsd:restriction>
    </xsd:simpleType>

    <xsd:simpleType name="CommandStatus_Type">
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="Initial">
                <xsd:annotation>
                    <xsd:documentation>A reserve / modify / release command has been sent to an actual
resource manager</xsd:documentation>
                </xsd:annotation>
            </xsd:enumeration>
            <xsd:enumeration value="Prepared">
                <xsd:annotation>
                    <xsd:documentation>The requested command has been prepared</xsd:documentation>
                </xsd:annotation>
            </xsd:enumeration>
            <xsd:enumeration value="Aborted">
                <xsd:annotation>
                    <xsd:documentation>The requested resources are not available or the pre-command has
expired</xsd:documentation>
                </xsd:annotation>
            </xsd:enumeration>
            <xsd:enumeration value="Committed">
                <xsd:annotation>
                    <xsd:documentation>The requested command has been completed</xsd:documentation>
                </xsd:annotation>
            </xsd:enumeration>
        </xsd:restriction>
    </xsd:simpleType>
```

```xml
<xsd:complexType name="ReservationCommandHistory_Type">
    <xsd:sequence>
        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:Timestamp"/>
        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:ReservationCommandEPR"/>
        <xsd:element maxOccurs="1" minOccurs="1" ref="rdl:OperationName"/>
        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:OperationArg"/>
        <xsd:element maxOccurs="1" minOccurs="0" ref="rdl:FinalCommandStatus"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType abstract="true" name="TimeSpecification_Type">
    <xsd:sequence/>
</xsd:complexType>

<xsd:complexType name="CoallocationTimeSpecification_Type">
    <xsd:complexContent>
        <xsd:extension base="rdl:TimeSpecification_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:CoallocationTimeframeID" minOccurs="0" maxOccurs="1"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>

<xsd:complexType abstract="true" name="Timeframe_Type">
    <xsd:complexContent>
        <xsd:extension base="rdl:TimeSpecification_Type">
            <xsd:sequence/>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>

<xsd:complexType name="ExactTimeframe_Type">
    <xsd:complexContent>
        <xsd:extension base="rdl:Timeframe_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:StartTime" minOccurs="1" maxOccurs="1"/>
                <xsd:element ref="rdl:EndTime" minOccurs="1" maxOccurs="1"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>

<xsd:complexType name="RangeTimeframe_Type">
    <xsd:complexContent>
        <xsd:extension base="rdl:Timeframe_Type">
            <xsd:sequence>
                <xsd:element ref="rdl:Duration" minOccurs="1" maxOccurs="1"/>
                <xsd:element ref="rdl:EarliestStartTime" minOccurs="0" maxOccurs="1"/>
                <xsd:element ref="rdl:LatestStartTime" minOccurs="0" maxOccurs="1"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
```

```xsd
        </xsd:complexType>

<xsd:complexType name="Duration_Type">
    <xsd:sequence>
        <xsd:element ref="rdl:DurationValue" minOccurs="1" maxOccurs="1"/>
        <xsd:element ref="rdl:TimeUnit" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="TimeUnit_Type">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="MILLISECOND">
            <xsd:annotation>
                <xsd:documentation>Millisecond</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="SECOND">
            <xsd:annotation>
                <xsd:documentation>Second</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="MINUTE">
            <xsd:annotation>
                <xsd:documentation>Minute</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="HOUR">
            <xsd:annotation>
                <xsd:documentation>Hour</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="DAY">
            <xsd:annotation>
                <xsd:documentation>Day</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="WEEK">
            <xsd:annotation>
                <xsd:documentation>Week</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="MONTH">
            <xsd:annotation>
                <xsd:documentation>Month</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="YEAR">
            <xsd:annotation>
                <xsd:documentation>Year</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
```

```xml
<xsd:complexType name="ResourceAttribute_Type">
    <xsd:sequence>
        <xsd:element ref="rdl:Key" minOccurs="1" maxOccurs="1"/>
        <xsd:element ref="rdl:Value" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="SLAAttribute_Type">
    <xsd:sequence>
        <xsd:element ref="rdl:Key" minOccurs="1" maxOccurs="1"/>
        <xsd:element ref="rdl:Value" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>
</xsd:schema>
```

Appendix E. Network Resource-related Data Types

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/ndl"
            xmlns:ndl="http://schemas.glambda.net/gnswsi3/2008/12/ndl"
            xmlns:rdl="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
            attributeFormDefault="unqualified" elementFormDefault="qualified">

    <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/rdl" schemaLocation="rdl.xsd"/>
    <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/ianamaumib"
schemaLocation="IANAMauMIB.xsd"/>

    <!-- ============================================================ -->

    <xsd:element name="NetworkResources" type="ndl:NetworkResources_Type">
        <xsd:annotation>
            <xsd:documentation>A set of network resource information.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Path" type="ndl:Path_Type">
        <xsd:annotation>
            <xsd:documentation>A pair of logical network endpoints. When a path allocates over different
domains, a path may contain sub-paths.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Route" type="ndl:Route_Type">
        <xsd:annotation>
            <xsd:documentation>A list of subsets of the path.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="SubPath" type="ndl:SubPath_Type">
        <xsd:annotation>
            <xsd:documentation>A pair of logical network endpoints. An NRM handling a sub-path may be
different domain from the domain of the NRM handling a path.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Nrm" type="ndl:Nrm_Type">
        <xsd:annotation>
            <xsd:documentation>An NRM information handling a sub-path.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="NrmName" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>A name of NRM.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="NrmUrl" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>A URL of NRM.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <xsd:element name="APoint" type="ndl:Endpoint_Type">
```

```
<xsd:annotation>
    <xsd:documentation>An endpoint in a path. An APoint must be paired with a
ZPoint.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="ZPoint" type="ndl:Endpoint_Type">
    <xsd:annotation>
        <xsd:documentation>An endpoint in a path. A ZPoint must be paired with an
APoint.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Endpoint"    type="ndl:Endpoint_Type">
    <xsd:annotation>
        <xsd:documentation>A termination site of a path or sub-path. An endpoint may contain termination
points of connections.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="DomainName"    type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>A name of a domain, which is a network administrated by a telecommunication
carrier, internet service provider, organization, group, or some other type of authority.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="TerminationPoint" type="ndl:TerminationPoint_Type">
    <xsd:annotation>
        <xsd:documentation>A physical or logical termination point of a connection.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="TerminationPointName" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>A name of a termination point.</xsd:documentation>
    </xsd:annotation>
</xsd:element>

<xsd:element name="Availability" type="xsd:float">
    <xsd:annotation>
        <xsd:documentation>The ratio of the total time that a path is capable of being used in a
year.</xsd:documentation>
        <xsd:appinfo>%</xsd:appinfo>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Bandwidth" type="ndl:Bandwidth_Type">
    <xsd:annotation>
        <xsd:documentation>An abstracted element of a requesting and assigned
bandwidth.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="TransmissionDelay" type="xsd:int">
    <xsd:annotation>
        <xsd:documentation>The acceptable one-way time to transfer between an APoint and a ZPoint. This
parameter doesn't include a forwarding delay in switches or routers.</xsd:documentation>
        <xsd:appinfo>msec</xsd:appinfo>
    </xsd:annotation>
</xsd:element>
```

```xml
<xsd:element name="MinimumBW" type="ndl:GeneralBW_Type">
    <xsd:annotation>
        <xsd:documentation>An acceptable minimum bandwidth requesting from an application, user or
other NRM to be guaranteed. The guaranteed bandwidth must not be assigned below the value of this parameter.
When a MaximumBW is given, NRM decides the assigned bandwidth between a MinimumBW and a
MaximumBW.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="MaximumBW" type="ndl:GeneralBW_Type">
    <xsd:annotation>
        <xsd:documentation>An acceptable maximum bandwidth requesting from an application, user or
other NRM to be guaranteed. In a commercial network, clients can pay within the value of this parameter. NRM
decides the assigned bandwidth between a MinimumBW and a MaximumBW. This parameter must be requested
with a MinimumBW.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="PeakBW" type="ndl:GeneralBW_Type">
    <xsd:annotation>
        <xsd:documentation>A requesting bandwidth without guarantee. The value of this parameter should
be equal to or less than the rate of the physical network interface.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="GuaranteedBW" type="ndl:GeneralBW_Type">
    <xsd:annotation>
        <xsd:documentation>An assigned bandwidth with guarantee.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Rate" type="xsd:int">
    <xsd:annotation>
        <xsd:documentation>The number of bits that are transfered per unit of time.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="BWUnit" type="ndl:BWUnit_Type">
    <xsd:annotation>
        <xsd:documentation>A unit of data transfer rate.</xsd:documentation>
    </xsd:annotation>
</xsd:element>

<xsd:element name="PathProperties" type="ndl:PathProperties_Type">
    <xsd:annotation>
        <xsd:documentation>A set of path information.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="MediaType" type="ndl:MediaType_Type">
    <xsd:annotation>
        <xsd:documentation>A media type of a termination point.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="OtherMediaType" type="ndl:OtherMediaType_Type">
    <xsd:annotation>
        <xsd:documentation>The other media type.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
```

```xml
<xsd:element name="OtherMediaTypeName" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>A name of the other media type.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="SwitchingScheme" type="ndl:SwitchingScheme_Type">
    <xsd:annotation>
        <xsd:documentation>A switching/routing scheme in a path.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="EthernetParameters" type="ndl:EthernetParameters_Type">
    <xsd:annotation>
        <xsd:documentation>A set of Ethernet related information.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="MPLSParameters" type="ndl:MPLSParameters_Type">
    <xsd:annotation>
        <xsd:documentation>A set of MPLS related information.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="IPParameters" type="ndl:IPParameters_Type">
    <xsd:annotation>
        <xsd:documentation>A set of IP related information.</xsd:documentation>
    </xsd:annotation>
</xsd:element>

<xsd:element name="MTU" type="xsd:int">
    <xsd:annotation>
        <xsd:documentation>A requested/allowable MTU.</xsd:documentation>
        <xsd:appinfo>Byte</xsd:appinfo>
    </xsd:annotation>
</xsd:element>
<xsd:element name="VLANTagID" type="xsd:int">
    <xsd:annotation>
        <xsd:documentation>A parameter for configuring virtual LANs in the IEEE 802.1Q
header.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="CoS" type="xsd:int">
    <xsd:annotation>
        <xsd:documentation>A parameter to differentiate traffic in the Ethernet frame
header.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="LSPID" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>A parameter to create a label switched path (LSP) in MPLS
networking.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Exp" type="xsd:int">
    <xsd:annotation>
        <xsd:documentation>A parameter to differentiate traffic in the MPLS header.</xsd:documentation>
    </xsd:annotation>
```

```xml
            </xsd:element>
            <xsd:element name="PacketLossRate" type="xsd:float">
                <xsd:annotation>
                    <xsd:documentation>The ratio of total lost IP packet outcomes to total transmitted IP packets in a
population of interest. The detailed definition is described at [Y.1540] as IPLR (IP Loss Rate).</xsd:documentation>
                    <xsd:appinfo>%</xsd:appinfo>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="PacketErrorRate" type="xsd:float">
                <xsd:annotation>
                    <xsd:documentation>The ratio of total errored IP packet outcomes to the total of successful IP packet
transfer outcomes plus errored IP packet outcomes in a population of interest. The detailed definition is described
at [Y.1540] as IPER (IP Error Rate).</xsd:documentation>
                    <xsd:appinfo>%</xsd:appinfo>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="AverageJitter" type="xsd:int">
                <xsd:annotation>
                    <xsd:documentation>The average variation of the end-to-end delay from a packet to the next
packet.</xsd:documentation>
                    <xsd:appinfo>msec</xsd:appinfo>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="MaximumJitter" type="xsd:int">
                <xsd:annotation>
                    <xsd:documentation>The maximum variation of the end-to-end delay from a packet to the next
packet.</xsd:documentation>
                    <xsd:appinfo>msec</xsd:appinfo>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="Latency" type="xsd:int">
                <xsd:annotation>
                    <xsd:documentation>The average one-way IP packet transfer time for a population of interest
between an APoint and a ZPoint with forwarding delays at switches and routers. The detailed definition is
described at [Y.1540] as IPTD (IP Transfer Delay).</xsd:documentation>
                    <xsd:appinfo>msec</xsd:appinfo>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="LatencyVariation" type="xsd:int">
                <xsd:annotation>
                    <xsd:documentation>The variation of a one-way latency within a stream of packets. The detailed
definition is described at [Y.1540] as IPDV (IP Delay Variation).</xsd:documentation>
                    <xsd:appinfo>msec</xsd:appinfo>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="PacketReordering" type="xsd:boolean">
                <xsd:annotation>
                    <xsd:documentation>NRM provides the guarantee to transfer packets in order or
not.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="ToS" type="xsd:int">
                <xsd:annotation>
                    <xsd:documentation>A parameter reserved for the service type in the IPv4
```

header.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <xsd:element name="NetworkResourceSLADocument" type="ndl:NetworkResourceSLADocument_Type">
        <xsd:annotation>
            <xsd:documentation>A set of information related to network service level agreement
(SLA).</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="SLAAvailability" type="xsd:float">
        <xsd:annotation>
            <xsd:documentation>The ratio of the total time that an NRM is capable of being used in a
year.</xsd:documentation>
            <xsd:appinfo>%</xsd:appinfo>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ProvisioningDelay" type="rdl:Duration_Type">
        <xsd:annotation>
            <xsd:documentation>The maximum time to activate an assigned path.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="FailureReportDelay" type="rdl:Duration_Type">
        <xsd:annotation>
            <xsd:documentation>The maximum time to notify clients of failures.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Redundancy" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>The configuration to ensure the path continues under the
failure(s).</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <!-- == -->

    <xsd:complexType name="NetworkResources_Type">
        <xsd:complexContent>
            <xsd:extension base="rdl:ReservationResources_Type">
                <xsd:sequence>
                    <xsd:element ref="ndl:Path" minOccurs="0" maxOccurs="1"/>
                    <xsd:element ref="ndl:NetworkResourceSLADocument" minOccurs="0" maxOccurs="1"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>

    <xsd:complexType name="Path_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:APoint" minOccurs="1" maxOccurs="1"/>
            <xsd:element ref="ndl:ZPoint" minOccurs="1" maxOccurs="1"/>
            <xsd:element ref="ndl:Route" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:Bandwidth" minOccurs="1" maxOccurs="1"/>
            <xsd:element ref="ndl:PathProperties" minOccurs="0" maxOccurs="1"/>

```xml
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="Endpoint_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:DomainName" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:TerminationPoint" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="TerminationPoint_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:TerminationPointName" minOccurs="0"/>
            <xsd:element ref="ndl:MediaType" minOccurs="0" maxOccurs="1"/>
            <!-- IANA-MAU-MIB -->
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="Route_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:SubPath" minOccurs="1" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="SubPath_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:APoint" minOccurs="1" maxOccurs="1"/>
            <xsd:element ref="ndl:ZPoint" minOccurs="1" maxOccurs="1"/>
            <xsd:element ref="ndl:Nrm" minOccurs="1" maxOccurs="1"/>
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="Nrm_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:NrmName" minOccurs="1" maxOccurs="1"/>
            <xsd:element ref="ndl:NrmUrl" minOccurs="1" maxOccurs="1"/>
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="Bandwidth_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:MinimumBW" minOccurs="1" maxOccurs="1" />
            <xsd:element ref="ndl:MaximumBW" minOccurs="0" maxOccurs="1" />
            <xsd:element ref="ndl:PeakBW" minOccurs="0" maxOccurs="1" />
            <xsd:element ref="ndl:GuaranteedBW" minOccurs="1" maxOccurs="1" />
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="GeneralBW_Type">
        <xsd:sequence>
            <xsd:element ref="ndl:Rate" minOccurs="1" maxOccurs="1" />
            <xsd:element ref="ndl:BWUnit" minOccurs="1" maxOccurs="1" />
        </xsd:sequence>
    </xsd:complexType>
```

```xml
<xsd:simpleType name="BWUnit_Type">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="Pbps">
            <xsd:annotation>
                <xsd:documentation>A unit of data transfer rate equal to 1,000 Tbps.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Tbps">
            <xsd:annotation>
                <xsd:documentation>A unit of data transfer rate equal to 1,000 Gbps.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Gbps">
            <xsd:annotation>
                <xsd:documentation>A unit of data transfer rate equal to 1,000 Mbps.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Mbps">
            <xsd:annotation>
                <xsd:documentation>A unit of data transfer rate equal to 1,000 kbps.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="kbps">
            <xsd:annotation>
                <xsd:documentation>A unit of data transfer rate equal to 1,000 bps.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="bps">
            <xsd:annotation>
                <xsd:documentation>Bit per second.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="PathProperties_Type">
    <xsd:sequence>
        <xsd:element ref="ndl:Availability" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:TransmissionDelay" minOccurs="0" maxOccurs="1"/>
        <!-- msec -->
        <xsd:element ref="ndl:SwitchingScheme" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:EthernetParameters" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:MPLSParameters" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:IPParameters"        minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType abstract="true" name="MediaType_Type">
    <xsd:sequence/>
</xsd:complexType>

<xsd:complexType name="OtherMediaType_Type">
    <xsd:complexContent>
```

```xml
            <xsd:extension base="ndl:MediaType_Type">
                <xsd:sequence>
                    <xsd:element ref="ndl:OtherMediaTypeName" minOccurs="1" maxOccurs="1"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
</xsd:complexType>

<xsd:simpleType name="SwitchingScheme_Type">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="LAMBDA">
            <xsd:annotation>
                <xsd:documentation>Lambda service path.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="ETHERNET">
            <xsd:annotation>
                <xsd:documentation>L2 Ethernet service path.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="ATM">
            <xsd:annotation>
                <xsd:documentation>ATM service path.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="MPLS">
            <xsd:annotation>
                <xsd:documentation>MPLS service path.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="IP">
            <xsd:annotation>
                <xsd:documentation>L3 IP service path.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="EthernetParameters_Type">
    <xsd:sequence>
        <xsd:element ref="ndl:MTU" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:VLANTagID" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:CoS" minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="MPLSParameters_Type">
    <xsd:sequence>
        <xsd:element ref="ndl:LSPID" minOccurs="0" maxOccurs="1"/>
        <xsd:element ref="ndl:Exp" minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="IPParameters_Type">
```

```xml
        <xsd:sequence>
            <xsd:element ref="ndl:PacketLossRate" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:PacketErrorRate" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:AverageJitter" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:MaximumJitter" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:Latency" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:LatencyVariation" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:PacketReordering" minOccurs="0" maxOccurs="1"/>
            <xsd:element ref="ndl:ToS" type="xsd:int" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
    </xsd:complexType>

    <xsd:complexType name="NetworkResourceSLADocument_Type">
        <xsd:complexContent>
            <xsd:extension base="rdl:SLADocument_Type">
                <xsd:sequence>
                    <xsd:element ref="ndl:SLAAvailability" minOccurs="0" maxOccurs="1"/>
                    <xsd:element ref="ndl:ProvisioningDelay" minOccurs="0" maxOccurs="1"/>
                    <xsd:element ref="ndl:FailureReportDelay" minOccurs="0" maxOccurs="1"/>
                    <xsd:element ref="ndl:Redundancy" minOccurs="0" maxOccurs="1"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
</xsd:schema>
```

Appendix F. Compute Resource-related Data Types

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/cdl"
            xmlns:cdl="http://schemas.glambda.net/gnswsi3/2008/12/cdl"
            xmlns:jsdl="http://schemas.ggf.org/jsdl/2005/11/jsdl"
            xmlns:rdl="http://schemas.glambda.net/gnswsi3/2008/12/rdl"
            attributeFormDefault="unqualified" elementFormDefault="qualified">

    <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/rdl" schemaLocation="rdl.xsd"/>
    <xsd:import namespace="http://schemas.ggf.org/jsdl/2005/11/jsdl" schemaLocation="jsdl.xsd"/>

    <!-- ============================================================ -->

    <xsd:element name="ComputeResources" type="cdl:ComputeResources_Type">
        <xsd:annotation>
            <xsd:documentation>Compute resources</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ComputeResourceSLADocument" type="cdl:ComputeResourceSLADocument_Type">
        <xsd:annotation>
            <xsd:documentation>SLA Document of compute resources</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Site" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>A site name</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Description" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>An SLA document description</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <!-- ============================================================ -->

    <xsd:complexType name="ComputeResources_Type">
        <xsd:complexContent>
            <xsd:extension base="rdl:ReservationResources_Type">
                <xsd:sequence>
                    <xsd:element ref="cdl:Site" minOccurs="0" maxOccurs="1"/>
                    <xsd:element ref="jsdl:Resources" minOccurs="0" maxOccurs="1"/>
                    <xsd:element ref="cdl:ComputeResourceSLADocument" minOccurs="0" maxOccurs="1"/>
                    <!-- mpi etc. -->
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>

    <xsd:complexType name="ComputeResourceSLADocument_Type">
        <xsd:complexContent>
            <xsd:extension base="rdl:SLADocument_Type">
```

```xml
            <xsd:sequence>
                <xsd:element ref="cdl:Description" minOccurs="0" maxOccurs="1"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
    </xsd:complexType>
</xsd:schema>
```

Appendix G. IANA Mau MIB Types

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        targetNamespace="http://schemas.glambda.net/gnswsi3/2008/12/ianamaumib"
        xmlns:iana="http://schemas.glambda.net/gnswsi3/2008/12/ianamaumib"
        xmlns:ndl="http://schemas.glambda.net/gnswsi3/2008/12/ndl"
        attributeFormDefault="unqualified" elementFormDefault="qualified">

    <xsd:import namespace="http://schemas.glambda.net/gnswsi3/2008/12/ndl" schemaLocation="ndl.xsd"/>

    <!-- ========================================================= -->

    <xsd:element name="IANAMauMIBType" type="iana:IANAMauMIBType_Type">
        <xsd:annotation>
            <xsd:documentation>A media type defined by IANA-MAU-MIB.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <xsd:element name="IANAMauMIBTypeName" type="iana:IANAMauMIBTypeName_Type">
        <xsd:annotation>
            <xsd:documentation>A name of the interface media defined as media attachment units
[IANA-MAU-MIB].</xsd:documentation>
        </xsd:annotation>
    </xsd:element>

    <!-- ========================================================= -->

    <xsd:complexType name="IANAMauMIBType_Type">
        <xsd:complexContent>
            <xsd:extension base="ndl:MediaType_Type">
                <xsd:sequence>
                    <xsd:element ref="iana:IANAMauMIBTypeName" minOccurs="1" maxOccurs="1"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>

    <xsd:simpleType name="IANAMauMIBTypeName_Type">
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="bOther">
                <xsd:annotation>
                    <xsd:documentation>other or unknown</xsd:documentation>
                </xsd:annotation>
            </xsd:enumeration>
            <xsd:enumeration value="bAUI">
                <xsd:annotation>
                    <xsd:documentation>AUI</xsd:documentation>
                </xsd:annotation>
            </xsd:enumeration>
            <xsd:enumeration value="b10base5">
                <xsd:annotation>
                    <xsd:documentation>10BASE-5</xsd:documentation>
                </xsd:annotation>
```

```xml
        </xsd:enumeration>
        <xsd:enumeration value="bFoirl">
            <xsd:annotation>
                <xsd:documentation>FOIRL</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10base2">
            <xsd:annotation>
                <xsd:documentation>10BASE-2</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseT">
            <xsd:annotation>
                <xsd:documentation>10BASE-T duplex mode unknown</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseFP">
            <xsd:annotation>
                <xsd:documentation>10BASE-FP</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseFB">
            <xsd:annotation>
                <xsd:documentation>10BASE-FB</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseFL">
            <xsd:annotation>
                <xsd:documentation>10BASE-FL duplex mode unknown</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10broad36">
            <xsd:annotation>
                <xsd:documentation>10BROAD36</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseTHD">
            <xsd:annotation>
                <xsd:documentation>10BASE-T    half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseTFD">
            <xsd:annotation>
                <xsd:documentation>10BASE-T    full duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseFLHD">
            <xsd:annotation>
                <xsd:documentation>10BASE-FL half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b10baseFLFD">
            <xsd:annotation>
                <xsd:documentation>10BASE-FL full duplex mode</xsd:documentation>
```

```xml
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseT4">
            <xsd:annotation>
                <xsd:documentation>100BASE-T4</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseTXHD">
            <xsd:annotation>
                <xsd:documentation>100BASE-TX half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseTXFD">
            <xsd:annotation>
                <xsd:documentation>100BASE-TX full duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseFXHD">
            <xsd:annotation>
                <xsd:documentation>100BASE-FX half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseFXFD">
            <xsd:annotation>
                <xsd:documentation>100BASE-FX full duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseT2HD">
            <xsd:annotation>
                <xsd:documentation>100BASE-T2 half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b100baseT2FD">
            <xsd:annotation>
                <xsd:documentation>100BASE-T2 full duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b1000baseXHD">
            <xsd:annotation>
                <xsd:documentation>1000BASE-X half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b1000baseXFD">
            <xsd:annotation>
                <xsd:documentation>1000BASE-X full duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b1000baseLXHD">
            <xsd:annotation>
                <xsd:documentation>1000BASE-LX half duplex mode</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="b1000baseLXFD">
            <xsd:annotation>
```

```xml
            <xsd:documentation>1000BASE-LX full duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b1000baseSXHD">
        <xsd:annotation>
            <xsd:documentation>1000BASE-SX half duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b1000baseSXFD">
        <xsd:annotation>
            <xsd:documentation>1000BASE-SX full duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b1000baseCXHD">
        <xsd:annotation>
            <xsd:documentation>1000BASE-CX half duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b1000baseCXFD">
        <xsd:annotation>
            <xsd:documentation>1000BASE-CX full duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b1000baseTHD">
        <xsd:annotation>
            <xsd:documentation>1000BASE-T half duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b1000baseTFD">
        <xsd:annotation>
            <xsd:documentation>1000BASE-T full duplex mode</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="b10GbaseX">
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