



Scheduling

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1. INTRODUCTION

Scheduling profile describes in which order the actions in the mission plan will be performed. It will be used in conjunction with Mission Plan Profile.

2. OBJECTIVES

The objectives of implementing this profile are:

1. Instructing related organizations before emergency.
2. Being prepared for emergency.
3. Managing emergency situations properly.
4. Facilitating emergency information sharing and data exchange across different organizations of different professions that provide emergency response and management services.
5. Supporting everyday events and incident preparedness, as well as disasters.
6. Increasing situational awareness.

3. SCOPE

This profile supports organizing the mission plan distributed to organizations taking part in emergency operations. It is intended to provide a sequence for the actions mission plan so that an actions can be performed prior to/after another. The intended scope for this profile includes:

- Before emergency situations
- Among competent authorities, on-site coordination centers, local organizations, national organizations and non-governmental organizations

The transactions, specified in this profile are intended to be exchanged between organizations taking part in emergency operations. It is expected that sender and receiver organizations have had necessary infrastructure, which is specified in the profile, to enable them to send and receive the transactions in a secured way, using an agreed syntax.

4. PROFILE DETAILED DESCRIPTION

4.2. Roles Involved

Actor	Description
Competent Authority	The Competent Authority is the legal person or organization who is in charge of instructing emergency organizations and executing the mission plan.
Emergency Organization	The Emergency Organization is the legal organization who retrieves the mission plan in which it is responsible for performing specified action.

4.3. Actor Diagram

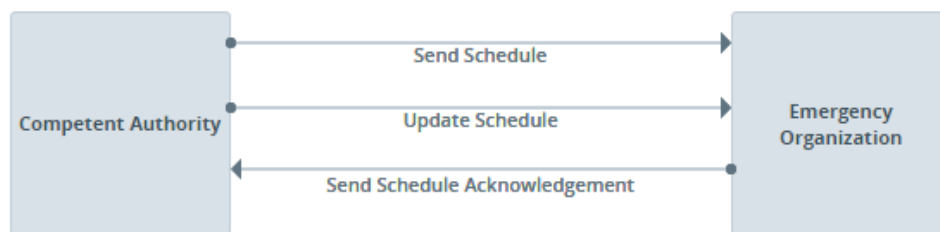


Figure above shows the actors directly involved in the Scheduling Profile and the possible messages to be exchanged between them.

4.4. Transaction Information

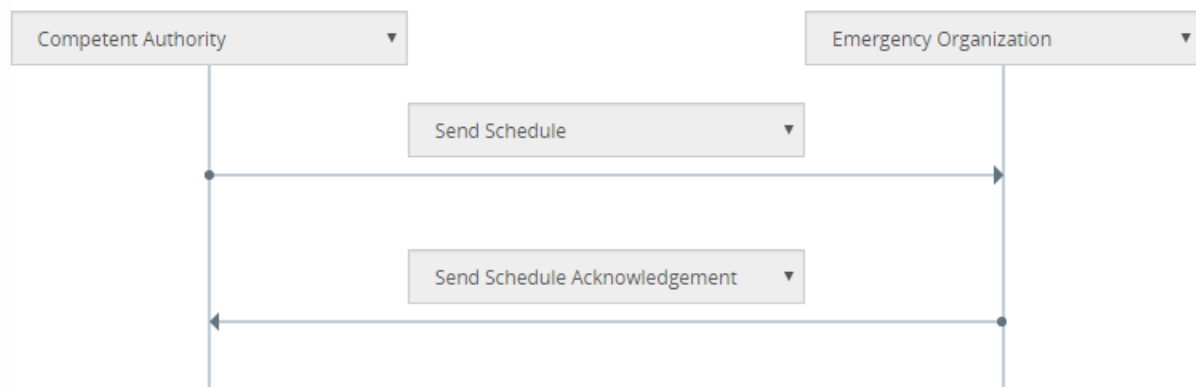
4.4.1. Send Schedule

4.4.1.1. Description

Categories	Description and Values
Identifier	817e0ae0-ed17-4a2f-af82-a0ea67701f55

Description	The Competent Authority puts the actions in mission plan in order and sends it to the Emergency Organizations.
Actors	Competent Authority, Emergency Organization
Pre-conditions	The Competent Authority and the Emergency Organizations have already identified each other. The Competent Authority have already sent a mission plan to the Emergency Organization.
Post-conditions	The Emergency Organization has received the schedule information and sent an acknowledgement to the Competent Authority. If the Competent Authority do not receive an acknowledgement within the time specified, it assumes that schedule information has not reached to the Emergency Organization.

4.4.1.2. Interaction Diagram



4.4.1.3. Send Schedule Message

4.4.1.3.1. Message Semantics

```
<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.c2sense.eu/edxl-mp"
  xmlns:tns="http://www.c2sense.eu/edxl-mp"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified" xmlns:ct="urn:oasis:names:tc:emergency:edxl:ct:1.0">
  <import schemaLocation="edxl-ct-v1.0.xsd" xmlns:ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"
  namespace="urn:oasis:names:tc:emergency:edxl:ct:1.0"/>
  <element name="MissionPlan" type="tns:MissionPlan"></element>
  <complexType name="MissionPlan">
    <sequence>
      <xs:element name="MessageID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <xs:element name="PlanID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    </xs:element>
      <xs:element name="PlanVersion" type="integer" minOccurs="1" maxOccurs="1"/>
      <xs:element name="PreparedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
    />
      <xs:element name="AuthorizedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
    />
      <xs:element name="FatherPlanID" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
      <element name="Situation" type="tns:SituationType" minOccurs="1" maxOccurs="1"/>
      <element name="Mission" type="tns:MissionType" minOccurs="1" maxOccurs="1"/>
      <element name="Execution" type="tns:ExecutionType" minOccurs="1" maxOccurs="1"/>
      <element name="CommandAndSignal" type="tns:CommandAndSignalType" minOccurs="1"
    maxOccurs="1"/>
    </sequence>
  </complexType>
  <complexType name="SituationType">
    <sequence>
      <element name="Field" type="ct:EDXLLocationType" minOccurs="1" maxOccurs="1"/>
      <element name="Threats" type="tns:ThreatsType" minOccurs="1" maxOccurs="1"/></element>
      <element name="Assets" type="tns:AssetsType" minOccurs="1" maxOccurs="1"/></element>
      <element name="Evaluation" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
    </sequence>
  </complexType>
  <complexType name="MissionType">
    <sequence>
      <element name="Summary" type="ct:EDXLStringType"/>
    </sequence>
  </complexType>
  <complexType name="ExecutionType">
    <sequence>
      <element name="ConceptOfOperations" type="ct:EDXLStringType" minOccurs="1"
    maxOccurs="1"/>
      <element name="Task" type="tns:TaskType" minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
  </complexType>
  <complexType name="CommandAndSignalType">
    <sequence>
      <element name="Signaling" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    </sequence>
  </complexType>
</schema>
```

```

    </sequence>
  </complexType>
  <complexType name="ThreatsType">
    <sequence>
      <element name="Description" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <element name="Reports" type="ct:EDXLStringType" minOccurs="0" maxOccurs="unbounded"/>
      <element name="ThreateningUnits" type="tns:UnitType" minOccurs="0"
maxOccurs="unbounded"/>
    </sequence>
  </complexType>
  <complexType name="AssetsType">
    <sequence>
      <element name="Description" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <element name="AvailableUnits" type="tns:UnitType" minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
  </complexType>
  <complexType name="UnitType">
    <sequence>
      <element name="UnitID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <element name="UnitDescription" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <element name="OwnerOrganization" type="ct:OrganizationInformationType" minOccurs="0"
maxOccurs="1"/>
    </sequence>
  </complexType>
  <complexType name="TaskType">
    <sequence>
      <element name="TaskID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <element name="TaskDescription" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <element name="OrderingConstraint" minOccurs="0" maxOccurs="unbounded">
        <complexType>
          <sequence>
            <element name="Reference" type="ct:EDXLStringType" minOccurs="1"
maxOccurs="1"/>
            <element name="ConstraintType" type="tns:ConstraintType" minOccurs="1"
maxOccurs="1"/>
            <element name="ThresholdSide" type="tns:ThresholdSideType" minOccurs="1"
maxOccurs="1"/></element>
            <element name="ConstraintValue" type="duration" minOccurs="0"
maxOccurs="1"/>
          </sequence>
        </complexType>
      </element>
      <element name="LeadingUnit" type="tns:ResourceUsageType" minOccurs="1" maxOccurs="1"/>
      <element name="InvolvedUnit" type="tns:ResourceUsageType" minOccurs="0"
maxOccurs="unbounded"/>
      <element name="ConstrainedDates" type="ct:TimePeriodType" minOccurs="0" maxOccurs="1"/>
      <element name="ScheduledTime" type="ct:TimePeriodType" minOccurs="0" maxOccurs="1"/>
      <element name="Position" minOccurs="0" maxOccurs="unbounded">
        <complexType>
          <sequence>

```

```

        <element name="RelativeToBeginConstraint" type="duration" minOccurs="0"
maxOccurs="1"/>
        <element name="ScheduledTime" type="string" minOccurs="0" maxOccurs="1"/>
        <element name="Position" type="ct:EDXLLocationType" minOccurs="1"
maxOccurs="1"/>
    </sequence>
</complexType>
</element>
<element name="OtherConstraints" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
</sequence>
</complexType>
<simpleType name="ConstraintType">
    <restriction base="string">
        <enumeration value="EndsAfterEnd"></enumeration>
        <enumeration value="StartsAfterEnd"></enumeration>
        <enumeration value="StartsAfterStart"></enumeration>
        <enumeration value="EndsAfterStart"></enumeration>
        <enumeration value="MinimalDuration"></enumeration>
        <enumeration value="MaximalDuration"></enumeration>
    </restriction>
</simpleType>
<complexType name="ResourceUsageType">
    <sequence>
        <element name="UnitID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="Implication" type="ct:PercentageType" minOccurs="1" maxOccurs="1"/>
    </sequence>
</complexType>
<simpleType name="ThresholdSideType">
    <restriction base="string">
        <enumeration value="Exact"></enumeration>
        <enumeration value="LowerThan"></enumeration>
        <enumeration value="HigherThan"></enumeration>
    </restriction>
</simpleType>
<element name="MissionPlanStatusRequest" type="tns:MissionPlanStatusRequestType"/>
<complexType name="MissionPlanStatusRequestType">
    <sequence>
        <xs:element name="MessageID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        </xs:element>
        <xs:element name="PlanID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        </xs:element>
        <xs:element name="PlanVersion" type="integer" minOccurs="0" maxOccurs="1"/>
    </sequence>
</complexType>
<element name="MissionPlanStatus" type="tns:MissionPlanStatusType"/>
<complexType name="MissionPlanStatusType">
    <sequence>
        <xs:element name="MessageID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <xs:element name="PlanID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <xs:element name="PlanVersion" type="integer" minOccurs="1" maxOccurs="1"/>
    </sequence>

```



```

    <xs:element name="PreparedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
/>
    <xs:element name="AuthorizedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
/>
    <xs:element name="FatherPlanID" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
    <xs:element name="ExecutionStatus" type="tns:ExecutionStatusType" minOccurs="1"
maxOccurs="1"/>
  </sequence>
</complexType>
<complexType name="ExecutionStatusType">
  <sequence>
    <element name="ExecutionSummary" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    <element name="TaskReport" type="tns:TaskReportType" minOccurs="0"
maxOccurs="unbounded"/>
  </sequence>
</complexType>
<complexType name="TaskReportType">
  <sequence>
    <element name="TaskID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    <element name="TaskStatus" type="tns:TaskStatusType" minOccurs="1" maxOccurs="1"/>
    <element name="AdvancementReport" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
  </sequence>
</complexType>
<simpleType name="TaskStatusType">
  <restriction base="string">
    <enumeration value="Pending"/>
    <enumeration value="Ongoing"/>
    <enumeration value="Finished"/>
    <enumeration value="OnHold"/>
    <enumeration value="Terminated"/>
  </restriction>
</simpleType>
</schema>

```

4.4.1.3.2. Protocol Requirements

```

<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:edxld="urn:oasis:names:tc:emergency:EDXL:DE:1.0" xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:tns="urn:eu:c2sense:emergency:distribution:1.0"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" name="EmergencyDistribution"
targetNamespace="urn:eu:c2sense:emergency:distribution:1.0">
  <documentation>C2SENSE Distribution Web Service</documentation>
  <types>
    <xsd:schema>
      <xsd:import namespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
schemaLocation="../../DE/EDXL-DE.xsd"/>
    </xsd:schema>

```

```

</types>
<message name="SendMessage_Message">
  <documentation>Send Message</documentation>
  <part name="body" element="edxlde:EDXLDistribution"/>
</message>
<message name="ReceiveResponseMessage_Message">
  <documentation>Receive Response Message</documentation>
  <part name="body" element="edxlde:EDXLDistribution"/>
</message>
<portType name="Distribution_PortType">
  <operation name="SendMessage">
    <input message="tns:SendMessage_Message"/>
    <output message="tns:ReceiveResponseMessage_Message"/>
  </operation>
</portType>
<binding name="Distribution_Binding_Soap12" type="tns:Distribution_PortType">
  <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <operation name="SendMessage">
    <soap12:operation soapAction="urn:oasis:names:tc:emergency:EDXL:DE:1.0:SendMessage"/>
    <input>
      <soap12:body use="literal"/>
    </input>
    <output>
      <soap12:body use="literal"/>
    </output>
  </operation>
</binding>
<service name="Distribution">
  <port name="Distribution_PortType" binding="tns:Distribution_Binding_Soap12">
    <soap12:address location="https://localhost:8080/Distribution"/>
  </port>
</service>
</definitions>

```

4.4.1.4. Send Schedule Acknowledgement Message

4.4.1.4.1. Message Semantics

```

<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
  targetNamespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0" elementFormDefault="qualified"
  attributeFormDefault="unqualified" version="1.0CD">
  <xsd:element name="EDXLDistribution">
    <xsd:complexType>
      <xsd:sequence>

```

```

        <xsd:element name="distributionID" type="xsd:string"/>
        <xsd:element name="senderID" type="xsd:string"/>
        <xsd:element name="dateTimeSent" type="xsd:dateTime"/>
        <xsd:element name="distributionStatus" type="statusValues"/>
        <xsd:element name="distributionType" type="typeValues"/>
        <xsd:element name="combinedConfidentiality" type="xsd:string"/>
        <xsd:element name="senderRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="recipientRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="keyword" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="explicitAddress" type="valueSchemeType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="targetArea" type="targetAreaType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="contentObject" type="contentObjectType" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:complexType name="contentObjectType">
    <xsd:sequence>
        <xsd:element name="contentDescription" type="xsd:string" minOccurs="0"/>
        <xsd:element name="contentKeyword" type="valueListType" minOccurs="0"/>
        <xsd:element name="incidentID" type="xsd:string" minOccurs="0"/>
        <xsd:element name="incidentDescription" type="xsd:string" minOccurs="0"/>
        <xsd:element name="originatorRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="consumerRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="confidentiality" type="xsd:string" minOccurs="0"/>
        <xsd:element name="xmlContent" type="xmlContentType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="nonXMLContentType">
    <xsd:sequence>
        <xsd:element name="mimeType" type="xsd:string"/>
        <xsd:element name="size" type="xsd:integer" minOccurs="0"/>
        <xsd:element name="digest" type="xsd:string" minOccurs="0"/>
        <xsd:element name="uri" type="xsd:anyURI" minOccurs="0"/>
        <xsd:element name="contentData" type="xsd:base64Binary" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="xmlContentType">
    <xsd:sequence>
        <xsd:element name="embeddedXMLContent" type="anyXMLType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="anyXMLType">
    <xsd:sequence>
        <xsd:any namespace="##other" processContents="lax" maxOccurs="unbounded"/>
    </xsd:sequence>

```

```
</xsd:sequence>
  <xsd:anyAttribute namespace="##other" processContents="lax"/>
</xsd:complexType>
<xsd:complexType name="valueListType">
  <xsd:sequence>
    <xsd:element name="valueListUrn" type="xsd:string"/>
    <xsd:element name="value" type="xsd:string" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="valueSchemeType">
  <xsd:sequence>
    <xsd:element name="explicitAddressScheme" type="xsd:string"/>
    <xsd:element name="explicitAddressValue" type="xsd:string" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="targetAreaType">
  <xsd:sequence>
    <xsd:element name="circle" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="polygon" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="country" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="subdivision" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="locCodeUN" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="statusValues">
  <xsd:restriction base="xsd:NMTOKEN">
    <xsd:enumeration value="Actual"/>
    <xsd:enumeration value="Exercise"/>
    <xsd:enumeration value="System"/>
    <xsd:enumeration value="Test"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="typeValues">
  <xsd:restriction base="xsd:NMTOKEN">
    <xsd:enumeration value="Report"/>
    <xsd:enumeration value="Update"/>
    <xsd:enumeration value="Cancel"/>
    <xsd:enumeration value="Request"/>
    <xsd:enumeration value="Response"/>
    <xsd:enumeration value="Dispatch"/>
    <xsd:enumeration value="Ack"/>
    <xsd:enumeration value="Error"/>
    <xsd:enumeration value="SensorConfiguration"/>
    <xsd:enumeration value="SensorControl"/>
    <xsd:enumeration value="SensorStatus"/>
    <xsd:enumeration value="SensorDetection"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:schema>
```

4.4.1.4.2. Protocol Requirements

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:edxld="urn:oasis:names:tc:emergency:EDXL:DE:1.0" xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:tns="urn:eu:c2sense:emergency:distribution:1.0"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" name="EmergencyDistribution"
targetNamespace="urn:eu:c2sense:emergency:distribution:1.0">
  <documentation>C2SENSE Distribution Web Service</documentation>
  <types>
    <xsd:schema>
      <xsd:import namespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
schemaLocation="../../DE/EDXL-DE.xsd"/>
    </xsd:schema>
  </types>
  <message name="SendMessage_Message">
    <documentation>Send Message</documentation>
    <part name="body" element="edxld:EDXLDistribution"/>
  </message>
  <message name="ReceiveResponseMessage_Message">
    <documentation>Receive Response Message</documentation>
    <part name="body" element="edxld:EDXLDistribution"/>
  </message>
  <portType name="Distribution_PortType">
    <operation name="SendMessage">
      <input message="tns:SendMessage_Message"/>
      <output message="tns:ReceiveResponseMessage_Message"/>
    </operation>
  </portType>
  <binding name="Distribution_Binding_Soap12" type="tns:Distribution_PortType">
    <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="SendMessage">
      <soap12:operation soapAction="urn:oasis:names:tc:emergency:EDXL:DE:1.0:SendMessage"/>
      <input>
        <soap12:body use="literal"/>
      </input>
      <output>
        <soap12:body use="literal"/>
      </output>
    </operation>
  </binding>
  <service name="Distribution">
    <port name="Distribution_PortType" binding="tns:Distribution_Binding_Soap12">
      <soap12:address location="https://localhost:8080/Distribution"/>
    </port>
  </service>
</definitions>
```



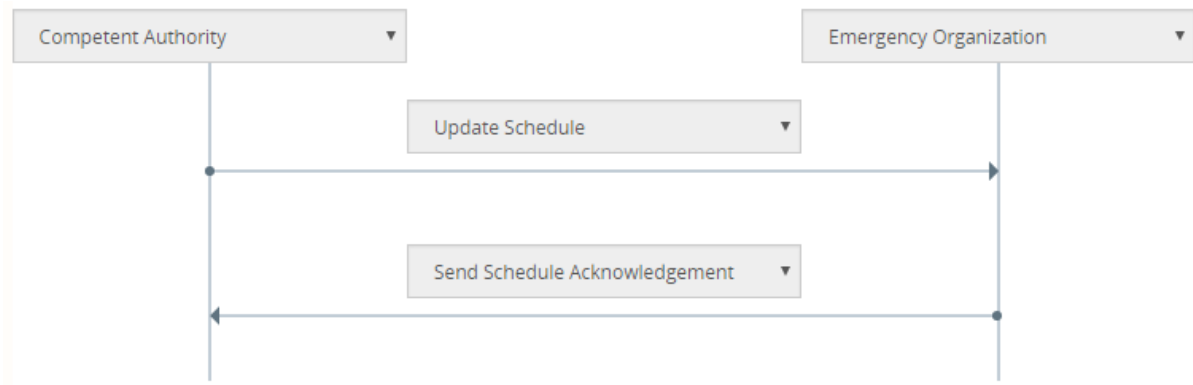
```
</port>  
</service>  
</definitions>
```

4.4.2. Update Schedule

4.4.2.1. Description

Categories	Description and Values
Identifier	b0296bb0-e405-4c67-940a-ad0ec02254d2
Description	The Competent Authority changes the schedule of events according to the situation reports or unexpected circumstances.
Actors	Competent Authority, Emergency Organization
Pre-conditions	<p>The Competent Authority and the Emergency Organizations have already identified each other.</p> <p>The Competent Authority have already sent a schedule information to the Emergency Organization.</p>
Post-conditions	<p>The Emergency Organization has received the updated schedule and sent an acknowledgement (positive or negative) to the Competent Authority.</p> <p>If the Competent Authority do not receive an acknowledgement within the time specified, it assumes that schedule information has not reached to the Emergency Organization.</p>

4.4.2.2. Interaction Diagram



4.4.2.3. Update Schedule Message

4.4.2.3.1. Message Semantics

```

<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.c2sense.eu/edxl-mp"
  xmlns:tns="http://www.c2sense.eu/edxl-mp"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified" xmlns:ct="urn:oasis:names:tc:emergency:edxl:ct:1.0">
  <import schemaLocation="edxl-ct-v1.0.xsd" xmlns:ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"
  namespace="urn:oasis:names:tc:emergency:edxl:ct:1.0"/>
  <element name="MissionPlan" type="tns:MissionPlan"></element>
  <complexType name="MissionPlan">
    <sequence>
      <xs:element name="MessageID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
      <xs:element name="PlanID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    </xs:element>
      <xs:element name="PlanVersion" type="integer" minOccurs="1" maxOccurs="1"/>
      <xs:element name="PreparedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
    />
      <xs:element name="AuthorizedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
    />
      <xs:element name="FatherPlanID" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
      <element name="Situation" type="tns:SituationType" minOccurs="1" maxOccurs="1"/>
      <element name="Mission" type="tns:MissionType" minOccurs="1" maxOccurs="1"/>
      <element name="Execution" type="tns:ExecutionType" minOccurs="1" maxOccurs="1"/>
      <element name="CommandAndSignal" type="tns:CommandAndSignalType" minOccurs="1"
    maxOccurs="1"/>
    </sequence>
  </complexType>
  <complexType name="SituationType">
    <sequence>
      <element name="Field" type="ct:EDXLLocationType" minOccurs="1" maxOccurs="1"/>

```

```

        <element name="Threats" type="tns:ThreatsType" minOccurs="1" maxOccurs="1"></element>
        <element name="Assets" type="tns:AssetsType" minOccurs="1" maxOccurs="1"></element>
        <element name="Evaluation" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
    </sequence>
</complexType>
<complexType name="MissionType">
    <sequence>
        <element name="Summary" type="ct:EDXLStringType"/>
    </sequence>
</complexType>
<complexType name="ExecutionType">
    <sequence>
        <element name="ConceptOfOperations" type="ct:EDXLStringType" minOccurs="1"
maxOccurs="1"/>
        <element name="Task" type="tns:TaskType" minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
</complexType>
<complexType name="CommandAndSignalType">
    <sequence>
        <element name="Signaling" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    </sequence>
</complexType>
<complexType name="ThreatsType">
    <sequence>
        <element name="Description" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="Reports" type="ct:EDXLStringType" minOccurs="0" maxOccurs="unbounded"/>
        <element name="ThreateningUnits" type="tns:UnitType" minOccurs="0"
maxOccurs="unbounded"/>
    </sequence>
</complexType>
<complexType name="AssetsType">
    <sequence>
        <element name="Description" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="AvailableUnits" type="tns:UnitType" minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
</complexType>
<complexType name="UnitType">
    <sequence>
        <element name="UnitID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="UnitDescription" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="OwnerOrganization" type="ct:OrganizationInformationType" minOccurs="0"
maxOccurs="1"/>
    </sequence>
</complexType>
<complexType name="TaskType">
    <sequence>
        <element name="TaskID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="TaskDescription" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="OrderingConstraint" minOccurs="0" maxOccurs="unbounded">
            <complexType>

```



```

        <sequence>
            <element name="Reference" type="ct:EDXLStringType" minOccurs="1"
maxOccurs="1"/>
            <element name="ConstraintType" type="tns:ConstraintType" minOccurs="1"
maxOccurs="1"/>
                <element name="ThresholdSide" type="tns:ThresholdSideType" minOccurs="1"
maxOccurs="1"></element>
                <element name="ConstraintValue" type="duration" minOccurs="0"
maxOccurs="1"/>
        </sequence>
    </complexType>
</element>
    <element name="LeadingUnit" type="tns:ResourceUsageType" minOccurs="1" maxOccurs="1"/>
    <element name="InvolvedUnit" type="tns:ResourceUsageType" minOccurs="0"
maxOccurs="unbounded"/>
    <element name="ConstrainedDates" type="ct:TimePeriodType" minOccurs="0" maxOccurs="1"/>
    <element name="ScheduledTime" type="ct:TimePeriodType" minOccurs="0" maxOccurs="1"/>
    <element name="Position" minOccurs="0" maxOccurs="unbounded">
        <complexType>
            <sequence>
                <element name="RelativeToBeginConstraint" type="duration" minOccurs="0"
maxOccurs="1"/>
                <element name="ScheduledTime" type="string" minOccurs="0" maxOccurs="1"/>
                <element name="Position" type="ct:EDXLLocationType" minOccurs="1"
maxOccurs="1"/>
            </sequence>
        </complexType>
    </element>
    <element name="OtherConstraints" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
</sequence>
</complexType>
<simpleType name="ConstraintType">
    <restriction base="string">
        <enumeration value="EndsAfterEnd"></enumeration>
        <enumeration value="StartsAfterEnd"></enumeration>
        <enumeration value="StartsAfterStart"></enumeration>
        <enumeration value="EndsAfterStart"></enumeration>
        <enumeration value="MinimalDuration"></enumeration>
        <enumeration value="MaximalDuration"></enumeration>
    </restriction>
</simpleType>
<complexType name="ResourceUsageType">
    <sequence>
        <element name="UnitID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="Implication" type="ct:PercentageType" minOccurs="1" maxOccurs="1"/>
    </sequence>
</complexType>
<simpleType name="ThresholdSideType">
    <restriction base="string">
        <enumeration value="Exact"></enumeration>
        <enumeration value="LowerThan"></enumeration>
    </restriction>

```

```

        <enumeration value="HigherThan"></enumeration>
    </restriction>
</simpleType>
<element name="MissionPlanStatusRequest" type="tns:MissionPlanStatusRequestType"/>
<complexType name="MissionPlanStatusRequestType">
    <sequence>
        <xs:element name="MessageID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    </xs:element>
        <xs:element name="PlanID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
    </xs:element>
        <xs:element name="PlanVersion" type="integer" minOccurs="0" maxOccurs="1"/>
    </sequence>
</complexType>
<element name="MissionPlanStatus" type="tns:MissionPlanStatusType"/>
<complexType name="MissionPlanStatusType">
    <sequence>
        <xs:element name="MessageID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <xs:element name="PlanID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <xs:element name="PlanVersion" type="integer" minOccurs="1" maxOccurs="1"/>
        <xs:element name="PreparedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
/>
        <xs:element name="AuthorizedBy" type="ct:PersonTimePairType" minOccurs="1" maxOccurs="1"
/>
        <xs:element name="FatherPlanID" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="ExecutionStatus" type="tns:ExecutionStatusType" minOccurs="1"
maxOccurs="1"/>
    </sequence>
</complexType>
<complexType name="ExecutionStatusType">
    <sequence>
        <element name="ExecutionSummary" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="TaskReport" type="tns:TaskReportType" minOccurs="0"
maxOccurs="unbounded"/>
    </sequence>
</complexType>
<complexType name="TaskReportType">
    <sequence>
        <element name="TaskID" type="ct:EDXLStringType" minOccurs="1" maxOccurs="1"/>
        <element name="TaskStatus" type="tns:TaskStatusType" minOccurs="1" maxOccurs="1"/>
        <element name="AdvancementReport" type="ct:EDXLStringType" minOccurs="0" maxOccurs="1"/>
    </sequence>
</complexType>
<simpleType name="TaskStatusType">
    <restriction base="string">
        <enumeration value="Pending"/>
        <enumeration value="Ongoing"/>
        <enumeration value="Finished"/>
        <enumeration value="OnHold"/>
        <enumeration value="Terminated"/>
    </restriction>

```

```
</simpleType>
</schema>
```

4.4.2.3.2. Protocol Requirements

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:edxld="urn:oasis:names:tc:emergency:EDXL:DE:1.0" xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:tns="urn:eu:c2sense:emergency:distribution:1.0"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" name="EmergencyDistribution"
targetNamespace="urn:eu:c2sense:emergency:distribution:1.0">
  <documentation>C2SENSE Distribution Web Service</documentation>
  <types>
    <xsd:schema>
      <xsd:import namespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
schemaLocation="../../DE/EDXL-DE.xsd"/>
    </xsd:schema>
  </types>
  <message name="SendMessage_Message">
    <documentation>Send Message</documentation>
    <part name="body" element="edxld:EDXLDistribution"/>
  </message>
  <message name="ReceiveResponseMessage_Message">
    <documentation>Receive Response Message</documentation>
    <part name="body" element="edxld:EDXLDistribution"/>
  </message>
  <portType name="Distribution_PortType">
    <operation name="SendMessage">
      <input message="tns:SendMessage_Message"/>
      <output message="tns:ReceiveResponseMessage_Message"/>
    </operation>
  </portType>
  <binding name="Distribution_Binding_Soap12" type="tns:Distribution_PortType">
    <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="SendMessage">
      <soap12:operation soapAction="urn:oasis:names:tc:emergency:EDXL:DE:1.0:SendMessage"/>
      <input>
        <soap12:body use="literal"/>
      </input>
      <output>
        <soap12:body use="literal"/>
      </output>
    </operation>
  </binding>
</service name="Distribution">
```

```
<port name="Distribution_PortType" binding="tns:Distribution_Binding_Soap12">
  <soap12:address location="https://localhost:8080/Distribution"/>
</port>
</service>
</definitions>
```

4.4.2.4. Send Schedule Acknowledgement Message

4.4.2.4.1. Message Semantics

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
targetNamespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0" elementFormDefault="qualified"
attributeFormDefault="unqualified" version="1.0CD">
  <xsd:element name="EDXLDistribution">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="distributionID" type="xsd:string"/>
        <xsd:element name="senderID" type="xsd:string"/>
        <xsd:element name="dateTimeSent" type="xsd:dateTime"/>
        <xsd:element name="distributionStatus" type="statusValues"/>
        <xsd:element name="distributionType" type="typeValues"/>
        <xsd:element name="combinedConfidentiality" type="xsd:string"/>
        <xsd:element name="senderRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="recipientRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="keyword" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="explicitAddress" type="valueSchemeType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="targetArea" type="targetAreaType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="contentObject" type="contentObjectType" minOccurs="0"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
  <xsd:complexType name="contentObjectType">
    <xsd:sequence>
      <xsd:element name="contentDescription" type="xsd:string" minOccurs="0"/>
      <xsd:element name="contentKeyword" type="valueListType" minOccurs="0"/>
      <xsd:element name="incidentID" type="xsd:string" minOccurs="0"/>
      <xsd:element name="incidentDescription" type="xsd:string" minOccurs="0"/>
      <xsd:element name="originatorRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

```

        <xsd:element name="consumerRole" type="valueListType" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="confidentiality" type="xsd:string" minOccurs="0"/>
        <xsd:element name="xmlContent" type="xmlContentType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="nonXMLContentType">
    <xsd:sequence>
        <xsd:element name="mimeType" type="xsd:string"/>
        <xsd:element name="size" type="xsd:integer" minOccurs="0"/>
        <xsd:element name="digest" type="xsd:string" minOccurs="0"/>
        <xsd:element name="uri" type="xsd:anyURI" minOccurs="0"/>
        <xsd:element name="contentData" type="xsd:base64Binary" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="xmlContentType">
    <xsd:sequence>
        <xsd:element name="embeddedXMLContent" type="anyXMLType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="anyXMLType">
    <xsd:sequence>
        <xsd:any namespace="##other" processContents="lax" maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:anyAttribute namespace="##other" processContents="lax"/>
</xsd:complexType>
<xsd:complexType name="valueListType">
    <xsd:sequence>
        <xsd:element name="valueListUrn" type="xsd:string"/>
        <xsd:element name="value" type="xsd:string" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="valueSchemeType">
    <xsd:sequence>
        <xsd:element name="explicitAddressScheme" type="xsd:string"/>
        <xsd:element name="explicitAddressValue" type="xsd:string" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="targetAreaType">
    <xsd:sequence>
        <xsd:element name="circle" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="polygon" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="country" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="subdivision" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="locCodeUN" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="statusValues">
    <xsd:restriction base="xsd:NMTOKEN">
        <xsd:enumeration value="Actual"/>
    </xsd:restriction>
</xsd:simpleType>

```

```

        <xsd:enumeration value="Exercise"/>
        <xsd:enumeration value="System"/>
        <xsd:enumeration value="Test"/>
    </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="typeValues">
    <xsd:restriction base="xsd:NMTOKEN">
        <xsd:enumeration value="Report"/>
        <xsd:enumeration value="Update"/>
        <xsd:enumeration value="Cancel"/>
        <xsd:enumeration value="Request"/>
        <xsd:enumeration value="Response"/>
        <xsd:enumeration value="Dispatch"/>
        <xsd:enumeration value="Ack"/>
        <xsd:enumeration value="Error"/>
        <xsd:enumeration value="SensorConfiguration"/>
        <xsd:enumeration value="SensorControl"/>
        <xsd:enumeration value="SensorStatus"/>
        <xsd:enumeration value="SensorDetection"/>
    </xsd:restriction>
</xsd:simpleType>
</xsd:schema>

```

4.4.2.4.2. Protocol Requirements

```

<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:edxld="urn:oasis:names:tc:emergency:EDXL:DE:1.0" xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:tns="urn:eu:c2sense:emergency:distribution:1.0"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" name="EmergencyDistribution"
targetNamespace="urn:eu:c2sense:emergency:distribution:1.0">
    <documentation>C2SENSE Distribution Web Service</documentation>
    <types>
        <xsd:schema>
            <xsd:import namespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
schemaLocation="../../DE/EDXL-DE.xsd"/>
        </xsd:schema>
    </types>
    <message name="SendMessage_Message">
        <documentation>Send Message</documentation>
        <part name="body" element="edxld:EDXLDistribution"/>
    </message>
    <message name="ReceiveResponseMessage_Message">
        <documentation>Receive Response Message</documentation>
        <part name="body" element="edxld:EDXLDistribution"/>
    </message>

```

```
</message>
<portType name="Distribution_PortType">
  <operation name="SendMessage">
    <input message="tns:SendMessage_Message"/>
    <output message="tns:ReceiveResponseMessage_Message"/>
  </operation>
</portType>
<binding name="Distribution_Binding_Soap12" type="tns:Distribution_PortType">
  <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <operation name="SendMessage">
    <soap12:operation soapAction="urn:oasis:names:tc:emergency:EDXL:DE:1.0:SendMessage"/>
    <input>
      <soap12:body use="literal"/>
    </input>
    <output>
      <soap12:body use="literal"/>
    </output>
  </operation>
</binding>
<service name="Distribution">
  <port name="Distribution_PortType" binding="tns:Distribution_Binding_Soap12">
    <soap12:address location="https://localhost:8080/Distribution"/>
  </port>
</service>
</definitions>
```