

## **Annex A.6**

### **ASP-DC Interface Definition**

**V 1.5**

## Reference Documents

DA 1 : Software Specification Document for the DC

DA 2 : Architectural Design document for the DC

DA 3: TECHNICAL SPECIFICATIONS FOR THE LRIT SYSTEM

DA 4: LRIT XML Resources - Release 1.0 - 22 August 2008

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## 1. Introduction

The purpose of this document is to describe the interface used for the LRIT Data Centre (LRIT DC) system to communicate with its ASP.

This interface is the link between the EU DC and the ASP to identify and track EU ships. The ASP will independently communicate with the shipborne equipment of the ships they are responsible for and will use this interface to exchange messages with the DC. The link between DC and ASP is an essential component of the LRIT system and therefore the associated DC.

The DC - ASP interface shall enable the following minimum functionalities:

- a) remote integration of the shipborne equipment into the EU DC;
- b) automatic configuration of transmission of LRIT information;
- c) automatic processing of commands sent by the DC to the shipborne equipment for modification of the interval of transmission and/or suspension of LRIT information;
- d) automatic processing of the on demand transmission of LRIT data;
- e) automatic recovery and management of transmission of LRIT data;
- f) secure communication link between the DC and the ships requested to report to the DC;

Through the ASP interface, the LRIT DC:

- a) receives LRIT information from ships instructed by their Administrations to transmit the LRIT information to the EU DC;
- b) processes LRIT ship position report messages as defined in the “revised Technical Specifications for Communication in the LRIT System” and adds the appropriate information prescribed in Table 2 of that document;
- c) sends the LRIT position request message to the ASP after receiving a position request message from a LRIT Data User via either the IDE interface or the LRIT Data User interface;
- d) processes LRIT position request messages based on the value of the request duration parameter. The message shall be relayed to the ASP if it is a poll, periodic or stop request.

## 2. ASP-DC Interface

### 2.1. Interface description

The interface between the ASP and the DC systems consist of two web services. These web services allow the exchange of a message which content is defined under the form of an XML schema.

The first web service allows the ASP to send XML message to the DC. ASP acts as client of this web service that is implemented by the DC. By convention, it is noted DC-ASP interface in the rest of the document.

The second web service allows the DC to send XML message to the ASP. DC acts as client of this web service that is implemented by the ASP. By convention, it is noted ASP-DC interface in the rest of the document.

These two web services are links together in the sense that the messages exchanged between the DC and the ASP consist of a bi-directional communication.

The following table gives for the exchanged message, the direction of the communication, the purpose of the message and the XML schema of the message:

Message Type	Name	Description	Direction	WSDL	Message schema	Operation
1	Periodic Position Report	Regular periodic position report.	ASP→DC	DC-ASP.wsdl	ShipPositionReport.xsd	ShipPositionReport
2	Polled Position Report	Position report as a result of a poll request.	ASP→DC	DC-ASP.wsdl	ShipPositionReport.xsd	ShipPositionReport
3	SAR Position Report	Position report as a result of a SAR request.	ASP→DC	DC-ASP.wsdl	ShipPositionReport.xsd	ShipPositionReport
4	Ship Position Request	To enable a DC to request the ASP LRIT information for ships.	DC→ASP	ASP-DC.wsdl	ShipPositionRequest.xsd	ShipPositionRequest
5	SAR Position Request	To enable a DC to request the ASP LRIT information as a SAR LRIT Data User for ships.	DC→ASP	ASP-DC.wsdl	ShipPositionRequest.xsd	ShipPositionRequest
7	Receipt Message	Receipt message relaying inability to respond to a LRIT request or report message (e.g. time stamp)	ASP→DC DC→ASP	DC-ASP.wsdl ASP-DC.wsdl	Receipt.xsd	Receipt
101	Information/Exception	Message to be sent to DC in case of errors or unexpected behaviour of the system; also used in response to message103.	ASP→DC	DC-ASP.wsdl	InformationException.xsd	InformationException
102	ASP System Status	Routine 30-minute status message from the ASP to the DC, advising that the system is	ASP→DC	DC-ASP.wsdl	ASPSystemStatus.xsd	ASPSystemStatus

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		“healthy”.				
103	Ship Check/Reset Request	Message to be sent by the DC requesting a communication status check or reset for a given ship.	DC→ASP	ASP-DC.wsdl	ShipCheckResetRequest.xsd	ShipCheckResetRequest
151	Ship Integration Response	Message to be sent by the ASP to the DC to notify the integration of a ship, or the suppression of a ship.	ASP→DC	DC-ASP.wsdl	ShipIntegration.xsd	ShipIntegration
152	Ship Integration Request	Message to be sent by the DC providing new ship, updating a ship, deleting a ship, re-integrating a ship or upload a dnid on a ship.	DC→ASP	ASP-DC.wsdl	ShipIntegrationRequest.xsd	ShipIntegrationRequest

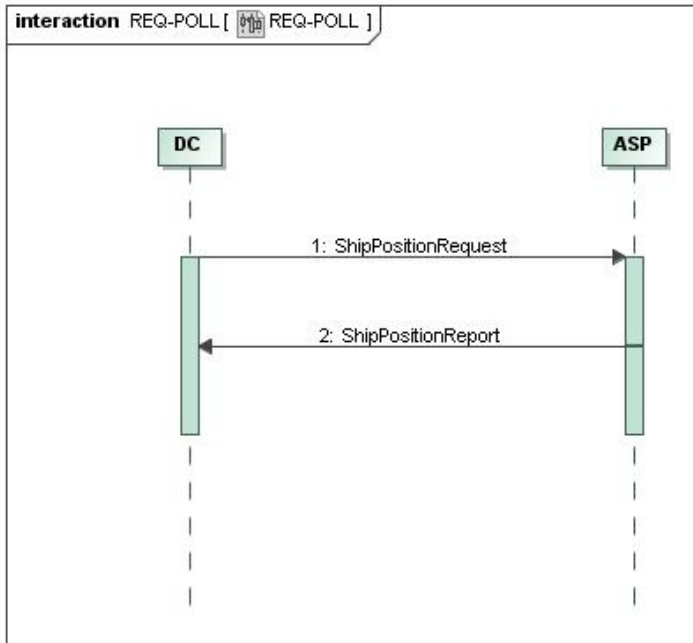
The wsdl of the web services are given in Annexe A - Web service wsdl. The message schema are given in Annexe B - XML schema description

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## 2.2. Messages data flow

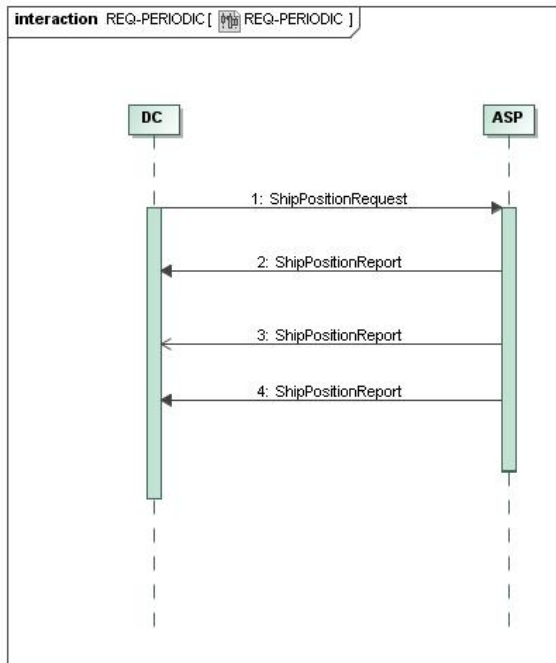
The interface between the DC and the ASP consists in an exchange of messages. The following sequences diagrams describe the different communication scenarios between DC and ASP.

### 2.2.1. Polling Request



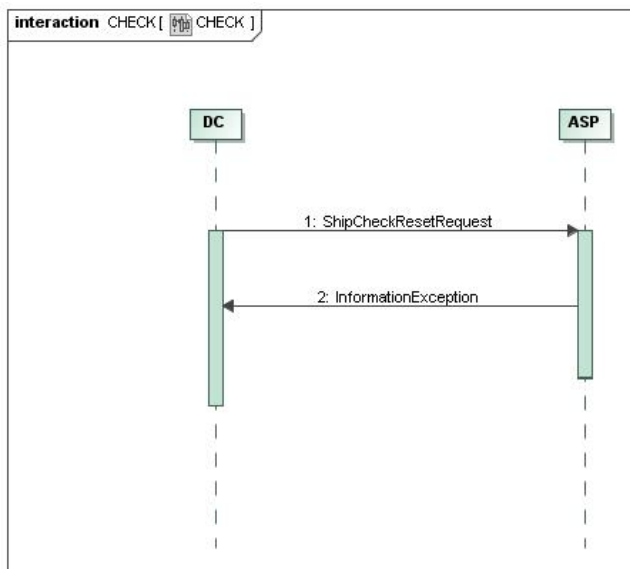
The DC transmits a polling request to the ASP by sending a **ShipPositionRequest** message to the ASP. The ASP shall poll the ship borne equipment and when the ASP receives the position from the ship borne equipment, it sends a **ShipPositionReport** message to the DC.

### 2.2.2. Periodic request



The DC transmits a periodic request to the ASP by sending a **ShipPositionRequest** message to the ASP. The ASP shall program the ship borne equipment to transfer positions at regular interval. When the ASP receives positions from the ship borne equipment, it sends **ShipPositionReport** messages to the DC.

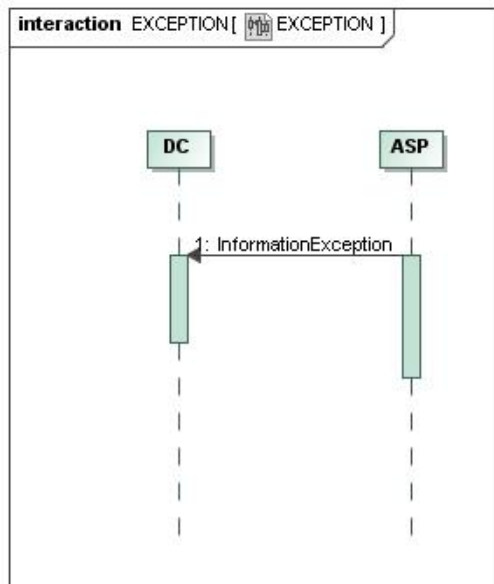
### 2.2.3. Ship status check/reset



The DC which wants to know the status of the communication link and the ship borne equipment of a given ship sends a **ShipCheckResetRequest** message to the ASP. The ASP will perform the status check and respond to the DC with an **InformationException** message.



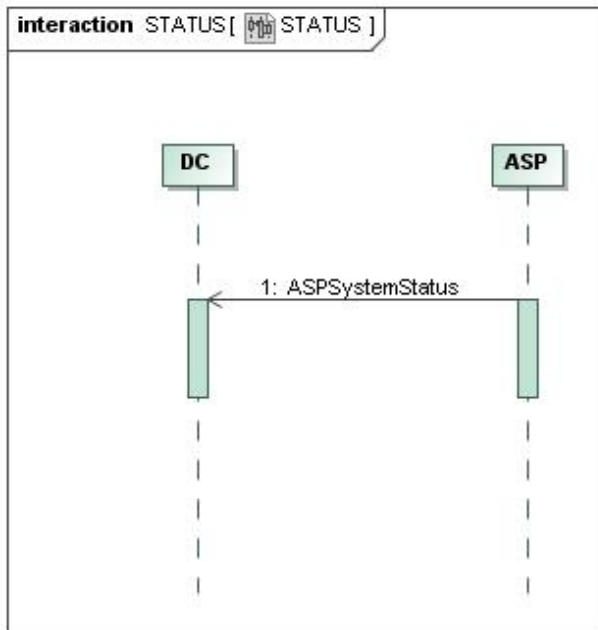
## 2.2.4. Exception



In case of errors or unexpected behaviour of the system, the ASP shall send an **InformationException** message to the DC. The following errors shall be notified by this message:

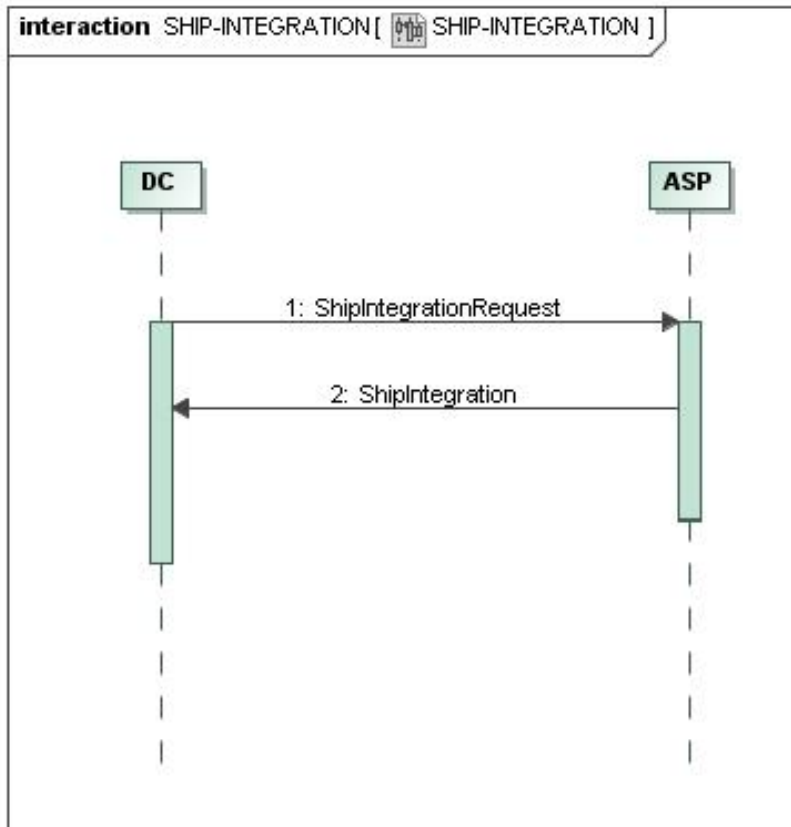
- Missing periodic position report: a planned position report from a ship has not been received by the ASP after a predefined period of time (according IMO Type Approval specifications, presently in IMO Circular 2843/Corr.1 and later to be adopted by MSC 84). This exceptional situation will be called “under-reporting”.
- The time interval between two messages is too short (according IMO Type Approval specifications, presently in IMO Circular 2843/Corr.1 and later to be adopted by MSC 84). This exceptional situation is called “over-reporting”.
- System failure of the ASP
- Others

### 2.2.5. ASP system status



The **AspSystemStatus** message shall be sent by the ASP to the DC with a predefined frequency of 30 minutes in order to show that the communication links and the ASP system are active.

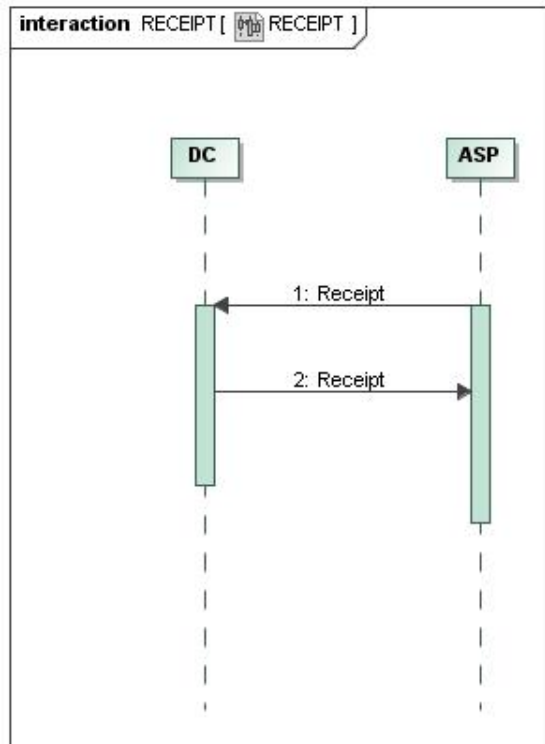
## 2.2.6. Ship integration



At each ship database update, the DC sends to the ASP a **ShipIntegrationRequest** message that allows to inform the ASP that a new ship shall be inserted in the ASP, or updated, or deleted. When a user of the DC required a ship re-integration of a dnid upload, the DC sends to the ASP a **ShipIntegrationRequest** message that allows to inform the ASP that one of these 2 actions shall be processed. In the case of an update, the ASP only updates its database with the ship characteristics. In case of another operation requested in the **ShipIntegrationRequest** message, the ASP process the operation and responds to the DC with one **ShipIntegration** message.

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### 2.2.7. Receipt



In case of reception of a message that cannot be processed for some reason, the ASP sends a **Receipt** message to the DC, or the DC sends a **Receipt** message to the ASP.

## 2.3. Messages description

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The following chapters describe the messages used by the external interfaces.

### 2.3.1. ShipPositionReport message (message types 1, 2 and 3)

This message is defined in the ShipPositionReport.xsd XML schema given in the document DA 4: **LRIT XML Resources - Release 1.0 - 22 August 2008**. The parameters of this message are described in chapter 2.2.2 of the Annex 3 the document DA 3: **TECHNICAL SPECIFICATIONS FOR THE LRIT SYSTEM**.

### 2.3.2. ShipPositionRequest message (message types 4 and 5)

This message is defined in the ShipPositionRequest.xsd XML schema given in the document DA 4: **LRIT XML Resources - Release 1.0 - 22 August 2008**. The parameters of this message are described in chapter 2.2.3 of the Annex 3 of the document DA 3: **TECHNICAL SPECIFICATIONS FOR THE LRIT SYSTEM**.

### 2.3.3. Receipt message (message type 7)

This message is defined in the Receipt.xsd XML schema given in the document DA 4: **LRIT XML Resources - Release 1.0 - 22 August 2008**. The parameters of this message are described in chapter 2.2.5 of the Annex 3 of the document DA 3: **TECHNICAL SPECIFICATIONS FOR THE LRIT SYSTEM**.

### 2.3.4. InformationException message (message type 101)

This message is defined in the InformationException.xsd schema given in Annexe A.4. The parameters of this message are described in the following table:

Parameter	Value	Description	Type / Format
MessageType	101	Information Exception	nnn
MessageId	Unique number	Unique message number generated by using: LRIT ID of Ship DB or LRIT ID of DC, Date and unique sequence number.	nnnnYYYYMMDDHHmmssnnnn
Reference ID	Message ID of a request message	The reference ID is the message ID of a request message that has been received.	nnnnYYYYMMDDHHmmssnnnn
TimeStamp	Time	Date and time when this message is transmitted.	yyyy-MM-ddThh:mm:ssZ
IMONum	IMO number	The IMO number of the ship to be checked	nnnnnnn
ExceptionCode	0,1,2,3,4,...999	0 – no exception encountered 1 – Missing periodic position report 2 – Periodic rate too high (overreporting) 3 – Periodic rate too low (underreporting) 7 – System failure of the ASP 999 – Other	nnn
Message	TEXT	A short description of the nature of the problem, if status is not 0 (max 300 characters)	TEXT
Destination	Network component ID	LRIT ID of DC	nnnn
Originator	Network component ID	LRIT ID of ASP	nnnn
CurrentPeriodicRateType	2, 3, 4, 5, 6, 10, 11	Current periodic rate type: 2 - 15 min periodic rate 3 - 30 min periodic rate 4 - 1 h periodic rate 5 - 3 h periodic rate 6 - 6 h periodic rate 10 - 12 h periodic rate	nn

		11 - 24 h periodic rate	
CspID	LRIT ID	LRIT ID of the CSP that transmitted the LRIT information	nnnn
CommunicationNetwork	1,2,3	Communication network of shipborne equipment of the integrated ship.  1 – Inmarsat C / Mini C  2- Inmarsat D  3 - Iridium	n
Test	0,1	Setting indicating if message is test message or regular LRIT message.  0- Regular LRIT message  1- Test message	n
schemaVersion	Decimal	Version of the XML schema	nn.n

### 2.3.5. ASPSystemStatus message (message type 102)

This message is defined in the ASPSystemStatus.xsd schema given in Annexe A.5. The parameters of this message are described in the following table:

Parameter	Value	Description	Type / Format
MessageType	102	ASP system status	nnn
MessageId	Unique number	Unique message number generated by using: LRIT ID of Ship DB or LRIT ID of DC, Date and unique sequence number.	nnnnYYYYMMDDHHmmssnnnn
TimeStamp	Time	Date and time when this message is transmitted.	yyyy-MM-ddThh:mm:ssZ
Asp System Status	0,1,2,3	0 – The ASP system status is nominal and all functions are available  1 – One or more ASP functions are not available  2 – All ASP functions are not available due to maintenance  3 – All ASP functions are not available/system failure	n
Message	TEXT	A short description of the nature of the problem, if status is not 0 (max 300 characters)	TEXT
Destination	Network component	LRIT ID of DC	nnnn

	ID		
Originator	Network component ID	LRIT ID of ASP	nnnn
Test	0,1	Setting indicating if message is test message or regular LRIT message.  0- Regular LRIT message  1- Test message	n
schemaVersion	Decimal	Version of the XML schema	nn.n

### 2.3.6. ShipCheckResetRequest message (message type 103)

This message is defined in the ShipCheckResetRequest.xsd schema given in Annexe A.6. The parameters of this message are described in the following table:

Parameter	Value	Description	Type / Format
MessageType	103	Ship Check/Reset Request	nnn
MessageId	Unique number	Unique message number generated by using: LRIT ID of Ship DB or LRIT ID of DC, Date and unique sequence number.	nnnnYYYYMMDDHHmmssnnnn
TimeStamp	Time	Date and time when this message is transmitted.	yyyy-MM-ddThh:mm:ssZ
IMONum	IMO number	The IMO number of the ship to be checked	nnnnnnn
Action	0,1,2	The action to be performed by the ASP:  0- Restart communication  1- Disable communication  2- Retrieve current reporting periodic rate	nn
Destination	Network component ID	LRIT ID of ASP	nnnn
Originator	Network component ID	LRIT ID of DC	nnnn
Test	0,1	Setting indicating if message is test message or regular LRIT message.  0- Regular LRIT message  1- Test message	n
schemaVersion	Decimal	Version of the XML schema	nn.n

### 2.3.7. ShipIntegration message (message type 151)

This message is defined in the ShipIntegration.xsd schema given in Annexe A.9. The parameters of this message are described in the following table:

Parameter	Value	Description	Type / Format
MessageType	151	Ship Integration Response	nnn
MessageId	Unique number	Unique message number generated by using: LRIT ID of ASP, Date and unique sequence number.	nnnnYYYYMMDDHHmmssnnnn
TimeStamp	Time	Date and time when this message is transmitted.	yyyy-MM-ddThh:mm:ssZ
IMONum	Number	IMO Number of the ship	nnnnnnn
ShipIntegrationWay	0 to 12	Ship integration type: 0 – Ship added to ASP 1 – Ship suppressed from ASP 2 - Ship addition to ASP failure 3 - Ship suppression from ASP failure 4 - Ship Re-Integration successfully 5 - Ship Re-Integration failure 6 - DnidUpload successfully 7 - DnidUpload failure 8 - Ship Terminal change successfully 9 - Ship Terminal change failure 10 - Ship activation successfully 11 - Ship activation failure 12 - First position notification	nn
Message	TEXT	Text message giving information of the ship integration.	TEXT
Destination	Network component ID	LRIT ID of DC	nnnn
Originator	Network component ID	LRIT ID of ASP	nnnn



CspID	LRIT ID	LRIT ID of the CSP that transmitted the LRIT information of the integrated ship	nnnn
CommunicationNetwork	1,2,3	Communication network of shipborne equipment of the integrated ship.  1 – Inmarsat C / Mini C  2- Inmarsat D  3 - Iridium	n
Test	0,1	Setting indicating if message is test message or regular LRIT message.  0- Regular LRIT message  1- Test message	n
schemaVersion	Decimal	Version of the XML schema	nn.n

### 2.3.8. ShipIntegrationRequest message (message type 152)

This message is defined in the ShipIntegrationRequest.xsd schema given in Annexe A.6. The parameters of this message are described in the following table:

Parameter	Value	Description	Type / Format
MessageType	152	Ship Integration Request	nnn
MessageId	Unique number	Unique message number generated by using: LRIT ID of Ship DB or LRIT ID of DC, Date and unique sequence number.	nnnnYYYYMMDDHHmmssnnnnn
TimeStamp	Time	Date and time when this message is transmitted.	yyyy-MM-ddThh:mm:ssZ
IMONum	IMO number	The IMO number of the ship to be checked	nnnnnnn
ShipIntegrationAction	0,1,2,3,4,5	The ship integration action to be performed by the ASP:  0- Insert a new ship  1- Update a ship  2- Delete a ship  3- Re-Integrate a ship  4- Upload dnid of a ship  5- Terminal Change of a ship	nn

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Ship	Ship data	Data of the ship	commonshiptypes:shipType
Destination	Network component ID	LRIT ID of ASP	nnnn
Originator	Network component ID	LRIT ID of DC	nnnn
Test	0,1	Setting indicating if message is test message or regular LRIT message.  0- Regular LRIT message  1- Test message	n
schemaVersion	Decimal	Version of the XML schema	nn.n

## Annexe A - Web service wsdl

### Annexe A.1. DC-ASP.wsdl

```
<!--
    File:      DC-ASP.wsdl
    Version:   0.2
    Date:      26 February 2008
-->
<wsdl:definitions name="dcAsp" targetNamespace="http://gis.imo.org/XML/LRIT/2008"
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
    xmlns:tns="http://gis.imo.org/XML/LRIT/2008"
    xmlns:posrep="http://gis.imo.org/XML/LRIT/positionReport/2008"
    xmlns:receipt="http://gis.imo.org/XML/LRIT/receipt/2008"
    xmlns:infexc="http://gis.imo.org/XML/LRIT/informationException"
    xmlns:aspsyssta="http://gis.imo.org/XML/LRIT/aspSystemStatus"
    xmlns:shinint="http://gis.imo.org/XML/LRIT/shipIntegration"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
    <wsdl:types>
        <xs:schema elementFormDefault="qualified"
            targetNamespace="http://gis.imo.org/XML/LRIT/2008">
            <xs:import
                namespace="http://gis.imo.org/XML/LRIT/positionReport/2008"
                schemaLocation="ShipPositionReport.xsd"/>
            <xs:import namespace="http://gis.imo.org/XML/LRIT/receipt/2008"
                schemaLocation="Receipt.xsd"/>
            <xs:import
                namespace="http://gis.imo.org/XML/LRIT/informationException"
                schemaLocation="InformationException.xsd"/>
            <xs:import namespace="http://gis.imo.org/XML/LRIT/aspSystemStatus"
                schemaLocation="AspSystemStatus.xsd"/>
            <xs:import namespace="http://gis.imo.org/XML/LRIT/shipIntegration"
                schemaLocation="ShipIntegration.xsd"/>

            <xs:simpleType name="responseType">
                <xs:restriction base="xs:string">
                    <xs:enumeration value="Success"/>
                </xs:restriction>
            </xs:simpleType>
            <xs:element name="Response">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="response"

type="tns:responseType"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:schema>
    </wsdl:types>

    <wsdl:message name="ShipPositionReportRequest">
        <wsdl:part name="params" element="posrep:ShipPositionReport"/>
    </wsdl:message>
    <wsdl:message name="ShipPositionReportResponse">
        <wsdl:part name="params" element="tns:Response"/>
    </wsdl:message>

    <wsdl:message name="ReceiptRequest">
        <wsdl:part name="params" element="receipt:Receipt"/>
    </wsdl:message>
    <wsdl:message name="ReceiptResponse">
        <wsdl:part name="params" element="tns:Response"/>
    </wsdl:message>

    <wsdl:message name="InformationExceptionRequest">
        <wsdl:part name="params" element="infexc:InformationException"/>
    </wsdl:message>
    <wsdl:message name="InformationExceptionResponse">
        <wsdl:part name="params" element="tns:Response"/>
    </wsdl:message>
```

---

```

<wsdl:message name="AspSystemStatusRequest">
  <wsdl:part name="params" element="aspsyssta:AspSystemStatus"/>
</wsdl:message>
<wsdl:message name="AspSystemStatusResponse">
  <wsdl:part name="params" element="tns:Response"/>
</wsdl:message>

<wsdl:message name="ShipIntegrationRequest">
  <wsdl:part name="params" element="shinint:ShipIntegration"/>
</wsdl:message>
<wsdl:message name="ShipIntegrationResponse">
  <wsdl:part name="params" element="tns:Response"/>
</wsdl:message>

<wsdl:portType name="dcAspPortType">
  <wsdl:operation name="ShipPositionReport">
    <wsdl:input message="tns:ShipPositionReportRequest"/>
    <wsdl:output message="tns:ShipPositionReportResponse"/>
  </wsdl:operation>
  <wsdl:operation name="Receipt">
    <wsdl:input message="tns:ReceiptRequest"/>
    <wsdl:output message="tns:ReceiptResponse"/>
  </wsdl:operation>
  <wsdl:operation name="InformationException">
    <wsdl:input message="tns:InformationExceptionRequest"/>
    <wsdl:output message="tns:InformationExceptionResponse"/>
  </wsdl:operation>
  <wsdl:operation name="AspSystemStatus">
    <wsdl:input message="tns:AspSystemStatusRequest"/>
    <wsdl:output message="tns:AspSystemStatusResponse"/>
  </wsdl:operation>
  <wsdl:operation name="ShipIntegration">
    <wsdl:input message="tns:ShipIntegrationRequest"/>
    <wsdl:output message="tns:ShipIntegrationResponse"/>
  </wsdl:operation>
</wsdl:portType>

<wsdl:binding name="dcAspServiceBinding" type="tns:dcAspPortType">
  <soap12:binding style="document"
transport="http://schemas.xmlsoap.org/soap/http"/>
  <wsdl:operation name="ShipPositionReport">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="Receipt">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="InformationException">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="AspSystemStatus">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
  </wsdl:operation>

```

```

        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ShipIntegration">
        <soap12:operation soapAction=""/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:service name="dcAspService">

    <wsdl:port name="dcAspPort" binding="tns:dcAspServiceBinding">
        <soap12:address location="http://localhost:8080/dcAsp"/>
    </wsdl:port>
</wsdl:service>
</wsdl:definitions>

```

## Annexe A.2. ASP-DC.wsdl

```

<!--
    File:      ASP-DC.wsdl
    Version:   1.0
    Date:      14 October 2010
-->
<wsdl:definitions name="aspDc" targetNamespace="http://gisis.imo.org/XML/LRIT/2008"
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
    xmlns:tns="http://gisis.imo.org/XML/LRIT/2008"
    xmlns:posreq="http://gisis.imo.org/XML/LRIT/positionRequest/2008"
    xmlns:receipt="http://gisis.imo.org/XML/LRIT/receipt/2008"
    xmlns:shipcheres="http://gisis.imo.org/XML/LRIT/shipCheckResetRequest"
    xmlns:shinintreq="http://gisis.imo.org/XML/LRIT/shipIntegrationRequest"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/">

    <wsdl:types>
        <xs:schema elementFormDefault="qualified"
            targetNamespace="http://gisis.imo.org/XML/LRIT/2008">
            <xs:import
                namespace="http://gisis.imo.org/XML/LRIT/positionRequest/2008"
                schemaLocation="ShipPositionRequest.xsd"/>
            <xs:import namespace="http://gisis.imo.org/XML/LRIT/receipt/2008"
                schemaLocation="Receipt.xsd"/>
            <xs:import
                namespace="http://gisis.imo.org/XML/LRIT/shipCheckResetRequest"
                schemaLocation="ShipCheckResetRequest.xsd"/>
            <xs:import
                namespace="http://gisis.imo.org/XML/LRIT/shipIntegrationRequest"
                schemaLocation="ShipIntegrationRequest.xsd"/>

            <xs:simpleType name="responseType">
                <xs:restriction base="xs:string">
                    <xs:enumeration value="Success"/>
                </xs:restriction>
            </xs:simpleType>
            <xs:element name="Response">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="response"

type="tns:responseType"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:schema>
    </wsdl:types>

    <wsdl:message name="ShipPositionRequestRequest">
        <wsdl:part name="params" element="posreq:ShipPositionRequest"/>
    </wsdl:message>

```

---

```

<wsdl:message name="ShipPositionRequestResponse">
  <wsdl:part name="params" element="tns:Response"/>
</wsdl:message>

<wsdl:message name="ReceiptRequest">
  <wsdl:part name="params" element="receipt:Receipt"/>
</wsdl:message>
<wsdl:message name="ReceiptResponse">
  <wsdl:part name="params" element="tns:Response"/>
</wsdl:message>

<wsdl:message name="ShipCheckResetRequestRequest">
  <wsdl:part name="params" element="shipcheres:ShipCheckResetRequest"/>
</wsdl:message>
<wsdl:message name="ShipCheckResetRequestResponse">
  <wsdl:part name="params" element="tns:Response"/>
</wsdl:message>

<wsdl:message name="ShipIntegrationRequestRequest">
  <wsdl:part name="params" element="shinintreq:ShipIntegrationRequest"/>
</wsdl:message>
<wsdl:message name="ShipIntegrationRequestResponse">
  <wsdl:part name="params" element="tns:Response"/>
</wsdl:message>

<wsdl:portType name="aspDcPortType">
  <wsdl:operation name="ShipPositionRequest">
    <wsdl:input message="tns:ShipPositionRequestRequest"/>
    <wsdl:output message="tns:ShipPositionRequestResponse"/>
  </wsdl:operation>
  <wsdl:operation name="Receipt">
    <wsdl:input message="tns:ReceiptRequest"/>
    <wsdl:output message="tns:ReceiptResponse"/>
  </wsdl:operation>
  <wsdl:operation name="ShipCheckResetRequest">
    <wsdl:input message="tns:ShipCheckResetRequestRequest"/>
    <wsdl:output message="tns:ShipCheckResetRequestResponse"/>
  </wsdl:operation>
  <wsdl:operation name="ShipIntegrationRequest">
    <wsdl:input message="tns:ShipIntegrationRequestRequest"/>
    <wsdl:output message="tns:ShipIntegrationRequestResponse"/>
  </wsdl:operation>
</wsdl:portType>

<wsdl:binding name="aspDcServiceBinding" type="tns:aspDcPortType">
  <soap12:binding style="document"
transport="http://schemas.xmlsoap.org/soap/http"/>
  <wsdl:operation name="ShipPositionRequest">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="Receipt">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="ShipCheckResetRequest">
    <soap12:operation soapAction=""/>
    <wsdl:input>
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>

```

---

```
</wsdl:operation>
<wsdl:operation name="ShipIntegrationRequest">
  <soap12:operation soapAction=""/>
  <wsdl:input>
    <soap12:body use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap12:body use="literal"/>
  </wsdl:output>
</wsdl:operation>
</wsdl:binding>
<wsdl:service name="aspDcService">
  <wsdl:port name="aspDcPort" binding="tns:aspDcServiceBinding">
    <soap12:address location="http://localhost:8080/aspDc"/>
  </wsdl:port>
</wsdl:service>
</wsdl:definitions>
```

## Annexe B - XML schema description

### Annexe A.3. CommonType.xsd

```
<!--
    File:      CommonTypes.xsd
    Version:   0.5
    Date:      09 September 2011
-->
<xs:schema version="1.0" targetNamespace="http://lrit.tbd.xy/XML/LRIT/commontypes"
    xmlns="http://lrit.tbd.xy/XML/LRIT/commontypes"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    elementFormDefault="qualified">
    <xs:simpleType name="shipDbVersionNumType">
        <xs:restriction base="xs:string">
            <xs:length value="7"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="communicationNetworkType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="1" /> <!--/Inmarsat C / Mini C-->
            <xs:enumeration value="2" /> <!--/Inmarsat D+-->
            <xs:enumeration value="3" /> <!--/Iridium-->
            <xs:enumeration value="4" /> <!--/SatPro-->
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="shipIntegrationWayType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="0" /> <!-- Ship added to ASP -->
            <xs:enumeration value="1" /> <!-- Ship suppressed from ASP -->
            <xs:enumeration value="2" /> <!-- Ship addition to ASP failure -->
            <xs:enumeration value="3" /> <!-- Ship suppression from ASP failure -->
            <xs:enumeration value="4" /> <!-- Ship Re-Integration successfully -->
            <xs:enumeration value="5" /> <!-- Ship Re-Integration failure -->
            <xs:enumeration value="6" /> <!-- DnidUpload successfully -->
            <xs:enumeration value="7" /> <!-- DnidUpload failure -->
            <xs:enumeration value="8" /> <!-- Ship Terminal change successfully -->
            <xs:enumeration value="9" /> <!-- Ship Terminal change failure -->
            <xs:enumeration value="10" /> <!-- Ship activation successfully -->
            <xs:enumeration value="11" /> <!-- Ship activation failure -->
            <xs:enumeration value="12" /> <!-- First position notification -->
        </xs:restriction>
    </xs:simpleType>

</xs:schema>
```

### Annexe A.4. InformationException.xsd

```
<!--
    File:      InformationException.xsd
    Version:   0.2
    Date:      11 June 2009
-->
<xs:schema version="1.0" targetNamespace="http://gis.imo.org/XML/LRIT/informationException"
    xmlns="http://gis.imo.org/XML/LRIT/informationException"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:lrit="http://gis.imo.org/XML/LRIT/types/2008"
    xmlns:commontypes="http://lrit.tbd.xy/XML/LRIT/commontypes"
    elementFormDefault="qualified">

    <xs:import namespace="http://gis.imo.org/XML/LRIT/types/2008"
        schemaLocation="Types.xsd"/>
    <xs:import namespace="http://lrit.tbd.xy/XML/LRIT/commontypes"
        schemaLocation="CommonTypes.xsd" />

    <xs:simpleType name="messageTypeType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="101"/>
        </xs:restriction>
    </xs:simpleType>
```



```

        </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="exceptionCodeType">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="999"/>
            <xs:enumeration value="0"/> <!-- no exception -->
            <xs:enumeration value="1"/> <!-- missing periodic report -->
            <xs:enumeration value="2"/> <!-- periodic rate too high (overreporting)
-->
            <xs:enumeration value="3"/> <!-- periodic rate too low (underreporting)
-->
            <xs:enumeration value="6"/> <!-- Communication failure with CSP -->
            <xs:enumeration value="7"/> <!-- System failure of the ASP -->
            <xs:enumeration value="999"/> <!-- Other -->
        </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="periodicRateTypeType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="2"/>
            <xs:enumeration value="3"/>
            <xs:enumeration value="4"/>
            <xs:enumeration value="5"/>
            <xs:enumeration value="6"/>
            <xs:enumeration value="10"/>
            <xs:enumeration value="11"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:element name="InformationException" type="InformationExceptionType"/>
    <xs:complexType name="InformationExceptionType">
        <xs:sequence>
            <xs:element name="MessageType" type="messageTypeType"/>
            <xs:element name="MessageId" type="lrit:msgIDType"/>
            <xs:element name="ReferenceId" type="lrit:refIDType"/>
            <xs:element name="TimeStamp" type="xs:dateTime"/>
            <xs:element name="IMONum" type="lrit:imoNumType"/>
            <xs:element name="ExceptionCode" type="exceptionCodeType"/>
            <xs:element name="Message" type="lrit:messageType"/>
            <xs:element name="Originator" type="lrit:lritIDType"/>
            <xs:element name="Destination" type="lrit:lritIDType"/>
            <xs:element name="CurrentPeriodicRateType" type="periodicRateTypeType"
minOccurs="0"/>
            <xs:element name="CspID" type="lrit:lritIDType"/>
            <xs:element name="CommunicationNetwork"
type="commontypes:communicationNetworkType"/>
        </xs:sequence>
        <xs:attribute name="test" type="lrit:testType" use="optional" default="0"/>
        <xs:attribute name="schemaVersion" type="xs:decimal" use="required"/>
    </xs:complexType>
</xs:schema>

```

## Annexe A.5. AspSystemStatus.xsd

```

<!--
    File:      AspSystemStatus.xsd
    Version:   0.0
    Date:      17 October 2008
-->
<xs:schema version="1.0" targetNamespace="http://gisis.imo.org/XML/LRIT/aspSystemStatus"
    xmlns="http://gisis.imo.org/XML/LRIT/aspSystemStatus"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:lrit="http://gisis.imo.org/XML/LRIT/types/2008"
    elementFormDefault="qualified">

    <xs:import namespace="http://gisis.imo.org/XML/LRIT/types/2008"
    schemaLocation="Types.xsd"/>

    <xs:simpleType name="messageTypeType">
        <xs:restriction base="xs:integer">

```

```

        <xs:enumeration value="102"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="aspSystemStatusType">
    <xs:restriction base="xs:integer">
        <xs:enumeration value="0"/>
        <xs:enumeration value="1"/>
        <xs:enumeration value="2"/>
        <xs:enumeration value="3"/>
    </xs:restriction>
</xs:simpleType>

<xs:element name="AspSystemStatus" type="AspSystemStatusType"/>
<xs:complexType name="AspSystemStatusType">
    <xs:sequence>
        <xs:element name="MessageType" type="messageTypeType"/>
        <xs:element name="MessageId" type="lrit:msgIDType"/>
        <xs:element name="TimeStamp" type="xs:dateTime"/>
        <xs:element name="AspSystemStatus" type="aspSystemStatusType"/>
        <xs:element name="Message" type="lrit:messageType"/>
        <xs:element name="Originator" type="lrit:lritIDType"/>
        <xs:element name="Destination" type="lrit:lritIDType"/>
    </xs:sequence>
    <xs:attribute name="test" type="lrit:testType" use="optional" default="0"/>
    <xs:attribute name="schemaVersion" type="xs:decimal" use="required"/>
</xs:complexType>
</xs:schema>

```

## Annexe A.6. ShipCheckResetRequest.xsd

```

<!--
    File:      ShipCheckResetRequest.xsd
    Version:   0.1
    Date:      25 February 2009
-->
<xs:schema version="1.0"
    targetNamespace="http://gisis.imo.org/XML/LRIT/shipCheckResetRequest"
    xmlns="http://gisis.imo.org/XML/LRIT/shipCheckResetRequest"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:lrit="http://gisis.imo.org/XML/LRIT/types/2008"
    xmlns:xmime="http://www.w3.org/2005/05/xmlmime" elementFormDefault="qualified">

    <xs:import namespace="http://gisis.imo.org/XML/LRIT/types/2008"
        schemaLocation="Types.xsd" />

    <xs:simpleType name="messageTypeType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="103" />
        </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="actionType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="0"/> <!-- Restart communication -->
            <xs:enumeration value="1"/> <!-- Disable communication -->
            <xs:enumeration value="2"/> <!-- Retrieve current reporting periodic
rate -->

        </xs:restriction>
    </xs:simpleType>

    <xs:element name="ShipCheckResetRequest" type="ShipCheckResetRequestType" />
    <xs:complexType name="ShipCheckResetRequestType">
        <xs:sequence>
            <xs:element name="MessageType" type="messageTypeType"/>
            <xs:element name="MessageId" type="lrit:msgIDType"/>
            <xs:element name="TimeStamp" type="xs:dateTime"/>
            <xs:element name="IMONum" type="lrit:imoNumType"/>
            <xs:element name="Action" type="actionType"/>
            <xs:element name="Originator" type="lrit:lritIDType"/>
            <xs:element name="Destination" type="lrit:lritIDType"/>
        </xs:sequence>
        <xs:attribute name="test" type="lrit:testType" use="optional" default="0"/>

```

```

-----
        <xs:attribute name="schemaVersion" type="xs:decimal" use="required"/>
    </xs:complexType>
</xs:schema>

```

## Annexe A.7. ShipIntegrationRequest.xsd

```

<!--
    File:      ShipIntegrationRequest.xsd
    Version:   0.2
    Date:      18 October 2010
-->
<xs:schema version="1.0"
    targetNamespace="http://gisis.imo.org/XML/LRIT/shipIntegrationRequest"
    xmlns="http://gisis.imo.org/XML/LRIT/shipIntegrationRequest"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:lrif="http://gisis.imo.org/XML/LRIT/types/2008"
    xmlns:commonshiptypes="http://lrif.tbd.xy/XML/LRIT/commonshiptypes"
    xmlns:xmime="http://www.w3.org/2005/05/xmlmime" elementFormDefault="qualified">

    <xs:import namespace="http://gisis.imo.org/XML/LRIT/types/2008"
    schemaLocation="Types.xsd" />
    <xs:import namespace="http://lrif.tbd.xy/XML/LRIT/commonshiptypes"
    schemaLocation="CommonShipTypes.xsd" />

    <xs:simpleType name="messageTypeType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="152" />
        </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="shipIntegrationActionType">
        <xs:restriction base="xs:integer">
            <xs:enumeration value="0"/> <!-- Insert -->
            <xs:enumeration value="1"/> <!-- Update -->
            <xs:enumeration value="2"/> <!-- Delete -->
            <xs:enumeration value="3"/> <!-- ReIntegrate -->
            <xs:enumeration value="4"/> <!-- Dnid Upload -->
            <xs:enumeration value="5"/> <!-- Terminal Change -->
        </xs:restriction>
    </xs:simpleType>

    <xs:element name="ShipIntegrationRequest" type="ShipIntegrationRequestType" />
    <xs:complexType name="ShipIntegrationRequestType">
        <xs:sequence>
            <xs:element name="MessageType" type="messageTypeType"/>
            <xs:element name="MessageId" type="lrif:msgIDType"/>
            <xs:element name="TimeStamp" type="xs:dateTime"/>
            <xs:element name="IMONum" type="lrif:imoNumType"/>
            <xs:element name="ShipIntegrationAction"
type="shipIntegrationActionType"/>
            <xs:element name="Ship" type="commonshiptypes:shipType" minOccurs="0"/>
            <xs:element name="Originator" type="lrif:lrifIDType"/>
            <xs:element name="Destination" type="lrif:lrifIDType"/>
        </xs:sequence>
        <xs:attribute name="test" type="lrif:testType" use="optional" default="0"/>
        <xs:attribute name="schemaVersion" type="xs:decimal" use="required"/>
    </xs:complexType>
</xs:schema>

```

## Annexe A.8. CommonShipTypes.xsd

```

<!--
    File:      CommonShipTypes.xsd
    Version:   0.1
    Date:      08 October 2010
-->
<xs:schema version="1.0" targetNamespace="http://lrif.tbd.xy/XML/LRIT/commonshiptypes"
    xmlns="http://lrif.tbd.xy/XML/LRIT/commonshiptypes"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:lrif="http://gisis.imo.org/XML/LRIT/types/2008"
    xmlns:commontypes="http://lrif.tbd.xy/XML/LRIT/commontypes"
    elementFormDefault="qualified">

```

```

-----

<xs:import namespace="http://gisis.imo.org/XML/LRIT/types/2008"
schemaLocation="Types.xsd" />
<xs:import namespace="http://lrit.tbd.xy/XML/LRIT/commontypes"
schemaLocation="CommonTypes.xsd" />

<xs:simpleType name="iso3166-1Alpha3CodeType">
  <xs:restriction base="xs:string">
    <xs:pattern value="[A-Z]{3}" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string3">
  <xs:restriction base="xs:string">
    <xs:maxLength value="3"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string8">
  <xs:restriction base="xs:string">
    <xs:maxLength value="8"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string14">
  <xs:restriction base="xs:string">
    <xs:maxLength value="14"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string16">
  <xs:restriction base="xs:string">
    <xs:maxLength value="16"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string17">
  <xs:restriction base="xs:string">
    <xs:maxLength value="17"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string20">
  <xs:restriction base="xs:string">
    <xs:maxLength value="20"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string30">
  <xs:restriction base="xs:string">
    <xs:maxLength value="30"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string40">
  <xs:restriction base="xs:string">
    <xs:maxLength value="40"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string50">
  <xs:restriction base="xs:string">
    <xs:maxLength value="50"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string100">
  <xs:restriction base="xs:string">
    <xs:maxLength value="100"/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="string255">

```

```

<xs:restriction base="xs:string">
  <xs:maxLength value="255"/>
</xs:restriction>
</xs:simpleType>

<xs:simpleType name="string500">
  <xs:restriction base="xs:string">
    <xs:maxLength value="500"/>
  </xs:restriction>
</xs:simpleType>

<xs:complexType name="testingAspInformationType">
  <xs:sequence>
    <xs:element name="CspID" type="lrit:lritIDType" minOccurs="0"/>
    <xs:element name="CertifiedSeaAreas" type="string17" minOccurs="0"/>
    <xs:element name="TypedApprovedRegulationIV14" type="xs:boolean"
minOccurs="0"/>
    <xs:element name="TypedApprovedRegulationV19" type="xs:boolean"
minOccurs="0"/>
    <xs:element name="MetIEC60945" type="xs:boolean" minOccurs="0"/>
    <xs:element name="IsSsas" type="xs:boolean" minOccurs="0"/>
    <xs:element name="Dnid" type="xs:int" minOccurs="0" />
    <xs:element name="Member" type="xs:int" minOccurs="0" />
    <xs:element name="IsMorp" type="xs:boolean" minOccurs="0" />
    <xs:element name="ShipborneEquipmentSubAddress" type="xs:string"
minOccurs="0" /> <!-- MARION taille ?? -->
  </xs:sequence>
</xs:complexType>

<xs:simpleType name="shipTypeType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="passenger"/>
    <xs:enumeration value="mobileOffshoreDrilling"/>
    <xs:enumeration value="cargo"/>
  </xs:restriction>
</xs:simpleType>

<xs:complexType name="shipType">
  <xs:sequence>
    <xs:element name="Name" type="string40" minOccurs="0" />
    <xs:element name="ContractingGovernmentIsoCode" type="iso3166-
1Alpha3CodeType" minOccurs="0" />
    <xs:element name="MmsiNum" type="lrit:mmsiNumType" minOccurs="0" />
    <xs:element name="CallSign" type="string14" minOccurs="0" />
    <xs:element name="Type" type="shipTypeType" minOccurs="0" />
    <xs:element name="PortOfRegistry" type="string40" minOccurs="0" />
    <xs:element name="GrossTonnage" type="xs:int" minOccurs="0" />
    <xs:element name="CommunicationNetwork"
type="commontypes:communicationNetworkType" minOccurs="0"/>
    <xs:element name="ShipborneEquipmentTypeDescription" type="string50"
minOccurs="0">
      <xs:annotation>
        <xs:documentation>Shipborne system description to be
filled only in case of CommunicationNetwork is
empty.
        </xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="ShipborneEquipmentSerialNumber" type="string40"
minOccurs="0" />
    <xs:element name="ShipborneEquipmentModel" type="string40"
minOccurs="0" />
    <xs:element name="ShipborneEquipmentBrand" type="string40"
minOccurs="0" />
    <xs:element name="ShipborneEquipmentIdentifier" type="string50"
minOccurs="0" />
    <xs:element name="LastRadioInstallationSurveryDate" type="xs:date"
minOccurs="0" />
    <xs:element name="EmergencyContactName" type="string100" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Name of emergency contact person
ashore.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>

```

```

-----

</xs:element>
<xs:element name="EmergencyContactAddress" type="string100"
minOccurs="0">
    <xs:annotation>
        <xs:documentation>Address of emergency contact person
ashore.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="EmergencyContactPhone" type="string30" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Phone number of emergency contact
person ashore.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="AlternativeEmergencyContactPhone" type="string30"
minOccurs="0">
    <xs:annotation>
        <xs:documentation>Alternative phone number of emergency
contact person ashore.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="EmergencyContactFax" type="string30" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Fax number of emergency contact person
ashore.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="EmergencyContactEmail" type="string50" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Email of emergency contact person
ashore.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="Comments" type="string500" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Additional
comments.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="OutOfserviceDate" type="xs:dateTime" minOccurs="0">
    <xs:annotation>
        <xs:documentation>The date and time (UTC) of when the
ship will be taken out of service.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="TransferDate" type="xs:dateTime" minOccurs="0">
    <xs:annotation>
        <xs:documentation>The date and time (UTC) of when the
ship will be transferred to another flag.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="NextContractingGovernmentIsoCode" type="string3"
minOccurs="0">
    <xs:annotation>
        <xs:documentation>The three letter international country
code of the country the ship will be transferred to.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="StartOfServiceDate" type="xs:dateTime" minOccurs="0">
    <xs:annotation>
        <xs:documentation>The effective date and time (UTC) of
when the ship became active.</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="TypeApproved" type="xs:boolean" minOccurs="0">
    <xs:annotation>
        <xs:documentation>Flag that indicates if the shipboard
equipment is approved by the administration</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="TypeApprovalReferenceNumber" type="string30"
minOccurs="0">
    <xs:annotation>

```

```

<xs:documentation>ASP type approval reference
number.</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="TypeApprovalASPCode" type="string8" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Code of the ASP that has approved the
shipboard equipment.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="TypeApprovalIssueDate" type="xs:dateTime"
minOccurs="0">
  <xs:annotation>
    <xs:documentation>Date of the ASP type
approved.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="UserOfficeComment" type="string255" minOccurs="0">
  <xs:annotation>
    <xs:documentation>User office
comments.</xs:documentation>
  </xs:annotation>
</xs:element>

  <xs:element name="TestingAspInformation"
type="testingAspInformationType" minOccurs="0" />

  </xs:sequence>
  <xs:attribute name="imoNumber" type="lrit:imoNumType" use="required" />
  <xs:attribute name="test" type="lrit:testType" use="optional" default="0" />
</xs:complexType>
</xs:schema>

```

## Annexe A.9. ShipIntegration.xsd

```

<!--
File:      ShipIntegration.xsd
Version:   0.2
Date:      8 June 2009
-->
<xs:schema version="1.0" targetNamespace="http://gisis.imo.org/XML/LRIT/shipIntegration"
  xmlns="http://gisis.imo.org/XML/LRIT/shipIntegration"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:lrit="http://gisis.imo.org/XML/LRIT/types/2008"
  xmlns:commontypes="http://lrit.tbd.xy/XML/LRIT/commontypes"
  elementFormDefault="qualified">

  <xs:import namespace="http://gisis.imo.org/XML/LRIT/types/2008"
schemaLocation="Types.xsd"/>
  <xs:import namespace="http://lrit.tbd.xy/XML/LRIT/commontypes"
schemaLocation="CommonTypes.xsd" />

  <xs:simpleType name="messageTypeType">
    <xs:restriction base="xs:integer">
      <xs:enumeration value="151"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:element name="ShipIntegration" type="shipIntegrationType"/>
  <xs:complexType name="shipIntegrationType">
    <xs:sequence>
      <xs:element name="MessageType" type="messageTypeType"/>
      <xs:element name="MessageId" type="lrit:msgIDType"/>
      <xs:element name="TimeStamp" type="xs:dateTime"/>
      <xs:element name="IMONum" type="lrit:imoNumType"/>
      <xs:element name="Message" type="lrit:messageType"/>
      <xs:element name="CauseOfFailure" type="lrit:messageType"
minOccurs="0"/>
      <xs:element name="ShipIntegrationWay"
type="commontypes:shipIntegrationWayType"/>
      <xs:element name="Originator" type="lrit:lritIDType"/>
      <xs:element name="Destination" type="lrit:lritIDType"/>
      <xs:element name="CspID" type="lrit:lritIDType"/>
    </xs:sequence>
  </xs:complexType>

```

-----

```
        <xs:element name="CommunicationNetwork"
type="commontypes:communicationNetworkType"/>
    </xs:sequence>
    <xs:attribute name="test" type="lrit:testType" use="optional" default="0"/>
    <xs:attribute name="schemaVersion" type="xs:decimal" use="required"/>
</xs:complexType>
</xs:schema>
```