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Report on project results integration

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ABSTRACT	This document is a report on how the different components developed within the PrestoSpace project have been integrated, through the implementation of the PrestoSpace Orchestrator (PSO) component of the PrestoSpace Factory. This component, also known as PSO, is a software layer which automates the communication and the interaction among the PrestoSpace factory's components, namely PRE, RES, and MAD units. In this deliverable we describe in detail functionalities, architecture, implementation and usage of PSO.
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Contents Table

1. Document Scope

The scope of this document is the presentation of the results of integration of Preservation, Documentation and Restoration Units in the PrestoSpace project, through the implementation of the PrestoSpace Orchestrator (PSO) component.

2. Introduction

The process of digital preservation of audio-visual collections requires the execution of the following tasks:

- Preservation (migration)

- Restoration

- Documentation

Within the PrestoSpace project these three activities were divided into three different units:

- The Preservation Unit (PRE)

- The Restoration Unit (RES)

- The Documentation Unit (MAD)

Of course, there are overlaps between these actions. The user requirements phase has demonstrated an extreme variation between the different requirements, scales, and urgencies for the three functions above. The Preservation effort is clearly driven in most cases by urgency considerations, as the media are often deteriorating at a fast pace, playback machines and expertise harder and harder to maintain. Requirements for urgent Restoration and Documentation are variable from one archive to another, and so on.

In order to automate the communication and the interaction among the mentioned components, namely PRE, RES, and MAD, a **PrestoSpace Orchestrator (PSO)** has been implemented.

The PSO is a software layer interfacing:

- archives, requiring preservation, restoration and documentation of audio-visual data;
- the PrestoSpace units PRE, RES, and MAD

Intuitively, an archive requiring preservation, restoration and documentation of its own audio-visual material asks the PSO to process an *order*, which comprises a set of *batches* of audio visual contents. The PSO is then able to perform a workflow management service, responsible for starting processes in the right order and for resolving dependencies between different PrestoSpace Units PRE, RES, and MAD.

In order to adopt an extensible and portable solution, the PSO makes use of web services interfaces for the communication with both archives and the three mentioned PrestoSpace Units.

The Web Interface

In order to interact also with human users, the PSO provides a web interface, shown in Figure 2 here below:
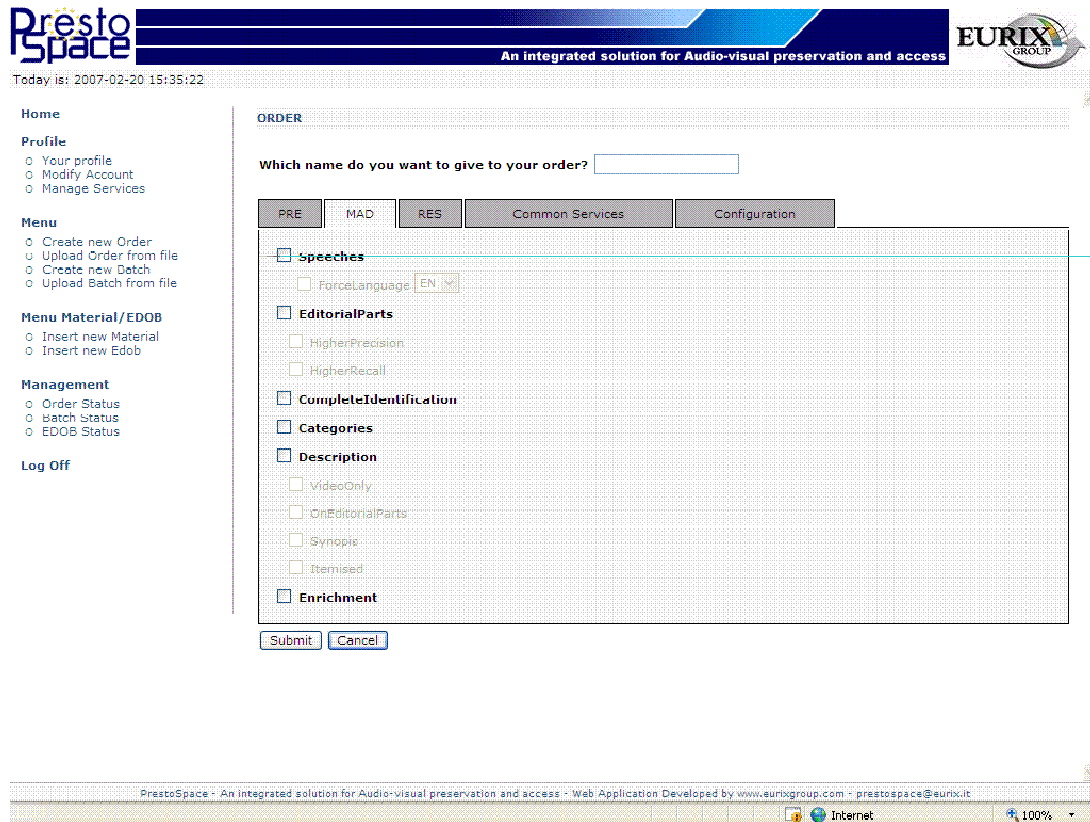

Figure 1: The PSO Web Interface

In order to manage all the operations involved, the user can add/modify profiles and services (location where to find materials).
As an Orchestrator, the user can then create new orders to submit to the MAD Platform, requiring the elaboration provided by the different units (PRE, RES, MAD).

3. Architecture of the PSO

The PrestoSpace Orchestrator (PSO) is the software component whose role is to coordinate and manage all the units belonging to the PrestoSpace factory.
An archive may require the digitisation of its own audiovisual items, in order to make them available for information retrieval. To this aim, the archive asks all needed processes to the PSO, which can be considered as the only entry point of the PrestoSpace factory.

In detail, the PrestoSpace Orchestrator (PSO) is able to connect and manage the activities of the three main components of the PrestoSpace factory, namely:

- the preservation unit (PRE, see ... for details)

- the restoration unit (RES, see ...)

- the MAD unit (see **[D15.4], [D18.1], [D18.2], [D18.3]**)
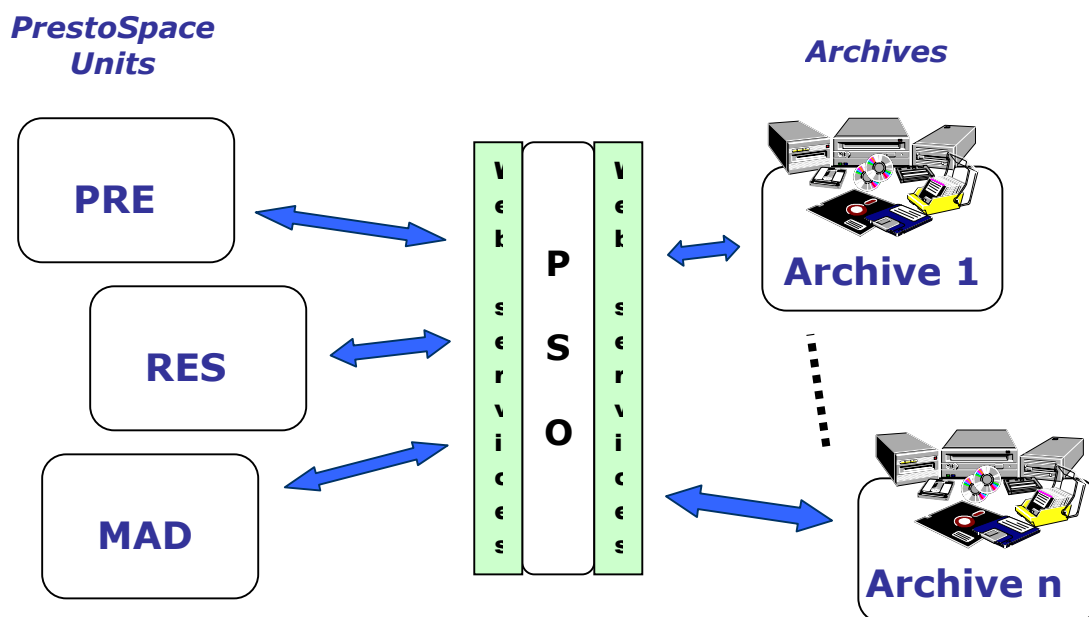
As summarized in Figure 2 below:

Figure 2: The PrestoSpace Orchestrator (PSO)

As mentioned in the Introduction of this document, the process of digital preservation of audio-visual collections requires the execution of the following tasks:

- Preservation (migration)
- Restoration
- Documentation and Access

performed by:

- The Preservation Unit (PRE)
- The Restoration Unit (RES)
- The Documentation Unit (MAD)

respectively. Of course, there are overlaps between these actions. The user requirements phase has demonstrated an extreme variation between the different requirements, scales, and urgencies for the three functions above. The Preservation effort is clearly driven in most cases by urgency considerations, as the media are often deteriorating at a fast pace, playback machines and expertise harder and harder to maintain. Requirements for urgent Restoration and Documentation are variable from one archive to another, and so on.

In order to automate the communication and the interaction among the mentioned components, namely PRE, RES, and MAD, a PSO is provided.
The PSO is a software layer interfacing:

- archives, requiring preservation and restoration of audio-visual data;
- the PrestoSpace units PRE, RES, and MAD

The PSO offers its functionalities in two different ways:

- by means of a web application, thus showing a graphical interface
- by means of a set of web services.

The web application can be thought as the graphical representation (implementation) of the web services.
As a consequence, an archive can choose between the two above interaction modalities. Intuitively, a human being will interact with the PSO by means of the web application, whereas big archives need to automate this interaction. In the last case, a given archive comprises suitable software mechanism interacting with the web services exposed by the PSO. Web services are adopted in order to let the PSO be usable by more archives, each implemented in a specific programming language; indeed, each language offers its own API to implement a client querying a web service: in this way, a given archive only needs to implement all functions for the interaction with PSO's web services in its own language.

In the rest of this part of the deliverable, we first give a detailed analysis of each component of the PSO, and then we describe how these components have been implemented.

3.1.   Functioning of the PSO and interaction with an archive

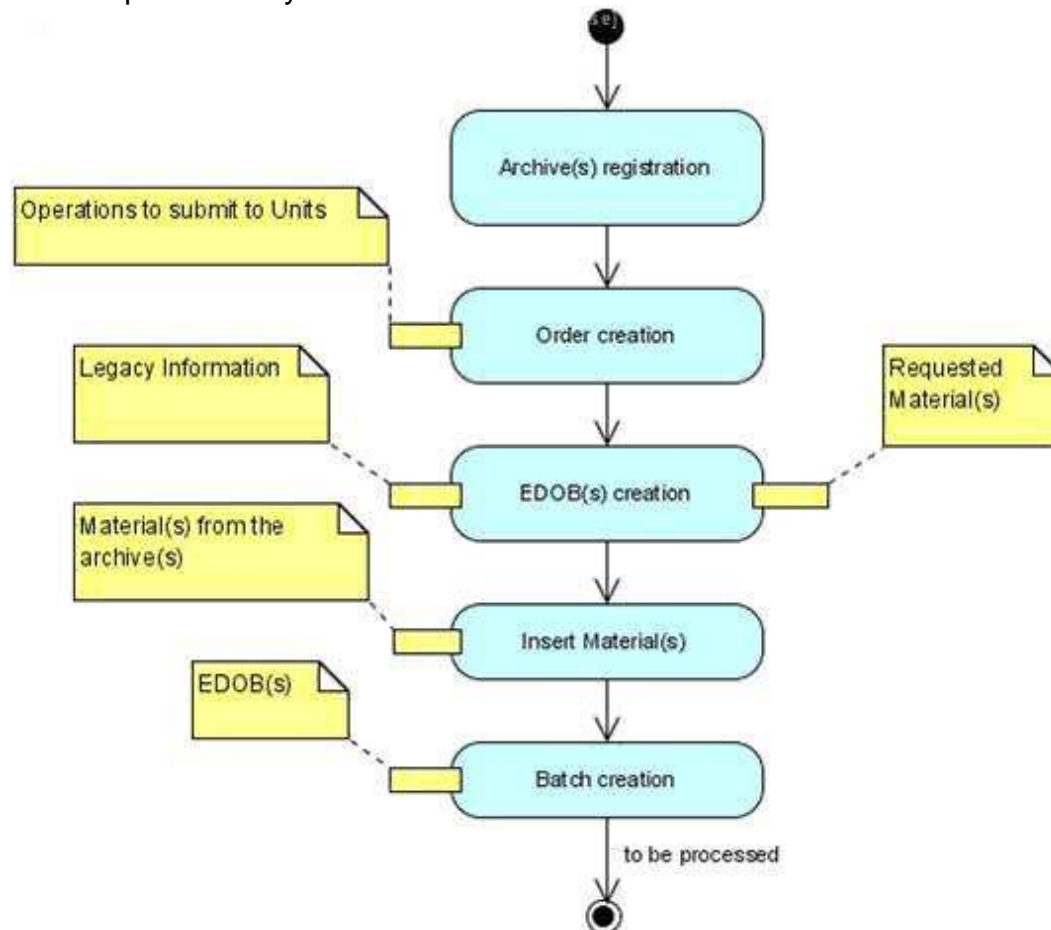As mentioned above, the PSO represents the interface between an archive and the PrestoSpace factory.

Figure 3: Archives-PSO interaction

The activity of the PrestoSpace Orchestrator begins when an archive needs to perform digitisation/restoration/documentation of its own audiovisual archive.

First of all, the archive makes its registration within the PrestoSpace factory (1). After this, the archive creates one or more *orders*, specifying which operations the archive wants to perform over the programmes related to that orders (2). Notice that an archive may define more orders, since it could be the case that it requires two or more different processes on different programmes; for instance, the same archive could need to enrich a talk show with manual annotation, without key frames, whereas key frames are needed to enrich a news edition.

In the following step (3), the archive inserts legacies and materials related to the selected orders. Intuitively, we use the term *material* to denote audiovisual contents, whereas metadata information corresponds to the related EDOB. The EDOB is added to the factory by means of the EMS (see section 2.2 here below).

It is worth noticing that the order in performing the two operations

- inserting material

- creating the EDOB

is not relevant.

The following step (4) consists in the registration of one or more *batches*, performed by the archive. A batch is a set of EDOBs requiring the same set of operations. Each batch belongs to a specific order, the latter comprising the operations to perform on each EDOB.

At this point, the PrestoSpace factory performs its operations. When the factory's activity is over, the PSO notifies the archive, in order to conclude the interaction (5). As a consequence, the archive gets the material produced by the factory (6).

The interaction between an archive and the PSO can be summarized as follows:

(1) the archive makes its registration to the PrestoSpace factory

(2) the archive defines one or more orders, specifying the operations to be performed in each order

(3) the archive inserts materials and related EDOBs

(4) the archive registers one or more batches

--- *the PrestoSpace factory performs the requested functions*

(5) when the elaboration of the factory is over, the PSO notifies the archive

(6) the archive gets the produced material from the factory (by means of the services of the PSO)

3.2.   The Essence and Metadata Storage (EMS) Unit

The PSO contains a component called **Essence and Metadata Storage**, usually referred as **EMS**.
The EMS has been implemented in order to:

- manage the *essences* (that is to say, the audiovisual data within the PrestoSpace factory)

- manage metadata related to the essences.

As described in specific deliverables, metadata correspond to an XML document called EDOB, where EDOB stands for EDitorial OBject. It contains information (metadata) related to a specific digitised programme; more in detail, an EDOB contains:

- legacy information (for instance, the name of the news director);

- information about PRE and RES operations (for instance, information about the digitisation of the programme): these information are provided by the PRE and the RES units;

- enriched information produced by the MAD unit **[D.15.4], [D.15.5], [D.15.6], [D.16.2], [D.16.4], [D.18.1], [D.18.3]**, that will be used for information retrieval (for instance, key frames of the programme).

The EMS stores the materials on the file system, and tracks their location by means of a relational database. It is possible to have many copies of the same material, even located on various machines and accessible through a set of protocols (file, HTTP, FTP, SMB, and so on). When a GAMP needs to use/store some material, then it asks the Core Platform of the Documentation Platform, which forwards this request to the EMS component through the PSO web services (see **[D.18.1]** for the details).

3.3.   The Concurrent Versioning System (CVS) unit

The EDOB is updated during the elaboration of audio visual contents. In order to be able to track these changes a sort of CVS system was implemented into the PSO. This kind of CVS is achieved using the DB. Every time a new version of the EDOB is checked-in by one of the units, this new version of the EDOB is stored as an EDOB into the table EDOBS_VERSION. In this way the last version can be retrieved for work but also previous versions can be retrieved.

4. Implementation of the PrestoSpace Orchestrator (PSO)

This section is dedicated to a detailed description of the implementation of the PSO components.

4.1. Detailed architecture and interaction with PrestoSpace units

In this section we describe the architecture of the PSO in more detail, focusing on the interaction with the units of the PrestoSpace factory.
As mentioned, the PrestoSpace Orchestrator interacts with the other components by means of web services technologies. We can distinguish between three classes of web services involving the PSO:

- web services offered from the Documentation unit to the PSO;
- web services offered from the Preservation unit to the PSO;
- web services offered from the PSO to the PrestoSpace units.

In detail, the following web services involve the PSO:

- web services offered from the Documentation unit to the PSO:
    - **PSO**: web services for registering EDOBs and inserting jobs into the Core Platform of the Documentation Platform (see **[D18.1]** for details);
    - Administration (**ADMIN**): web services for monitoring services of the Core Platform;
    - **WF**: web services used by the GAMPs for interacting with the workflow management system belonging to the Core Platform
- web services offered from the Preservation unit to the PSO:
    - **Prefactis**: web services used in the interaction between the Preservation unit and the PSO
- web services offered from the PSO to the PrestoSpace units:
    - **PSO Units**: web services exposed by the PSO to the units (MAD, PRE, and RES);
    - **EMS**: interface used by the GAMPs for accessing the EMS.

The detailed architecture of the PSO is shown in Figure 5 here below; yellow rectangles are used to represent components of the PrestoSpace Factory, whereas cyan diamonds are used to represent the web services.
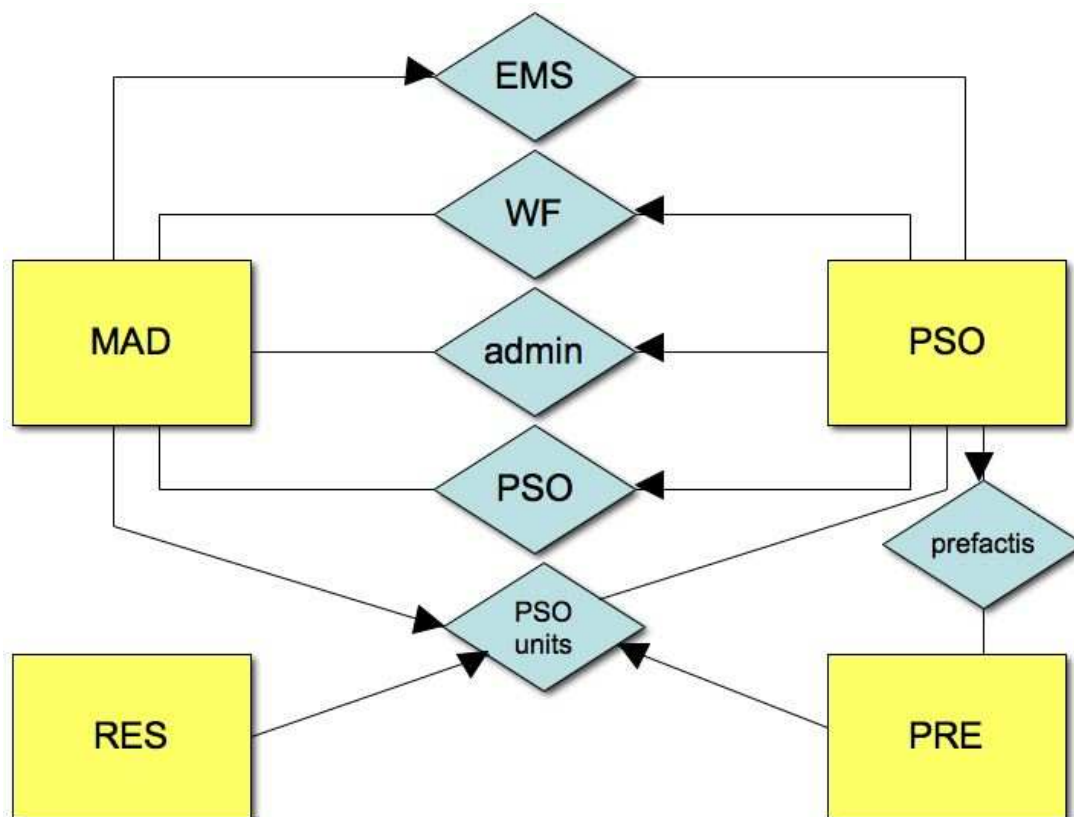

Figure 4: The detailed interaction involving the PSO

Let us conclude this section with some more explanations about the above listed web services.

EMS collects the web services representing the interface used by the GAMPs for accessing the services of the Essence and Metadata Unit (see section 2.2 for more details). For instance, a GAMP can ask to *insertMaterial* or to *addFile* to the EMS component.

WF collects the web services used by the GAMPs for interacting with the workflow of the Core Platform; for instance, a GAMP can retrieve information about a submitted job by performing a *getJob*.

ADMIN contains web services representing the interface for monitoring the sevices of the Core Platform; *getEDOB* and *getInstancesInfo* are examples of operations within this kind of interaction.

PSO contains the web services representing the interface for registering EDOBs and inserting jobs into the Core Platform. *insertJob*, *registerEDOB*, and *deleteEDOB* are some operations available.

PSO Units are the web services exposed by the PrestoSpace Orchestrator to the Units, in order to interact with them. The Preservation unit also interacts with the PSO by means of the web services described by Prefactis.

Some of these services are offered by the MAD units to the GAMPs (EMS and WF) some others are offered by the PSO to MAD, RES and PRE units. For what concerns EMS interface offered by MAD unit it's only a sort of wrapper. Every

request done by GAMPs to this interface will be forwarded to PSO corresponding services.

For further details, the reader can consult the Appendix, presenting the complete WSDL of the PSO.

4.2.   Physical environment

In order to manage the activities of different GAMPs, the PSO makes use of a **Work Flow system**.

The Work Flow system can be either a commercial or an open source system. Our current implementation adopts the OpenFlow engine, running on the Zope platform.

However, in order to allow possible future changes to the adopted work flow system, the Java components interacting with the work flow management system has been developed in an abstract way. More precisely, suitable interfaces are provided. Moreover, classes implementing those interfaces and referring to OpenFlow are also provided.

In order to adopt another work flow system (thus replacing OpenFlow), one does not need to change the overall architecture: it is only needed to implement all the work flow interfaces, providing suitable classes. These classes will replace the ones provided for the OpenFlow engine.

5. Licensing

The software product described in this deliverable is a prototype in an advanced state of implementation. In order to engineer this software, an improvement of the feedback machinery is needed.

6. Bibliography

[D15.4]   Content Analysis Tools.
[D15.5]   Cross-Linguistic IE Tools Analysis.
[D15.6]   Semantic Interpretation Tools.
[D16.2]   Conceptual Search.
[D16.4]   Delivery Models.
[D18.1]   The Documentation Platform for the MAD Factory.
[D18.2]   Publication Platform for the Results of Digitization and Documentation
[D18.3]   The Turnkey System
[D19.0.1]   External and Internal Models and Protocols for the PrestoSpace Factory.
[D.19.0.2]   The PrestoSpace Orchestrator (PSO)

Appendix: WSDL

PSO

```xml
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions targetNamespace="wsdl:mad:prestospace:org"
xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:apachesoap="http://xml.apache.org/xml-soap"
xmlns:impl="wsdl:mad:prestospace:org" xmlns:intf="wsdl:mad:prestospace:org"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <wsdl:message name="unregisterEDOBRequest">
    <wsdl:part name="edobID" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="getAllMaterialsRequest">
    <wsdl:part name="edobID" type="xsd:string"/>
    <wsdl:part name="bundle" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="insertJobRequest">
    <wsdl:part name="job" type="apachesoap:Document"/>
  </wsdl:message>
  <wsdl:message name="registerEDOBRequest">
    <wsdl:part name="EDOBRegistrationData" type="apachesoap:Document"/>
  </wsdl:message>
  <wsdl:message name="purgeEDOBRequest">
    <wsdl:part name="edobID" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="insertJobResponse">
    <wsdl:part name="insertJobReturn" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="deleteEDOBResponse">
    <wsdl:part name="deleteEDOBReturn" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="unregisterEDOBResponse">
    <wsdl:part name="unregisterEDOBReturn" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="purgeEDOBResponse">
    <wsdl:part name="purgeEDOBReturn" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="registerEDOBResponse">
    <wsdl:part name="registerEDOBReturn" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="getAllMaterialsResponse">
    <wsdl:part name="getAllMaterialsReturn" type="apachesoap:Document"/>
  </wsdl:message>
  <wsdl:message name="deleteEDOBRequest">
    <wsdl:part name="edob" type="xsd:string"/>
  </wsdl:message>
  <wsdl:portType name="PSOrchestratorImpl">
    <wsdl:operation name="insertJob" parameterOrder="job">
      <wsdl:input message="impl:insertJobRequest" name="insertJobRequest"/>
      <wsdl:output message="impl:insertJobResponse" name="insertJobResponse"/>
    </wsdl:operation>
    <wsdl:operation name="deleteEDOB" parameterOrder="edob">
      <wsdl:input message="impl:deleteEDOBRequest" name="deleteEDOBRequest"/>
<wsdl:output message="impl:deleteEDOBResponse" name="deleteEDOBResponse"/>
    </wsdl:operation>
    <wsdl:operation name="getAllMaterials" parameterOrder="edobID bundle">
      <wsdl:input message="impl:getAllMaterialsRequest"
name="getAllMaterialsRequest"/>
      <wsdl:output message="impl:getAllMaterialsResponse"
name="getAllMaterialsResponse"/>
    </wsdl:operation>
    <wsdl:operation name="registerEDOB" parameterOrder="EDOBRegistrationData">
      <wsdl:input message="impl:registerEDOBRequest" name="registerEDOBRequest"/>
      <wsdl:output message="impl:registerEDOBResponse"
name="registerEDOBResponse"/>
    </wsdl:operation>
    <wsdl:operation name="unregisterEDOB" parameterOrder="edobID">
```

```
          <wsdl:input message="impl:unregisterEDOBRequest"
name="unregisterEDOBRequest"/>
          <wsdl:output message="impl:unregisterEDOBResponse"
name="unregisterEDOBResponse"/>
       </wsdl:operation>
       <wsdl:operation name="purgeEDOB" parameterOrder="edobID">
          <wsdl:input message="impl:purgeEDOBRequest" name="purgeEDOBRequest"/>
          <wsdl:output message="impl:purgeEDOBResponse" name="purgeEDOBResponse"/>
       </wsdl:operation>
   </wsdl:portType>
   <wsdl:binding name="PSOSoapBinding" type="impl:PSOrchestratorImpl">
       <wsdlsoap:binding style="rpc"
transport="http://schemas.xmlsoap.org/soap/http"/>
       <wsdl:operation name="insertJob">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="insertJobRequest">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="insertJobResponse">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
       </wsdl:operation>
       <wsdl:operation name="deleteEDOB">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="deleteEDOBRequest">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="deleteEDOBResponse">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
       </wsdl:operation>
       <wsdl:operation name="getAllMaterials">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="getAllMaterialsRequest">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="getAllMaterialsResponse">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
       </wsdl:operation>
       <wsdl:operation name="registerEDOB">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="registerEDOBRequest">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="registerEDOBResponse">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
       </wsdl:operation>
       <wsdl:operation name="unregisterEDOB">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="unregisterEDOBRequest">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="unregisterEDOBResponse">
             <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
       </wsdl:operation>
       <wsdl:operation name="purgeEDOB">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="purgeEDOBRequest">
```

```
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="purgeEDOBResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="PSOrchestratorImplService">
    <wsdl:port binding="impl:PSOSoapBinding" name="PSO">
      <wsdlsoap:address
location="http://prestospace.eurix.it/prestospace/services/PSO"/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

Administration (**ADMIN**)

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions targetNamespace="wsdl:client:web:mad:prestospace:org"
xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:apachesoap="http://xml.apache.org/xml-soap"
xmlns:impl="wsdl:client:web:mad:prestospace:org"
xmlns:intf="wsdl:client:web:mad:prestospace:org"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:tns1="urn:edob.mad.prestospace.org"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><wsdl:types><schema
targetNamespace="urn:edob.mad.prestospace.org"
xmlns="http://www.w3.org/2001/XMLSchema"><import
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name="checkedOutDate" nillable="true" type="xsd:dateTime"/><element
name="checkedOutToUser" nillable="true" type="xsd:string"/><element
name="creationDate" nillable="true" type="xsd:dateTime"/><element name="edobID"
nillable="true" type="xsd:string"/><element name="edobTitle" nillable="true"
type="xsd:string"/><element name="size" type="xsd:long"/><element name="status"
nillable="true" type="xsd:string"/><element name="version"
type="xsd:long"/></sequence></complexType><complexType
name="EDOBList"><sequence><element name="edobs" nillable="true"
type="impl:ArrayOf_tns1_EDOBNode"/><element name="size"
type="xsd:int"/></sequence></complexType></schema><schema
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base="soapenc:Array"><attribute ref="soapenc:arrayType"
wsdl:arrayType="xsd:string[]"/></restriction></complexContent></complexType></schem
a></wsdl:types>
  <wsdl:message name="getEDOBListRequest">
  </wsdl:message>
  <wsdl:message name="undoCheckOutResponse">
  </wsdl:message>
  <wsdl:message name="getEDOBInfoResponse">
    <wsdl:part name="getEDOBInfoReturn" type="tns1:EDOBNode"/>
  </wsdl:message>
  <wsdl:message name="getInstanceHistoryRequest">
    <wsdl:part name="instance_id" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="getEDOBResponse">
    <wsdl:part name="getEDOBReturn" type="apachesoap:Document"/>
  </wsdl:message>
```

```
<wsdl:message name="getWorkitemsInfoRequest">
  <wsdl:part name="process_id" type="xsd:string"/>
  <wsdl:part name="activity_id" type="xsd:string"/>
  <wsdl:part name="status" type="xsd:string"/>
</wsdl:message>
<wsdl:message name="getProcessesInfoResponse">
  <wsdl:part name="getProcessesInfoReturn" type="apachesoap:Document"/>
</wsdl:message>
<wsdl:message name="searchEDOBRequest">
  <wsdl:part name="fileExp" type="xsd:string"/>
</wsdl:message>
<wsdl:message name="getEDOBListResponse">
  <wsdl:part name="getEDOBListReturn" type="tns1:EDOBList"/>
</wsdl:message>
<wsdl:message name="getInstancesInfoRequest">
  <wsdl:part name="process_id" type="xsd:string"/>
  <wsdl:part name="status" type="xsd:string"/>
</wsdl:message>
<wsdl:message name="getEDOBRequest">
  <wsdl:part name="edobID" type="xsd:string"/>
</wsdl:message>
<wsdl:message name="getWorkitemsInfoResponse">
  <wsdl:part name="getWorkitemsInfoReturn" type="apachesoap:Document"/>
</wsdl:message>
<wsdl:message name="searchEDOBResponse">
  <wsdl:part name="searchEDOBReturn" type="tns1:EDOBList"/>
</wsdl:message>
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  <wsdl:part name="process_id" type="xsd:string"/>
</wsdl:message>
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  <wsdl:part name="getInstanceHistoryReturn" type="apachesoap:Document"/>
</wsdl:message>
<wsdl:message name="getInstancesInfoResponse">
  <wsdl:part name="getInstancesInfoReturn" type="apachesoap:Document"/>
</wsdl:message>
<wsdl:message name="undoCheckOutRequest">
  <wsdl:part name="edobs" type="impl:ArrayOf_xsd_string"/>
</wsdl:message>
<wsdl:message name="getEDOBInfoRequest">
  <wsdl:part name="edobID" type="xsd:string"/>
</wsdl:message>
<wsdl:portType name="Admin">
  <wsdl:operation name="getInstanceHistory" parameterOrder="instance_id">
    <wsdl:input message="impl:getInstanceHistoryRequest"
name="getInstanceHistoryRequest"/>
    <wsdl:output message="impl:getInstanceHistoryResponse"
name="getInstanceHistoryResponse"/>
  </wsdl:operation>
  <wsdl:operation name="undoCheckOut" parameterOrder="edobs">
    <wsdl:input message="impl:undoCheckOutRequest" name="undoCheckOutRequest"/>
    <wsdl:output message="impl:undoCheckOutResponse"
name="undoCheckOutResponse"/>
  </wsdl:operation>
  <wsdl:operation name="getEDOBList">
    <wsdl:input message="impl:getEDOBListRequest" name="getEDOBListRequest"/>
    <wsdl:output message="impl:getEDOBListResponse" name="getEDOBListResponse"/>
  </wsdl:operation>
  <wsdl:operation name="getEDOB" parameterOrder="edobID">
    <wsdl:input message="impl:getEDOBRequest" name="getEDOBRequest"/>
    <wsdl:output message="impl:getEDOBResponse" name="getEDOBResponse"/>
  </wsdl:operation>
  <wsdl:operation name="searchEDOB" parameterOrder="fileExp">
    <wsdl:input message="impl:searchEDOBRequest" name="searchEDOBRequest"/>
    <wsdl:output message="impl:searchEDOBResponse" name="searchEDOBResponse"/>
  </wsdl:operation>
  <wsdl:operation name="getEDOBInfo" parameterOrder="edobID">
    <wsdl:input message="impl:getEDOBInfoRequest" name="getEDOBInfoRequest"/>
    <wsdl:output message="impl:getEDOBInfoResponse" name="getEDOBInfoResponse"/>
  </wsdl:operation>
  <wsdl:operation name="getProcessesInfo" parameterOrder="process_id">
```

```
        <wsdl:input message="impl:getProcessesInfoRequest"
name="getProcessesInfoRequest"/>
        <wsdl:output message="impl:getProcessesInfoResponse"
name="getProcessesInfoResponse"/>
    </wsdl:operation>
    <wsdl:operation name="getWorkitemsInfo" parameterOrder="process_id activity_id
status">
        <wsdl:input message="impl:getWorkitemsInfoRequest"
name="getWorkitemsInfoRequest"/>
        <wsdl:output message="impl:getWorkitemsInfoResponse"
name="getWorkitemsInfoResponse"/>
    </wsdl:operation>
    <wsdl:operation name="getInstancesInfo" parameterOrder="process_id status">
        <wsdl:input message="impl:getInstancesInfoRequest"
name="getInstancesInfoRequest"/>
        <wsdl:output message="impl:getInstancesInfoResponse"
name="getInstancesInfoResponse"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="Prestospace_AdministrationSoapBinding" type="impl:Admin">
    <wsdlsoap:binding style="rpc"
transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="getInstanceHistory">
        <wsdlsoap:operation soapAction=""/>
        <wsdl:input name="getInstanceHistoryRequest">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:input>
        <wsdl:output name="getInstanceHistoryResponse">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="undoCheckOut">
        <wsdlsoap:operation soapAction=""/>
        <wsdl:input name="undoCheckOutRequest">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:input>
        <wsdl:output name="undoCheckOutResponse">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getEDOBList">
        <wsdlsoap:operation soapAction=""/>
        <wsdl:input name="getEDOBListRequest">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:input>
        <wsdl:output name="getEDOBListResponse">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getEDOB">
        <wsdlsoap:operation soapAction=""/>
        <wsdl:input name="getEDOBRequest">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:input>
        <wsdl:output name="getEDOBResponse">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="searchEDOB">
        <wsdlsoap:operation soapAction=""/>
        <wsdl:input name="searchEDOBRequest">
          <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
        </wsdl:input>
```

```
      <wsdl:output name="searchEDOBResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getEDOBInfo">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getEDOBInfoRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getEDOBInfoResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getProcessesInfo">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getProcessesInfoRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getProcessesInfoResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getWorkitemsInfo">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getWorkitemsInfoRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getWorkitemsInfoResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getInstancesInfo">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getInstancesInfoRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getInstancesInfoResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:client:web:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="AdminService">
    <wsdl:port binding="impl:Prestospace_AdministrationSoapBinding"
name="Prestospace_Administration">
      <wsdlsoap:address
location="http://prestospace.eurix.it/prestospace/services/Prestospace_Administrati
on"/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

WF

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions targetNamespace="wsdl:mad:prestospace:org"
xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:apachesoap="http://xml.apache.org/xml-soap"
xmlns:impl="wsdl:mad:prestospace:org" xmlns:intf="wsdl:mad:prestospace:org"
```

```
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <wsdl:message name="getJobResponse">
    <wsdl:part name="getJobReturn" type="apachesoap:Document"/>
  </wsdl:message>
  <wsdl:message name="getJobRequest">
    <wsdl:part name="activityProcessQueue" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="notifyRequest">
    <wsdl:part name="job" type="apachesoap:Document"/>
  </wsdl:message>
  <wsdl:message name="notifyResponse">
    <wsdl:part name="notifyReturn" type="xsd:int"/>
  </wsdl:message>
  <wsdl:portType name="WFImpl">
    <wsdl:operation name="notify" parameterOrder="job">
      <wsdl:input message="impl:notifyRequest" name="notifyRequest"/>
      <wsdl:output message="impl:notifyResponse" name="notifyResponse"/>
    </wsdl:operation>
    <wsdl:operation name="getJob" parameterOrder="activityProcessQueue">
      <wsdl:input message="impl:getJobRequest" name="getJobRequest"/>
      <wsdl:output message="impl:getJobResponse" name="getJobResponse"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="WFSoapBinding" type="impl:WFImpl">
    <wsdlsoap:binding style="rpc"
transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="notify">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="notifyRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="notifyResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getJob">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getJobRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getJobResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="WFImplService">
    <wsdl:port binding="impl:WFSoapBinding" name="WF">
      <wsdlsoap:address
location="http://prestospace.eurix.it/prestospace/services/WF"/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

PSO Units

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions targetNamespace="wsdl:pso:prestospace:org"
xmlns:apachesoap="http://xml.apache.org/xml-soap"
xmlns:impl="wsdl:pso:prestospace:org" xmlns:intf="wsdl:pso:prestospace:org"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
```

```
xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<!--WSDL created by Apache Axis version: 1.4
Built on Apr 22, 2006 (06:55:48 PDT)-->
 <wsdl:types>
  <schema targetNamespace="wsdl:pso:prestospace:org"
xmlns="http://www.w3.org/2001/XMLSchema">
   <import namespace="http://schemas.xmlsoap.org/soap/encoding/"/>
   <complexType name="ArrayOf_xsd_string">
    <complexContent>
     <restriction base="soapenc:Array">
      <attribute ref="soapenc:arrayType" wsdl:arrayType="xsd:string[]"/>
     </restriction>
    </complexContent>
   </complexType>
  </schema>
 </wsdl:types>
  <wsdl:message name="notifyStatusResponse">
  </wsdl:message>
  <wsdl:message name="insertMaterialRequest">
     <wsdl:part name="matDocStr" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="notifyBatchStatusResponse">
  </wsdl:message>
  <wsdl:message name="notifyEdobStatusResponse">
  </wsdl:message>
  <wsdl:message name="getMaterialResponse">

     <wsdl:part name="getMaterialReturn" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="getEdobResponse">
     <wsdl:part name="getEdobReturn" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="getEdobRequest">
     <wsdl:part name="edobId" type="xsd:string"/>
     <wsdl:part name="lock" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="notifyBatchStatusRequest">
     <wsdl:part name="batchId" type="xsd:string"/>
     <wsdl:part name="status" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="insertMaterialResponse">
     <wsdl:part name="insertMaterialReturn" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="getMaterialRequest">
     <wsdl:part name="umids" type="impl:ArrayOf_xsd_string"/>
  </wsdl:message>
  <wsdl:message name="notifyStatusRequest">
     <wsdl:part name="id" type="xsd:string"/>
     <wsdl:part name="statusCode" type="xsd:int"/>
     <wsdl:part name="message" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="notifyEdobStatusRequest">
<wsdl:part name="edobId" type="xsd:string"/>
     <wsdl:part name="status" type="xsd:string"/>
  </wsdl:message>
  <wsdl:portType name="PsoUnits">
     <wsdl:operation name="getEdob" parameterOrder="edobId lock">
        <wsdl:input message="impl:getEdobRequest" name="getEdobRequest"/>
        <wsdl:output message="impl:getEdobResponse" name="getEdobResponse"/>
     </wsdl:operation>
     <wsdl:operation name="insertMaterial" parameterOrder="matDocStr">
<wsdl:input message="impl:insertMaterialRequest" name="insertMaterialRequest"/>
        <wsdl:output message="impl:insertMaterialResponse"
name="insertMaterialResponse"/>
     </wsdl:operation>
     <wsdl:operation name="notifyEdobStatus" parameterOrder="edobId status">
        <wsdl:input message="impl:notifyEdobStatusRequest"
name="notifyEdobStatusRequest"/>
        <wsdl:output message="impl:notifyEdobStatusResponse"
name="notifyEdobStatusResponse"/>
     </wsdl:operation>
```

```
        <wsdl:operation name="notifyBatchStatus" parameterOrder="batchId status">
            <wsdl:input message="impl:notifyBatchStatusRequest"
name="notifyBatchStatusRequest"/>
            <wsdl:output message="impl:notifyBatchStatusResponse"
name="notifyBatchStatusResponse"/>
        </wsdl:operation>
        <wsdl:operation name="notifyStatus" parameterOrder="id statusCode message">
            <wsdl:input message="impl:notifyStatusRequest"
name="notifyStatusRequest"/>
            <wsdl:output message="impl:notifyStatusResponse"
name="notifyStatusResponse"/>
        </wsdl:operation>
        <wsdl:operation name="getMaterial" parameterOrder="umids">
            <wsdl:input message="impl:getMaterialRequest" name="getMaterialRequest"/>
            <wsdl:output message="impl:getMaterialResponse"
name="getMaterialResponse"/>
        </wsdl:operation>
    </wsdl:portType>
    <wsdl:binding name="UnitsSoapBinding" type="impl:PsoUnits">
        <wsdlsoap:binding style="rpc"
transport="http://schemas.xmlsoap.org/soap/http"/>
        <wsdl:operation name="getEdob">
            <wsdlsoap:operation soapAction=""/>
            <wsdl:input name="getEdobRequest">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:input>
<wsdl:output name="getEdobResponse">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="insertMaterial">
            <wsdlsoap:operation soapAction=""/>
            <wsdl:input name="insertMaterialRequest">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:input>
            <wsdl:output name="insertMaterialResponse">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="notifyEdobStatus">
            <wsdlsoap:operation soapAction=""/>
            <wsdl:input name="notifyEdobStatusRequest">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:input>
            <wsdl:output name="notifyEdobStatusResponse">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="notifyBatchStatus">
            <wsdlsoap:operation soapAction=""/>
            <wsdl:input name="notifyBatchStatusRequest">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:input>
            <wsdl:output name="notifyBatchStatusResponse">
                <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
            </wsdl:output>
```

```
        </wsdl:operation>
        <wsdl:operation name="notifyStatus">
<wsdlsoap:operation soapAction=""/>
          <wsdl:input name="notifyStatusRequest">
            <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="notifyStatusResponse">
            <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
          </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="getMaterial">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="getMaterialRequest">
            <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="getMaterialResponse">
            <wsdlsoap:body
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:pso:prestospace:org" use="encoded"/>
          </wsdl:output>
        </wsdl:operation>
    </wsdl:binding>
<wsdl:service name="PsoUnitsService">
      <wsdl:port binding="impl:UnitsSoapBinding" name="Units">
        <wsdlsoap:address location="http://pso.eurix.it:8080/pso/services/Units"/>
      </wsdl:port>
    </wsdl:service>
</wsdl:definitions>
```

EMS

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions targetNamespace="wsdl:mad:prestospace:org"
xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:apachesoap="http://xml.apache.org/xml-soap"
xmlns:impl="wsdl:mad:prestospace:org" xmlns:intf="wsdl:mad:prestospace:org"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsdlsoap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><wsdl:types><schema
targetNamespace="wsdl:mad:prestospace:org"
xmlns="http://www.w3.org/2001/XMLSchema"><import
namespace="http://schemas.xmlsoap.org/soap/encoding/"/><complexType
name="ArrayOf_xsd_string"><complexContent><restriction
base="soapenc:Array"><attribute ref="soapenc:arrayType"
wsdl:arrayType="xsd:string[]"/></restriction></complexContent></complexType></schem
a></wsdl:types>
  <wsdl:message name="getAllMaterialsRequest">
    <wsdl:part name="edobID" type="xsd:string"/>
    <wsdl:part name="bundle" type="xsd:int"/>
  </wsdl:message>
  <wsdl:message name="getMaterialRequest">
    <wsdl:part name="matUUID" type="xsd:string"/>
  </wsdl:message>
  <wsdl:message name="undoCheckOutResponse">
  </wsdl:message>
  <wsdl:message name="insertMaterialRequest">
    <wsdl:part name="mat" type="apachesoap:Document"/>
  </wsdl:message>
  <wsdl:message name="addFileResponse">
  </wsdl:message>
  <wsdl:message name="getMaterialResponse">
```

```
      <wsdl:part name="getMaterialReturn" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="insertMaterialResponse">
      <wsdl:part name="insertMaterialReturn" type="xsd:int"/>
    </wsdl:message>
    <wsdl:message name="getMaterialsByCriteriaResponse">
      <wsdl:part name="getMaterialsByCriteriaReturn" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="checkoutEDOBRequest">
      <wsdl:part name="edobUUID" type="xsd:string"/>
      <wsdl:part name="lockCode" type="xsd:int"/>
    </wsdl:message>
    <wsdl:message name="getAllMaterialsResponse">
      <wsdl:part name="getAllMaterialsReturn" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="getMaterialsByCriteriaRequest">
      <wsdl:part name="edobID" type="xsd:string"/>
      <wsdl:part name="criteria" type="xsd:string"/>
      <wsdl:part name="bundle" type="xsd:int"/>
    </wsdl:message>
    <wsdl:message name="checkInEDOBResponse">
      <wsdl:part name="checkInEDOBReturn" type="xsd:int"/>
    </wsdl:message>
    <wsdl:message name="getMaterialsResponse">
      <wsdl:part name="getMaterialsReturn" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="addFileRequest">
      <wsdl:part name="doc" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="checkoutEDOBResponse">
      <wsdl:part name="checkoutEDOBReturn" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="getMaterialsRequest">
      <wsdl:part name="UMID" type="impl:ArrayOf_xsd_string"/>
      <wsdl:part name="bundle" type="xsd:int"/>
    </wsdl:message>
    <wsdl:message name="checkInEDOBRequest">
      <wsdl:part name="EDOBDoc" type="apachesoap:Document"/>
    </wsdl:message>
    <wsdl:message name="undoCheckOutRequest">
      <wsdl:part name="edobID" type="xsd:string"/>
    </wsdl:message>
    <wsdl:portType name="EMSImpl">
      <wsdl:operation name="getMaterial" parameterOrder="matUUID">
        <wsdl:input message="impl:getMaterialRequest" name="getMaterialRequest"/>
        <wsdl:output message="impl:getMaterialResponse" name="getMaterialResponse"/>
      </wsdl:operation>
      <wsdl:operation name="addFile" parameterOrder="doc">
        <wsdl:input message="impl:addFileRequest" name="addFileRequest"/>
        <wsdl:output message="impl:addFileResponse" name="addFileResponse"/>
      </wsdl:operation>
      <wsdl:operation name="getMaterials" parameterOrder="UMID bundle">
        <wsdl:input message="impl:getMaterialsRequest" name="getMaterialsRequest"/>
        <wsdl:output message="impl:getMaterialsResponse"
name="getMaterialsResponse"/>
      </wsdl:operation>
      <wsdl:operation name="undoCheckOut" parameterOrder="edobID">
        <wsdl:input message="impl:undoCheckOutRequest" name="undoCheckOutRequest"/>
        <wsdl:output message="impl:undoCheckOutResponse"
name="undoCheckOutResponse"/>
      </wsdl:operation>
      <wsdl:operation name="insertMaterial" parameterOrder="mat">
        <wsdl:input message="impl:insertMaterialRequest"
name="insertMaterialRequest"/>
        <wsdl:output message="impl:insertMaterialResponse"
name="insertMaterialResponse"/>
      </wsdl:operation>
      <wsdl:operation name="checkInEDOB" parameterOrder="EDOBDoc">
        <wsdl:input message="impl:checkInEDOBRequest" name="checkInEDOBRequest"/>
        <wsdl:output message="impl:checkInEDOBResponse" name="checkInEDOBResponse"/>
      </wsdl:operation>
      <wsdl:operation name="checkoutEDOB" parameterOrder="edobUUID lockCode">
```

```
          <wsdl:input message="impl:checkoutEDOBRequest" name="checkoutEDOBRequest"/>
          <wsdl:output message="impl:checkoutEDOBResponse"
name="checkoutEDOBResponse"/>
      </wsdl:operation>
      <wsdl:operation name="getAllMaterials" parameterOrder="edobID bundle">
          <wsdl:input message="impl:getAllMaterialsRequest"
name="getAllMaterialsRequest"/>
          <wsdl:output message="impl:getAllMaterialsResponse"
name="getAllMaterialsResponse"/>
      </wsdl:operation>
      <wsdl:operation name="getMaterialsByCriteria" parameterOrder="edobID criteria
bundle">
          <wsdl:input message="impl:getMaterialsByCriteriaRequest"
name="getMaterialsByCriteriaRequest"/>
          <wsdl:output message="impl:getMaterialsByCriteriaResponse"
name="getMaterialsByCriteriaResponse"/>
      </wsdl:operation>
   </wsdl:portType>
   <wsdl:binding name="EMSSoapBinding" type="impl:EMSImpl">
      <wsdlsoap:binding style="rpc"
transport="http://schemas.xmlsoap.org/soap/http"/>
      <wsdl:operation name="getMaterial">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="getMaterialRequest">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="getMaterialResponse">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="addFile">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="addFileRequest">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="addFileResponse">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="getMaterials">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="getMaterialsRequest">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="getMaterialsResponse">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="undoCheckOut">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="undoCheckOutRequest">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="undoCheckOutResponse">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="insertMaterial">
          <wsdlsoap:operation soapAction=""/>
          <wsdl:input name="insertMaterialRequest">
            <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
          </wsdl:input>
          <wsdl:output name="insertMaterialResponse">
```

```
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="checkInEDOB">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="checkInEDOBRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="checkInEDOBResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="checkoutEDOB">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="checkoutEDOBRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="checkoutEDOBResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getAllMaterials">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getAllMaterialsRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getAllMaterialsResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="getMaterialsByCriteria">
      <wsdlsoap:operation soapAction=""/>
      <wsdl:input name="getMaterialsByCriteriaRequest">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:input>
      <wsdl:output name="getMaterialsByCriteriaResponse">
        <wsdlsoap:body encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
namespace="wsdl:mad:prestospace:org" use="encoded"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="EMSImplService">
    <wsdl:port binding="impl:EMSSoapBinding" name="EMS">
      <wsdlsoap:address
location="http://prestospace.eurix.it/prestospace/services/EMS"/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

prefactis

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:tns="http://www.reply.it/multimedia/PREFACTIS/"
```

```xml
xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
targetNamespace="http://www.reply.it/multimedia/PREFACTIS/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <s:schema elementFormDefault="qualified"
targetNamespace="http://www.reply.it/multimedia/PREFACTIS/">
      <s:element name="importBatch">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="batchXmlString"
type="s:string"/>
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="importBatchResponse">
        <s:complexType/>
      </s:element>
      <s:element name="importBatchFromFile">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="batchXmlFilePath"
type="s:string"/>
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="importBatchFromFileResponse">
        <s:complexType/>
      </s:element>
    </s:schema>
  </wsdl:types>
  <wsdl:message name="importBatchSoapIn">
    <wsdl:part name="parameters" element="tns:importBatch"/>
  </wsdl:message>
  <wsdl:message name="importBatchSoapOut">
    <wsdl:part name="parameters" element="tns:importBatchResponse"/>
  </wsdl:message>
  <wsdl:message name="importBatchFromFileSoapIn">
    <wsdl:part name="parameters" element="tns:importBatchFromFile"/>
  </wsdl:message>
  <wsdl:message name="importBatchFromFileSoapOut">
    <wsdl:part name="parameters" element="tns:importBatchFromFileResponse"/>
  </wsdl:message>
  <wsdl:portType name="PREFACTISWebServiceSoap">
    <wsdl:operation name="importBatch">
      <wsdl:input message="tns:importBatchSoapIn"/>
      <wsdl:output message="tns:importBatchSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="importBatchFromFile">
      <wsdl:input message="tns:importBatchFromFileSoapIn"/>
      <wsdl:output message="tns:importBatchFromFileSoapOut"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="PREFACTISWebServiceSoap" type="tns:PREFACTISWebServiceSoap">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="importBatch">
      <soap:operation
soapAction="http://www.reply.it/multimedia/PREFACTIS/importBatch"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="importBatchFromFile">
      <soap:operation
soapAction="http://www.reply.it/multimedia/PREFACTIS/importBatchFromFile"
style="document"/>
      <wsdl:input>
```

```
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding name="PREFACTISWebServiceSoap12"
type="tns:PREFACTISWebServiceSoap">
      <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
      <wsdl:operation name="importBatch">
        <soap12:operation
soapAction="http://www.reply.it/multimedia/PREFACTIS/importBatch"
style="document"/>
        <wsdl:input>
          <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap12:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="importBatchFromFile">
        <soap12:operation
soapAction="http://www.reply.it/multimedia/PREFACTIS/importBatchFromFile"
style="document"/>
        <wsdl:input>
          <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap12:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="PREFACTISWebService">
      <wsdl:port name="PREFACTISWebServiceSoap"
binding="tns:PREFACTISWebServiceSoap">
      <soap:address
location="http://localhost:1518/PREFACTISWebService/PREFACTISWebService.asmx"/>
      </wsdl:port>
      <wsdl:port name="PREFACTISWebServiceSoap12"
binding="tns:PREFACTISWebServiceSoap12">
      <soap12:address
location="http://localhost:1518/PREFACTISWebService/PREFACTISWebService.asmx"/>
      </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```