SunGuide^{SM}:

Inventory Maintenance System Interface Control Document

SunGuide-IMS-ICD-6.2

Prepared for:

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List of Acronyms

ATMS	Advanced Traffic Management System
DMS	Dynamic Message Sign
DOT	Department of Transportation
FDOT	Florida Department of Transportation
IM	Incident Management
IMS	Inventory Maintenance System
ITS	Intelligent Transportation Systems
ITN	Invitation to Negotiate
SB	Safety Barrier
SwRI	Southwest Research Institute
TMC	Traffic Management Center
VS	Video Switching
VW	Video Wall
XML	Extensible Markup Language

REVISION HISTORY

Revision	Date	Changes
1.0.0	July 5, 2005	Initial Release
6.2	March 15, 2016	Updates for version 6.2

1. Scope

1.1 Document Identification

This Interface Control Document (ICD) describes the interface between individual SunGuide clients and the Inventory Maintenance System (IMS) subsystem and between the IMS subsystem and the clients. The general base architecture of the XML communications including connection information, byte order and base transaction classes is delineated in the general ICD. This ICD defines Extensible Markup Language (XML) schemas upon which XML requests shall be based in communicating amongst the various processes. Refer to the SunGuide-General-ICD-6.2 document for details regarding data transfer.

1.2 Project Overview

The Florida Department of Transportation (FDOT) is conducting a program that is developing SunGuide software. The SunGuide software is a set of Intelligent Transportation System (ITS) software that allows the control of roadway devices as well as information exchange across a variety of transportation agencies. The goal of the SunGuide software is to have a common software base that can be deployed throughout the state of Florida. The SunGuide software development effort is based on ITS software available from the state of Texas; significant customization of the software is being performed as well as the development of new software modules. The following figure provides a graphical view of the software to be developed:
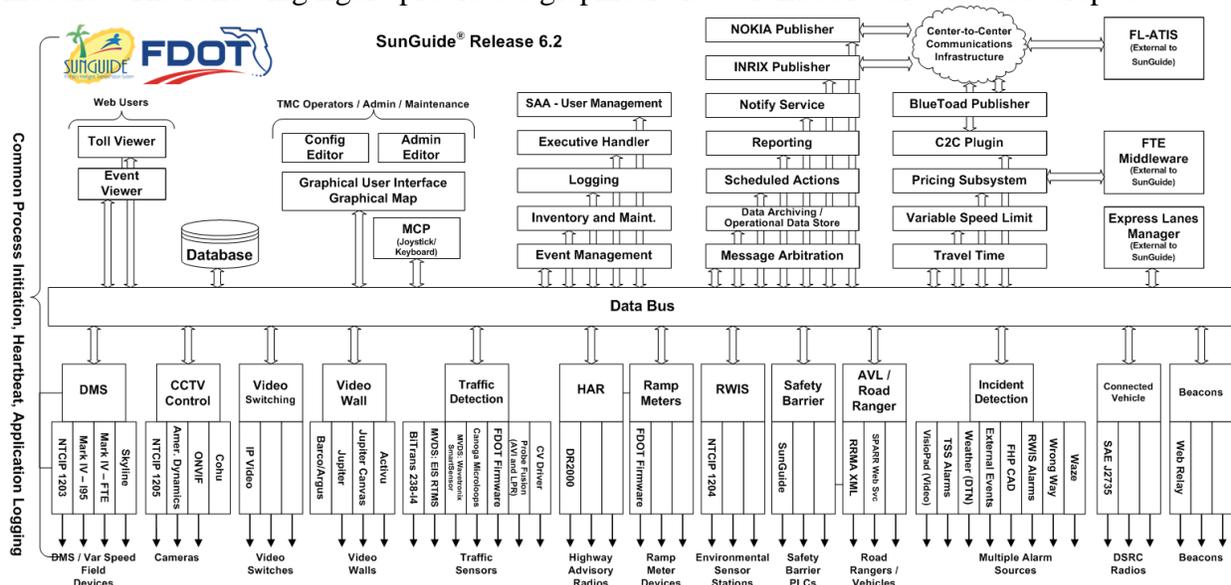
Figure 1.1 - High-Level Architectural Concept

1.3 Related Documents

The following documents were used to develop this document:

- FDOT Scope of Services: *BDQ69, Standard Written Agreement for SunGuide Software Support, Maintenance, and Development, Exhibit A: Scope of Services.* July 1, 2010.

- Notice to Proceed: Letter to Southwest Research Institute® (SwRI®) for BDQ69, July 1, 2010.

- SunGuide Project website: http://sunguidesoftware.com.

1.4 Contacts

The following are contact persons for the SunGuide software project:
- Fred Heery, ITS Section, Traffic Engineering and Operations Office Central Office, fred.heery@dot.state.fl.us, 850-410-5606
- Derek Vollmer, ITS Section, Traffic Engineering and Operations Office Central Office, Derek.Vollmer@dot.state.fl.us, 850-410-5615
- Clay Packard, Atkins Project Manager, clay.packard@dot.state.fl.us, 850-410-5623
- David Chang, Atkins Project Advisor, david.chang@dot.state.fl.us, 850-410-5622
- Tucker Brown, SwRI Project Manager, tbrown@swri.com, 210-522-3035
- Roger Strain, SwRI Software Project Manager, rstrain@swri.org, 210-522-6295

2. Data

The following sections detail the XML transactions that can be exchanged between client and server applications.

2.1 Schema

The schemas for these transactions may be located in the Schemas1.0 directory. The objects directory contains common data schemas that are used by the various requests, messages, and responses. Schemas are organized in the following tree structure:

- messages
- objects
  - equip.xsd
  - equipStatus.xsd
  - imsLocation.xsd
  - imsStatusEntry.xsd
  - vendor.xsd
- requests
  - addEquipReq.xsd
  - addHistoryLogEntryReq.xsd
  - addLocationReq.xsd
  - addVendorReq.xsd
  - associateEquipReq.xsd
  - deleteEquipReq.xsd
  - deleteLocationReq.xsd
  - deleteVendorReq.xsd
  - getEquipHistoryReq.xsd
  - modifyEquipReq.xsd
  - modifyLocationReq.xsd
  - modifyVendorReq.xsd
  - retrieveDataReq.xsd
  - setLocationReq.xsd
  - setRepairStatusReq.xsd
  - subscribeReq.xsd
- responses
  - addEquipResp.xsd
  - addHistoryLogEntryResp.xsd
  - addLocationResp.xsd
  - addVendorResp.xsd
  - associateEquipResp.xsd
  - deleteEquipResp.xsd
  - deleteLocationResp.xsd
  - deleteVendorResp.xsd
  - getEquipHistoryResp.xsd
  - modifyEquipResp.xsd
  - modifyLocationResp.xsd
  - modifyVendorResp.xsd
  - retrieveDataResp.xsd
  - setLocationResp.xsd

- o setRepairStatusResp.xsd
- o subscribeResp.xsd

- ○ setRepairStatusResp.xsd
- ○ subscribeResp.xsd

Requests may be sent from a client to a subsystem or from a subsystem to a driver. Responses may be sent from a driver to a subsystem or a subsystem to a client. A message can be sent from any process to another process.

2.1.1 Subsystem communication

Initial communication to a subsystem is described in the general ICD. For IMS, the list of equipment, vendors and locations in the system is retrieved from the database on startup. Once a client has initiated the connection to IMS, the following requests may be made:

- Equipment, vendors and locations may be added, modified or deleted,
- The status of a equipment may be modified,
- Log entries may be added for equipment, or
- A list of devices may be retrieved.

The following table shows the various subscriptions a client may request. The last column shows the XML updates that will be received if a client has subscribed to this data.

Subscription	Description	Updates Received
equipData	Receive notification for new or modified equipment, deleted equipment.	addEquipResp, modifyEquipResp, deleteEquipResp
vendorData	Receive notification for new or modified vendors, deleted vendors.	addVendorResp, modifyVendorResp, deleteVendorResp
locationData	Receive notification for new or modified locations, deleted locations.	addLocationResp, modifyLocationResp, deleteLocationResp
userData	Receive notification that user permissions have been modified.	updateSystemDataMsg
changeStatus	Receive notification that status has changed for a piece of equipment.	addHistoryLogEntryResp, associateEquipResp, modifyLocationResp, setLocationResp, setRepairStatusResp

2.1.2 Device subsystem communication

There are no device drivers for this subsystem.

2.2 Examples

For example, if a client wishes to add a piece of equipment to the system, the client sends an addEquipReq to the subsystem. Once the subsystem has verified this is a new piece of equipment, the equipment is added to the database. The subsystem then sends a response back to the appropriate client and to clients who have subscribed to equipment data.
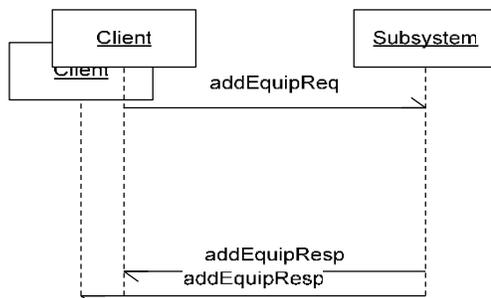
Figure 2.1 - Sample Transaction

The tables below show which requests can be sent from client to subsystem. Requests and responses that are sent to and received from other subsystems for device control will depend upon the other subsystems. The responses sent from subsystem to client are also specified. Messages are sent instead of requests when a response is not required.

2.3 Subsystem Schemas

FC (From client),TC (To client)

Usage Description	Requests	FC	Responses	TC	Messages	TC
Used to add a new piece of equipment to the system.	addEquipReq	X	addEquipResp	X		
Used to add a log entry to the history for this piece of equipment.	addHistoryLogEntryReq	X	addHistoryLogEntryResp	X		
Used to add a new location to the system.	addLocationReq	X	addLocationResp	X		
Used to add a new vendor to the system.	addVendorReq	X	addVendorResp	X		
Used to associate an inventory item with equipment.	associateEquipReq	X	associateEquipResp	X		
Used to delete a piece of equipment from the system.	deleteEquipReq	X	deleteEquipResp	X		
Used to delete a location from the system.	deleteLocationReq	X	deleteLocationResp	X		
Used to delete a vendor from the system.	deleteVendorReq	X	deleteVendorResp	X		
Used to get the history for a piece of equipment.	getEquipHistoryReq	X	getEquipHistoryResp	X		

Usage Description	Requests	FC	Responses	TC	Messages	TC
Used to modify an existing piece of equipment.	modifyEquipReq	X	modifyEquipResp	X		
Used to modify an existing location.	modifyLocationReq	X	modifyLocationResp	X		
Used to modify an existing vendor.	modifyVendorReq	X	modifyVendorResp	X		
Used to retrieve the system's data. Data includes equipment, vendors, locations and users.	retrieveDataReq	X	retrieveDataResp	X		
Used to set the location for a piece of equipment.	setLocationReq	X	setLocationResp	X		
Used to set the repair status of a piece of equipment.	setRepairStatusReq	X	setRepairStatusResp	X		
Used to subscribe to updates from the system. Data includes equipment, locations, vendors and users.	subscribeReq	X	subscribeResp	X		

2.4 Driver Schemas

No drivers exist for IMS.

3. Notes

Information about XML and schemas can be found at the World Wide Web Consortium (W3) website at http://www.w3.org.

Attachment 1

IMS XML Schema

A.1   equip.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:element name="equip">
                <xs:annotation>
                        <xs:documentation>Inventory equipment item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:sequence>
                                <xs:element ref="equipId" minOccurs="0"/>
                                <xs:element name="resourceType" type="xs:string">
                                        <xs:annotation>
                                                <xs:documentation>Type of resource for this
equipment (i.e., cctv, detector).</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element name="equipName" minOccurs="0">
                                        <xs:annotation>
                                                <xs:documentation>The equipment name from the
associated device table, if one exists for this piece of equipment.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element name="mfr" type="xs:string">
                                        <xs:annotation>
                                                <xs:documentation>Name of the manufacturer for
this equipment.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element name="serialNumber" type="xs:string">
                                        <xs:annotation>
                                                <xs:documentation>The serial number for this
equipment.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element name="firmwareVersion" type="xs:string">
                                        <xs:annotation>
                                                <xs:documentation>The firmware version currently
running in this equipment.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element name="locationName" type="xs:string"
minOccurs="0">
                                        <xs:annotation>
```

```
                                        <xs:documentation>Name of the location where
this equipment resides.  </xs:documentation>
                                </xs:annotation>
                        </xs:element>
                        <xs:element name="model" type="xs:string">
                                <xs:annotation>
                                        <xs:documentation>Model number or name for this
equipment.</xs:documentation>
                                </xs:annotation>
                        </xs:element>
                        <xs:element name="vendorName" type="xs:string">
                                <xs:annotation>
                                        <xs:documentation>Name of the vendor who
supplied this equipment.</xs:documentation>
                                </xs:annotation>
                        </xs:element>
                        <xs:element name="installDate" type="xs:date" minOccurs="0">
                                <xs:annotation>
                                        <xs:documentation>Date this equipment was
installed in the field.</xs:documentation>
                                </xs:annotation>
                        </xs:element>
                </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="equipId" type="xs:long">
            <xs:annotation>
                    <xs:documentation>This is the database primary key. It is not used on an
add request, but will be returned in a response.</xs:documentation>
            </xs:annotation>
    </xs:element>
</xs:schema>
```

A.2   imsLocation.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/equipmentLocation.xsd"/>
        <xs:element name="imsLocation">
                <xs:annotation>
                        <xs:documentation>Location for an inventory item. May be a warehouse,
repair depot, etc.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="LocationType">
                                        <xs:sequence>
                                                <xs:element ref="locationName" minOccurs="0"/>
                                                <xs:element name="locationType">
                                                        <xs:annotation>
                                                                <xs:documentation>The type of
location: warehouse, repair shop, installed, other.</xs:documentation>
                                                        </xs:annotation>
                                                        <xs:simpleType>
                                                                <xs:restriction base="xs:string">
                                                                        <xs:enumeration
value="warehouse"/>
                                                                        <xs:enumeration
value="repair shop"/>
                                                                        <xs:enumeration
value="install site"/>
                                                                        <xs:enumeration
value="other"/>
                                                                </xs:restriction>
                                                        </xs:simpleType>
                                                </xs:element>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:element name="locationName" type="xs:string">
                <xs:annotation>
                        <xs:documentation>Name of this location.</xs:documentation>
                </xs:annotation>
        </xs:element>
</xs:schema>
```

A.3 imsStatusEntry.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="equip.xsd"/>
        <xs:element name="imsStatusEntry">
                <xs:annotation>
                        <xs:documentation>Status event for inventory
maintenance.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:sequence>
                                <xs:element name="eventDate" type="xs:date">
                                        <xs:annotation>
                                                <xs:documentation>The date for this
entry.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element ref="equipId"/>
                                <xs:element ref="equipStatus"/>
                                <xs:element ref="repairStatus" minOccurs="0"/>
                                <xs:element name="workOrder" type="xs:string" minOccurs="0">
                                        <xs:annotation>
                                                <xs:documentation>The work order associated with
this log entry.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                                <xs:element name="logEntry">
                                        <xs:annotation>
                                                <xs:documentation>An entry for this logged event.
Information can include repair details, technician anme, parts, etc.</xs:documentation>
                                        </xs:annotation>
                                        <xs:simpleType>
                                                <xs:restriction base="xs:string">
                                                        <xs:maxLength value="400"/>
                                                </xs:restriction>
                                        </xs:simpleType>
                                </xs:element>
                        </xs:sequence>
                </xs:complexType>
        </xs:element>
        <xs:element name="equipStatus">
                <xs:annotation>
```

```
                        <xs:documentation>The current location status of the
equipment.</xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                        <xs:restriction base="xs:string">
                                <xs:enumeration value="In inventory"/>
                                <xs:enumeration value="Installed"/>
                                <xs:enumeration value="In repair/test"/>
                        </xs:restriction>
                </xs:simpleType>
        </xs:element>
        <xs:element name="repairStatus">
                <xs:annotation>
                        <xs:documentation>The current repair status of the
equipment.</xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                        <xs:restriction base="xs:string">
                                <xs:enumeration value="In inventory"/>
                                <xs:enumeration value="In testing at depot"/>
                                <xs:enumeration value="Installed at site"/>
                                <xs:enumeration value="In testing at site"/>
                                <xs:enumeration value="Failed at site"/>
                                <xs:enumeration value="At repair depot"/>
                                <xs:enumeration value="In repair at depot"/>
                        </xs:restriction>
                </xs:simpleType>
        </xs:element>
</xs:schema>
```

A.4   vendor.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:element name="vendor">
                <xs:annotation>
                        <xs:documentation>Information about an equipment
vendor</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:sequence>
                                <xs:element ref="vendorName"/>
                                <xs:element ref="contact" maxOccurs="unbounded"/>
                                <xs:element name="webUrl" type="xs:string" minOccurs="0">
                                        <xs:annotation>
                                                <xs:documentation>The web address for
purchasing from this vendor.</xs:documentation>
                                        </xs:annotation>
                                </xs:element>
                        </xs:sequence>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="AddressType">
                <xs:annotation>
                        <xs:documentation>A type which contains address
information.</xs:documentation>
                </xs:annotation>
                <xs:sequence>
                        <xs:element name="address1" type="xs:string"/>
                        <xs:element name="address2" type="xs:string" minOccurs="0"/>
                        <xs:element name="city" type="xs:string"/>
                        <xs:element name="stateOrProvince" type="xs:string"/>
                        <xs:element name="country" type="xs:string"/>
                        <xs:element name="postalCode" type="xs:string"/>
                </xs:sequence>
        </xs:complexType>
        <xs:element name="contact">
                <xs:annotation>
                        <xs:documentation>Contacts for this vendor.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:sequence>
                                <xs:element name="name" type="xs:string" minOccurs="0"/>
                                <xs:element name="email" type="xs:string" minOccurs="0"/>
```

```xml
                            <xs:element name="telephone" type="xs:string" minOccurs="0"/>
                            <xs:element name="fax" type="xs:string" minOccurs="0"/>
                            <xs:element name="address" type="AddressType"
minOccurs="0">
                                    <xs:annotation>
                                            <xs:documentation>The address for this
contact.</xs:documentation>
                                    </xs:annotation>
                            </xs:element>
                            <xs:element name="equipType" type="xs:string" minOccurs="0"
maxOccurs="unbounded">
                                    <xs:annotation>
                                            <xs:documentation>Type of equipment for which
this contact may be reached.</xs:documentation>
                                    </xs:annotation>
                            </xs:element>
                    </xs:sequence>
            </xs:complexType>
      </xs:element>
      <xs:element name="vendorName" type="xs:string"/>
</xs:schema>
```

A.5   addEquipReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="addEquipReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to add a new inventory
item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="equip"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.6   addHistoryLogEntryReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:element name="addHistoryLogEntryReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to get the history of a
particular equipment item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="imsStatusEntry"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.7   addLocationReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="addLocationReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to add a new
location.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="imsLocation"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.8   addVendorReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/vendor.xsd"/>
        <xs:element name="addVendorReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to add a new
vendor.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="vendor"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.9   associateEquipReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:element name="associateEquipReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to associate a particular
equipment to an inventory item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="equipId"/>
                                                <xs:element name="resourceTable"
type="xs:string">
                                                        <xs:annotation>
                                                                <xs:documentation>The table where
the resource item is located.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="resourceTblRefCol"
type="xs:string">
                                                        <xs:annotation>
                                                                <xs:documentation>The name of the
reference column for the resource table.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="resourceTblRefId"
type="xs:string">
                                                        <xs:annotation>
                                                                <xs:documentation>The resource id
of the item in the resource table.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.10   deleteEquipReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="deleteEquipReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to delete an inventory
item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="equipId" minOccurs="0"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.11 deleteLocationReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="deleteLocationReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to delete a
location.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="locationName" minOccurs="0"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.12   deleteVendorReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
       <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
       <xs:include schemaLocation="../objects/vendor.xsd"/>
       <xs:element name="deleteVendorReq">
             <xs:annotation>
                    <xs:documentation>A request sent by client to delete a
vendor.</xs:documentation>
             </xs:annotation>
             <xs:complexType>
                    <xs:complexContent>
                           <xs:extension base="RequestType">
                                  <xs:sequence>
                                         <xs:element ref="vendorName"/>
                                  </xs:sequence>
                           </xs:extension>
                    </xs:complexContent>
             </xs:complexType>
       </xs:element>
</xs:schema>
```

A.13 getEquipHistoryReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="getEquipHistoryReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to get the history of a
particular equipment item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="equipId"/>
                                                <xs:element name="workOrder" type="xs:string"
minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>The work order
for which to retrieve the history. If no work order is specified, all history for this item is
retrieved.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="fromDate" type="xs:date"
minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>The date from
which informaiton is desired. If not specified, will retrieve information from as early as
exists.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="toDate" type="xs:date"
minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>The date until
which the finformation is desired. If not specified, today's date will be
used.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
```

```
        </xs:element>
</xs:schema>
```

A.14   modifyEquipReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="modifyEquipReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to modify an inventory
item.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="equip"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.15 modifyLocationReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="modifyLocationReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to modify a
location.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="imsLocation"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.16   modifyVendorReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/vendor.xsd"/>
        <xs:element name="modifyVendorReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to modify a
vendor.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="vendor"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.17   retrieveDataReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:element name="retrieveDataReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to retrieve data from the
system</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element name="equipData" type="xs:boolean"
minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>Retrieve a list of
inventory equipment from the system</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="vendorData"
type="xs:boolean" minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>Retrieve a list of
vendors from the system.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="locationData"
type="xs:boolean" minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>Retrieve a list of
locations from the system.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element name="userData" type="xs:boolean"
minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>List of users in
the system. If requestor does not have permission for retrieving users, the user's own data will be
returned.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
```

```
                                        <xs:element name="statusList" type="xs:boolean"
minOccurs="0">
                                            <xs:annotation>
                                                <xs:documentation>Retrieve status
data for the system consisting of an id and a status object.</xs:documentation>
                                            </xs:annotation>
                                        </xs:element>
                                    </xs:sequence>
                                </xs:extension>
                            </xs:complexContent>
                        </xs:complexType>
                    </xs:element>
                </xs:schema>
```

A.18 setLocationReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="setLocationReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to set the location of a piece
of inventory equipment.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element name="eventDate" type="xs:date">
                                                        <xs:annotation>
                                                                <xs:documentation>The date for this
entry.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                                <xs:element ref="equipId"/>
                                                <xs:choice>
                                                        <xs:element ref="locationName"/>
                                                        <xs:element ref="imsLocation"/>
                                                </xs:choice>
                                                <xs:element name="workOrder" type="xs:string"
minOccurs="0">
                                                        <xs:annotation>
                                                                <xs:documentation>The work order
associated with this log entry.</xs:documentation>
                                                        </xs:annotation>
                                                </xs:element>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.19 setRepairStatusReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="setRepairStatusReq">
                <xs:annotation>
                        <xs:documentation>A request sent by client to set the repair status of a
piece of inventory equipment.</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="RequestType">
                                        <xs:sequence>
                                                <xs:element ref="imsStatusEntry"/>
                                                <xs:element ref="locationName" minOccurs="0"/>
                                        </xs:sequence>
                                </xs:extension>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
</xs:schema>
```

A.20 subscribeReq.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
       <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
       <xs:element name="subscribeReq">
               <xs:annotation>
                       <xs:documentation>A request sent by client to subscribe to data updates
from the system</xs:documentation>
               </xs:annotation>
               <xs:complexType>
                       <xs:complexContent>
                               <xs:extension base="RequestType">
                                       <xs:sequence>
                                               <xs:element name="equipData" type="xs:boolean"
default="false" minOccurs="0">
                                                       <xs:annotation>
                                                               <xs:documentation>Data updates for
configuring inventory items (add, modify, delete).</xs:documentation>
                                                       </xs:annotation>
                                               </xs:element>
                                               <xs:element name="vendorData"
type="xs:boolean" default="false" minOccurs="0">
                                                       <xs:annotation>
                                                               <xs:documentation>Data updates for
vendor modifications.</xs:documentation>
                                                       </xs:annotation>
                                               </xs:element>
                                               <xs:element name="locationData"
type="xs:boolean" default="false" minOccurs="0">
                                                       <xs:annotation>
                                                               <xs:documentation>Data updates for
locaiton modifications.</xs:documentation>
                                                       </xs:annotation>
                                               </xs:element>
                                               <xs:element name="userData" type="xs:boolean"
default="false" minOccurs="0">
                                                       <xs:annotation>
                                                               <xs:documentation>Data updates
when user permissions are modified.</xs:documentation>
                                                       </xs:annotation>
                                               </xs:element>
                                               <xs:element name="changeStatus"
type="xs:boolean" default="false" minOccurs="0">
```

```
                                                <xs:annotation>
                                                    <xs:documentation>Data updates
when equipment status is modified</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
                                    </xs:sequence>
                                </xs:extension>
                            </xs:complexContent>
                    </xs:complexType>
                </xs:element>
</xs:schema>
```

A.21   addEquipResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="addEquipResp">
                <xs:annotation>
                        <xs:documentation>Response received for an add equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="equipData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for an add equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="equip"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.22 addHistoryLogEntryResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:element name="addHistoryLogEntryResp">
                <xs:annotation>
                        <xs:documentation>Response received for a get equipment history
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="historyData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a get equipment history
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="imsStatusEntry" minOccurs="0"
maxOccurs="unbounded"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.23   addLocationResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="addLocationResp">
                <xs:annotation>
                        <xs:documentation>Response received for an add
locationrequest</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="locationData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for an add location
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="imsLocation"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.24   addVendorResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/vendor.xsd"/>
        <xs:element name="addVendorResp">
                <xs:annotation>
                        <xs:documentation>Response received for an add vendor
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="vendorData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for an add vendor
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="vendor"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.25   associateEquipResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="associateEquipResp">
                <xs:annotation>
                        <xs:documentation>Response received for an add equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="equipData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for an add equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="equipId"/>
                                        <xs:element name="resourceTable" type="xs:string">
                                                <xs:annotation>
                                                        <xs:documentation>The table where the
resource item is located.</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
                                        <xs:element name="resourceTblRefCol" type="xs:string">
                                                <xs:annotation>
                                                        <xs:documentation>The name of the
reference column for the resource table.</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
                                        <xs:element name="resourceTblRefId" type="xs:string">
                                                <xs:annotation>
                                                        <xs:documentation>The resource id of the
item in the resource table.</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
```

```
                    </xs:sequence>
                </xs:extension>
            </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.26 deleteEquipResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="deleteEquipResp">
                <xs:annotation>
                        <xs:documentation>Response received for a delete equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="equipData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a delete equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="equipId"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.27   deleteLocationResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="deleteLocationResp">
                <xs:annotation>
                        <xs:documentation>Response received for a delete location
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="locationData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a delete location
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="locationName"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.28   deleteVendorResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/vendor.xsd"/>
        <xs:element name="deleteVendorResp">
                <xs:annotation>
                        <xs:documentation>Response received for a delete vendor
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="vendorData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a delete
vendorrequest</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="vendorName"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.29   getEquipHistoryResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:element name="getEquipHistoryResp">
                <xs:annotation>
                        <xs:documentation>Response received for a get equipment history
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="equipHistoryData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a get equipment history
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="imsStatusEntry" minOccurs="0"
maxOccurs="unbounded"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.30   modifyEquipResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:element name="modifyEquipResp">
                <xs:annotation>
                        <xs:documentation>Response received for a modify equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="equipData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a modify equipment
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="equip"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.31 modifyLocationResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="modifyLocationResp">
                <xs:annotation>
                        <xs:documentation>Response received for a modify location
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="locationData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a modify location
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="imsLocation"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.32 modifyVendorResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:include schemaLocation="../objects/vendor.xsd"/>
        <xs:element name="modifyVendorResp">
                <xs:annotation>
                        <xs:documentation>Response received for a modify vendor
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="vendorData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a modify vendor
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="vendor"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.33   retrieveDataResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:include schemaLocation="../objects/equip.xsd"/>
        <xs:include schemaLocation="../objects/vendor.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="retrieveDataResp">
                <xs:annotation>
                        <xs:documentation>Response received for a retrieve data
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="retrieveData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a retrieve data
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element name="equipData" minOccurs="0">
                                                <xs:annotation>
                                                        <xs:documentation>A list containing one or
more inventory equipment items.</xs:documentation>
                                                </xs:annotation>
                                                <xs:complexType>
                                                        <xs:sequence>
                                                                <xs:element ref="equip"
minOccurs="0" maxOccurs="unbounded"/>
                                                        </xs:sequence>
                                                </xs:complexType>
                                        </xs:element>
                                        <xs:element name="vendorData" minOccurs="0">
                                                <xs:annotation>
                                                        <xs:documentation>A list containing one or
more vendors.</xs:documentation>
```

```
                            </xs:annotation>
                            <xs:complexType>
                                    <xs:sequence>
                                            <xs:element ref="vendor"
minOccurs="0" maxOccurs="unbounded"/>
                                    </xs:sequence>
                            </xs:complexType>
                    </xs:element>
                    <xs:element name="locationData" minOccurs="0">
                            <xs:annotation>
                                    <xs:documentation>A list containing one or
more locations.</xs:documentation>
                            </xs:annotation>
                            <xs:complexType>
                                    <xs:sequence>
                                            <xs:element ref="imsLocation"
minOccurs="0" maxOccurs="unbounded"/>
                                    </xs:sequence>
                            </xs:complexType>
                    </xs:element>
                    <xs:element name="userList" minOccurs="0">
                            <xs:annotation>
                                    <xs:documentation>List of users in the
system. If requestor does not have permission for retrieving users, the user's own data will be
returned.</xs:documentation>
                            </xs:annotation>
                            <xs:complexType>
                                    <xs:sequence>
                                            <xs:element name="user"
minOccurs="0" maxOccurs="unbounded">
                                                    <xs:annotation>
                                                            <xs:documentation>A
user within the system and their associated privileges</xs:documentation>
                                                    </xs:annotation>
                                                    <xs:complexType>
                                                            <xs:sequence>
                                                                    <xs:element
name="privileges">

        <xs:annotation>

        <xs:documentation>Contains attributes for the delineated system
privileges</xs:documentation>

        </xs:annotation>
```

```
<xs:complexType>

<xs:attribute name="equipData" type="xs:boolean" use="required"/>

<xs:attribute name="vendorData" type="xs:boolean" use="required"/>

<xs:attribute name="locationData" type="xs:boolean" use="required"/>

<xs:attribute name="userData" type="xs:boolean" use="required"/>

<xs:attribute name="changeStatus" type="xs:boolean" use="required"/>

<xs:attribute name="configEquip" type="xs:boolean" use="required"/>

<xs:attribute name="configVendor" type="xs:boolean" use="required"/>

<xs:attribute name="configLocation" type="xs:boolean" use="required"/>

<xs:attribute name="getHistory" type="xs:boolean" use="required"/>

</xs:complexType>
                                                        </xs:element>
                                                    </xs:sequence>
                                                    <xs:attribute
name="name" type="identifier" use="required"/>
                                                </xs:complexType>
                                            </xs:element>
                                        </xs:sequence>
                                    </xs:complexType>
                                </xs:element>
                                <xs:element name="statusList" minOccurs="0">
                                    <xs:annotation>
                                        <xs:documentation>The empty status list is
for data bus purposes only.</xs:documentation>
                                    </xs:annotation>
                                    <xs:complexType/>
                                </xs:element>
                            </xs:sequence>
                        </xs:extension>
                    </xs:complexContent>
                </xs:complexType>
</xs:schema>
```

A.34   setLocationResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="setLocationResp">
                <xs:annotation>
                        <xs:documentation>Response received for a set repair status
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="setLocationData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a set location
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element name="eventDate" type="xs:date">
                                                <xs:annotation>
                                                        <xs:documentation>The date for this
entry.</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
                                        <xs:element ref="equipId"/>
                                        <xs:choice>
                                                <xs:element ref="locationName"/>
                                                <xs:element ref="imsLocation"/>
                                        </xs:choice>
                                        <xs:element name="workOrder" type="xs:string"
minOccurs="0">
                                                <xs:annotation>
                                                        <xs:documentation>The work order
associated with this log entry.</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
```

```
                            </xs:sequence>
                        </xs:extension>
                    </xs:complexContent>
            </xs:complexType>
    </xs:schema>
```

A.35   setRepairStatusResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../objects/imsStatusEntry.xsd"/>
        <xs:include schemaLocation="../objects/imsLocation.xsd"/>
        <xs:element name="setRepairStatusResp">
                <xs:annotation>
                        <xs:documentation>Response received for a set repair status
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="repairStatusData" abstract="0">
                <xs:annotation>
                        <xs:documentation>The response data for a set repair status
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element ref="imsStatusEntry" minOccurs="0"
maxOccurs="unbounded"/>
                                        <xs:element ref="locationName"/>
                                </xs:sequence>
                        </xs:extension>
                </xs:complexContent>
        </xs:complexType>
</xs:schema>
```

A.36   subscribeResp.xsd

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">
        <xs:include schemaLocation="../../common/objects/transaction.xsd"/>
        <xs:include schemaLocation="../../common/objects/common.xsd"/>
        <xs:element name="subscribeResp">
                <xs:annotation>
                        <xs:documentation>Response received for a subscribe
request</xs:documentation>
                </xs:annotation>
                <xs:complexType>
                        <xs:complexContent>
                                <xs:extension base="ResponseType"/>
                        </xs:complexContent>
                </xs:complexType>
        </xs:element>
        <xs:complexType name="subscribeData">
                <xs:annotation>
                        <xs:documentation>The response data for a subscribe
request</xs:documentation>
                </xs:annotation>
                <xs:complexContent>
                        <xs:extension base="responseData">
                                <xs:sequence>
                                        <xs:element name="equipData" type="xs:boolean"
default="false" minOccurs="0">
                                                <xs:annotation>
                                                        <xs:documentation>Data updates for
configuring inventory items (add, modify, delete).</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
                                        <xs:element name="vendorData" type="xs:boolean"
default="false" minOccurs="0">
                                                <xs:annotation>
                                                        <xs:documentation>Data updates for vendor
modifications.</xs:documentation>
                                                </xs:annotation>
                                        </xs:element>
                                        <xs:element name="locationData" type="xs:boolean"
default="false" minOccurs="0">
                                                <xs:annotation>
                                                        <xs:documentation>Data updates for
locaiton modifications.</xs:documentation>
```

```
                                            </xs:annotation>
                                        </xs:element>
                                        <xs:element name="userData" type="xs:boolean"
default="false" minOccurs="0">
                                            <xs:annotation>
                                                <xs:documentation>Data updates when user
permissions are modified.</xs:documentation>
                                            </xs:annotation>
                                        </xs:element>
                                        <xs:element name="changeStatus" type="xs:boolean"
default="false" minOccurs="0">
                                            <xs:annotation>
                                                <xs:documentation>Data updates when
equipment status is modified</xs:documentation>
                                            </xs:annotation>
                                        </xs:element>
                                    </xs:sequence>
                                </xs:extension>
                            </xs:complexContent>
                        </xs:complexType>
                    </xs:schema>
```