National Aeronautics and Space Administration

NASA Enterprise Architecture Repository (NEAR): Interface Definition Specification

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Approved By:

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Date

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Interface Agreement Specification
Document Change Record

Date of Change	Sections(s) Affected	Brief Description of Change	Change Made By	Organization

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1 Introduction

This document establishes the Interface Definition Specification (IDS) for interfacing between the NASA Enterprise Architecture Repository (NEAR) (aka source system) and other IT systems (aka target systems). Examples of systems that interface with NEAR are service support systems and investment management systems.

The interface supports the exchange of information between NEAR and other systems through web services (aka services) and XML files. This document defines the data mapping requirements, business rules, and validation rules between the source and target systems.

2 Purpose

The purpose of this interface specification is to describe the requisite dialog for accomplishing data exchange between the NEAR data store and other target systems. This specification also defines the specific technical requirements for integration of data elements, functional execution, error handling, business rules validation and the roles and responsibilities of the NEAR team and interfacing organizations representatives. This is the baseline specification to be implemented by the NEAR team.

3 Roles and Responsibilities

This section outlines high level roles and responsibilities of the NEAR team and representatives from interfacing organizations.

This list is current as of the document publication date.

The NEAR team will be responsible for:

- Delivering service layer abstraction in accordance with the specifications in this document
- Providing a Point-of-Contact (POC) to resolve technical and operational issues
- Providing assistance in resolving data specification discrepancies
- Providing configuration management control of NEAR
- Approving modifications to this IDS
- Establishing a unique drop zone with appropriate access controls for file placement (where applicable)
- Establishing naming convention for file exchanges (where applicable)
- Establishing data archival and backup policies
- Establishing re-run procedures including full refresh

The representatives of interfacing organizations will be responsible for:

- Complying with the Data specifications as defined by this document

- Providing a POC to support resolution of technical and operational issues.
- Providing all necessary resources required to resolve data discrepancies
- Reviewing and understanding the specifications and inherent requirements of this document.
- Complying with the NEAR team direction regarding data storage systems security and access requirements.
- Complying with all applicable file system naming conventions (where applicable)
- Complying with data archival and backup policies

4 Requirements

Both the NEAR team and the system owners whose systems are identified as either source or target, are to provide export and import facilities using XML files or web services, produce error reports and interface summary reports as described in this specification (disputes or questions will be resolved by the Enterprise Architecture Office of the CIO):

A procedural Document shall be developed to document the processes detailing the exchange of data between systems. The procedures will be documented and archived in accordance with NASA standard operational documentation requirements.

5 System Diagram

5.1 *NEAR to other target systems and vice-versa*

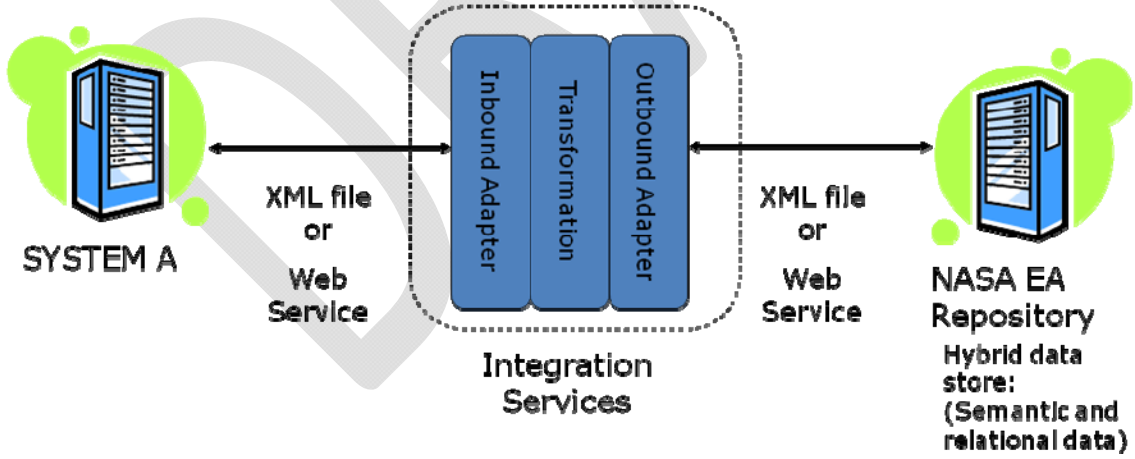

Figure 1: Interfacing with NEAR to target systems and vice-versa

6 Interface Details

This section outlines example scenarios for the exchange of data between NEAR and target systems. It provides a high level description of interfaces and the overall mechanism, error handling, file format and the data exchange model.

6.1 *NEAR to other target systems*

NEAR provides the following interface mechanism for information exchange with target systems

6.1.1 Web Services export:

NEAR will expose a set of web services that enable target systems to retrieve (get operation) NEAR data in real time for data synchronization. Service signature i.e., Web Service Description Language (WSDL) will be provided upon request.

Example: The service input will conform to XML Schema Definition (XSD) listed in Appendix C thru F.

6.1.2 Web Services import:

NEAR invokes set of web services on systems that are identified as source to NEAR to retrieve (get operation) data in real time for data synchronization. Service signature should be provided upon request.

Example: The service input will conform to XML Schema Definition (XSD) listed in Appendix C thru F.

6.1.3 XML file export:

During the exposure of web services, NEAR will create an XML file named "NEARToTargetsystems_yyyymmdd.xml" to support systems which cannot consume web services. This file is a full export of NEAR services data. This file will be created daily at midnight and will be placed in /near_outbound directory on NASA ftp server. This file will conform to ServiceResponse.xsd schema (listed under Appendix C)

6.1.4 XML file import:

In addition to web services import, NEAR will provide a capability to import an XML file named "TargetsystemsToNEAR_yyyymmdd.xml" to support systems that cannot expose web services. This file shall be a full export of target systems

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services data. This file will be processed daily at midnight from the in /near_inbound directory on a NASA ftp server. This file will conform to ServiceResponse.xsd schema (listed under Appendix C)

It is important to note that the web service is the preferred mechanism to interface with NEAR.

6.2 *Other systems to NEAR*

It is expected that other systems that serve as source for NEAR data store adhere to the following interface specifications.

6.2.1 Web Services export:

Systems serving as source for NEAR data store are expected to invoke a set of web services that are exposed by NEAR to perform Create/Update/Delete/Read (CRUD) operations on the NEAR data store entities in real time for data synchronization. WSDL will be provided upon request.

Example: The service input will conform to XML Schema Definition (XSD) listed in Appendix C thru F.

The web services invocation should be configured to operate in batch/throttled mode to support scalability.

6.2.2 Web Services import:

Systems that serve as target for NEAR systems are expected to expose a set of web services to consume data that originates at NEAR for real time data synchronization. WSDL should be provided upon request.

Example: The service input will conform to XML Schema Definition (XSD) listed in Appendix C thru F.

The web services will be configured to operate in batch/throttled mode to support scalability.

6.2.3 XML file export:

Systems serving as source for NEAR data store are expected to create an XML file “TragetsystemstoNEAR_yyyymmdd.xml” as a full export of its service entities. This file should be created daily at midnight and should be placed in /near inbound directory on a NASA ftp server. This file will conform to ServiceResponse.xsd schema (listed under Appendix C thru F)

6.2.4 XML file import:

Systems serving as target for NEAR should provide a capability to import an XML file named “NEARtoTargetSystems_yyyymmdd.xml” if they cannot consume web services. This file will be available for processing daily at midnight at /near outbound directory on a NASA ftp server. This file will conform to ServiceResponse.xsd schema (listed under Appendix C)

It is important to note that the web service is the preferred mechanism to interface with NEAR.

6.3 *Data Format*

6.3.1 NEAR to other target systems

The preferred data format for exporting files is XML format. The data field attributes are listed in Appendix C thru F.

6.3.2 Other systems to NEAR

The preferred data format for an input file is XML format. The data field attributes are listed in Appendix C thru F.

7 Mechanism

All data transfers will support Simple Object Access Protocol (SOAP) over Hyper Text Transfer Protocol (http), and Secure File Transfer Protocol (FTP) that is Secure Sockets Layer (SSL) based. The export files will be generated at a midnight daily. The import process will be processed daily at midnight.

8 Error Handling for XML file based synchronization

8.1.1 Other systems to NEAR (XML import)

A file named OthertoNEARerrormmddyyyy.log will be created with the records that failed the import process under /near_inbound. The errors could be due to an incorrect data format or invalid data (i.e. data with no matching primary or foreign key. Error reports will be supplied to the NEAR team and the all other appropriate parties.

8.1.2 NEAR to other target systems (XML import)

It is expected that target systems XML import process create file named NEARToTargetSystemserrormmddyyyy.log with the records that failed the import

process under /near_outbound. The errors could be due to an incorrect data format or invalid data (i.e. data with no matching primary or foreign key. Error reports will be supplied to the NEAR team and the all other appropriate parties.

9 Interface Summary Information

NEAR and the other systems are required to produce a report nightly which would include all the batch synchronization process information. The report should include interface name, number of records processed, number of error records, processing time, number of retries, and any other related statistics.

10 Security

The data exchange will not include Privacy Act data. Data will be exchanged via secure protocols. An access control list will be enforced at both the database and the integration services layer to restrict malicious access to data. Only designated personnel will have access rights to the data stored in NEAR.

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11 Appendix A

Table 1 lists the fields that are provided by NEAR for the NASA Services domain. All the fields are single-valued and are optional except for the service name. The processing field provides processing instructions as appropriate and any unavailable data will result in empty strings.

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Field	Max Length	Format	Description	Processing
Service Name	80	VarChar	Name of the Service	
Service Provider Name	80	VarChar	Service Provider Name	
Service Short description	200	VarChar	A brief overview of the capabilities provided by service	
NASA Center	80	VarChar	Primary NASA Center the provider is supporting	
NASA Organization	80	VarChar	Primary NASA Center/Organization the provider is supporting	
NASA Segment	80	VarChar	Primary NASA segemtn the provider is supporting	
Service Provider Point of Contact (NASA Person)	80	VarChar	Provider point of contact [Last name, Middle name, First Name]	
Service Owner (NASA point of contact)	80	VarChar	NASA point of contact [Last name, Middle name, First Name] for escalation	
Reference Architecture URL	200	VarChar	URL for reference architecture	
Contract Date	Date	Date	Date the contract was signed	
Contract Number	80	VarChar	Contract number associated with the contract	
Contractor Name	80	VarChar	Contractor company (I3P vendor) name. Example: Accenture, IBM	
Contractor Point of Contact (PoC)	80	VarChar	Contractor point of contact [Last name, Middle name, First Name]	
Contractor PoC phone number	80	VarChar	Phone# of the contractor PoC	
Contractor PoC Email	80	VarChar	Email address of contractor PoC	
Contract Value		Number	Value of the contract	
Service Classification	80	VarChar	IT/Non-IT, etc	
Service Options		Complex Type	List of service Options/Features provided by the service	List similar to ArrayList of Strings
Service Compliances		Complex Type	List of compliances and standards that the service adheres to	List similar to ArrayList of Strings
Service Delivery Options		Complex Type	List of ITIL 3 specific options that service provider provides that one can subscribe to	List similar to ArrayList of Strings
Service Pricing Model		Complex Type	List of pricing model; this is categorized by hardware/software, support, etc	List similar to ArrayList of Strings
Service Support Options		Complex Type	List of support options; this is similar to bronze, silver, gold, platinum etc	List similar to ArrayList of Strings
Service Dependencies		Complex Type	List of services that the current service is dependent on	List similar to ArrayList of Strings

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Field	Max Length	Format	Description	Processing
Service Customers		Complex Type	List of customers who subscribe to the service	List similar to ArrayList of Strings
Service Benefits		Complex Type	List of business benefits that one would achieve when subscribed to the service	List similar to ArrayList of Strings
Service System		Complex Type	List of systems that the service utilizes	List similar to ArrayList of Strings
Service System Components		Complex Type	List of components that make up the system enabling delivery of a Service – e.g. hardware, software, network, communication components, standards used	List similar to ArrayList of Strings

Table 1: Attributes for NEAR Services domain

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12 Appendix B

Table 2 lists the fields that are provided by NEAR for the NASA Systems domain. All the fields are single-valued and are optional except for the system name. Any unavailable data will result in empty strings.

Field	Max Length	Format	Description	Processing
System Name	80	VarChar	Name of the System	
System Description	200	VarChar	A brief overview of the System	
Type	8	VarChar	Type of the system (Internal/External)	
Parent System Name	80	VarChar	Name of the parent System	
NASA Center	80	VarChar	NASA Center	
System Owner (NASA point of contact)	80	VarChar	NASA point of contact [Last name First Name]	
System Owner Type	8	VarChar	Type of the system (Internal/External)	
NASA Official Name	80	VarChar	NASA Official [Last name First Name]	
Responsible NASA Center	80	VarChar	The responsible NASA Center	
Security Plan Number	20	VarChar	Security Plan Number	
FIPS199	25	VarChar	FIPS 199 Category	
External System Owner	50	VarChar	Point of contact [Last name First Name] for external system	
External Organization	80	VarChar	Organization of external system	
External System Location	200	VarChar	Location of the external system	

Table 2: Attributes for NEAR Systems domain

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13 Appendix C

Tables 3 through 9 list the fields that are provided by NEAR for the NASA Components domain. This domain is evolving in terms of TRM (Technical Reference Model) mapping hence this domain will be updated in the upcoming releases.

At a very high level the component can be of following types and will have sub-types:

- Facility
- Hardware (Servers, Workstations, etc.)
- Network (Switches, Routers, etc.)
- People (Administrator, Developer, etc.)
- Processes (Information Technology Infrastructure Library)
- Software (Custom Off-the –shelf, Custom, etc.)
- Storage (Storage Area Network, Network Attached Storage, etc.)

Field	Max Length	Format	Description	Processing
Facility Name	80	VarChar	Name of the Facility	
Facility Description	80	VarChar	A brief overview of the Facility	
NASA Center	80	VarChar	NASA Center	

Table 3: Attributes for NEAR Facility domain

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Field	Max Length	Format	Description	Processing
Hardware Name	80	VarChar	Name of the Hardware	
Hardware Description	200	VarChar	A brief overview of the Hardware	
Type	8	VarChar	Type of the Hardware	
NASA Center	80	VarChar	NASA Center	
Model	80	VarChar	Model name	
Cost		Number	Associated cost	
Location	80	VarChar	Location of the hardware	
Operating System	80	VarChar	Name of the operating system used	
OS Cost		Number	Cost associated with operating system	
Virtual Instance	80	VarChar	Is virtual instance used	
Primary Function	80	VarChar		
Manufacturer	80	VarChar	Name of the manufacturer	
Installed Date		DateTime	Date of installation	
Number of Processors		Number		
GHz		Number	Frequency in GHz	

Table 4: Attributes for NEAR Hardware domain

Field	Max Length	Format	Description	Processing
Network Name	80	VarChar	Name of the Network	
Network Description	80	VarChar	A brief overview of the Network	
Type	80	VarChar	Type of the Network	
NASA Center	80	VarChar	NASA Center	
Manufacturer	80	VarChar	Name of the Manufacturer	
Model	200	VarChar	Name of the model	
Protocol	20	VarChar	Protocol used	
Firewall Support	3	VarChar	If firewall is supported	
Wireless Support	3	VarChar	If wireless is supported	
WAN Accelerator	80	VarChar	If WAN Accelerator is supported	
Bandwidth	80	VarChar	Bandwidth provided	
Cost		Number	Cost associated	
Software Cost		Number	Software cost associated	

Table 5: Attributes for NEAR Network domain

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Field	Max Length	Format	Description	Processing
People Name	80	VarChar		
People Description	80	VarChar		

Table 6: Attributes for NEAR People domain

Field	Max Length	Format	Description	Processing
Process Name	80	VarChar	Name of the Process	
Process Description	80	VarChar	A brief overview of the Process	

Table 7: Attributes for NEAR Processes domain

Field	Max Length	Format	Description	Processing
Software Name	80	VarChar	Name of the Software	
Software Description	80	VarChar	A brief overview of the Software	
Type	8	VarChar	Type of the software	
NASA Center	80	VarChar	NASA Center	
NAT AWRS Application Name	80	VarChar		
Software Version	80	VarChar	Version of the software	
Cost	80	VarChar	Software cost	
Manufacturer	80	VarChar	Software manufacturer	
Date Installed		DateTime	Installation date	

Table 8: Attributes for NEAR Software domain

Field	Max Length	Format	Description	Processing
Storage Name	80	VarChar	Name of the Storage	
Storage Description	200	VarChar	A brief overview of the Storage	
Type	8	VarChar	Type of the storage	
NASA Center	80	VarChar	NASA Center	
Capacity	80	VarChar	Storage capacity	
Manufacturer	80	VarChar	Name of the manufacturer	
Model	80	VarChar	Name of the model	
Cost		Number	Associated cost	
Installed Date		DateTime	Installation date	
Location	80	VarChar	Storage location	
Software Cost		Number	Software cost	

Table 9: Attributes for NEAR Storage domain

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14 Appendix D

This section is intentionally left blank and will be edited in the next release. The required information to import data into NEAR is identical to the attributes listed in Appendix A.

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15 Appendix E

The ServiceProviderRequest.xsd is utilized for the creation and update of service contract aka service provider records in NEAR.

ServiceProviderRequest.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<!--This is version 0.1  Additonal reviews of the schema is expected as the
team learns -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.nasa.gov/EARepository/ServiceProvider"
targetNamespace="http://www.nasa.gov/EARepository/ServiceProvider"
elementFormDefault="qualified" attributeFormDefault="unqualified">
      <xs:include schemaLocation="ServiceProvider.xsd"/>
      <xs:element name="ServiceProviderRequest">
            <xs:annotation>
                  <xs:documentation>This is the Service Provider Request
record.</xs:documentation>
            </xs:annotation>
            <xs:complexType>
                  <xs:sequence>
                        <xs:element name="ProviderRecords"
type="ServiceProvider" nillable="false" maxOccurs="unbounded"/>
                  </xs:sequence>
            </xs:complexType>
      </xs:element>
</xs:schema>
```

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16 Appendix F

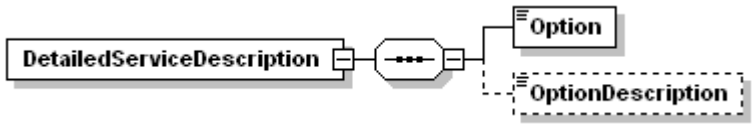
The ServiceProvider.xsd is common xsd utilized in create, update and retrieval of service contract aka service provider records in NEAR.

Schema **ServiceProvider.xsd**

schema location:	**ServiceProvider.xsd**
attribute form default:	**unqualified**
element form default:	**qualified**
targetNamespace:	**http://www.nasa.gov/EARepository/ServiceProvider**

Elements	Complex types
DetailedServiceDescription	**ServiceProvider**
ServiceBenefits	
ServiceComplianceStandards	
ServiceCustomers	
ServiceDeliveryOptions	
ServiceDependencies	
ServicePricingModel	
ServiceProviderDetails	
ServiceSupport	
ServiceSystem	

element **DetailedServiceDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**Option** **OptionDescription**
used by	complexType **ServiceProvider**

source	`<xs:element name="DetailedServiceDescription">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  <xs:element name="Option" type="xs:string"/>`
	`  <xs:element name="OptionDescription" type="xs:string" minOccurs="0"/>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

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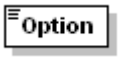
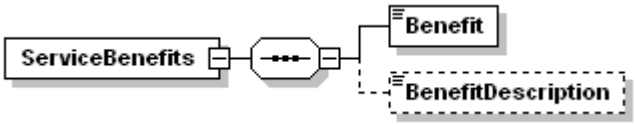
element **DetailedServiceDescription/Option**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="Option" type="xs:string"/>

element **DetailedServiceDescription/OptionDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="OptionDescription" type="xs:string" minOccurs="0"/>

element **ServiceBenefits**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**Benefit** **BenefitDescription**
used by	complexType **ServiceProvider**
source	<xs:element name="ServiceBenefits"> <xs:complexType> <xs:sequence> <xs:element name="Benefit" type="xs:string"/> <xs:element name="BenefitDescription" type="xs:string" minOccurs="0"/> </xs:sequence> </xs:complexType> </xs:element>

element **ServiceBenefits/Benefit**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider

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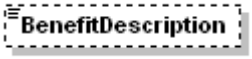
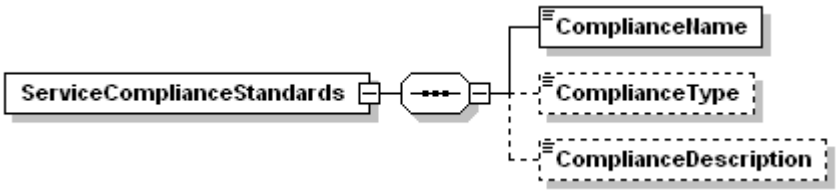
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="Benefit" type="xs:string"/>

element **ServiceBenefits/BenefitDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="BenefitDescription" type="xs:string" minOccurs="0"/>

element **ServiceComplianceStandards**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**ComplianceName** **ComplianceType** **ComplianceDescription**
used by	complexType **ServiceProvider**
source	<xs:element name="ServiceComplianceStandards"> <xs:complexType> <xs:sequence> <xs:element name="ComplianceName" type="xs:string"/> <xs:element name="ComplianceType" type="xs:string" minOccurs="0"/> <xs:element name="ComplianceDescription" type="xs:string" minOccurs="0"/> </xs:sequence> </xs:complexType> </xs:element>

element **ServiceComplianceStandards/ComplianceName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**

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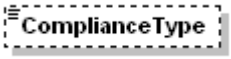
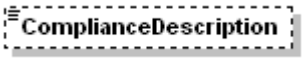
properties	isRef 0 content simple
source	<xs:element name="ComplianceName" type="xs:string"/>

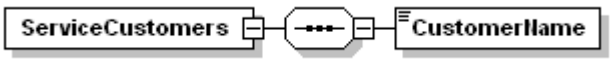
element **ServiceComplianceStandards/ComplianceType**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ComplianceType" type="xs:string" minOccurs="0"/>

element **ServiceComplianceStandards/ComplianceDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ComplianceDescription" type="xs:string" minOccurs="0"/>

element **ServiceCustomers**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**CustomerName**
used by	complexType **ServiceProvider**
source	<xs:element name="ServiceCustomers"> <xs:complexType> <xs:sequence> <xs:element name="CustomerName" type="xs:string"/> </xs:sequence> </xs:complexType> </xs:element>

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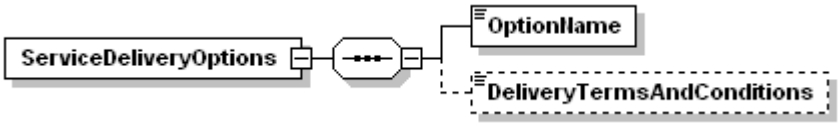
element **ServiceCustomers/CustomerName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="CustomerName" type="xs:string"/>

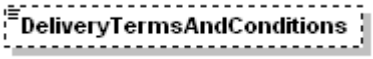
element **ServiceDeliveryOptions**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**OptionName** **DeliveryTermsAndConditions**
used by	complexType **ServiceProvider**
source	<xs:element name="ServiceDeliveryOptions"> <xs:complexType> <xs:sequence> <xs:element name="OptionName" type="xs:string"/> <xs:element name="DeliveryTermsAndConditions" type="xs:string" minOccurs="0"/> </xs:sequence> </xs:complexType> </xs:element>

element **ServiceDeliveryOptions/OptionName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="OptionName" type="xs:string"/>

element **ServiceDeliveryOptions/DeliveryTermsAndConditions**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**

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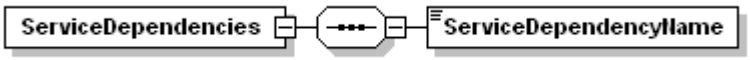
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="DeliveryTermsAndConditions" type="xs:string" minOccurs="0"/>

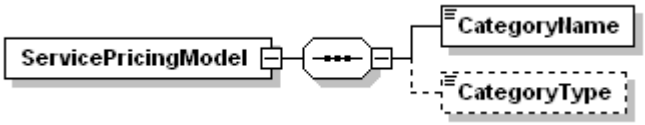
element **ServiceDependencies**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**ServiceDependencyName**
used by	complexType **ServiceProvider**
source	<xs:element name="ServiceDependencies"> <xs:complexType> <xs:sequence> <xs:element name="ServiceDependencyName" type="xs:string"/> </xs:sequence> </xs:complexType> </xs:element>

element **ServiceDependencies/ServiceDependencyName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="ServiceDependencyName" type="xs:string"/>

element **ServicePricingModel**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**CategoryName** **CategoryType**
used by	complexType **ServiceProvider**
source	<xs:element name="ServicePricingModel"> <xs:complexType> <xs:sequence>

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```
    <xs:element name="CategoryName" type="xs:string"/>
    <xs:element name="CategoryType" type="xs:string" minOccurs="0"/>
    <!--xs:element name="PricingOption" type="xs:string"/>
                                        <xs:element name="TermsAndConditions" type="xs:string"/--
>
  </xs:sequence>
 </xs:complexType>
</xs:element>
```

element **ServicePricingModel/CategoryName**

diagram	CategoryName
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	`<xs:element name="CategoryName" type="xs:string"/>`

element **ServicePricingModel/CategoryType**

diagram	CategoryType
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	`<xs:element name="CategoryType" type="xs:string" minOccurs="0"/>`

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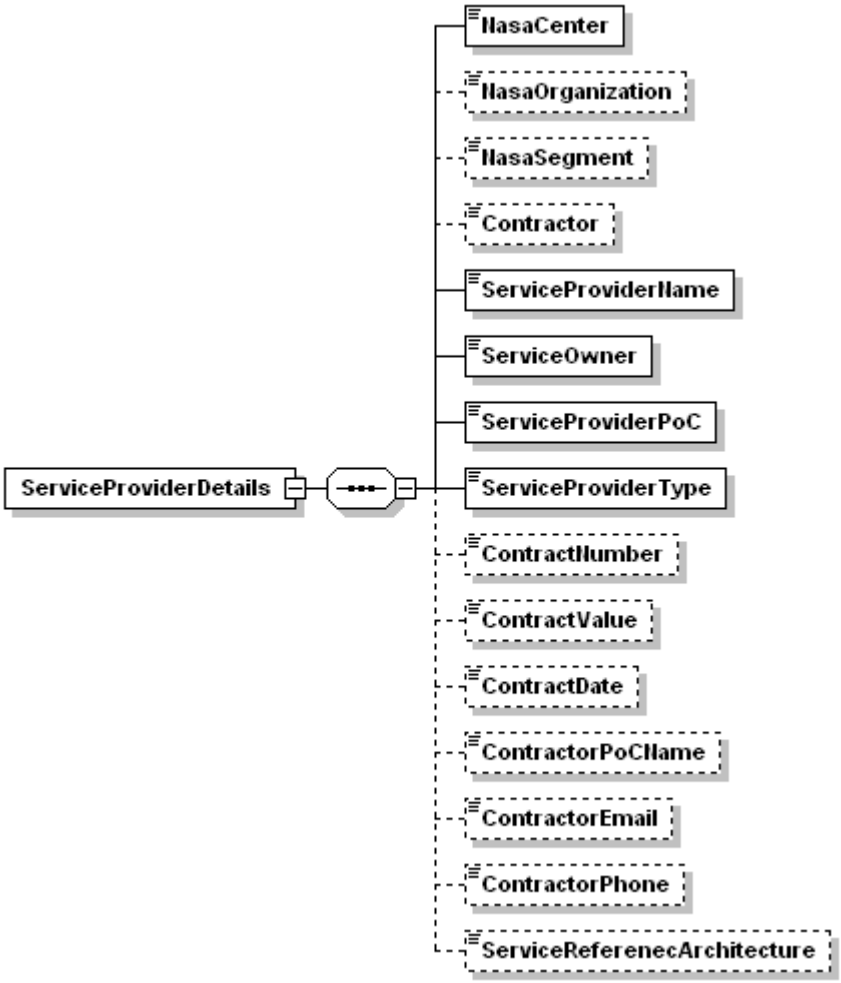
element **ServiceProviderDetails**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**NasaCenter** **NasaOrganization** **NasaSegment** **Contractor** **ServiceProviderName** **ServiceOwner** **ServiceProviderPoC** **ServiceProviderType** **ContractNumber** **ContractValue** **ContractDate** **ContractorPoCName** **ContractorEmail** **ContractorPhone** **ServiceReferenecArchitecture**
used by	complexType **ServiceProvider**
source	<xs:element name="ServiceProviderDetails"> <xs:complexType> <xs:sequence> <xs:element name="NasaCenter" type="xs:string"/> <xs:element name="NasaOrganization" type="xs:string" minOccurs="0"/> <xs:element name="NasaSegment" type="xs:string" minOccurs="0"/> <xs:element name="Contractor" type="xs:string" minOccurs="0"/> <xs:element name="ServiceProviderName" type="xs:string"/> <xs:element name="ServiceOwner" type="xs:string"/> <xs:element name="ServiceProviderPoC" type="xs:string"/> <xs:element name="ServiceProviderType" type="xs:string"/> <xs:element name="ContractNumber" type="xs:string" minOccurs="0"/> <xs:element name="ContractValue" type="xs:string" minOccurs="0"/> <xs:element name="ContractDate" type="xs:date" minOccurs="0"/>

```
    <xs:element name="ContractorPoCName" type="xs:string" minOccurs="0"/>
    <xs:element name="ContractorEmail" type="xs:string" minOccurs="0"/>
    <xs:element name="ContractorPhone" type="xs:string" minOccurs="0"/>
    <xs:element name="ServiceReferenecArchitecture" type="xs:string" minOccurs="0"/>
  </xs:sequence>
 </xs:complexType>
</xs:element>
```

element **ServiceProviderDetails/NasaCenter**

diagram	NasaCenter
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	`<xs:element name="NasaCenter" type="xs:string"/>`

element **ServiceProviderDetails/NasaOrganization**

diagram	NasaOrganization
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	`<xs:element name="NasaOrganization" type="xs:string" minOccurs="0"/>`

element **ServiceProviderDetails/NasaSegment**

diagram	NasaSegment
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	`<xs:element name="NasaSegment" type="xs:string" minOccurs="0"/>`

element **ServiceProviderDetails/Contractor**

diagram	Contractor

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namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="Contractor" type="xs:string" minOccurs="0"/>

element **ServiceProviderDetails/ServiceProviderName**

diagram	ServiceProviderName
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="ServiceProviderName" type="xs:string"/>

element **ServiceProviderDetails/ServiceOwner**

diagram	ServiceOwner
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="ServiceOwner" type="xs:string"/>

element **ServiceProviderDetails/ServiceProviderPoC**

diagram	ServiceProviderPoC
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="ServiceProviderPoC" type="xs:string"/>

element **ServiceProviderDetails/ServiceProviderType**

diagram	ServiceProviderType
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**

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properties	isRef 0 content simple
source	<xs:element name="ServiceProviderType" type="xs:string"/>

element **ServiceProviderDetails/ContractNumber**

diagram	ContractNumber
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ContractNumber" type="xs:string" minOccurs="0"/>

element **ServiceProviderDetails/ContractValue**

diagram	ContractValue
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ContractValue" type="xs:string" minOccurs="0"/>

element **ServiceProviderDetails/ContractDate**

diagram	ContractDate
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:date**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ContractDate" type="xs:date" minOccurs="0"/>

element **ServiceProviderDetails/ContractorPoCName**

diagram	ContractorPoCName
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**

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properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ContractorPoCName" type="xs:string" minOccurs="0"/>

element **ServiceProviderDetails/ContractorEmail**

diagram	ContractorEmail
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ContractorEmail" type="xs:string" minOccurs="0"/>

element **ServiceProviderDetails/ContractorPhone**

diagram	ContractorPhone
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ContractorPhone" type="xs:string" minOccurs="0"/>

element **ServiceProviderDetails/ServiceReferenecArchitecture**

diagram	ServiceReferenecArchitecture
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ServiceReferenecArchitecture" type="xs:string" minOccurs="0"/>

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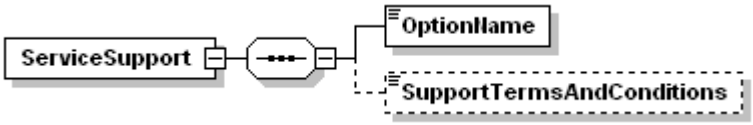
element **ServiceSupport**

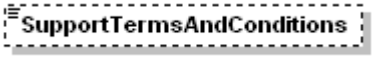
diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**OptionName** **SupportTermsAndConditions**
used by	complexType **ServiceProvider**

source	`<xs:element name="ServiceSupport">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  <xs:element name="OptionName" type="xs:string"/>`
	`  <xs:element name="SupportTermsAndConditions" type="xs:string" minOccurs="0"/>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

element **ServiceSupport/OptionName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	`<xs:element name="OptionName" type="xs:string"/>`

element **ServiceSupport/SupportTermsAndConditions**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	`<xs:element name="SupportTermsAndConditions" type="xs:string" minOccurs="0"/>`

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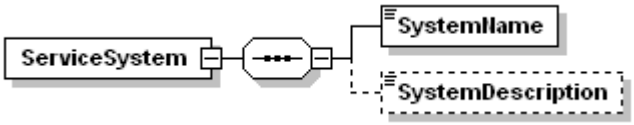
element **ServiceSystem**

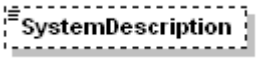
diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
properties	content complex
children	**SystemName** **SystemDescription**
used by	complexType **ServiceProvider**

source	`<xs:element name="ServiceSystem">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  <xs:element name="SystemName" type="xs:string"/>`
	`  <xs:element name="SystemDescription" type="xs:string" minOccurs="0"/>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

element **ServiceSystem/SystemName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	`<xs:element name="SystemName" type="xs:string"/>`

element **ServiceSystem/SystemDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	`<xs:element name="SystemDescription" type="xs:string" minOccurs="0"/>`

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complexType **ServiceProvider**

diagram

namespace	http://www.nasa.gov/EARepository/ServiceProvider
children	**ServiceName** **ServiceDescription** **ServiceClassification** **ServiceProviderDetails** **DetailedServiceDescription** **ServiceBenefits** **ServiceDeliveryOptions** **ServicePricingModel** **ServiceSupport** **ServiceDependencies** **ServiceComplianceStandards** **ServiceCustomers** **ServiceSystem**

source

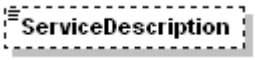
```
<xs:complexType name="ServiceProvider">
  <xs:sequence>
    <xs:element name="ServiceName" type="xs:string"/>
    <xs:element name="ServiceDescription" type="xs:string" minOccurs="0"/>
    <xs:element name="ServiceClassification" type="xs:string"/>
    <xs:element ref="ServiceProviderDetails"/>
    <xs:element ref="DetailedServiceDescription" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="ServiceBenefits" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="ServiceDeliveryOptions" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="ServicePricingModel" minOccurs="0" maxOccurs="unbounded"/>
```

	<xs:element ref="ServiceSupport" minOccurs="0" maxOccurs="unbounded"/> <xs:element ref="ServiceDependencies" minOccurs="0" maxOccurs="unbounded"/> <xs:element ref="ServiceComplianceStandards" minOccurs="0" maxOccurs="unbounded"/> <xs:element ref="ServiceCustomers" minOccurs="0" maxOccurs="unbounded"/> <xs:element ref="ServiceSystem" minOccurs="0" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType>

element **ServiceProvider/ServiceName**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="ServiceName" type="xs:string"/>

element **ServiceProvider/ServiceDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ServiceDescription" type="xs:string" minOccurs="0"/>

element **ServiceProvider/ServiceClassification**

diagram	
namespace	http://www.nasa.gov/EARepository/ServiceProvider
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="ServiceClassification" type="xs:string"/>

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17 Appendix G

The GenericResponse.xsd is utilized for indicating status of create/update web service requests to NEAR.

GenericResponse.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns="http://www.nasa.gov/EARepository/Common"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://www.nasa.gov/EARepository/Common"
elementFormDefault="qualified" attributeFormDefault="unqualified">
	<xs:element name="Status" type="ResultType"/>
	<xs:complexType name="ResultType">
		<xs:annotation>
			<xs:documentation>Used to communicate status messages. It
could be a key-value pair.</xs:documentation>
		</xs:annotation>
		<xs:sequence>
			<xs:element name="Status" type="xs:string"/>
			<xs:element name="StatusCode" type="CodeType"
maxOccurs="unbounded"/>
		</xs:sequence>
	</xs:complexType>
	<xs:complexType name="CodeType">
		<xs:sequence>
			<xs:element name="Code" type="xs:integer"/>
			<xs:element name="Description" type="xs:string"/>
		</xs:sequence>
	</xs:complexType>
</xs:schema>
```

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18 Appendix H

The ServiceRequest.xsd and ServiceProviderResponse.xsd is utilized for the retrieval of service contract aka service provider records from NEAR.

ServiceRequest.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<!--This is version 0.1  Additonal reviews of the schema is expected as the
team learns -->
<xs:schema xmlns="http://www.nasa.gov/EARepository/ServiceProvider"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://www.nasa.gov/EARepository/ServiceProvider">
	<xs:element name="ServiceRequest">
		<xs:complexType>
			<xs:sequence>
				<xs:element ref="ServiceName"/>
				<xs:element ref="ProviderName"/>
			</xs:sequence>
		</xs:complexType>
	</xs:element>
	<xs:element name="ServiceName" type="xs:string"/>
	<xs:element name="ProviderName" type="xs:string"/>
</xs:schema>
```

ServiceProviderResponse.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<!--This is version 0.1  Additonal reviews of the schema is expected as the
team learns -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.nasa.gov/EARepository/ServiceProvider"
targetNamespace="http://www.nasa.gov/EARepository/ServiceProvider"
elementFormDefault="qualified" attributeFormDefault="unqualified">
	<xs:include schemaLocation="ServiceProvider.xsd"/>
	<xs:element name="ServiceProviderResponse">
		<xs:annotation>
			<xs:documentation>This is the Service Provider Response
record.</xs:documentation>
		</xs:annotation>
		<xs:complexType>
			<xs:sequence>
				<xs:element name="ProviderRecords"
type="ServiceProvider" nillable="false" maxOccurs="unbounded"/>
			</xs:sequence>
		</xs:complexType>
	</xs:element>
</xs:schema>
```

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19 Appendix I

This section is intentionally left blank and will be updated with a sample service request/response XML for create/update/retrieval of service provider aka service contract.

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20 Appendix J

The System.xsd is common xsd utilized in create, update and retrieval of System records in NEAR.

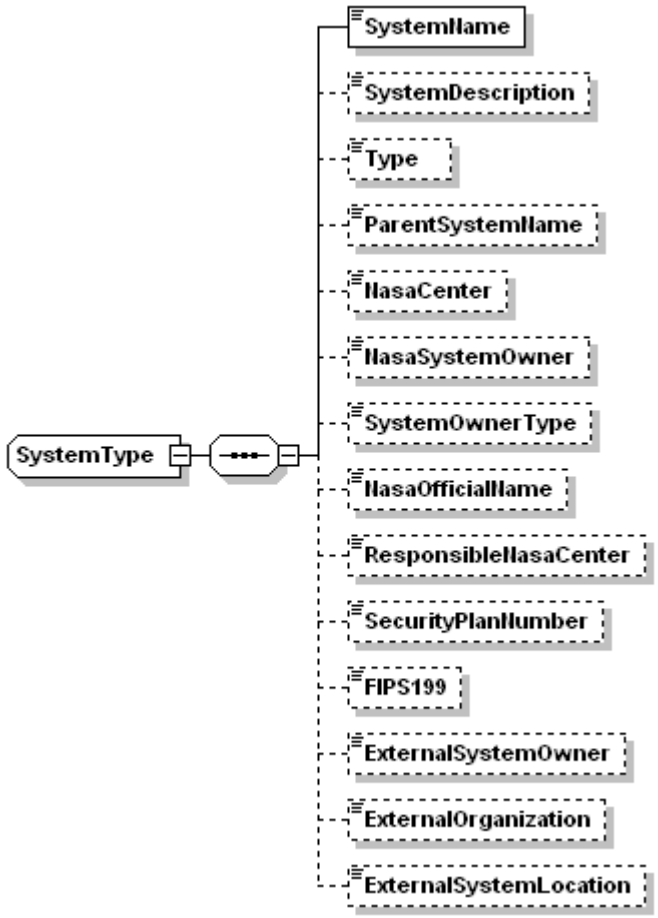
Schema **System.xsd**

schema location: **System.xsd**
attribute form default: **unqualified**
element form default: **qualified**
targetNamespace: **http://www.nasa.gov/EARepository/System**

Complex types
SystemType

complexType **SystemType**

diagram

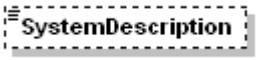


namespace	http://www.nasa.gov/EARepository/System
children	**SystemName SystemDescription Type ParentSystemName NasaCenter NasaSystemOwner SystemOwnerType NasaOfficialName ResponsibleNasaCenter SecurityPlanNumber FIPS199 ExternalSystemOwner ExternalOrganization ExternalSystemLocation**
source	<xs:complexType name="SystemType"> <xs:sequence> <xs:element name="SystemName" type="xs:string"/> <xs:element name="SystemDescription" type="xs:string" minOccurs="0"/> <xs:element name="Type" type="xs:string" minOccurs="0"/> <xs:element name="ParentSystemName" type="xs:string" minOccurs="0"/> <xs:element name="NasaCenter" type="xs:string" minOccurs="0"/> <xs:element name="NasaSystemOwner" type="xs:string" minOccurs="0"/> <xs:element name="SystemOwnerType" type="xs:string" minOccurs="0"/> <xs:element name="NasaOfficialName" type="xs:string" minOccurs="0"/> <xs:element name="ResponsibleNasaCenter" type="xs:string" minOccurs="0"/> <xs:element name="SecurityPlanNumber" type="xs:string" minOccurs="0"/> <xs:element name="FIPS199" type="xs:string" minOccurs="0"/> <xs:element name="ExternalSystemOwner" type="xs:string" minOccurs="0"/> <xs:element name="ExternalOrganization" type="xs:string" minOccurs="0"/> <xs:element name="ExternalSystemLocation" type="xs:string" minOccurs="0"/> </xs:sequence> </xs:complexType>

element **SystemType/SystemName**

diagram	
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 content simple
source	<xs:element name="SystemName" type="xs:string"/>

element **SystemType/SystemDescription**

diagram	
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="SystemDescription" type="xs:string" minOccurs="0"/>

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element **SystemType/Type**

diagram	Type
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="Type" type="xs:string" minOccurs="0"/>

element **SystemType/ParentSystemName**

diagram	ParentSystemName
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ParentSystemName" type="xs:string" minOccurs="0"/>

element **SystemType/NasaCenter**

diagram	NasaCenter
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="NasaCenter" type="xs:string" minOccurs="0"/>

element **SystemType/NasaSystemOwner**

diagram	NasaSystemOwner
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="NasaSystemOwner" type="xs:string" minOccurs="0"/>

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element **SystemType/SystemOwnerType**

diagram	SystemOwnerType
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="SystemOwnerType" type="xs:string" minOccurs="0"/>

element **SystemType/NasaOfficialName**

diagram	NasaOfficialName
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="NasaOfficialName" type="xs:string" minOccurs="0"/>

element **SystemType/ResponsibleNasaCenter**

diagram	ResponsibleNasaCenter
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ResponsibleNasaCenter" type="xs:string" minOccurs="0"/>

element **SystemType/SecurityPlanNumber**

diagram	SecurityPlanNumber
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="SecurityPlanNumber" type="xs:string" minOccurs="0"/>

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element **SystemType/FIPS199**

diagram	FIPS199
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="FIPS199" type="xs:string" minOccurs="0"/>

element **SystemType/ExternalSystemOwner**

diagram	ExternalSystemOwner
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ExternalSystemOwner" type="xs:string" minOccurs="0"/>

element **SystemType/ExternalOrganization**

diagram	ExternalOrganization
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple
source	<xs:element name="ExternalOrganization" type="xs:string" minOccurs="0"/>

element **SystemType/ExternalSystemLocation**

diagram	ExternalSystemLocation
namespace	http://www.nasa.gov/EARepository/System
type	**xs:string**
properties	isRef 0 minOcc 0 maxOcc 1 content simple

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source	<xs:element name="ExternalSystemLocation" type="xs:string" minOccurs="0"/>

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21 Appendix K

The SystemRequest.xsd is utilized for the creation and update of System records in NEAR.

SystemRequest.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<!--This is version 0.1  Additional reviews of the schema is expected as the team learns -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.nasa.gov/EARepository/System"
targetNamespace="http://www.nasa.gov/EARepository/System" elementFormDefault="qualified"
attributeFormDefault="unqualified">
	<xs:include schemaLocation="System.xsd"/>
	<xs:element name="SystemRequest">
		<xs:annotation>
			<xs:documentation>This is the System Request record.</xs:documentation>
		</xs:annotation>
		<xs:complexType>
			<xs:sequence>
				<xs:element name="SystemRecords" type="SystemType" nillable="false"
maxOccurs="unbounded"/>
			</xs:sequence>
		</xs:complexType>
	</xs:element>
</xs:schema>
```

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22 Appendix L

The SystemServiceRequest.xsd and SystemResponse.xsd is utilized for the retrieval of System records from NEAR.

SystemServiceRequest.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<!--This is version 0.1  Additional reviews of the schema is expected as the team learns -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.nasa.gov/EARepository/System"
targetNamespace="http://www.nasa.gov/EARepository/System" elementFormDefault="qualified"
attributeFormDefault="unqualified">
	<xs:element name="SystemServiceRequest">
		<xs:annotation>
			<xs:documentation>This is the System Get Request.</xs:documentation>
		</xs:annotation>
		<xs:complexType>
			<xs:sequence>
				<xs:element ref="SystemName" maxOccurs="unbounded"/>
			</xs:sequence>
		</xs:complexType>
	</xs:element>
	<xs:element name="SystemName" type="xs:string" nillable="false"/>
</xs:schema>
```

SystemResponse.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<!--This is version 0.1  Additional reviews of the schema is expected as the team learns -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.nasa.gov/EARepository/System"
targetNamespace="http://www.nasa.gov/EARepository/System" elementFormDefault="qualified"
attributeFormDefault="unqualified">
	<xs:include schemaLocation="System.xsd"/>
	<xs:element name="SystemResponse">
		<xs:annotation>
			<xs:documentation>This is the System Request record.</xs:documentation>
		</xs:annotation>
		<xs:complexType>
			<xs:sequence>
				<xs:element name="SystemRecords" type="SystemType" nillable="false"
maxOccurs="unbounded"/>
			</xs:sequence>
		</xs:complexType>
	</xs:element>
</xs:schema>
```

23 Appendix M

Table 2 and the embedded Excel document (Enterprise Service Catalog I3P Contract Service Mapping v9.0 052009.xls) lists the services defined in the Enterprise Service Catalog and the corresponding I3P contracts that will provide these services.

Enterprise Service Catalog I3P Contract

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
IT Infrastructure									
	Infrastructure Support Services								
		Collaboration Services				X			
			E-mail						X
			Electronic Conferencing						
				Instant Messaging (IM)		X			
				Video Teleconferencing Services (ViTS)				X	
				Voice Teleconferencing Services (VoTS)				X	
				Web Conferencing				X	
			Feeds / Alerts / Notifications			X			
			Interactive Community						
				Blogs		X			
				Discussion Boards / Internet Forums		X			
				Social Network					
				Shared Calendaring		X			X
				Team Workspace		X			
				Virtual Worlds					
				Wikis		X			
		Content Management			X	X			
			Document Management						

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
			Forms Management						
			Multimedia Management						
			Records Management					X	
			Web Content Management			X			
		Enterprise Management and Operations			X	X			
		Integration Services			X				
		SOA Service Enablement						X	
		Security Management Services			X		X		
			Certification and Accreditation (C&A) Services						
			Identity, Credential, and Access Management		X				X
			Incident Response Services					X	
			IT Security Consulting Services						
			Security Engineering Services						
			Security Monitoring						
				Content Monitoring and Blocking					
				Intrusion Detection and Prevention					
			Threat and Vulnerability Management						
				Antivirus					
				Vulnerability Scanning					
		Web Services			X	X			
			Delivery Services			X			
			Search Services			X			
			Web Development Services						
			Web Portal			X			
	Data Center Services								
		Data Center Management and Operations					X		
		Hosting Services				X	X		
			Computing Services						
			Data Storage Services				X		

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
			Service Monitoring / Management						
		Housing Services					X		
			Disaster Recovery Services				X		
			Facilities Services				X		
				Administration Services					
				Physical Security					
				Utility Support					
			Network Services					X	
		Value Added Services							
	Communication Services								
		Communication Management and Operations						X	
		Data Services							
			Custom Data					X	
			International Data					X	
			Routed Data					X	
				Real-Tme Critical					
				Mission Critical					
				Premium					
				Standard					
		Network Services						X	
			Cable Plant						
			IP Address Management					X	
			Remote Access Services					X	
			Shared Services					X	X
				Print Services					
				Shared Network Drives					
		Voice Services							
			Calling Cards					X	
			Emergency Warning Systems						
			Mission Voice Services					X	
			Public Address Systems						X

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
			Radio Network Services						
			Switched Voice Services					X	
			Telephone Services					X	
			Voice over IP Services (VoIP)					X	
		Video Services						X	
			Mission Video Services					X	
			Television Services					X	
			Video over IP Services (ViIP)			X			
			Video Production Services						
	End User Services								
		End User Management and Operations							X
		Handheld/Mobile							X
		Hardware / Software Accessories						X	X
			Hardware Accessories						
			Software Accessories						
		Hardware Disposal							
		Pager Services							X
		Personal Computing Services						X	X
			General Purpose Office Automation						
			Scientific and Engineering						
			Agency Specialized						
		Voice Services						X	
			Cellular Services						X
			Desktop VoIP Services						
			Radio Services						X
			Voice Mail Service						
Business Management						X			
	Asset / Supply Chain Management								
		Aircraft Management							
		Asset Cataloging / Identification							
		Asset Transfer, Allocation, and							

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
		Maintenance							
		Catalog Management							
		Environmental Management							
		Facilities Management							
		Inventory Management							
		Invoice / Requisition Tracking and Approval							
		Logistics and Transportation							
		Ordering / Purchasing							
		Procurement			X				
		Property / Asset Management							
		Returns Management							
		Sourcing Management							
		Storefront / Shopping Cart							
		Warehouse Management							
	Business Intelligence								
		Demand Forecasting							
		Balanced Scorecard							
		Decision Support and Planning							
	Finance and Budget				X				
		Activity-Based Management							
		Billing and Accounting							
		Credit / Charge							
		Currency Translation							
		Debt Collection							
		Expense Management							
		Internal Controls							
		Payment / Settlement							
		Payroll							
		Revenue Management							
	Human Capital Management				X				
		Awards Management							

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
		Benefit Management							
		Career Development							
		Contingent Workforce Management							
		Education / Training							
			End User Training			X			
			IT Security Training						
			Project Management Training						
		Health and Safety							
		Personnel Administration							
		Recruiting							
		Resource Planning and Allocation							
		Resume Management							
		Retirement Management							
		Safety and Mission Assurance							
		Skills Management							
		Team / Org. Management							
		Time Reporting							
		Travel Management							
		Workforce Acquisition / Optimization							
		Workforce Directory / Locator							
	Investment Management								
		Performance Management							
		Portfolio Management							
		Strategic Planning					X	X	
	Process Automation								
		Case Management							
		Conflict Resolution							
		Inbound Correspondence Management							
		Process Tracking							
		Outbound Correspondence Management							
	Reporting								

Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
		Ad hoc							
		OLAP							
		Standardized / Canned							
IT Business Support Services									
	Application Implementation Services				X				
	Application Operations Services				X				
		Applications Maintenance			X				
		Applications Enhancement			X				
	Application Strategy & Planning				X				
	Business Process Support				X				
Project Management								X	
	Business Rule Management								
	Change Management								
	Configuration Management								
	Cost Estimations								
	Governance / Policy Management								
	Performance Analysis Services								
		Earned Value Management (EVM)							
	Program / Project Scheduling								
	Quality Management								
	Requirements Management								
	Resource Management								
	Risk Management								
Science and Engineering									
	Analysis and Statistics Services								
		Forensic Services							
		Mathematical Services							
		Structural / Thermal Services							
		Radiological Services							

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Level 0 Services	Level 1 Services	Level 2 Services	Level 3 Services	Level 4 Services	I3P Contract				
					EAST	WEST	NEDC	NICS	ACES
	Knowledge Discovery Services								
		Data Mining Services							
		Modeling and Simulation							
	Product Data Management Services								
	Product Lifecycle Management Services				X				
	Technical Library								
	Visualization Services								
		Computer Aided Design (CAD)							
		Computer Aided Engineering (CAE)							
		Computer Aided Manufacturing (CAM)							
		Graphic / Charting Services							
		Imagery Services							
		Mapping / Geospatial / Elevation / GPS Services							
		Multimedia Services							

Table 2: Enterprise Service Catalog I3P Contract Service Mapping

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