

# [MS-AADT]: Access Application Design Time Protocol

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# 1 Introduction

The Access Application Design Time Protocol enables a protocol client to modify the behavior of **database applications** and to create, modify, and delete objects in such applications.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [RFC2119](#). Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

## 1.1 Glossary

The following terms are defined in [MS-OFCGLOS]:

- base64 encoding**
- Boolean**
- collation**
- culture name**
- curly braced GUID string**
- database application**
- endpoint**
- field**
- firewall rule**
- GUIDString**
- HTTP POST**
- Hypertext Transfer Protocol (HTTP)**
- Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**
- IPv4 address in string format**
- IPv6 address in string format**
- permission**
- site**
- SOAP**
- SOAP action**
- SOAP body**
- SOAP fault**
- SOAP fault code**
- surrogate pair**
- token**
- Uniform Resource Identifier (URI)**
- Uniform Resource Locator (URL)**
- Web Services Description Language (WSDL)**
- WSDL message**
- WSDL operation**
- XML namespace**
- XML namespace prefix**
- XML schema**

The following terms are specific to this document:

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [RFC2119](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

References to Microsoft Open Specification documents do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information.

[ISO/IEC-29500-1] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2008, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=51463](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51463)

[ISO/IEC-29500-2] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions", ISO/IEC 29500-2:2008, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=51459](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51459)

[MC-CSDL] Microsoft Corporation, "[Conceptual Schema Definition File Format](#)".

[MS-ADR] Microsoft Corporation, "[Access Services Data Run Time Protocol](#)".

[MS-ASDT] Microsoft Corporation, "[Access Server Design Time Protocol](#)".

[MS-AXL2] Microsoft Corporation, "[Access Application Transfer Data Structure Version 2](#)".

[MS-CSOMSPT] Microsoft Corporation, "[SharePoint Client-Side Object Model Protocol](#)".

[MSDN-TSQL-Ref] Microsoft Corporation, "Transact-SQL Reference", SQL Server 2005 Books Online (November 2008), [http://msdn.microsoft.com/en-us/library/ms189826\(SQL.90\).aspx](http://msdn.microsoft.com/en-us/library/ms189826(SQL.90).aspx)

[RFC1123] Braden, R., "Requirements for Internet Hosts - Application and Support", RFC 1123, October 1989, <http://www.ietf.org/rfc/rfc1123.txt>

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

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[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

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## 1.2.2 Informative References

[MS-OFGLS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

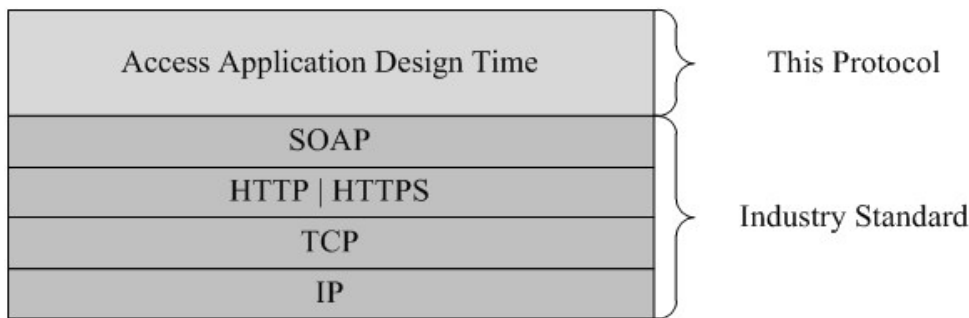
## 1.3 Overview

This protocol enables a protocol client to create, modify, and delete objects in a database application on a protocol server. Additionally, this protocol enables a protocol client to:

- Obtain information about a database application on a protocol server or the objects in that application.
- Set some behaviors for a database application on a protocol server.
- Obtain a package that describes the entire database application on a protocol server.

## 1.4 Relationship to Other Protocols

This protocol uses **SOAP** over **HTTP**, as described in [\[RFC2616\]](#), and SOAP over **HTTPS**, as described in [\[RFC2818\]](#), as shown in the following layering diagram:



**Figure 1: This protocol in relation to other protocols**

## 1.5 Prerequisites/Preconditions

This protocol operates against a **site** (2) that is identified by a URI that is known by protocol clients. The protocol server **endpoint** (4) is formed by appending "/\_vti\_bin/acscvc/ApplicationDesignService.asmx " to the **URI** of the site (2), for example:

http://www.example.com/Repository/\_vti\_bin/acscvc/ApplicationDesignService.asmx

This protocol assumes that authentication has been performed by the underlying protocols.

## 1.6 Applicability Statement

This protocol is applicable in the following scenarios:

- Creation, modification, and deletion of objects in a database application.
- Querying a protocol server for information about a database application or the objects in it.
- Setting some behaviors for a database application.
- Creation of packages that describe a database application.

In all cases, this protocol interacts with database applications that were created using [\[MS-ASDT\]](#).

## 1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol can be implemented by using transports that support sending SOAP version 1.2 messages, as specified by section [2.1](#).
- **Protocol Versions:** Some messages in this protocol are versioned. Those messages require a **ProtocolVersion** attribute in the request from the protocol client. If a **ProtocolVersion** attribute is not required by the client request, then the message is not versioned.
- **Capability Negotiation:** When calling **GetApplicationInformation**, the protocol client sends a list of **Access Services Protocol Versions** ([\[MS-ASDT\]](#) section 3.1.1.1) that it supports, as specified by **ProtocolVersionOptions** attribute (section [3.1.4.4.3.1](#)). The protocol server selects a protocol version and communicates this selection back to the client, as specified by **ProtocolVersion** attribute (section [3.1.4.4.3.2](#)). Alternatively, a protocol client retrieves the **Access Services Protocol Versions** that the protocol server supports by calling **GetServerInformation**, as specified by [\[MS-ASDT\]](#) section 3.1.4.2.

## **1.8 Vendor-Extensible Fields**

None.

## **1.9 Standards Assignments**

None.

## 2 Messages

In the following sections, the schema definition might be less restrictive than the processing rules imposed by the protocol. The WSDL in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL specifies additional restrictions that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be empty, null, or not present but the behavior of the protocol as specified restricts the same elements to being non-empty, not null and present.

### 2.1 Transport

Messages MUST be transported by using SOAP version 1.2, as specified in [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#), or SOAP version 1.1, as specified in [\[SOAP1.1\]](#), over HTTP, as specified in [\[RFC2616\]](#), or HTTPS, as specified in [\[RFC2818\]](#).

### 2.2 Common Message Syntax

This section contains common definitions used by this protocol. The syntax of the definitions uses **XML schema** as defined in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and **WSDL** as defined in [\[WSDL\]](#).

#### 2.2.1 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific **XML namespace prefix** for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
http	<a href="http://schemas.xmlsoap.org/wsd/http/">http://schemas.xmlsoap.org/wsd/http/</a>	<a href="#">[RFC2616]</a>
s1	<a href="http://microsoft.com/wsd/types/">http://microsoft.com/wsd/types/</a>	
soap	<a href="http://schemas.xmlsoap.org/wsd/soap/">http://schemas.xmlsoap.org/wsd/soap/</a>	<a href="#">[SOAP1.1]</a>
soap12	<a href="http://schemas.xmlsoap.org/wsd/soap12/">http://schemas.xmlsoap.org/wsd/soap12/</a>	<a href="#">[SOAP1.2/1]</a> <a href="#">[SOAP1.2/2]</a>
tns	<a href="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService">http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService</a>	
wsd	<a href="http://schemas.xmlsoap.org/wsd/">http://schemas.xmlsoap.org/wsd/</a>	<a href="#">[WSDL]</a>
xs	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>	<a href="#">[XMLSCHEMA1]</a> <a href="#">[XMLSCHEMA2]</a>

#### 2.2.2 Messages

This specification does not define any common **WSDL message** definitions.

## 2.2.3 Elements

This specification does not define any common XML schema element definitions.

## 2.2.4 Complex Types

The following table summarizes the set of common XML schema complex type definitions defined by this specification. XML schema complex type definitions that are specific to a particular operation are described with the operation.

Complex type	Description
<b>AccessObject</b>	Specifies information about an object in a database application.
<b>AccessObjectIdentity</b>	Specifies an <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) and its version in a database application.
<b>AccessObjectList</b>	Specifies an array of complex type <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) in a database application.
<b>AccessStorageObject</b>	An <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) used by some messages in this protocol.
<b>ConnectivityStatusInformation</b>	This complex type specifies if a login having permissions specified by <b>Permission</b> element has been enabled or disabled on the database application.
<b>DataMacro</b>	An <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) used by some messages in this protocol.
<b>FirewallRule</b>	Specifies a <b>firewall rule</b> to be added to a database application. Only after the firewall rule has been added, will users whose IP address falls within the inclusive range of <b>StartIPAddress</b> and <b>EndIPAddress</b> be able to connect to the database application directly.
<b>Form</b>	An <b>AccessStorageObject</b> (section <a href="#">2.2.4.4</a> ) used by some messages in this protocol.
<b>LinkedTable</b>	An <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) used by some messages in this protocol.
<b>ObjectIdentityList</b>	Specifies an array of complex type <b>AccessObjectIdentity</b> (section <a href="#">2.2.4.2</a> ) in a database application.
<b>Query</b>	An <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) used by some messages in this protocol.
<b>ServiceError</b>	Specifies an error on the protocol server that is not a <b>SOAP fault</b> . For more information, see section <a href="#">2.2.9.2</a> .
<b>ServiceParameters</b>	The base complex type extended by all input messages defined in this protocol.
<b>ServiceResult</b>	The base complex type extended by all response messages defined in this protocol.
<b>ServiceWarning</b>	Specifies additional information as part of a successful response from the protocol server. For more information, see section <a href="#">2.2.9.3</a> .



Complex type	Description
<b>Table</b>	An <b>AccessObject</b> (section <a href="#">2.2.4.1</a> ) used by some messages in this protocol.
<b>UIMacro</b>	An <b>AccessStorageObject</b> (section <a href="#">2.2.4.4</a> ) used by some messages in this protocol.

### 2.2.4.1 AccessObject

#### Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies information about an object in a database application.

```
<xs:complexType name="AccessObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="ParentId" nillable="true" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Definition" nillable="true">
      <xs:complexType mixed="true">
        <xs:sequence>
          <xs:any/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="ID" type="xs:int" use="required"/>
  <xs:attribute name="Name" type="xs:string"/>
  <xs:attribute name="ObjectType" type="tns:AccessObjectType" use="required"/>
  <xs:attribute name="Description" type="xs:string"/>
  <xs:attribute name="Version" type="xs:string"/>
</xs:complexType>
```

**ParentId:** An **int** ([XMLSCHEMA2](#) section 3.3.17) that specifies the identifier of the parent object of this object. If not nil, **MUST** be the same value as the **ID** of another object in the database application. **MUST** be nil ([XSD1.1-1](#) section 2.7.2) if the object does not have a parent object.

**Definition:** This element specifies the definition of the object. The contents of this element **MUST** correspond to the **ObjectType** of this object, as specified in the following table.

Value of ObjectType attribute	Contents of Definition element
Table	<b>MUST</b> be a <b>Schema</b> element, as specified by <a href="#">[MC-CSDL]</a> section 2.1.1. <b>MUST</b> include the annotations specified by <a href="#">[MS-AXL2]</a> section 2.1.1.
Query	<b>MUST</b> be a <b>Query</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.1.
DataMacro	<b>MUST</b> be a <b>DataMacro</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.14.
Form	<b>MUST</b> be a <b>FormDef</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.12.
UIMacro	<b>MUST</b> be a <b>UserInterfaceMacro</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.5.
LinkedTable	<b>MUST</b> be a <b>Schema</b> element, as specified by <a href="#">[MC-CSDL]</a> section 2.1.1. <b>MUST</b> include the annotations specified by <a href="#">[MS-AXL2]</a> section 2.1.1.

**ID:** An **int** ([XMLSCHEMA2] section 3.3.17) that specifies the identifier of the object. MUST be a unique value among all objects within the database application.

**Name:** A **string** ([XMLSCHEMA2] section 3.2.1) that specifies the name of the object. MUST conform to **ST\_ObjectName** ([MS-AXL2] section 2.2.4.1).

**ObjectType:** An **AccessObjectType** (section 2.2.5.1) that specifies the type of the object. MUST be one of "Table", "Query", "DataMacro", "Form", "UIMacro", or "LinkedTable".

**Description:** A **string** ([XMLSCHEMA2] section 3.2.1) that specifies a description of the object.

**Version:** A **string** ([XMLSCHEMA2] section 3.2.1) that specifies the version of the object.

#### 2.2.4.2 AccessObjectIdentity

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies an **AccessObject** (section 2.2.4.1) and its version in a database application.

```
<xs:complexType name="AccessObjectIdentity" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="ID" type="xs:int" use="required"/>
  <xs:attribute name="Version" type="xs:string"/>
</xs:complexType>
```

**ID:** An **int** ([XMLSCHEMA2] section 3.3.17) that specifies the identifier of the object. MUST be a unique value among all objects within the database application.

**Version:** A **string** ([XMLSCHEMA2] section 3.2.1) that specifies the version of the object.

#### 2.2.4.3 AccessObjectList

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies an array of complex type **AccessObject** (section 2.2.4.1) in a database application.

```
<xs:complexType name="AccessObjectList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="AccessObject"
      type="tns:AccessObject"/>
  </xs:sequence>
</xs:complexType>
```

**AccessObject:** An **AccessObject** (section 2.2.4.1) that specifies an object in a database application.

#### 2.2.4.4 AccessStorageObject

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

An **AccessObject** (section 2.2.4.1) used by some messages in this protocol.

```

<xs:complexType name="AccessStorageObject" abstract="true"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:AccessObject"/>
  </xs:complexContent>
</xs:complexType>

```

### 2.2.4.5 ConnectivityStatusInformation

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type specifies if a login having permissions specified by **Permission** element has been enabled or disabled on the database application.

```

<xs:complexType name="ConnectivityStatusInformation"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel" use="required"/>
  <xs:attribute name="IsEnabled" type="xs:boolean" use="required"/>
</xs:complexType>

```

**Permission:** Specifies the **permission** level for the logins, as specified in section [2.2.5.2](#).

**IsEnabled: True** if the login with permissions specified by **Permission** exists on the database application and is enabled. **False** if the login does not exist or is disabled.

### 2.2.4.6 DataMacro

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

An **AccessObject** (section [2.2.4.1](#)) used by some messages in this protocol.

```

<xs:complexType name="DataMacro" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:AccessObject"/>
  </xs:complexContent>
</xs:complexType>

```

### 2.2.4.7 FirewallRule

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies a firewall rule to be added to a database application. Only after the firewall rule has been added, will users whose IP address falls within the inclusive range of **StartIPAddress** and **EndIPAddress** be able to connect to the database application directly.

```

<xs:complexType name="FirewallRule" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="StartIPAddress" type="xs:string"/>
  <xs:attribute name="EndIPAddress" type="xs:string"/>
</xs:complexType>

```

**StartIPAddress:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the starting IP address for the firewall rule range. MUST be an **IPv4 address in string format**.

**EndIPAddress:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the ending IP address for the firewall rule range. MUST be an IPv4 address in string format.

#### 2.2.4.8 Form

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

An **AccessStorageObject** (section [2.2.4.4](#)) used by some messages in this protocol.

```
<xs:complexType name="Form" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:AccessStorageObject"/>
  </xs:complexContent>
</xs:complexType>
```

#### 2.2.4.9 LinkedTable

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

An **AccessObject** (section [2.2.4.1](#)) used by some messages in this protocol.

```
<xs:complexType name="LinkedTable" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:AccessObject"/>
  </xs:complexContent>
</xs:complexType>
```

#### 2.2.4.10 ObjectIdentityList

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies an array of complex type **AccessObjectIdentity** (section [2.2.4.2](#)) in a database application.

```
<xs:complexType name="ObjectIdentityList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ObjectIdentity"
      type="tns:AccessObjectIdentity"/>
  </xs:sequence>
</xs:complexType>
```

**ObjectIdentity:** An **AccessObjectIdentity** (section [2.2.4.2](#)) that specifies an object and its version in a database application.

### 2.2.4.11 Query

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

An **AccessObject** (section [2.2.4.1](#)) used by some messages in this protocol.

```
<xs:complexType name="Query" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:AccessObject"/>
  </xs:complexContent>
</xs:complexType>
```

### 2.2.4.12 ServiceError

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies an error on the protocol server that is not a SOAP fault. For more information, see section [2.2.9.2](#).

```
<xs:complexType name="ServiceError" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="Code" type="xs:string"/>
  <xs:attribute name="Message" type="xs:string"/>
  <xs:attribute name="CorrelationId" type="xs:string"/>
  <xs:attribute name="Timestamp" type="xs:string"/>
</xs:complexType>
```

**Code:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies an identifier of the error, similar to a **SOAP fault code**. MUST be one of the values specified by section [2.2.9.2](#).

**Message:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a message that corresponds to the **Code**. The value of this message is implementation-dependent.

**CorrelationId:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the unique identifier of the request message that was sent as input to the protocol operation.

**Timestamp:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the date and time at which the error occurred.

### 2.2.4.13 ServiceParameters

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

The base complex type extended by all input messages defined in this protocol.

```
<xs:complexType name="ServiceParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema"/>
```

### 2.2.4.14 ServiceResult

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

The base complex type extended by all response messages defined in this protocol.

```
<xs:complexType name="ServiceResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Warning" nillable="true"
type="tns:ServiceWarning"/>
  </xs:sequence>
</xs:complexType>
```

**Warning:** A **ServiceWarning** (section [2.2.4.15](#)) that specifies additional information that accompanies the response. For more information, see section [2.2.9.3](#). If there are no warnings, this element MUST be nil ([\[XSD1.1-1\]](#) section 2.7.2).

### 2.2.4.15 ServiceWarning

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies additional information as part of a successful response from the protocol server. For more information, see section [2.2.9.3](#).

```
<xs:complexType name="ServiceWarning" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="Code" type="xs:string"/>
  <xs:attribute name="Message" type="xs:string"/>
</xs:complexType>
```

**Code:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies an identifier for the warning, similar to a SOAP fault code. Its value is implementation-specific.

**Message:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a message that corresponds to the **Code**. Its value is implementation-specific.

### 2.2.4.16 Table

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

An **AccessObject** (section [2.2.4.1](#)) used by some messages in this protocol.

```
<xs:complexType name="Table" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:AccessObject"/>
  </xs:complexContent>
</xs:complexType>
```

### 2.2.4.17 UIMacro

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

An **AccessStorageObject** (section [2.2.4.4](#)) used by some messages in this protocol.

```
<xs:complexType name="UIMacro" xmlns:xs="http://www.w3.org/2001/XMLSchema">
```

```

<xs:complexContent mixed="false">
  <xs:extension base="tns:AccessStorageObject"/>
</xs:complexContent>
</xs:complexType>

```

## 2.2.5 Simple Types

The following table summarizes the set of common XML schema simple type definitions defined by this specification. XML schema simple type definitions that are specific to a particular operation are described with the operation.

Simple type	Description
<b>AccessObjectType</b>	A string ( <a href="#">[XMLSCHEMA2]</a> section 3.2.1) that specifies the type of an object in a database application.
<b>ConnectivityPermissionLevel</b>	Specifies the permission level of a login that is used to connect to the database application directly.
<b>DeleteFirewallRulesOption</b>	Specifies how the <b>FirewallRule</b> (section <a href="#">2.2.4.7</a> ) on the database application are deleted.
<b>guid</b>	Specifies a <b>GUIDString</b> .

### 2.2.5.1 AccessObjectType

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the type of an object in a database application.

```

<xs:simpleType name="AccessObjectType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Unknown"/>
    <xs:enumeration value="Table"/>
    <xs:enumeration value="Query"/>
    <xs:enumeration value="DataMacro"/>
    <xs:enumeration value="Form"/>
    <xs:enumeration value="UIMacro"/>
    <xs:enumeration value="Report"/>
    <xs:enumeration value="Image"/>
    <xs:enumeration value="NavigationPane"/>
    <xs:enumeration value="AccessProperties"/>
    <xs:enumeration value="ApplicationVersion"/>
    <xs:enumeration value="ApplicationLogic"/>
    <xs:enumeration value="ApplicationStyle"/>
    <xs:enumeration value="LinkedTable"/>
    <xs:enumeration value="EmbeddedExpression"/>
    <xs:enumeration value="LinkedQuery"/>
  </xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for the **AccessObjectType** simple type.

Value	Meaning
Unknown	The object type is not specified.
Table	The object is a table ([MS-AXL2] section 2.1.1).
Query	The object is a query ([MS-AXL2] section 2.1.3).
DataMacro	The object is a data macro ([MS-AXL2] section 2.2.1.14).
Form	The object is a form ([MS-AXL2] section 2.2.1.12).
UIMacro	The object is a user interface macro ([MS-AXL2] section 2.1.2.1).
Report	This value MUST NOT be used.
Image	This value MUST NOT be used.
NavigationPane	This value MUST NOT be used.
AccessProperties	This value MUST NOT be used.
ApplicationVersion	This value MUST NOT be used.
ApplicationLogic	This value MUST NOT be used.
ApplicationStyle	This value MUST NOT be used.
LinkedTable	The object is a linked table ([MS-AXL2] section 2.1.1.6).
EmbeddedExpression	This value MUST NOT be used.
LinkedQuery	This value MUST NOT be used.

## 2.2.5.2 ConnectivityPermissionLevel

### Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the permission level of a login that is used to connect to the database application directly.

```
<xs:simpleType name="ConnectivityPermissionLevel"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Reader"/>
    <xs:enumeration value="Writer"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ConnectivityPermissionLevel** simple type.

Value	Meaning
Reader	With this permission level, the login has only read permission to the database application
Writer	With this permission level, the login has read and write permissions to the database application.



### 2.2.5.3 DeleteFirewallRulesOption

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies how the **FirewallRule** (section [2.2.4.7](#)) on the database application are deleted.

```
<xs:simpleType name="DeleteFirewallRulesOption" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Specified"/>
    <xs:enumeration value="All"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **DeleteFirewallRulesOption** simple type.

Value	Meaning
Specified	Only the given firewall rules are deleted from the database application.
All	All the firewall rules are deleted from the database application.

### 2.2.5.4 guid

**Namespace:** http://microsoft.com/wsd/types/

Specifies a GUIDString.

```
<xs:simpleType name="guid" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}"/>
  </xs:restriction>
</xs:simpleType>
```

### 2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

### 2.2.7 Groups

This specification does not define any common XML schema group definitions.

### 2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

### 2.2.9 Faults

In the event of an application error, the protocol server MUST either return a **ServiceError** element (section [2.2.4.12](#)) as part of its response to a request from the protocol client, as specified by the operations in section [3.1.4](#), or return a SOAP fault ([\[SOAP1.2/1\]](#) section 5.4) instead of the response specified by the operation.

### 2.2.9.1 SOAP Faults

The **Value** element ([\[SOAP1.2/1\]](#) section 5.4.1.3) of the **Subcode** element ([\[SOAP1.2/1\]](#) section 5.4.1.2) of the SOAP fault ([\[SOAP1.2/1\]](#) section 5.4) MUST be one of the fault identifiers specified by [\[MS-ADR\]](#) section 2.2.9.

### 2.2.9.2 Service Errors

The **Code** attribute of the **ServiceError** element (section [2.2.4.12](#)) MUST be one of the fault identifiers specified by [\[MS-ADR\]](#) section 2.2.9. The **Message** attribute SHOULD contain a meaningful error message, but its actual value is implementation-dependent.

### 2.2.9.3 Service Warnings

The protocol server MAY return a **ServiceWarning** element (section [2.2.4.15](#)) with the **nil** attribute set to "true" as part of a response specified by an operation in section [3.1.4](#). The response MAY contain both a **ServiceWarning** and a **ServiceError** that are not **nil** ([\[XSD1.1-1\]](#) section 2.7.2). The protocol client SHOULD treat responses that contain a **nil ServiceError** element and a non-**nil ServiceWarning** element as successful and MAY take action based on the attributes of the **ServiceWarning**. <1>

## 3 Protocol Details

In the following sections, the schema definition might differ from the processing rules imposed by the protocol. The WSDL in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL might specify differences that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be **empty**, **null**, or **not present** but the behavior of the protocol as specified restricts the same elements to being **non-empty**, **not null**, and **present**.

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls that are made by the higher-layer protocol or application are passed directly to the transport, and the results that are returned by the transport are passed directly to the higher-layer protocol or application.

Except where specified, protocol clients SHOULD interpret Hypertext Transfer Protocol (HTTP) status codes that are returned by the protocol server as specified in [\[RFC2616\]](#), section 10.

This protocol allows protocol servers to notify protocol clients of application-level faults by using SOAP faults. Except where otherwise specified, these SOAP faults are not significant for interoperability and protocol clients can interpret them in an implementation-specific manner.

This protocol allows protocol servers to perform implementation-specific authorization checks and to notify protocol clients of authorization faults by using either HTTP status codes or SOAP faults, as specified previously in this section.

### 3.1 Server Details

#### 3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

The protocol server retrieves and updates objects of the database application along with the metadata about the objects and the database application based on the requests from the client.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the list of operations as defined by this specification.

Operation	Description
<b>AddFirewallRule</b>	This operation adds a <b>FirewallRule</b> (section <a href="#">2.2.4.7</a> ) to the database application. The protocol client <b>MUST</b> call this operation only if the <b>IsDataConnectivitySupported</b> and

Operation	Description
	<b>IsFirewallRestricted</b> elements of the <b>GetAppInfoResult</b> (section <a href="#">3.1.4.4.3.2</a> ) in the response body of a previous call to <b>GetApplicationInformation</b> operation (section <a href="#">3.1.4.4</a> ) are "true".
<b>CreateAccessObject</b>	This operation triggers the creation of specified objects in a database application.
<b>CreatePackage</b>	This operation triggers creation of a package that represents a database application, including its objects and data. The package can be retrieved by using the <b>GetPackage</b> operation (section <a href="#">3.1.4.18</a> ).
<b>DeleteAccessObject</b>	This operation triggers the deletion of an object in a database application.
<b>DeleteFirewallRules</b>	This operation deletes firewall rules from the database application. These rules MUST have been previously added by the <b>AddFirewallRule</b> operation (section <a href="#">3.1.4.10</a> ). The protocol client MUST call this operation only if the <b>IsDataConnectivitySupported</b> and <b>IsFirewallRestricted</b> attributes of the <b>GetAppInfoResult</b> (section <a href="#">3.1.4.4.3.2</a> ) in the response body of a previous call to <b>GetApplicationInformation</b> operation (section <a href="#">3.1.4.4</a> ) are "true".
<b>GetAccessObject</b>	The <b>GetAccessObject</b> operation triggers retrieval of the requested object from a database application.
<b>GetApplicationInformation</b>	This operation retrieves information about a database application from the protocol server.
<b>GetDataConnectivity</b>	This operation gets information about a login in the database application, which is used to connect to the database application directly. The protocol client MUST call this operation only if the <b>IsDataConnectivitySupported</b> element of the <b>GetAppInfoResult</b> (section <a href="#">3.1.4.4.3.2</a> ) in the response body of a previous call to <b>GetApplicationInformation</b> operation (section <a href="#">3.1.4.4</a> ) is "true".
<b>GetDataConnectivityStatus</b>	This operation gets status information about logins in the database application, which are used to connect to the database application directly. The protocol client MUST call this operation only if the <b>IsDataConnectivitySupported</b> element of the <b>GetAppInfoResult</b> (section <a href="#">3.1.4.4.3.2</a> ) in the response body of a previous call to <b>GetApplicationInformation</b> operation (section <a href="#">3.1.4.4</a> ) is "true".
<b>GetFirewallRules</b>	This operation gets all the <b>FirewallRules</b> (section <a href="#">2.2.4.7</a> ) present in the database application. The protocol client MUST call this operation only if the <b>IsDataConnectivitySupported</b> and <b>IsFirewallRestricted</b> elements of the <b>GetAppInfoResult</b> (section <a href="#">3.1.4.4.3.2</a> ) in the response body of a previous call to <b>GetApplicationInformation</b> operation (section <a href="#">3.1.4.4</a> ) are "true".
<b>GetLinkedTableInformation</b>	The <b>GetLinkedTableInformation</b> operation creates a new <b>linked table</b> ( <a href="#">[MS-AXL2]</a> section 2.1.1.6) in a database application in the protocol server, and returns the definition of the created <b>linked table</b> to the protocol client.
<b>GetPackage</b>	This operation retrieves a package that represents a database application, including its objects and data.
<b>ImportData</b>	The <b>ImportData</b> operation triggers importing data into a table in a

Operation	Description
	database application.
<b>RefreshLinkedTableInformation</b>	This operation refreshes an existing <b>linked table</b> ([MS-AXL2] section 2.1.1.6) in a database application on the protocol server. The protocol server uses the <b>ID</b> attribute in the <b>RefreshLinkedTableInformationParameters</b> (section 3.1.4.16.3.1) element to identify the <b>linked table</b> ([MS-AXL2] section 2.1.1.6) in the database application, updates its definition from the source of the <b>linked table</b> ([MS-AXL2] section 2.1.1.6), and returns the updated definition to the protocol client.
<b>RenameAccessObject</b>	The <b>RenameAccessObject</b> operation changes the name of an object in a database application and updates the definition of dependent objects with the new name of the renamed object.
<b>SetDataConnectivityStatus</b>	This operation enables or disables a login in the database application, which is used to connect to the database application directly. The protocol client <b>MUST</b> call this operation only if the <b>IsDataConnectivitySupported</b> element of the <b>GetAppInfoResult</b> (section 3.1.4.4.3.2) in the response body of a previous call to <b>GetApplicationInformation</b> operation (section 3.1.4.4) is "true".
<b>SetDataMacroTracing</b>	This operation sets the data macro ([MS-AXL2] section 2.1.2.2) tracing option in a database application to determine whether the protocol server allows logging the execution of a data macro ([MS-AXL2] section 2.1.2.2)
<b>UpdateAccessObject</b>	The <b>UpdateAccessObject</b> operation updates an object in a database application.

### 3.1.4.1 CreateAccessObject

This operation triggers the creation of specified objects in a database application.

The following is the WSDL port type specification of the **CreateAccessObject WSDL operation**.

```
<wsdl:operation name="CreateAccessObject" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CreateAccessObjectSoapIn"/>
  <wsdl:output message="tns:CreateAccessObjectSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **CreateAccessObjectSoapIn** (section 3.1.4.1.1.1) request message and the protocol server responds with a **CreateAccessObjectSoapOut** (section 3.1.4.1.1.2) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server **MUST** respond with a SOAP fault, as specified by section 2.2.9.1.
- Otherwise, the protocol server **MUST** respond with a **CreateAccessObjectSoapOut** response message that contains information about the newly created object, as specified by **CreateResult** (section 3.1.4.1.3.2).

### 3.1.4.1.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>CreateAccessObjectSoapIn</b>	The request WSDL message for the <b>CreateAccessObject</b> WSDL operation.
<b>CreateAccessObjectSoapOut</b>	The response WSDL message for the <b>CreateAccessObject</b> WSDL operation.

#### 3.1.4.1.1.1 CreateAccessObjectSoapIn

The request WSDL message for the **CreateAccessObject** WSDL operation.

The **SOAP action** value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/CreateAccessObject
```

The **SOAP body** contains the **CreateAccessObject** element.

#### 3.1.4.1.1.2 CreateAccessObjectSoapOut

The response WSDL message for the **CreateAccessObject** WSDL operation.

The SOAP body contains the **CreateAccessObjectResponse** element.

### 3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>CreateAccessObject</b>	The input data for the <b>CreateAccessObject</b> WSDL operation.
<b>CreateAccessObjectResponse</b>	The result data for the <b>CreateAccessObject</b> WSDL operation.

#### 3.1.4.1.2.1 CreateAccessObject

The **CreateAccessObject** element specifies the input data for the **CreateAccessObject** WSDL operation.

```
<xs:element name="CreateAccessObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="parameters" type="tns:CreateParameters"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

**parameters:** A **CreateParameters** element (section [3.1.4.1.3.1](#)) that specifies the information that the protocol server needs to create the specified objects. **MUST** be present.

### 3.1.4.1.2.2 CreateAccessObjectResponse

The **CreateAccessObjectResponse** element specifies the result data for the **CreateAccessObject** WSDL operation.

```
<xs:element name="CreateAccessObjectResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="CreateAccessObjectResult"
type="tns:CreateResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**CreateAccessObjectResult:** A **CreateResult** element (section [3.1.4.1.3.2](#)) that specifies information about the newly created objects for the protocol client to use. **MUST** be present.

### 3.1.4.1.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>CreateParameters</b>	Specifies information needed by the protocol server to create objects.
<b>CreateResult</b>	Specifies objects created by the protocol server.
<b>ParameterObject</b>	Specifies information about an object that is to be created.
<b>ParameterObjectList</b>	Specifies objects to be created.

#### 3.1.4.1.3.1 CreateParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the information that the protocol server needs to create the specified objects in a database application.

```
<xs:complexType name="CreateParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="ParameterObjects"
type="tns:ParameterObjectList"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ParameterObjects:** Specifies the objects to be created. MUST be present.

**ProtocolVersion:** An **Access Services Protocol Version token** ([MS-ASDT] section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section 3.1.4.4) in the **ProtocolVersion** element of the **GetAppInfoResult** (section 3.1.4.4.3.2). MUST be present.

### 3.1.4.1.3.2 CreateResult

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies the object and possible dependent object or objects that were created in response to the request from the protocol client.

```
<xs:complexType name="CreateResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects" type="tns:AccessObjectList"/>
        <xs:element minOccurs="1" maxOccurs="1" name="RefreshRequired" type="xs:boolean"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Objects:** An **AccessObjectList** (section 2.2.4.3) element that specifies the object or objects that were created by the protocol server. MUST be present.

**RefreshRequired:** A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether the protocol client SHOULD refresh its cached definitions of the objects specified by the **Objects** element.

**Error:** A **ServiceError** element (section 2.2.4.12) that, if not nil ([XSD1.1-1] section 2.7.2), specifies an error that occurred on the protocol server while creating an object. If the operation succeeded in creating all the objects, this element MUST be nil.

### 3.1.4.1.3.3 ParameterObjectList

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies an array of objects that are to be created in a database application.

```
<xs:complexType name="ParameterObjectList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ParameterObject"
type="tns:ParameterObject"/>
  </xs:sequence>
</xs:complexType>
```

**ParameterObject:** Specifies information about an object that is to be created. MUST be present.



### 3.1.4.1.3.4 ParameterObject

#### Namespace:

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies the information that the protocol server needs to create an object.

```
<xs:complexType name="ParameterObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Body">
      <xs:complexType mixed="true">
        <xs:sequence>
          <xs:any/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="Name" type="xs:string"/>
  <xs:attribute name="Description" type="xs:string"/>
  <xs:attribute name="ObjectType" type="tns:AccessObjectType" use="required"/>
</xs:complexType>
```

**Body:** Specifies the definition of the object to create. The contents of **Body** depend on **ObjectType**, as specified in the following table. MUST be present.

Value of ObjectType Attribute	Contents of Body Element
Table	MUST be a <b>Schema</b> element, as specified by <a href="#">[MC-CSDL]</a> section 2.1.1. MUST include the annotations specified by <a href="#">[MS-AXL2]</a> section 2.1.1.
Query	MUST be a <b>Query</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.1.
Form	MUST be a <b>FormDef</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.12.
DataMacro	MUST be a <b>DataMacro</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.14.
UIMacro	MUST be a <b>UserInterfaceMacro</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.5.

**Name:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the name of the object to create. MUST be present.

**Description:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a description of the object to create.

**ObjectType:** An **AccessObjectType** (section [2.2.5.1](#)) that specifies the type of object to create. MUST be one of the following values: **Table**, **Query**, **Form**, **DataMacro** or **UIMacro**.

### 3.1.4.1.4 Simple Types

None.

### 3.1.4.1.5 Attributes

None.

### 3.1.4.1.6 Groups

None.

### 3.1.4.1.7 Attribute Groups

None.

### 3.1.4.2 CreatePackage

This operation triggers creation of a package that represents a database application, including its objects and data. The package can be retrieved by using the **GetPackage** operation (section [3.1.4.18](#)).

The following is the WSDL port type specification of the **CreatePackage** WSDL operation.

```
<wsdl:operation name="CreatePackage" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CreatePackageSoapIn"/>
  <wsdl:output message="tns:CreatePackageSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **CreatePackageSoapIn** (section [3.1.4.2.1.1](#)) request message and the protocol server responds with a **CreatePackageSoapOut** (section [3.1.4.2.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified by section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **CreatePackageSoapOut** response message that contains an identifier that can be used to retrieve the package.

#### 3.1.4.2.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>CreatePackageSoapIn</b>	The request WSDL message for the <b>CreatePackage</b> WSDL operation.
<b>CreatePackageSoapOut</b>	The response WSDL message for the <b>CreatePackage</b> WSDL operation.

##### 3.1.4.2.1.1 CreatePackageSoapIn

The request WSDL message for the **CreatePackage** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/CreatePackage
```

The SOAP body contains the **CreatePackage** element.

### 3.1.4.2.1.2 CreatePackageSoapOut

The response WSDL message for the **CreatePackage** WSDL operation.

The SOAP body contains the **CreatePackageResponse** element.

### 3.1.4.2.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>CreatePackage</b>	The input data for the <b>CreatePackage</b> WSDL operation.
<b>CreatePackageResponse</b>	The result data for the <b>CreatePackage</b> WSDL operation.

#### 3.1.4.2.2.1 CreatePackage

The **CreatePackage** element specifies the input data for the **CreatePackage** WSDL operation.

```
<xs:element name="CreatePackage" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:CreatePackageParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **CreatePackageParameters** element (section [3.1.4.2.3.1](#)) that specifies the information the protocol server needs to create a package. **MUST** be present.

#### 3.1.4.2.2.2 CreatePackageResponse

The **CreatePackageResponse** element specifies the result data for the **CreatePackage** WSDL operation.

```
<xs:element name="CreatePackageResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="CreatePackageResult"
type="tns:CreatePackageResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**CreatePackageResult:** A **CreatePackageResult** element (section [3.1.4.2.3.2](#)) that contains an identifier of a package. **MUST** be present.

#### 3.1.4.2.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>CreatePackageParameters</b>	Specifies information about the package.
<b>CreatePackageResult</b>	Contains the identifier of the requested package.

### 3.1.4.2.3.1 CreatePackageParameters

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies the information that the protocol server needs to create the package.

```
<xs:complexType name="CreatePackageParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="Title" type="xs:string"/>
      <xs:attribute name="Data" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** token ([\[MS-ASDT\]](#) section 3.1.1.1). **ProtocolVersion** MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** element (section [3.1.4.4.3.2](#)). MUST be present.

**Title:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the title of the package. MUST be present.

**Data:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether to include the data of the database application in the package.

### 3.1.4.2.3.2 CreatePackageResult

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies an identifier that the protocol client can use with the **GetPackage** operation (section [3.1.4.18](#)) to poll the protocol server and retrieve the created package.

```
<xs:complexType name="CreatePackageResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="PackageId" type="xs:string"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**PackageId:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the identifier of a package that can be retrieved from the protocol server. MUST be present.

#### 3.1.4.2.4 Simple Types

None.

#### 3.1.4.2.5 Attributes

None.

#### 3.1.4.2.6 Groups

None.

#### 3.1.4.2.7 Attribute Groups

None.

#### 3.1.4.3 GetAccessObject

The **GetAccessObject** operation triggers retrieval of the requested object from a database application.

The following is the WSDL port type specification of the **GetAccessObject** WSDL operation.

```
<wsdl:operation name="GetAccessObject" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetAccessObjectSoapIn"/>
  <wsdl:output message="tns:GetAccessObjectSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetAccessObjectSoapIn** (section [3.1.4.3.1.1](#)) request message and the protocol server responds with a **GetAccessObjectSoapOut** (section [3.1.4.3.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **GetAccessObjectSoapOut** response message that contains information about the requested object.

##### 3.1.4.3.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetAccessObjectSoapIn</b>	The request WSDL message for the <b>GetAccessObject</b> WSDL operation.
<b>GetAccessObjectSoapOut</b>	The response WSDL message for the <b>GetAccessObject</b> WSDL operation.

##### 3.1.4.3.1.1 GetAccessObjectSoapIn

The request WSDL message for the **GetAccessObject** WSDL operation.

The SOAP action value is:

The SOAP body contains the **GetAccessObject** element.

### 3.1.4.3.1.2 GetAccessObjectSoapOut

The response WSDL message for the **GetAccessObject** WSDL operation.

The SOAP body contains the **GetAccessObjectResponse** element.

### 3.1.4.3.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetAccessObject</b>	The input data for the <b>GetAccessObject</b> WSDL operation.
<b>GetAccessObjectResponse</b>	The result data for the <b>GetAccessObject</b> WSDL operation.

#### 3.1.4.3.2.1 GetAccessObject

The **GetAccessObject** element specifies the input data for the **GetAccessObject** WSDL operation.

```
<xs:element name="GetAccessObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="parameters" type="tns:GetParameters"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

**parameters:** A **GetParameters** element (section [3.1.4.3.3.1](#)) that specifies the information that the protocol server needs to retrieve an object. **MUST** be present.

#### 3.1.4.3.2.2 GetAccessObjectResponse

The **GetAccessObjectResponse** element specifies the result data for the **GetAccessObject** WSDL operation.

```
<xs:element name="GetAccessObjectResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="GetAccessObjectResult" type="tns:GetResult"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

**GetAccessObjectResult:** A **GetResult** element (section [3.1.4.3.3.2](#)) that specifies information about the requested object for the protocol client to use. **MUST** be present.

### 3.1.4.3.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>GetParameters</b>	Specifies an object to retrieve.
<b>GetResult</b>	Specifies an object.

#### 3.1.4.3.3.1 GetParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies information that the protocol server needs to retrieve an object.

```
<xs:complexType name="GetParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ID" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** token ([\[MS-ASDT\]](#) section 3.1.1.1). **ProtocolVersion** MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** element (section [3.1.4.4.3.2](#)). MUST be present.

**ID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) attribute that specifies the identifier of the object to be retrieved. **ID** MUST be the same value as the **ID** attribute of one of the **AccessObject** elements returned by the protocol server for a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element.

#### 3.1.4.3.3.2 GetResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **GetResult** complex type specifies information about the requested object and possible dependent objects in the database application.

```
<xs:complexType name="GetResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects" type="tns:AccessObjectList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Objects:** An **AccessObjectList** (section [2.2.4.3](#)) element that specifies information about one or more objects in the database application. **MUST** be present.

#### 3.1.4.3.4 Simple Types

None.

#### 3.1.4.3.5 Attributes

None.

#### 3.1.4.3.6 Groups

None.

#### 3.1.4.3.7 Attribute Groups

None.

#### 3.1.4.4 GetApplicationInformation

This operation retrieves information about a database application from the protocol server.

The following is the WSDL port type specification of the **GetApplicationInformation** WSDL operation.

```
<wsdl:operation name="GetApplicationInformation"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetApplicationInformationSoapIn"/>
  <wsdl:output message="tns:GetApplicationInformationSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetApplicationInformationSoapIn** (section [3.1.4.4.1.1](#)) request message and the protocol server responds with a **GetApplicationInformationSoapOut** (section [3.1.4.4.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server **MUST** respond with a SOAP fault, as specified by section [2.2.9.1](#).
- Otherwise, the protocol server **MUST** respond with a **GetApplicationInformationSoapOut** response message that contains information about the requested database application.

#### 3.1.4.4.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetApplicationInformationSoapIn</b>	The request WSDL message for the <b>GetApplicationInformation</b> WSDL operation.
<b>GetApplicationInformationSoapOut</b>	The response WSDL message for the <b>GetApplicationInformation</b> WSDL operation.



### 3.1.4.4.1.1 GetApplicationInformationSoapIn

The request WSDL message for the **GetApplicationInformation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/GetApplicationInformation
```

The SOAP body contains the **GetApplicationInformation** element.

### 3.1.4.4.1.2 GetApplicationInformationSoapOut

The response WSDL message for the **GetApplicationInformation** WSDL operation.

The SOAP body contains the **GetApplicationInformationResponse** element.

### 3.1.4.4.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetApplicationInformation</b>	The input data for the <b>GetApplicationInformation</b> WSDL operation.
<b>GetApplicationInformationResponse</b>	The result data for the <b>GetApplicationInformation</b> WSDL operation.

#### 3.1.4.4.2.1 GetApplicationInformation

The **GetApplicationInformation** element specifies the input data for the **GetApplicationInformation** WSDL operation.

```
<xs:element name="GetApplicationInformation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetApplicationInformationParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **GetApplicationInformationParameters** element (section [3.1.4.4.3.1](#)) that specifies the information that the protocol server needs to identify and retrieve a database application. **MUST** be present.

#### 3.1.4.4.2.2 GetApplicationInformationResponse

The **GetApplicationInformationResponse** element specifies the result data for the **GetApplicationInformation** WSDL operation.

```

<xs:element name="GetApplicationInformationResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetApplicationInformationResult"
type="tns:GetAppInfoResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

**GetApplicationInformationResult:** A **GetAppInfoResult** element (section [3.1.4.4.3.2](#)) that specifies information about the requested database application. MUST be present.

### 3.1.4.4.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>Collation</b>	Specifies <b>collation</b> information about the backend database.
<b>GetAppInfoResult</b>	Specifies information about the requested application.
<b>GetApplicationInformationParameters</b>	Specifies the application about which the protocol client is requesting information.
<b>IDList</b>	Specifies a list of objects in an application.
<b>ProtocolVersionList</b>	Specifies a list of protocol versions.

#### 3.1.4.4.3.1 GetApplicationInformationParameters

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies the information that the protocol server needs to identify and retrieve a database application.

```

<xs:complexType name="GetApplicationInformationParameters"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="ProtocolVersionOptions"
type="tns:ProtocolVersionList"/>
        <xs:element minOccurs="0" maxOccurs="1" name="KnownObjects"
type="tns:ObjectIdentityList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

**ProtocolVersionOptions:** A **ProtocolVersionList** (section [3.1.4.4.3.4](#)) that specifies all protocol versions that the protocol client will accept. MUST be present.

**KnownObjects:** An **ObjectIdentityList** (section [2.2.4.10](#)) that specifies all objects in the database application about which the protocol client has already retrieved information. MUST be present. If the protocol client has not retrieved information about any objects, then this element MUST NOT have any child elements. The **Version** attribute of each **AccessObjectIdentity** (section [2.2.4.2](#)) element that is a child of **KnownObjects** contains the most recent version token for that object that was received by the protocol client from a call to **GetApplicationInformation** (section [3.1.4.4](#)), **CreateAccessObject** (section [3.1.4.1](#)), or **UpdateAccessObject** (section [3.1.4.8](#)).

### 3.1.4.4.3.2 GetAppInfoResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies information about a database application.

```
<xs:complexType name="GetAppInfoResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Collation" type="tns:Collation"/>
        <xs:element minOccurs="0" maxOccurs="1" name="NewObjects"
type="tns:AccessObjectList"/>
        <xs:element minOccurs="0" maxOccurs="1" name="UpdatedObjects"
type="tns:AccessObjectList"/>
        <xs:element minOccurs="0" maxOccurs="1" name="DeletedObjects" type="tns:IDList"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="Name" type="xs:string"/>
      <xs:attribute name="AlternateUrl" type="xs:string"/>
      <xs:attribute name="Title" type="xs:string"/>
      <xs:attribute name="DatabaseName" type="xs:string"/>
      <xs:attribute name="DataServerName" type="xs:string"/>
      <xs:attribute name="ApplicationCulture" type="xs:string"/>
      <xs:attribute name="RequestIPAddress" type="xs:string"/>
      <xs:attribute name="IsDataMacroTracingOn" type="xs:boolean" use="required"/>
      <xs:attribute name="IsFirewallRestricted" type="xs:boolean" use="required"/>
      <xs:attribute name="IsDataConnectivitySupported" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Collation:** A **Collation** (section [3.1.4.4.3.3](#)) element that specifies collation information about the backend database specified by **DatabaseName** and **DataServerName**. MUST be present.

**NewObjects:** An **AccessObjectList** (section [2.2.4.3](#)) element that fully specifies a set of objects. MUST be present. This list MUST include all objects in the application that were not present in the **KnownObjects** element of the **GetApplicationInformationParameters** that was sent in the request from the protocol client. If there are no objects in the application that were not present in **KnownObjects**, then this element MUST NOT have child elements.

**UpdatedObjects:** An **AccessObjectList** (section [2.2.4.3](#)) element that fully specifies a set of objects. MUST be present. This list MUST include all objects in the application that were present in the **KnownObjects** of the **GetApplicationInformationParameters** that was sent in the request from the protocol client, but which had a different version than the protocol client specified in the **Version** attribute of the **ObjectIdentity** element that had the same **ID**. If there are no objects in

the application that were present in **KnownObjects** but now have a different version, then this element MUST NOT have child elements.

**DeletedObjects:** An **IDList** (section [3.1.4.4.3.5](#)) element that specifies a set of objects. MUST be present. This list MUST include all objects that were present in the **KnownObjects** of the **GetApplicationInformationParameters** (section [3.1.4.4.3.1](#)) that was sent in the request from the protocol client, but which are not present in the protocol server. If all objects in the application that were present in **KnownObjects** are also present in the protocol server, then this element MUST NOT have child elements.

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1) token that specifies the best match between the versions supported by the protocol client and the version of the application on the protocol server, as determined by the protocol server implementation. MUST be one of the values in the **ProtocolVersionOptions** of the **GetApplicationInformationParameters** that is sent with the request from the protocol client. MUST also be one of the values that would be returned by the protocol server from a call to **GetServerInformation** ([\[MS-ASDT\]](#) section 3.1.4.2) in the **AcceptedProtocolVersions** of a **GetServerInfoResult** ([\[MS-ASDT\]](#) section 3.1.4.2.3.1). MUST be present.

**Name:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the name of the application. MUST be present.

**AlternateUrl:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies an alternate **Uniform Resource Locator (URL)** for accessing the application. MUST be present.

**Title:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the title of the application. MUST be present.

**DatabaseName:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the name of the backend database that contains the application. The database is located on the server specified by **DataServerName**. MUST be present.

**DataServerName:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the name of the server on which the database specified by **DatabaseName** resides. MUST be present.

**ApplicationCulture:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the **culture name** of the application. MUST be formatted as specified by [\[RFC4646\]](#). MUST be present.

**RequestIPAddress:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the IP address from which the protocol server received the **GetApplicationInformation** request. MUST be either an **IPv6 address in string format** ([\[RFC4291\]](#) section 2.2) or an IPv4 address in string format ([\[RFC1123\]](#) section 2.1). MUST be present.

**IsDataMacroTracingOn:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies whether data macro tracing (section [3.1.4.7](#)) is enabled in the application. MUST be present.

**IsFirewallRestricted:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies whether connections to the application are restricted by a firewall on the server. MUST be present.

**IsDataConnectivitySupported:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies whether external connections to the application are enabled. MUST be present.

### 3.1.4.4.3.3 Collation

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specified by [\[MS-ASDT\]](#) section 3.1.4.1.3.2.

```
<xs:complexType name="Collation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="Culture" type="xs:string"/>
  <xs:attribute name="CaseSensitive" type="xs:boolean"/>
  <xs:attribute name="AccentSensitive" type="xs:boolean"/>
  <xs:attribute name="KanaSensitive" type="xs:boolean"/>
  <xs:attribute name="WidthSensitive" type="xs:boolean"/>
  <xs:attribute name="UseSupplementaryCharacters" type="xs:boolean" use="required"/>
</xs:complexType>
```

**Culture:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the culture name of the collation. MUST be formatted as specified by [\[RFC4646\]](#). MUST be present.

**CaseSensitive:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the collation distinguishes between uppercase and lowercase letters. If not specified, the protocol server uses the default value appropriate for **Culture**.

**AccentSensitive:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the collation distinguishes between characters with accents and those without. If not specified, the protocol server uses the default value appropriate for **Culture**.

**KanaSensitive:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the collation distinguishes between the two types of Japanese kana characters: hiragana and katakana. If not specified, the protocol server uses the default value appropriate for **Culture**.

**WidthSensitive:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the collation distinguishes between single-byte characters and the same characters when they are represented as double-byte characters. If not specified, the protocol server uses the default value appropriate for **Culture**.

**UseSupplementaryCharacters:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the collation uses **surrogate pairs**.

#### 3.1.4.4.3.4 ProtocolVersionList

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

A sequence of **Access Services Protocol Version** elements ([\[MS-ASDT\]](#) section 3.1.1.1).

```
<xs:complexType name="ProtocolVersionList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ProtocolVersion" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

**ProtocolVersion:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies an **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be present.

#### 3.1.4.4.3.5 IDList

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

A sequence of object identifiers.

```
<xs:complexType name="IDList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ID" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

**ID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) that specifies the unique identifier of an object.

#### 3.1.4.4.4 Simple Types

None.

#### 3.1.4.4.5 Attributes

None.

#### 3.1.4.4.6 Groups

None.

#### 3.1.4.4.7 Attribute Groups

None.

#### 3.1.4.5 GetLinkedTableInformation

The **GetLinkedTableInformation** operation creates a new **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6) in a database application in the protocol server, and returns the definition of the created **linked table** to the protocol client.

The following is the WSDL port type specification of the **GetLinkedTableInformation** WSDL operation.

```
<wsdl:operation name="GetLinkedTableInformation"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetLinkedTableInformationSoapIn"/>
  <wsdl:output message="tns:GetLinkedTableInformationSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetLinkedTableInformationSoapIn** request message (section [3.1.4.5.1.1](#)) and the protocol server responds with a **GetLinkedTableInformationSoapOut** response message (section [3.1.4.5.1.2](#)) as follows:

- If an error occurs on the protocol server during this operation, the protocol server **MUST** respond with a SOAP fault, as specified by section [2.2.9.1](#).
- Otherwise, the protocol server **MUST** respond with a **GetLinkedTableInformationSoapOut** response message that contains information about the requested **linked table**.

### 3.1.4.5.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetLinkedTableInformationSoapIn</b>	The request WSDL message for the <b>GetLinkedTableInformation</b> WSDL operation.
<b>GetLinkedTableInformationSoapOut</b>	The response WSDL message for the <b>GetLinkedTableInformation</b> WSDL operation.

#### 3.1.4.5.1.1 GetLinkedTableInformationSoapIn

The request WSDL message for the **GetLinkedTableInformation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/GetLinkedTableInformation
```

The SOAP body contains the **GetLinkedTableInformation** element.

#### 3.1.4.5.1.2 GetLinkedTableInformationSoapOut

The response WSDL message for the **GetLinkedTableInformation** WSDL operation.

The SOAP body contains the **GetLinkedTableInformationResponse** element.

### 3.1.4.5.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetLinkedTableInformation</b>	The input data for the <b>GetLinkedTableInformation</b> WSDL operation.
<b>GetLinkedTableInformationResponse</b>	The result data for the <b>GetLinkedTableInformation</b> WSDL operation.

#### 3.1.4.5.2.1 GetLinkedTableInformation

The **GetLinkedTableInformation** element specifies the input data for the **GetLinkedTableInformation** WSDL operation.

```
<xs:element name="GetLinkedTableInformation" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"  
        type="tns:GetLinkedTableInformationParameters"/>  
    </xs:sequence>  
  </xs:complexType>
```

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

**parameters:** A **GetLinkedTableInformationParameters** complex type (section [3.1.4.5.3.1](#)) that specifies the source of the **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6). This element **MUST** be present.

### 3.1.4.5.2.2 GetLinkedTableInformationResponse

The **GetLinkedTableInformationResponse** element specifies the result data for the **GetLinkedTableInformation** WSDL operation.

```
<xs:element name="GetLinkedTableInformationResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetLinkedTableInformationResult"
        type="tns:GetLinkedTableInformationResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetLinkedTableInformationResult:** A **GetLinkedTableInformationResult** complex type (section [3.1.4.5.3.2](#)) that specifies information about the created **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6). This element **MUST** be present.

### 3.1.4.5.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>GetLinkedTableInformationParameters</b>	Specifies a <b>linked table</b> about which to retrieve information.
<b>GetLinkedTableInformationResult</b>	Specifies information about a <b>linked table</b> .

#### 3.1.4.5.3.1 GetLinkedTableInformationParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **GetLinkedTableInformationParameters** complex type specifies information about the source of the **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6) that needs to be created in the database application.

```
<xs:complexType name="GetLinkedTableInformationParameters"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ListID" xmlns:s1="http://microsoft.com/wsdl/types/" type="s1:guid"
        use="required"/>
      <xs:attribute name="SiteUrl" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```



```

    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

**ProtocolVersion:** An **Access Services Protocol Version** token ([\[MS-ASDT\]](#) section 3.1.1.1). This element MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** complex type (section [3.1.4.4.3.2](#)). This element MUST be present.

**ListID:** A **curly braced GUID string** that identifies the **linked table** that needs to be created in the database application. This element MUST be present.

**SiteUrl:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the Uniform Resource Locator (URL) of the site (2) on which the specified **linked table** is located. This element MUST be present.

### 3.1.4.5.3.2 GetLinkedTableInformationResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **GetLinkedTableInformationResult** complex type specifies the **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6) created on the protocol server.

```

<xs:complexType name="GetLinkedTableInformationResult"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects" type="tns:AccessObjectList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

**Objects:** An **AccessObjectList** complex type (section [2.2.4.3](#)) that contains the **linked table**. This element MUST be present, and MUST contain exactly one **AccessObject** complex type (section [2.2.4.1](#)), and the **ObjectType** of that element MUST be "LinkedTable".

### 3.1.4.5.4 Simple Types

None.

### 3.1.4.5.5 Attributes

None.

### 3.1.4.5.6 Groups

None.

### 3.1.4.5.7 Attribute Groups

None.

### 3.1.4.6 RenameAccessObject

The **RenameAccessObject** operation changes the name of an object in a database application and updates the definition of dependent objects with the new name of the renamed object.

The following is the WSDL port type specification of the **RenameAccessObject** WSDL operation.

```
<wsdl:operation name="RenameAccessObject" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RenameAccessObjectSoapIn"/>
  <wsdl:output message="tns:RenameAccessObjectSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **RenameAccessObjectSoapIn** request message (section [3.1.4.6.1.1](#)) and the protocol server responds with a **RenameAccessObjectSoapOut** response message (section [3.1.4.6.1.2](#)) as follows:

- If the **ObjectVersion** attribute specified in the **RenameParameters** complex type (section [3.1.4.6.3.1](#)) does not match the version token on the protocol server for the object being renamed, the protocol server MUST NOT rename the object and MUST respond with a **RenameAccessObjectSoapOut** response message that contains the current definition of the object and a **ServiceError** complex type (section [2.2.4.12](#)) with a **Code** value of "WebService\_ObjectSaveConflict".
- If any of the dependent objects of the object being renamed is listed in the **OpenObjects** attribute specified in the **RenameParameters**, the protocol server MUST NOT rename the object and MUST respond with an **RenameAccessObjectSoapOut** response message that contains the current definition of the object and a **ServiceError** with a **Code** value of "AccessRenameException\_OpenDependentObjects".
- If an error occurs on the protocol server during this operation, the protocol server MUST send a SOAP fault, as specified by section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **RenameAccessObjectSoapOut** response message that contains the specified information about the renamed object.

#### 3.1.4.6.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>RenameAccessObjectSoapIn</b>	The request WSDL message for the <b>RenameAccessObject</b> WSDL operation.
<b>RenameAccessObjectSoapOut</b>	The response WSDL message for the <b>RenameAccessObject</b> WSDL operation.

##### 3.1.4.6.1.1 RenameAccessObjectSoapIn

The request WSDL message for the **RenameAccessObject** WSDL operation.

The SOAP action value is:

The SOAP body contains the **RenameAccessObject** element.

### 3.1.4.6.1.2 RenameAccessObjectSoapOut

The response WSDL message for the **RenameAccessObject** WSDL operation.

The SOAP body contains the **RenameAccessObjectResponse** element.

### 3.1.4.6.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>RenameAccessObject</b>	The input data for the <b>RenameAccessObject</b> WSDL operation.
<b>RenameAccessObjectResponse</b>	The result data for the <b>RenameAccessObject</b> WSDL operation.

#### 3.1.4.6.2.1 RenameAccessObject

The **RenameAccessObject** element specifies the input data for the **RenameAccessObject** WSDL operation.

```
<xs:element name="RenameAccessObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters" type="tns:RenameParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **RenameParameters** complex type (section [3.1.4.6.3.1](#)) that specifies the information that the protocol server needs to rename an object. This element **MUST** be present.

#### 3.1.4.6.2.2 RenameAccessObjectResponse

The **RenameAccessObjectResponse** element specifies the result data for the **RenameAccessObject** WSDL operation.

```
<xs:element name="RenameAccessObjectResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RenameAccessObjectResult"
type="tns:RenameResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**RenameAccessObjectResult:** A **RenameResult** complex type (section [3.1.4.6.3.2](#)) that specifies information about the object that was requested to be renamed by the protocol client. This element MUST be present.

### 3.1.4.6.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>RenameParameters</b>	Specifies the object to rename and its new name.
<b>RenameResult</b>	Specifies the renamed object.

#### 3.1.4.6.3.1 RenameParameters

##### Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **RenameParameters** complex type specifies the information that the protocol server needs to rename an object.

```
<xs:complexType name="RenameParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="KnownObjects"
type="tns:ObjectIdentityList"/>
        <xs:element minOccurs="0" maxOccurs="1" name="OpenObjects"
type="tns:ObjectIdentityList"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ID" type="xs:int" use="required"/>
      <xs:attribute name="ObjectVersion" type="xs:string"/>
      <xs:attribute name="Name" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**KnownObjects:** An **ObjectIdentityList** complex type (section [2.2.4.10](#)) that specifies all objects in the database application about which the protocol client has already retrieved information. This element MUST be present. If the protocol client has not retrieved information about any objects, this element MUST NOT have any child elements. The **Version** attribute of each **AccessObjectIdentity** complex type (section [2.2.4.2](#)) that is a child of **KnownObjects** contains the most recent version token for that object that was received by the protocol client from a call to **GetApplicationInformation** (section [3.1.4.4](#)), **CreateAccessObject** (section [3.1.4.1](#)), or **UpdateAccessObject** (section [3.1.4.8](#)).

**OpenObjects:** An **ObjectIdentityList** that specifies all objects in the database application that are opened for editing on the protocol client. This element MUST be present. If the protocol client has not retrieved information about any objects or if the protocol client does have any objects opened for editing, this element MUST NOT have any child elements. The **Version** attribute of each **AccessObjectIdentity** that is a child of **KnownObjects** contains the most recent version token for

that object that was received by the protocol client from a call to **GetApplicationInformation**, **CreateAccessObject**, or **UpdateAccessObject**.

**ProtocolVersion:** An **Access Services Protocol Version** token ([\[MS-ASDT\]](#) section 3.1.1.1). **ProtocolVersion** MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** in the **ProtocolVersion** element of the **GetAppInfoResult** complex type (section [3.1.4.4.3.2](#)). This element MUST be present.

**ID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) attribute that specifies the identifier of the object to be renamed. **ID** MUST be the same value as the **ID** attribute of one of the **AccessObject** complex types (section [2.2.4.1](#)) that would be returned from a call to **GetApplicationInformation** in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult**.

**ObjectVersion:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the latest version of the object that the protocol client has cached. This element MUST be present. The protocol server MUST return an error unless this is the same value as the **ObjectVersion** attribute of the **AccessObject** that would be returned from a call to **GetApplicationInformation** in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult**, where the **ID** of the **AccessObject** is the same as the **ID** of this element.

**Name:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the new name of the object to be renamed. This element MUST be present.

### 3.1.4.6.3.2 RenameResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **RenameResult** complex type specifies information about the object that was requested to be renamed by the protocol client.

```
<xs:complexType name="RenameResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="AccessObject" type="tns:AccessObject"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
        <xs:element minOccurs="1" maxOccurs="1" name="UpdatedObjects" nillable="true"
type="tns:AccessObjectList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**AccessObject:** If the rename operation succeeded, this element specifies an **AccessObject** complex type (section [2.2.4.1](#)) that is the object that has been renamed. If the rename operation failed because the **ObjectVersion** attribute specified in the **RenameParameters** complex type (section [3.1.4.6.3.1](#)) does not match the version token on the protocol server, this element specifies an **AccessObject** that contains the current definition of the indicated object on the protocol server. This element MUST be present.

**Error:** A **ServiceError** complex type (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the rename operation succeeded, this element MUST be nil.

**UpdatedObjects:** An **AccessObjectList** complex type (section [2.2.4.3](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies the objects whose definition were updated with the new name of the renamed object by the protocol server. If the rename operation did not succeed, this element MUST be nil.

#### 3.1.4.6.4 Simple Types

None.

#### 3.1.4.6.5 Attributes

None.

#### 3.1.4.6.6 Groups

None.

#### 3.1.4.6.7 Attribute Groups

None.

#### 3.1.4.7 SetDataMacroTracing

This operation sets the data macro ([\[MS-AXL2\]](#) section 2.1.2.2) tracing option in a database application to determine whether the protocol server allows logging the execution of a data macro ([\[MS-AXL2\]](#) section 2.1.2.2)

The following is the WSDL port type specification of the **SetDataMacroTracing** WSDL operation.

```
<wsdl:operation name="SetDataMacroTracing" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetDataMacroTracingSoapIn"/>
  <wsdl:output message="tns:SetDataMacroTracingSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **SetDataMacroTracingSoapIn** (section [3.1.4.7.1.1](#)) request message and the protocol server responds with a **SetDataMacroTracingSoapOut** (section [3.1.4.7.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **SetDataMacroTracingSoapOut** response message that contains the information about the data macro tracing option.

#### 3.1.4.7.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>SetDataMacroTracingSoapIn</b>	The request WSDL message for the <b>SetDataMacroTracing</b> WSDL operation.

Message	Description
<b>SetDataMacroTracingSoapOut</b>	The response WSDL message for the <b>SetDataMacroTracing</b> WSDL operation.

### 3.1.4.7.1.1 SetDataMacroTracingSoapIn

The request WSDL message for the **SetDataMacroTracing** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/SetDataMacroTracing
```

The SOAP body contains the **SetDataMacroTracing** element.

### 3.1.4.7.1.2 SetDataMacroTracingSoapOut

The response WSDL message for the **SetDataMacroTracing** WSDL operation.

The SOAP body contains the **SetDataMacroTracingResponse** element.

### 3.1.4.7.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>SetDataMacroTracing</b>	The input data for the <b>SetDataMacroTracing</b> WSDL operation.
<b>SetDataMacroTracingResponse</b>	The result data for the <b>SetDataMacroTracing</b> WSDL operation.

#### 3.1.4.7.2.1 SetDataMacroTracing

The **SetDataMacroTracing** element specifies the input data for the **SetDataMacroTracing** WSDL operation.

```
<xs:element name="SetDataMacroTracing" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
        type="tns:SetDataMacroTracingParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **SetDataMacroTracingParameters** element (section [3.1.4.7.3.1](#)) that specifies the information that the protocol server needs to set the data macro tracing option. **MUST** be present.

### 3.1.4.7.2 SetDataMacroTracingResponse

The **SetDataMacroTracingResponse** element specifies the result data for the **SetDataMacroTracing** WSDL operation.

```
<xs:element name="SetDataMacroTracingResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetDataMacroTracingResult"
        type="tns:SetDataMacroTracingResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**SetDataMacroTracingResult:** A **SetDataMacroTracingResult** element (section [3.1.4.7.3.2](#)) that specifies the data macro tracing option. MUST be present.

### 3.1.4.7.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>SetDataMacroTracingParameters</b>	Specifies the data macro tracing option to set.
<b>SetDataMacroTracingResult</b>	Indicates whether the data macro tracing option is on or off.

#### 3.1.4.7.3.1 SetDataMacroTracingParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the information that the protocol server needs to set the data macro tracing option.

```
<xs:complexType name="SetDataMacroTracingParameters"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="TurnTracingOn" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)). MUST be present.

**TurnTracingOn:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether to turn on data macro tracing option.



### 3.1.4.7.3.2 SetDataMacroTracingResult

#### Namespace:

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Contains the current data macro tracing option after the request from the protocol client is made.

```
<xs:complexType name="SetDataMacroTracingResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:attribute name="IsTracingOn" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**IsTracingOn:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the data macro tracing option is on.

### 3.1.4.7.4 Simple Types

None.

### 3.1.4.7.5 Attributes

None.

### 3.1.4.7.6 Groups

None.

### 3.1.4.7.7 Attribute Groups

None.

### 3.1.4.8 UpdateAccessObject

The **UpdateAccessObject** operation updates an object in a database application.

The following is the WSDL port type specification of the **UpdateAccessObject** WSDL operation.

```
<wsdl:operation name="UpdateAccessObject" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:UpdateAccessObjectSoapIn"/>
  <wsdl:output message="tns:UpdateAccessObjectSoapOut"/>
</wsdl:operation>
```

The protocol client sends an **UpdateAccessObjectSoapIn** request message (section [3.1.4.8.1.1](#)) and the protocol server responds with an **UpdateAccessObjectSoapOut** response message (section [3.1.4.8.1.2](#)) as follows:

- If the **ObjectVersion** attribute specified in the **UpdateParameters** complex type (section [3.1.4.8.3.1](#)) does not match the version token on the protocol server for the object being updated, the protocol server **MUST NOT** update the object and **MUST** respond with an **UpdateAccessObjectSoapOut** response message that contains the current definition of the

object and a **ServiceError** complex type (section [2.2.4.12](#)) with a **Code** value of "WebService\_ObjectSaveConflict".

- If any of the dependent objects of the object being updated are listed in the **OpenObjects** attribute specified in the **UpdateParameters**, the protocol server MUST NOT update the object and MUST respond with an **UpdateAccessObjectSoapOut** response message that contains the current definition of the object and a **ServiceError** element with a **Code** value of "AccessUpdateException\_OpenDependentObjects".
- If an error occurs on the protocol server during this operation, the protocol server MUST respond with either a SOAP fault, as specified by section [2.2.9.1](#) or a **Service Error**.
- Otherwise, the protocol server MUST respond with an **UpdateAccessObjectSoapOut** response message that contains information about the newly created object, as specified by **UpdateResult** (section [3.1.4.8.3.2](#)).

### 3.1.4.8.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>UpdateAccessObjectSoapIn</b>	The request WSDL message for the <b>UpdateAccessObject</b> WSDL operation.
<b>UpdateAccessObjectSoapOut</b>	The response WSDL message for the <b>UpdateAccessObject</b> WSDL operation.

#### 3.1.4.8.1.1 UpdateAccessObjectSoapIn

The request WSDL message for the **UpdateAccessObject** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/UpdateAccessObject
```

The SOAP body contains the **UpdateAccessObject** element.

#### 3.1.4.8.1.2 UpdateAccessObjectSoapOut

The response WSDL message for the **UpdateAccessObject** WSDL operation.

The SOAP body contains the **UpdateAccessObjectResponse** element.

### 3.1.4.8.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>UpdateAccessObject</b>	The input data for the <b>UpdateAccessObject</b> WSDL operation.

Element	Description
<b>UpdateAccessObjectResponse</b>	The result data for the <b>UpdateAccessObject</b> WSDL operation.

### 3.1.4.8.2.1 UpdateAccessObject

The **UpdateAccessObject** element specifies the input data for the **UpdateAccessObject** WSDL operation.

```
<xs:element name="UpdateAccessObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters" type="tns:UpdateParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** An **UpdateParameters** complex type (section [3.1.4.8.3.1](#)) that specifies information needed by the protocol server to update an object. This element **MUST** be present.

### 3.1.4.8.2.2 UpdateAccessObjectResponse

The **UpdateAccessObjectResponse** element specifies the result data for the **UpdateAccessObject** WSDL operation.

```
<xs:element name="UpdateAccessObjectResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="UpdateAccessObjectResult"
type="tns:UpdateResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**UpdateAccessObjectResult:** An **UpdateResult** complex type (section [3.1.4.8.3.2](#)) that specifies information about the updated object. This element **MUST** be present.

### 3.1.4.8.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>UpdateParameters</b>	Specifies which object the protocol client wants to update and the requested update.
<b>UpdateResult</b>	Specifies information about the updated object.

#### 3.1.4.8.3.1 UpdateParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **UpdateParameters** complex type specifies the information that the protocol server needs to update an object.

```
<xs:complexType name="UpdateParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Body">
          <xs:complexType mixed="true">
            <xs:sequence>
              <xs:any/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element minOccurs="0" maxOccurs="1" name="KnownObjects"
type="tns:ObjectIdentityList"/>
        <xs:element minOccurs="0" maxOccurs="1" name="OpenObjects"
type="tns:ObjectIdentityList"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ID" type="xs:int" use="required"/>
      <xs:attribute name="ObjectVersion" type="xs:string"/>
      <xs:attribute name="Description" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Body:** Specifies an updated definition of an object. The contents of **Body** depend on the value of the **ObjectType** attribute of this element, as specified in the following table. This element MUST be present.

Value of ObjectType Attribute	Contents of Body Element
Table	MUST be a <b>Schema</b> element, as specified by <a href="#">[MC-CSDL]</a> section 2.1.1. MUST include the annotations specified by <a href="#">[MS-AXL2]</a> section 2.1.1.
Query	MUST be a <b>Query</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.1.
Form	MUST be a <b>FormDef</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.12.
DataMacro	MUST be a <b>DataMacro</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.14.
UIMacro	MUST be a <b>UserInterfaceMacro</b> element, as specified by <a href="#">[MS-AXL2]</a> section 2.2.1.5.

**KnownObjects:** An **ObjectIdentityList** complex type (section [2.2.4.10](#)) that specifies all objects in the database application about which the protocol client has already retrieved information. This element MUST be present. If the protocol client has not retrieved information about any objects, this element MUST NOT have any child elements. The **Version** attribute of each **AccessObjectIdentity** complex type (section [2.2.4.2](#)) that is a child of **KnownObjects** contains the most recent version token for that object that was received by the protocol client from a call to **GetApplicationInformation** (section [3.1.4.4](#)), **CreateAccessObject** (section [3.1.4.1](#)), or **UpdateAccessObject** (section [3.1.4.8](#)).

**OpenObjects:** An **ObjectIdentityList** that specifies all objects in the database application which are opened for editing on the protocol client. This element MUST be present. If the protocol client

has not retrieved information about any objects or if the protocol client does have any objects opened for editing, this element MUST NOT have any child elements. The **Version** attribute of each **AccessObjectIdentity** that is a child of **KnownObjects** contains the most recent version token for that object that was received by the protocol client from a call to **GetApplicationInformation**, **CreateAccessObject**, or **UpdateAccessObject**.

**ProtocolVersion:** An **Access Services Protocol Version** token ([\[MS-ASDT\]](#) section 3.1.1.1). This element MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** in the **ProtocolVersion** element of the **GetAppInfoResult** complex type (section [3.1.4.4.3.2](#)). This element MUST be present.

**ID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) attribute that specifies the unique identifier of the object to be updated. The element MUST be the same as the **ID** attribute of one of the **AccessObject** complex types (section [2.2.4.1](#)) that would be returned from a call to **GetApplicationInformation** in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult**.

**ObjectVersion:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the latest version of the object that the protocol client has cached. This element MUST be present. The protocol server MUST return an error unless this is the same value as the **ObjectVersion** attribute of the **AccessObject** that would be returned from a call to **GetApplicationInformation** in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element, where the **ID** of the **AccessObject** is the same as the **ID** of this element.

**Description:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a description of the object. This description can be different from or the same as the existing description of the object.

### 3.1.4.8.3.2 UpdateResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The **UpdateResult** complex type specifies the updated object and possible dependent object, or objects that were updated in response to the request from the protocol client.

```
<xs:complexType name="UpdateResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects" type="tns:AccessObjectList"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
        <xs:element minOccurs="1" maxOccurs="1" name="RefreshRequired" type="xs:boolean"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Objects:** An **AccessObjectList** complex type (section [2.2.4.3](#)) that specifies the object or objects that were updated by the protocol server.

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that specifies an error that occurred on the protocol server. If the update operation succeeded, this element MUST be nil ([\[XSD1.1-1\]](#) section 2.7.2). If this element is not nil, then the **Objects** list MUST contain the latest version of the object specified in the **ID** attribute of the **UpdateParameters** complex type (section [3.1.4.8.3.1](#)).

**RefreshRequired:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the protocol client SHOULD refresh its cached definitions of the objects specified by the **Objects** element.

#### 3.1.4.8.4 Simple Types

None.

#### 3.1.4.8.5 Attributes

None.

#### 3.1.4.8.6 Groups

None.

#### 3.1.4.8.7 Attribute Groups

None.

#### 3.1.4.9 DeleteAccessObject

This operation triggers the deletion of an object in a database application.

The following is the WSDL port type specification of the **DeleteAccessObject** WSDL operation.

```
<wsdl:operation name="DeleteAccessObject" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:DeleteAccessObjectSoapIn"/>
  <wsdl:output message="tns:DeleteAccessObjectSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **DeleteAccessObjectSoapIn** (section [3.1.4.9.1.1](#)) request message and the protocol server responds with a **DeleteAccessObjectSoapOut** (section [3.1.4.9.1.2](#)) response message as follows:

- If the **ObjectVersion** attribute specified in the **DeleteParameters** element (section [3.1.4.9.3.1](#)) does not match the version token on the protocol server for the object being deleted, the protocol server MUST NOT delete the object and MUST respond with a **DeleteAccessObjectSoapOut** response message that contains the current definition of the object and a **ServiceError** element (section [2.2.4.12](#)) with a **Code** value of "WebService\_ObjectSaveConflict".
- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **DeleteAccessObjectSoapOut** response message that contains information about the deleted object.

#### 3.1.4.9.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>DeleteAccessObjectSoapIn</b>	The request WSDL message for the <b>DeleteAccessObject</b> WSDL operation.
<b>DeleteAccessObjectSoapOut</b>	The response WSDL message for the <b>DeleteAccessObject</b> WSDL operation.

### 3.1.4.9.1.1 DeleteAccessObjectSoapIn

The request WSDL message for the **DeleteAccessObject** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/DeleteAccessObject
```

The SOAP body contains the **DeleteAccessObject** element.

### 3.1.4.9.1.2 DeleteAccessObjectSoapOut

The response WSDL message for the **DeleteAccessObject** WSDL operation.

The SOAP body contains the **DeleteAccessObjectResponse** element.

### 3.1.4.9.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>DeleteAccessObject</b>	The input data for the <b>DeleteAccessObject</b> WSDL operation.
<b>DeleteAccessObjectResponse</b>	The result data for the <b>DeleteAccessObject</b> WSDL operation.

### 3.1.4.9.2.1 DeleteAccessObject

The **DeleteAccessObject** element specifies the input data for the **DeleteAccessObject** WSDL operation.

```
<xs:element name="DeleteAccessObject" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters" type="tns>DeleteParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **DeleteParameters** element (section [3.1.4.9.3.1](#)) that specifies the object to delete. MUST be present.

### 3.1.4.9.2 DeleteAccessObjectResponse

The **DeleteAccessObjectResponse** element specifies the result data for the **DeleteAccessObject** WSDL operation.

```
<xs:element name="DeleteAccessObjectResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="DeleteAccessObjectResult"
        type="tns>DeleteAccessObjectResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**DeleteAccessObjectResult:** A **DeleteResult** element (section [3.1.4.9.3.2](#)) that specifies the result of the delete operation. **MUST** be present.

### 3.1.4.9.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>DeleteParameters</b>	Specifies the object to delete.
<b>DeleteResult</b>	Specifies the result of the delete operation.

#### 3.1.4.9.3.1 DeleteParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the information that the protocol server needs to delete an object.

```
<xs:complexType name="DeleteParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ID" type="xs:int" use="required"/>
      <xs:attribute name="ObjectVersion" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). **MUST** be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)). **MUST** be present.

**ID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) attribute that specifies the unique identifier of the object to be deleted. **MUST** be the same as the **ID** attribute of one of the **AccessObject** elements that would be returned from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element.



**ObjectVersion:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the latest version of the object that the protocol client has cached. MUST be present. The protocol server MUST return an error unless this is the same value as the **ObjectVersion** attribute of the **AccessObject** (section [2.2.4.1](#)) element that would be returned from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element, where the **ID** of the **AccessObject** is the same as the **ID** of this element.

### 3.1.4.9.3.2 DeleteResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the result of the delete operation.

```
<xs:complexType name="DeleteResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
        <xs:element minOccurs="0" maxOccurs="1" name="AccessObject" type="tns:AccessObject"/>
      </xs:sequence>
      <xs:attribute name="ID" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that specifies an error that occurred on the protocol server. If the delete operation succeeded, this element MUST be nil ([\[XSD1.1-1\]](#) section 2.7.2) and the **AccessObject** element MUST NOT be present. If this element is not nil, then the **Objects** list MUST contain the latest version of the object specified in the **ID** attribute of the **DeleteParameters** (section [3.1.4.9.3.1](#)) element..

**AccessObject:** An **AccessObject** element (section [2.2.4.1](#)) that specifies an object.

**ID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) attribute that specifies the identifier of the object. MUST be the same as the **ID** attribute of the **DeleteParameters** element from the request.

### 3.1.4.9.4 Simple Types

None.

### 3.1.4.9.5 Attributes

None.

### 3.1.4.9.6 Groups

None.

### 3.1.4.9.7 Attribute Groups

None.

### 3.1.4.10 AddFirewallRule

This operation adds a **FirewallRule** (section [2.2.4.7](#)) to the database application. The protocol client MUST call this operation only if the **IsDataConnectivitySupported** and **IsFirewallRestricted** elements of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)) in the response body of a previous call to **GetApplicationInformation** operation (section [3.1.4.4](#)) are "true".

The following is the WSDL port type specification of the **AddFirewallRule** WSDL operation.

```
<wsdl:operation name="AddFirewallRule" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:AddFirewallRuleSoapIn"/>
  <wsdl:output message="tns:AddFirewallRuleSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **AddFirewallRuleSoapIn** (section [3.1.4.10.1.1](#)) request message and the protocol server responds with a **AddFirewallRuleSoapOut** (section [3.1.4.10.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#), or a **Service Error**, as specified in section [2.2.9.2](#).
- Otherwise, the protocol server MUST respond with a **AddFirewallRuleSoapOut** response message that contains information about the **FirewallRule** (section [2.2.4.7](#)) that was added to the database application.

#### 3.1.4.10.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>AddFirewallRuleSoapIn</b>	The request WSDL message for the <b>AddFirewallRule</b> WSDL operation.
<b>AddFirewallRuleSoapOut</b>	The response WSDL message for the <b>AddFirewallRule</b> WSDL operation.

##### 3.1.4.10.1.1 AddFirewallRuleSoapIn

The request WSDL message for the **AddFirewallRule** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/AddFirewallRule
```

The SOAP body contains the **AddFirewallRule** element.

##### 3.1.4.10.1.2 AddFirewallRuleSoapOut

The response WSDL message for the **AddFirewallRule** WSDL operation.

The SOAP body contains the **AddFirewallRuleResponse** element.

### 3.1.4.10.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>AddFirewallRule</b>	The input data for the <b>AddFirewallRule</b> WSDL operation.
<b>AddFirewallRuleResponse</b>	The result data for the <b>AddFirewallRule</b> WSDL operation.

#### 3.1.4.10.2.1 AddFirewallRule

The **AddFirewallRule** element specifies the input data for the **AddFirewallRule** WSDL operation.

```
<xs:element name="AddFirewallRule" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:AddFirewallRuleParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** An **AddFirewallRuleParameters** complex type, as specified in section [3.1.4.10.3.1](#). MUST be present.

#### 3.1.4.10.2.2 AddFirewallRuleResponse

The **AddFirewallRuleResponse** element specifies the result data for the **AddFirewallRule** WSDL operation.

```
<xs:element name="AddFirewallRuleResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="AddFirewallRuleResult"
type="tns:AddFirewallRuleResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**AddFirewallRuleResult:** An **AddFirewallRuleResult** complex type, as specified in section [3.1.4.10.3.2](#). MUST be present.

### 3.1.4.10.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>AddFirewallRuleParameters</b>	See section <a href="#">3.1.4.10.3.1</a> .
<b>AddFirewallRuleResult</b>	See section <a href="#">3.1.4.10.3.2</a> .

### 3.1.4.10.3.1 AddFirewallRuleParameters

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type specifies the input data for the **AddFirewallRule** protocol operation.

```
<xs:complexType name="AddFirewallRuleParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="StartIPAddress" type="xs:string"/>
      <xs:attribute name="EndIPAddress" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)).

**StartIPAddress:** The starting IP address as specified in **StartIPAddress** element of **FirewallRule** (section [2.2.4.7](#)).

**EndIPAddress:** The ending IP address as specified in **EndIPAddress** element of **FirewallRule** (section [2.2.4.7](#)).

### 3.1.4.10.3.2 AddFirewallRuleResult

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type specifies the result data of the **AddFirewallRule** protocol operation.

```
<xs:complexType name="AddFirewallRuleResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
      <xs:attribute name="RuleName" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the protocol operation succeeded, this element MUST be nil.

**RuleName:** A unique name generated by the protocol server for the **FirewallRule** (section [2.2.4.7](#)) which was added to the database application.

#### 3.1.4.10.4 Simple Types

None.

#### 3.1.4.10.5 Attributes

None.

#### 3.1.4.10.6 Groups

None.

#### 3.1.4.10.7 Attribute Groups

None.

#### 3.1.4.11 DeleteFirewallRules

This operation deletes firewall rules from the database application. These rules MUST have been previously added by the **AddFirewallRule** operation (section [3.1.4.10](#)). The protocol client MUST call this operation only if the **IsDataConnectivitySupported** and **IsFirewallRestricted** attributes of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)) in the response body of a previous call to **GetApplicationInformation** operation (section [3.1.4.4](#)) are "true".

The following is the WSDL port type specification of the **DeleteFirewallRules** WSDL operation.

```
<wsdl:operation name="DeleteFirewallRules" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:DeleteFirewallRulesSoapIn"/>
  <wsdl:output message="tns:DeleteFirewallRulesSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **DeleteFirewallRulesSoapIn** (section [3.1.4.11.1.1](#)) request message and the protocol server responds with a **DeleteFirewallRulesSoapOut** (section [3.1.4.11.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST delete firewall rules and respond with a **DeleteFirewallRulesSoapOut** response message.

##### 3.1.4.11.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>DeleteFirewallRulesSoapIn</b>	The request WSDL message for the <b>DeleteFirewallRules</b> WSDL operation.
<b>DeleteFirewallRulesSoapOut</b>	The response WSDL message for the <b>DeleteFirewallRules</b> WSDL operation.

### 3.1.4.11.1.1 DeleteFirewallRulesSoapIn

The request WSDL message for the **DeleteFirewallRules** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/DeleteFirewallRules
```

The SOAP body contains the **DeleteFirewallRules** element.

### 3.1.4.11.1.2 DeleteFirewallRulesSoapOut

The response WSDL message for the **DeleteFirewallRules** WSDL operation.

The SOAP body contains the **DeleteFirewallRulesResponse** element.

### 3.1.4.11.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>DeleteFirewallRules</b>	The input data for the <b>DeleteFirewallRules</b> WSDL operation.
<b>DeleteFirewallRulesResponse</b>	The result data for the <b>DeleteFirewallRules</b> WSDL operation.

#### 3.1.4.11.2.1 DeleteFirewallRules

The **DeleteFirewallRules** element specifies the input data for the **DeleteFirewallRules** WSDL operation.

```
<xs:element name="DeleteFirewallRules" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:DeleteFirewallRulesParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **DeleteFirewallRulesParameters** (section [3.1.4.11.3.1](#)) that specifies the firewall rules to be deleted from the database application. **MUST** be present.

#### 3.1.4.11.2.2 DeleteFirewallRulesResponse

The **DeleteFirewallRulesResponse** element specifies the result data for the **DeleteFirewallRules** WSDL operation.

```
<xs:element name="DeleteFirewallRulesResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
```

```

    <xs:element minOccurs="0" maxOccurs="1" name="DeleteFirewallRulesResult"
type="tns:DeleteFirewallRulesResult"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

**DeleteFirewallRulesResult:** A **DeleteFirewallRulesResult** (section [3.1.4.11.3.3](#)) that specifies whether the operation succeeded. **MUST** be present.

### 3.1.4.11.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>DeleteFirewallRulesParameters</b>	Specifies the firewall rules to be deleted.
<b>DeleteFirewallRulesResult</b>	Specifies whether an error occurred on the protocol server during the operation.
<b>FirewallRulesList</b>	Specifies a list of firewall rules.

#### 3.1.4.11.3.1 DeleteFirewallRulesParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the input data for the **DeleteFirewallRules** protocol operation.

```

<xs:complexType name="DeleteFirewallRulesParameters"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SpecifiedFirewallRules"
type="tns:FirewallRulesList"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="DeleteOption" type="tns:DeleteFirewallRulesOption" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

**SpecifiedFirewallRules:** A **FirewallRulesList** (section [3.1.4.11.3.2](#)) that specifies the firewall rules to be deleted from the database application. **MUST** be present if the value of **DeleteOption** is **Specified**.

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). **MUST** be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)).

**DeleteOption:** A **DeleteFirewallRulesOption** (section [2.2.5.3](#)). If the value of **DeleteOption** is **Specified**, then all the firewall rules specified by **SpecifiedFirewallRules** are deleted from the

database application. If the **DeleteOption** is **All**, then all the **FirewallRules** are deleted from the database application.

### 3.1.4.11.3.2 FirewallRulesList

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type specifies a collection of firewall rules.

```
<xs:complexType name="FirewallRulesList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="FirewallRule"
      type="tns:FirewallRule"/>
  </xs:sequence>
</xs:complexType>
```

**FirewallRule:** A **FirewallRule** ([2.2.4.7](#)) that specifies a range of IP addresses from which users can connect directly to a back-end database.

### 3.1.4.11.3.3 DeleteFirewallRulesResult

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type specifies the result data of the **DeleteFirewallRules** protocol operation.

```
<xs:complexType name="DeleteFirewallRulesResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
          type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the protocol operation succeeded, this element MUST be nil.

### 3.1.4.11.4 Simple Types

None.

### 3.1.4.11.5 Attributes

None.

### 3.1.4.11.6 Groups

None.



### 3.1.4.11.7 Attribute Groups

None.

### 3.1.4.12 GetDataConnectivity

This operation gets information about a login in the database application, which is used to connect to the database application directly. The protocol client **MUST** call this operation only if the **IsDataConnectivitySupported** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)) in the response body of a previous call to **GetApplicationInformation** operation (section [3.1.4.4](#)) is "true".

The following is the WSDL port type specification of the **GetDataConnectivity** WSDL operation.

```
<wsdl:operation name="GetDataConnectivity" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetDataConnectivitySoapIn"/>
  <wsdl:output message="tns:GetDataConnectivitySoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetDataConnectivitySoapIn** (section [3.1.4.12.1.1](#)) request message and the protocol server responds with a **GetDataConnectivitySoapOut** (section [3.1.4.12.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server **MUST** respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server **MUST** respond with a **GetDataConnectivitySoapOut** response message that contains information about the requested login in the database application.

#### 3.1.4.12.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetDataConnectivitySoapIn</b>	The request WSDL message for the <b>GetDataConnectivity</b> WSDL operation.
<b>GetDataConnectivitySoapOut</b>	The response WSDL message for the <b>GetDataConnectivity</b> WSDL operation.

##### 3.1.4.12.1.1 GetDataConnectivitySoapIn

The request WSDL message for the **GetDataConnectivity** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/GetDataConnectivity
```

The SOAP body contains the **GetDataConnectivity** element.

### 3.1.4.12.1.2 GetDataConnectivitySoapOut

The response WSDL message for the **GetDataConnectivity** WSDL operation.

The SOAP body contains the **GetDataConnectivityResponse** element.

### 3.1.4.12.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetDataConnectivity</b>	The input data for the <b>GetDataConnectivity</b> WSDL operation.
<b>GetDataConnectivityResponse</b>	The result data for the <b>GetDataConnectivity</b> WSDL operation.

#### 3.1.4.12.2.1 GetDataConnectivity

The **GetDataConnectivity** element specifies the input data for the **GetDataConnectivity** WSDL operation.

```
<xs:element name="GetDataConnectivity" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetDataConnectivityParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **GetDataConnectivityParameter**, as specified by section [3.1.4.12.3.1](#).

#### 3.1.4.12.2.2 GetDataConnectivityResponse

The **GetDataConnectivityResponse** element specifies the result data for the **GetDataConnectivity** WSDL operation.

```
<xs:element name="GetDataConnectivityResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetDataConnectivityResult"
type="tns:GetDataConnectivityResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetDataConnectivityResult:** A **GetDataConnectivityResult**, as specified by section [3.1.4.12.3.2](#)

### 3.1.4.12.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>GetDataConnectivityParameters</b>	See section <a href="#">3.1.4.13.3.1</a> .
<b>GetDataConnectivityResult</b>	See section <a href="#">3.1.4.13.3.2</a> .

### 3.1.4.12.3.1 GetDataConnectivityParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the input data for the **GetDataConnectivity** protocol operation.

```
<xs:complexType name="GetDataConnectivityParameters"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)).

**Permission:** A **ConnectivityPermissionLevel**, as specified by section [2.2.5.2](#). MUST be present.

### 3.1.4.12.3.2 GetDataConnectivityResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

The result data for the **GetDataConnectivity** WSDL operation.

```
<xs:complexType name="GetDataConnectivityResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
      <xs:attribute name="UserName" type="xs:string"/>
      <xs:attribute name="Password" type="xs:string"/>
      <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the protocol operation succeeded, this element MUST be nil.

**UserName:** Specifies the username for the logging in the database application. MUST be present.

**Password:** Specifies the password for the username. MUST be present.

**Permission:** A **ConnectivityPermissionLevel**, as specified by section [2.2.5.2](#). Specifies the permission level of the login. MUST be present.

#### 3.1.4.12.4 Simple Types

None.

#### 3.1.4.12.5 Attributes

None.

#### 3.1.4.12.6 Groups

None.

#### 3.1.4.12.7 Attribute Groups

None.

### 3.1.4.13 GetDataConnectivityStatus

This operation gets status information about logins in the database application, which are used to connect to the database application directly. The protocol client MUST call this operation only if the **IsDataConnectivitySupported** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)) in the response body of a previous call to **GetApplicationInformation** operation (section [3.1.4.4](#)) is "true".

The following is the WSDL port type specification of the **GetDataConnectivityStatus** WSDL operation.

```
<wsdl:operation name="GetDataConnectivityStatus"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetDataConnectivityStatusSoapIn"/>
  <wsdl:output message="tns:GetDataConnectivityStatusSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetDataConnectivityStatusSoapIn** (section [3.1.4.13.1.1](#)) request message and the protocol server responds with a **GetDataConnectivityStatusSoapOut** (section [3.1.4.13.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **GetDataConnectivityStatusSoapOut** response message that contains status information about logins in the database application.

#### 3.1.4.13.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetDataConnectivityStatusSoapIn</b>	The request WSDL message for the <b>GetDataConnectivityStatus</b> WSDL operation.
<b>GetDataConnectivityStatusSoapOut</b>	The response WSDL message for the <b>GetDataConnectivityStatus</b> WSDL operation.

### 3.1.4.13.1.1 GetDataConnectivityStatusSoapIn

The request WSDL message for the **GetDataConnectivityStatus** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/GetDataConnectivityStatus
```

The SOAP body contains the **GetDataConnectivityStatus** element.

### 3.1.4.13.1.2 GetDataConnectivityStatusSoapOut

The response WSDL message for the **GetDataConnectivityStatus** WSDL operation.

The SOAP body contains the **GetDataConnectivityStatusResponse** element.

### 3.1.4.13.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetDataConnectivityStatus</b>	The input data for the <b>GetDataConnectivityStatus</b> WSDL operation.
<b>GetDataConnectivityStatusResponse</b>	The result data for the <b>GetDataConnectivityStatus</b> WSDL operation.

### 3.1.4.13.2.1 GetDataConnectivityStatus

The **GetDataConnectivityStatus** element specifies the input data for the **GetDataConnectivityStatus** WSDL operation.

```
<xs:element name="GetDataConnectivityStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
        type="tns:GetDataConnectivityStatusParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **GetDataConnectivityStatusParameters** complex type as specified in section [3.1.4.13.3.1](#). MUST be present.

### 3.1.4.13.2.2 GetDataConnectivityStatusResponse

The **GetDataConnectivityStatusResponse** element specifies the result data for the **GetDataConnectivityStatus** WSDL operation.

```
<xs:element name="GetDataConnectivityStatusResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetDataConnectivityStatusResult"
        type="tns:GetDataConnectivityStatusResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetDataConnectivityStatusResult:** A **GetDataConnectivityStatusResult** complex type, as specified in section [3.1.4.13.3.2](#). MUST be present.

### 3.1.4.13.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>ArrayOfConnectivityStatusInformation</b>	See section <a href="#">3.1.4.13.3.3</a> .
<b>GetDataConnectivityStatusParameters</b>	See section <a href="#">3.1.4.13.3.1</a> .
<b>GetDataConnectivityStatusResult</b>	See section <a href="#">3.1.4.13.3.2</a> .

#### 3.1.4.13.3.1 GetDataConnectivityStatusParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the input data for the **GetDataConnectivityStatus** protocol operation.

```
<xs:complexType name="GetDataConnectivityStatusParameters"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)). MUST be present.

### 3.1.4.13.3.2 GetDataConnectivityStatusResult

#### Namespace:

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type specifies the result data of the **GetDataConnectivityStatus** protocol operation.

```
<xs:complexType name="GetDataConnectivityStatusResult"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="StatusInformations"
type="tns:ArrayOfConnectivityStatusInformation"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**StatusInformations:** An **ArrayOfConnectivityStatusInformation** complex type, as specified by section [3.1.4.13.3.3](#). MUST be present.

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the protocol operation succeeded, this element MUST be nil.

### 3.1.4.13.3.3 ArrayOfConnectivityStatusInformation

#### Namespace:

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

This complex type is a collection of **ConnectivityStatusInformation** (section [2.2.4.5](#)), which specifies the status of a login used to connect to the database application directly.

```
<xs:complexType name="ArrayOfConnectivityStatusInformation"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ConnectivityStatusInformation"
nillable="true" type="tns:ConnectivityStatusInformation"/>
  </xs:sequence>
</xs:complexType>
```

**ConnectivityStatusInformation:** A **ConnectivityStatusInformation** complex type, as specified in section [2.2.4.5](#). MUST be present.

### 3.1.4.13.4 Simple Types

None.

### 3.1.4.13.5 Attributes

None.

### 3.1.4.13.6 Groups

None.

### 3.1.4.13.7 Attribute Groups

None.

### 3.1.4.14 GetFirewallRules

This operation gets all the **FirewallRules** (section [2.2.4.7](#)) present in the database application. The protocol client MUST call this operation only if the **IsDataConnectivitySupported** and **IsFirewallRestricted** elements of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)) in the response body of a previous call to **GetApplicationInformation** operation (section [3.1.4.4](#)) are "true".

The following is the WSDL port type specification of the **GetFirewallRules** WSDL operation.

```
<wsdl:operation name="GetFirewallRules" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetFirewallRulesSoapIn"/>
  <wsdl:output message="tns:GetFirewallRulesSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetFirewallRulesSoapIn** (section [3.1.4.14.1.1](#)) request message and the protocol server responds with a **GetFirewallRulesSoapOut** (section [3.1.4.14.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **GetFirewallRulesSoapOut** response message that contains information about the all the **FirewallRules** (section [2.2.4.7](#)) present in the database application.

#### 3.1.4.14.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetFirewallRulesSoapIn</b>	The request WSDL message for the <b>GetFirewallRules</b> WSDL operation.
<b>GetFirewallRulesSoapOut</b>	The response WSDL message for the <b>GetFirewallRules</b> WSDL operation.

##### 3.1.4.14.1.1 GetFirewallRulesSoapIn

The request WSDL message for the **GetFirewallRules** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/GetFirewallRules
```

The SOAP body contains the **GetFirewallRules** element.



### 3.1.4.14.1.2 GetFirewallRulesSoapOut

The response WSDL message for the **GetFirewallRules** WSDL operation.

The SOAP body contains the **GetFirewallRulesResponse** element.

### 3.1.4.14.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetFirewallRules</b>	The input data for the <b>GetFirewallRules</b> WSDL operation.
<b>GetFirewallRulesResponse</b>	The result data for the <b>GetFirewallRules</b> WSDL operation.

#### 3.1.4.14.2.1 GetFirewallRules

The **GetFirewallRules** element specifies the input data for the **GetFirewallRules** WSDL operation.

```
<xs:element name="GetFirewallRules" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetFirewallRulesParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **GetFirewallRulesParameters**, as specified by section [3.1.4.14.3.1](#). MUST be present.

#### 3.1.4.14.2.2 GetFirewallRulesResponse

The **GetFirewallRulesResponse** element specifies the result data for the **GetFirewallRules** WSDL operation.

```
<xs:element name="GetFirewallRulesResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetFirewallRulesResult"
type="tns:GetFirewallRulesResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetFirewallRulesResult:** A **GetFirewallRulesResult**, as specified by section [3.1.4.14.3.2](#). MUST be present.

### 3.1.4.14.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>ArrayOfFirewallRule</b>	See section <a href="#">3.1.4.14.3.3</a> .
<b>GetFirewallRulesParameters</b>	See section <a href="#">3.1.4.14.3.1</a>
<b>GetFirewallRulesResult</b>	See section <a href="#">3.1.4.14.3.2</a> .

### 3.1.4.14.3.1 GetFirewallRulesParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the input data for the **GetFirewallRules** protocol operation.

```
<xs:complexType name="GetFirewallRulesParameters"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)). MUST be present.

### 3.1.4.14.3.2 GetFirewallRulesResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the result data for the **GetFirewallRulesParameters** protocol operation.

The result data specifies the information about all the **FirewallRules** (section [2.2.4.7](#)) present in the database application.

```
<xs:complexType name="GetFirewallRulesResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="FirewallRules"
type="tns:ArrayOfFirewallRule"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**FirewallRules:** An **ArrayOfFirewallRule** complex type, as specified by section [3.1.4.14.3.3](#).

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the protocol operation succeeded, this element MUST be nil.

### 3.1.4.14.3.3 ArrayOfFirewallRule

#### Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies a collection of **FirewallRules** (section [2.2.4.7](#)).

```
<xs:complexType name="ArrayOfFirewallRule" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="FirewallRule" nillable="true"
      type="tns:FirewallRule"/>
  </xs:sequence>
</xs:complexType>
```

**FirewallRule:** A **FirewallRule** complex type, as specified by section [2.2.4.7](#).

### 3.1.4.14.4 Simple Types

None.

### 3.1.4.14.5 Attributes

None.

### 3.1.4.14.6 Groups

None.

### 3.1.4.14.7 Attribute Groups

None.

### 3.1.4.15 ImportData

The **ImportData** operation triggers importing data into a table in a database application.

The following is the WSDL port type specification of the **ImportData** WSDL operation.

```
<wsdl:operation name="ImportData" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:ImportDataSoapIn"/>
  <wsdl:output message="tns:ImportDataSoapOut"/>
</wsdl:operation>
```

The protocol client sends an **ImportDataSoapIn** (section [3.1.4.15.1.1](#)) request message and the protocol server responds with an **ImportDataSoapOut** (section [3.1.4.15.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, then the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).

- Otherwise, the protocol server MUST respond with an **ImportDataSoapOut** response message that contains the number of rows inserted into the specified table.

### 3.1.4.15.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>ImportDataSoapIn</b>	The request WSDL message for the <b>ImportData</b> WSDL operation.
<b>ImportDataSoapOut</b>	The response WSDL message for the <b>ImportData</b> WSDL operation.

#### 3.1.4.15.1.1 ImportDataSoapIn

The request WSDL message for the **ImportData** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/ImportData
```

The SOAP body contains the **ImportData** element.

#### 3.1.4.15.1.2 ImportDataSoapOut

The response WSDL message for the **ImportData** WSDL operation.

The SOAP body contains the **ImportDataResponse** element.

### 3.1.4.15.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>ImportData</b>	The input data for the <b>ImportData</b> WSDL operation.
<b>ImportDataResponse</b>	The result data for the <b>ImportData</b> WSDL operation.

#### 3.1.4.15.2.1 ImportData

The **ImportData** element specifies the input data for the **ImportData** WSDL operation.

```
<xs:element name="ImportData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:ImportDataParameters"/>
    </xs:sequence>
  </xs:complexType>
```

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

**parameters:** An **ImportDataParameters** element (section [3.1.4.15.3.1](#)) that specifies the information that the protocol server needs to import. This element **MUST** be present.

### 3.1.4.15.2.2 ImportDataResponse

The **ImportDataResponse** element specifies the result data for the **ImportData** WSDL operation.

```
<xs:element name="ImportDataResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ImportDataResult"
type="tns:ImportDataResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**ImportDataResult:** An **ImportDataResult** element (section [3.1.4.15.3.2](#)) that specifies the result of the **ImportData** operation. **MUST** be present.

### 3.1.4.15.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>ImportDataParameters</b>	Specifies data to import into a table.
<b>ImportDataResult</b>	Specifies the result of the import operation.

#### 3.1.4.15.3.1 ImportDataParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the information that the protocol server needs to import data into a table.

```
<xs:complexType name="ImportDataParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Body">
          <xs:complexType mixed="true">
            <xs:sequence>
              <xs:any/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="Version" type="xs:string"/>
      <xs:attribute name="TargetObjectID" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

```

    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

**Body:** MUST contain the XML (as defined in this section) that contains the full definition of the **fields** (1) in the table specified by **TargetObjectID** and the data that will be imported into that table. MUST contain one **ColumnSpecification** element and one **Rows** element. MUST be present.

The **ColumnSpecification** element MUST contain one **Column** element for each field (1) in the table specified by **TargetObjectID**. The **Column** element MUST contain the string attributes **Target**, **Name** and **Type**. The **Target** attribute specifies the name of the field (1). The **Name** attribute specifies an auto-generated string to refer to that field (1) later and it SHOULD start with "C" postfixed by the number that denotes the order of the field (1), beginning with 0. The **Type** attribute specifies the type of the field (1) and MUST be one of the following values.

Value	Meaning
Text	A <b>string</b> value up to 4000 characters in length.
Number	A <b>floating-point number</b> .
Yes/No	A <b>Boolean</b> value.
Currency	A monetary value.
Date/Time	A <b>datetime</b> value.
LongText	A <b>string</b> value up to max storage size specified in nvarchar <a href="#">[MSDN-TSQL-Ref]</a> data type.
Integer	An <b>integer</b> value.
Hyperlink	A hyperlink value.

The **Rows** element MUST contain one **R** element for each record that will be inserted into the table specified by **TargetObjectID**. The **R** element MUST contain one element for each field (1) value that is not empty. The name of the element that specifies that field (1) value MUST be same as the **Name** attribute of a **Column** element from the **ColumnSpecification** element. The value for this element MUST be the string representation of data in culture invariant format.

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)). MUST be present.

**Version:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the latest version of the object that the protocol client has cached. MUST be present. The protocol server MUST return an error unless this is the same value as the **ObjectVersion** attribute of the **AccessObject** (section [2.2.4.1](#)) element that would be returned from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element, where the **ID** of the **AccessObject** is the same as the **ID** of this element.

**TargetObjectID:** An **int** ([\[XMLSCHEMA2\]](#) section 3.3.17) attribute that specifies the identifier of the table into which the protocol server imports data. **TargetObjectID** MUST be the same value as the **ID** attribute of one of the **AccessObject** elements returned by the protocol server for a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element.

### 3.1.4.15.3.2 ImportDataResult

#### Namespace:

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies the result of the import data operation.

```
<xs:complexType name="ImportDataResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
      <xs:attribute name="RowsProcessed" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the import data operation succeeded, this element MUST be nil.

**RowsProcessed:** Specifies the number of rows that was imported into table in response to the request from the protocol client.

### 3.1.4.15.4 Simple Types

None.

### 3.1.4.15.5 Attributes

None.

### 3.1.4.15.6 Groups

None.

### 3.1.4.15.7 Attribute Groups

None.

### 3.1.4.16 RefreshLinkedTableInformation

This operation refreshes an existing **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6) in a database application on the protocol server. The protocol server uses the **ID** attribute in the **RefreshLinkedTableInformationParameters** (section [3.1.4.16.3.1](#)) element to identify the **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6) in the database application, updates its definition from the source of the **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6), and returns the updated definition to the protocol client.

The following is the WSDL port type specification of the **RefreshLinkedTableInformation** WSDL operation.

```

<wsdl:operation name="RefreshLinkedTableInformation"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RefreshLinkedTableInformationSoapIn"/>
  <wsdl:output message="tns:RefreshLinkedTableInformationSoapOut"/>
</wsdl:operation>

```

The protocol client sends a **RefreshLinkedTableInformationSoapIn** (section [3.1.4.16.1.1](#)) request message and the protocol server responds with a **RefreshLinkedTableInformationSoapOut** (section [3.1.4.16.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified by section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **RefreshLinkedTableInformationSoapOut** response message that contains information about the requested **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6).

### 3.1.4.16.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>RefreshLinkedTableInformationSoapIn</b>	The request WSDL message for the <b>RefreshLinkedTableInformation</b> WSDL operation.
<b>RefreshLinkedTableInformationSoapOut</b>	The response WSDL message for the <b>RefreshLinkedTableInformation</b> WSDL operation.

#### 3.1.4.16.1.1 RefreshLinkedTableInformationSoapIn

The request WSDL message for the **RefreshLinkedTableInformation** WSDL operation.

The SOAP action value is:

```

http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/ApplicationDesignService/RefreshLinkedTableInformation

```

The SOAP body contains the **RefreshLinkedTableInformation** element.

#### 3.1.4.16.1.2 RefreshLinkedTableInformationSoapOut

The response WSDL message for the **RefreshLinkedTableInformation** WSDL operation.

The SOAP body contains the **RefreshLinkedTableInformationResponse** element.

#### 3.1.4.16.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.



Element	Description
<b>RefreshLinkedTableInformation</b>	The input data for the <b>RefreshLinkedTableInformation</b> WSDL operation.
<b>RefreshLinkedTableInformationResponse</b>	The result data for the <b>RefreshLinkedTableInformation</b> WSDL operation.

### 3.1.4.16.2.1 RefreshLinkedTableInformation

The **RefreshLinkedTableInformation** element specifies the input data for the **RefreshLinkedTableInformation** WSDL operation.

```
<xs:element name="RefreshLinkedTableInformation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:RefreshLinkedTableInformationParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **RefreshLinkedTableInformationParameters** (section [3.1.4.16.3.1](#)) element that specifies the **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6) about which to retrieve information. MUST be present.

### 3.1.4.16.2.2 RefreshLinkedTableInformationResponse

The **RefreshLinkedTableInformationResponse** element specifies the result data for the **RefreshLinkedTableInformation** WSDL operation.

```
<xs:element name="RefreshLinkedTableInformationResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RefreshLinkedTableInformationResult"
type="tns:RefreshLinkedTableInformationResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**RefreshLinkedTableInformationResult:** A **RefreshLinkedTableInformationResult** (section [3.1.4.16.3.2](#)) element that specifies information about the requested **linked table** ([\[MS-AXL2\]](#) section 2.1.1.6). MUST be present.

### 3.1.4.16.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>RefreshLinkedTableInformationParameters</b>	Specifies a table about which to retrieve information.

Complex type	Description
<b>RefreshLinkedTableInformationResult</b>	Specifies information about a table.

### 3.1.4.16.3.1 RefreshLinkedTableInformationParameters

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/ApplicationDesignService

Specifies information that identifies the **linked table** ([MS-AXL2] section 2.1.1.6) about which the protocol client is requesting information.

```
<xs:complexType name="RefreshLinkedTableInformationParameters"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ID" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** token ([MS-ASDT] section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section 3.1.4.4) in the **ProtocolVersion** element of the **GetAppInfoResult** (section 3.1.4.4.3.2). MUST be present.

**ID:** An **int** ([XMLSCHEMA2] section 3.3.17) attribute that specifies the identifier of the **linked table** ([MS-AXL2] section 2.1.1.6) to be retrieved. **ID** MUST be the same value as the **ID** attribute of one of the **AccessObject** elements with **ObjectType** as "LinkedTable" that would be returned from a call to **GetApplicationInformation** message (section 3.1.4.4) in the **NewObjects** or **UpdatedObjects** elements of the **GetAppInfoResult** element.

### 3.1.4.16.3.2 RefreshLinkedTableInformationResult

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/ApplicationDesignService

Specifies the table about which the protocol client requested information.

```
<xs:complexType name="RefreshLinkedTableInformationResult"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects" type="tns:AccessObjectList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Objects:** An **AccessObjectList** (section 2.2.4.3) that contains the information about the requested **linked table** ([MS-AXL2] section 2.1.1.6). MUST be present. MUST contain exactly one **AccessObject** element, and the **ObjectType** of that element MUST be "LinkedTable".

### 3.1.4.16.4 Simple Types

None.

### 3.1.4.16.5 Attributes

None.

### 3.1.4.16.6 Groups

None.

### 3.1.4.16.7 Attribute Groups

None.

## 3.1.4.17 SetDataConnectivityStatus

This operation enables or disables a login in the database application, which is used to connect to the database application directly. The protocol client MUST call this operation only if the **IsDataConnectivitySupported** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)) in the response body of a previous call to **GetApplicationInformation** operation (section [3.1.4.4](#)) is "true".

The following is the WSDL port type specification of the **SetDataConnectivityStatus** WSDL operation.

```
<wsdl:operation name="SetDataConnectivityStatus"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetDataConnectivityStatusSoapIn"/>
  <wsdl:output message="tns:SetDataConnectivityStatusSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **SetDataConnectivityStatusSoapIn** (section [3.1.4.17.1.1](#)) request message and the protocol server responds with a **SetDataConnectivityStatusSoapOut** (section [3.1.4.17.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server MUST respond with a SOAP fault, as specified in section [2.2.9.1](#).
- Otherwise, the protocol server MUST respond with a **SetDataConnectivityStatusSoapOut** response message that contains information about the login which was enabled or disabled by the protocol operation.

### 3.1.4.17.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>SetDataConnectivityStatusSoapIn</b>	The request WSDL message for the <b>SetDataConnectivityStatus</b> WSDL operation.
<b>SetDataConnectivityStatusSoapOut</b>	The response WSDL message for the

Message	Description
	<b>SetDataConnectivityStatus</b> WSDL operation.

### 3.1.4.17.1.1 SetDataConnectivityStatusSoapIn

The request WSDL message for the **SetDataConnectivityStatus** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/SetDataConnectivityStatus
```

The SOAP body contains the **SetDataConnectivityStatus** element.

### 3.1.4.17.1.2 SetDataConnectivityStatusSoapOut

The response WSDL message for the **SetDataConnectivityStatus** WSDL operation.

The SOAP body contains the **SetDataConnectivityStatusResponse** element.

### 3.1.4.17.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>SetDataConnectivityStatus</b>	The input data for the <b>SetDataConnectivityStatus</b> WSDL operation.
<b>SetDataConnectivityStatusResponse</b>	The result data for the <b>SetDataConnectivityStatus</b> WSDL operation.

#### 3.1.4.17.2.1 SetDataConnectivityStatus

The **SetDataConnectivityStatus** element specifies the input data for the **SetDataConnectivityStatus** WSDL operation.

```
<xs:element name="SetDataConnectivityStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:SetDataConnectivityStatusParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **SetDataConnectivityStatusParameters** (section [3.1.4.17.3.1](#)) that specifies the permission level of a login and whether it is to be enabled or disabled. MUST be present.

### 3.1.4.17.2.2 SetDataConnectivityStatusResponse

The **SetDataConnectivityStatusResponse** element specifies the result data for the **SetDataConnectivityStatus** WSDL operation.

```
<xs:element name="SetDataConnectivityStatusResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetDataConnectivityStatusResult"
        type="tns:SetDataConnectivityStatusResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**SetDataConnectivityStatusResult:** A **SetDataConnectivityStatusResult** (section [3.1.4.17.3.2](#)) that specifies whether enabling or disabling of the login with requested permission level was successful. MUST be present.

### 3.1.4.17.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>SetDataConnectivityStatusParameters</b>	See section <a href="#">3.1.4.17.3.1</a> .
<b>SetDataConnectivityStatusResult</b>	See section <a href="#">3.1.4.17.3.2</a> .

#### 3.1.4.17.3.1 SetDataConnectivityStatusParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the input data for the **SetDataConnectivityStatus** protocol operation.

```
<xs:complexType name="SetDataConnectivityStatusParameters"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel" use="required"/>
      <xs:attribute name="IsEnabled" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** ([\[MS-ASDT\]](#) section 3.1.1.1). MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** (section [3.1.4.4.3.2](#)). MUST Be present.

**Permission:** A **ConnectivityPermissionLevel** (section [2.2.5.2](#)) that specifies the permission level of the logins on the database application. MUST be present.

**IsEnabled:** A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the login is to be enabled or disabled. If the value of this element is "true", a login with permissions specified by **Permission** is enabled on the database application. If the value is "false", the login is disabled.

### 3.1.4.17.3.2 SetDataConnectivityStatusResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

This complex type specifies the result data for the **SetDataConnectivityStatus** protocol operation.

The result data contains information about the login which is enabled or disabled by the protocol server during the execution of this operation.

```
<xs:complexType name="SetDataConnectivityStatusResult"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="ConnectivityStatusInformation"
          type="tns:ConnectivityStatusInformation"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
          type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ConnectivityStatusInformation:** A **ConnectivityStatusInformation** (section [2.2.4.5](#)) that specifies information about the login, its permission level and if it is enabled or disabled. **MUST** be present.

**Error:** A **ServiceError** element (section [2.2.4.12](#)) that, if not nil ([\[XSD1.1-1\]](#) section 2.7.2), specifies an error that occurred on the protocol server. If the protocol operation succeeded, this element **MUST** be nil.

### 3.1.4.17.4 Simple Types

None.

### 3.1.4.17.5 Attributes

None.

### 3.1.4.17.6 Groups

None.

### 3.1.4.17.7 Attribute Groups

None.

### 3.1.4.18 GetPackage

This operation retrieves a package that represents a database application, including its objects and data.

The following is the WSDL port type specification of the **GetPackage** WSDL operation.

```
<wsdl:operation name="GetPackage" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetPackageSoapIn"/>
  <wsdl:output message="tns:GetPackageSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetPackageSoapIn** (section [3.1.4.18.1.1](#)) request message and the protocol server responds with a **GetPackageSoapOut** (section [3.1.4.18.1.2](#)) response message as follows:

- If an error occurs on the protocol server during this operation, the protocol server **MUST** respond with a SOAP fault, as specified by section [2.2.9.1](#).
- Otherwise, the protocol server **MUST** respond with a **GetPackageSoapOut** response message that contains the package.

#### 3.1.4.18.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>GetPackageSoapIn</b>	The request WSDL message for the <b>GetPackage</b> WSDL operation.
<b>GetPackageSoapOut</b>	The response WSDL message for the <b>GetPackage</b> WSDL operation.

##### 3.1.4.18.1.1 GetPackageSoapIn

The request WSDL message for the **GetPackage** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService/GetPackage
```

The SOAP body contains the **GetPackage** element.

##### 3.1.4.18.1.2 GetPackageSoapOut

The response WSDL message for the **GetPackage** WSDL operation.

The SOAP body contains the **GetPackageResponse** element.

#### 3.1.4.18.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetPackage</b>	The input data for the <b>GetPackage</b> WSDL operation.
<b>GetPackageResponse</b>	The result data for the <b>GetPackage</b> WSDL operation.

### 3.1.4.18.2.1 GetPackage

The **GetPackage** element specifies the input data for the **GetPackage** WSDL operation.

```
<xs:element name="GetPackage" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetPackageParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**parameters:** A **GetPackageParameters** element (section [3.1.4.18.3.1](#)) that specifies the identifier of the package to retrieve. **MUST** be present.

### 3.1.4.18.2.2 GetPackageResponse

The **GetPackageResponse** element specifies the result data for the **GetPackage** WSDL operation.

```
<xs:element name="GetPackageResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetPackageResult"
type="tns:GetPackageResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetPackageResult:** A **GetPackageResult** element (section [3.1.4.18.3.2](#)) that contains the package. **MUST** be present.

### 3.1.4.18.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>GetPackageParameters</b>	Specifies the identifier of the package that the protocol client is requesting.
<b>GetPackageResult</b>	Specifies the status of the package and contains the created package.

#### 3.1.4.18.3.1 GetPackageParameters

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>



Specifies the identifier of the package for the protocol server to retrieve.

```
<xs:complexType name="GetPackageParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="PackageId" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**ProtocolVersion:** An **Access Services Protocol Version** token ([\[MS-ASDT\]](#) section 3.1.1.1). **ProtocolVersion** MUST be the same value that the protocol server returns from a call to **GetApplicationInformation** (section [3.1.4.4](#)) in the **ProtocolVersion** element of the **GetAppInfoResult** element (section [3.1.4.4.3.2](#)). MUST be present.

**PackageId:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the identifier of the package requested by the protocol client. MUST be present.

### 3.1.4.18.3.2 GetPackageResult

**Namespace:**

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService>

Specifies the status of the package specified by the **GetPackageParameters** (section [3.1.4.18.3.1](#)) element in the request from the protocol client and, if the package has been created, contains the package.

```
<xs:complexType name="GetPackageResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Status" type="tns:PackageStatus"/>
        <xs:element minOccurs="0" maxOccurs="1" name="Data" type="xs:string"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

**Status:** A **PackageStatus** (section [3.1.4.18.4.1](#)) element that specifies whether the package has been created.

**Data:** A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the package. MUST NOT be present if the value of **Status** is **Creating**. MUST be present if the value of **Status** is **Created**. If present, MUST be a representation of a ZIP archive encoded with **base64 encoding**, as specified by [\[RFC4648\]](#) section 4. The ZIP archive, when decoded, MUST conform to the Open Packaging Conventions as specified by [\[ISO/IEC-29500-2\]](#) and the further packaging restrictions specified by [\[ISO/IEC-29500-1\]](#) section 9 and as specified by [\[MS-CSOMSPT\]](#) section 3.2.5.237.

### 3.1.4.18.4 Simple Types

The following table summarizes the XML schema simple type definitions that are specific to this operation.

Simple type	Description
<b>PackageStatus</b>	Specifies the status of a package that was requested by a protocol client.

### 3.1.4.18.4.1 PackageStatus

**Namespace:**

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService

Specifies the status of a package that was requested by a protocol client.

```
<xs:simpleType name="PackageStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Creating"/>
    <xs:enumeration value="Created"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **PackageStatus** simple type.

Value	Meaning
Creating	The protocol server is still creating the package.
Created	The protocol server has finished creating the package.

### 3.1.4.18.5 Attributes

None.

### 3.1.4.18.6 Groups

None.

### 3.1.4.18.7 Attribute Groups

None.

### 3.1.5 Timer Events

None.

### 3.1.6 Other Local Events

None.

## 4 Protocol Examples

### 4.1 Use CreateAccessObject to create a Table in a database application

This example describes how to use **CreateAccessObject**, as described in section [3.1.4.1](#), to create a Table in a database application.

The protocol client sends the following message to the protocol server using an **HTTP POST** to `http://www.example.com/exampleapplication/_vti_bin/accsvc/ApplicationDesignService.asmx` to create a table. In this example, the protocol client requests the creation of a table called "Contacts" with an "ID" field (1), a "First Name" field (1), a "Last Name" field (1), and a "Phone" field (1). The **Body** element, as defined in section [3.1.4.1.3.1](#), contains the schema for the table.

```
<?xml version="1.0" encoding="UTF-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-
envelope">
  <soap12:Body>
    <CreateAccessObject
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesig
nService">
      <parameters ProtocolVersion="15.0.24.0" Name="Contacts" Description=""
ObjectType="Table">
        <Body>
          <Schema Namespace="Access.Store"
xmlns="http://schemas.microsoft.com/ado/2008/09/edm"
xmlns:axl="http://schemas.microsoft.com/office/accessservices/2010/12/application">
            <EntityContainer Name="AccessStoreContainer">
              <EntityType Name="Contacts" EntityType="Access.Store.Contacts"/>
            </EntityContainer>
            <EntityType Name="Contacts">
              <Key>
                <PropertyRef Name="ID"/>
              </Key>
              <Property Name="ID" Type="Int32" axl:StoreGeneratedPattern="Identity"
Nullable="false"/>
              <Property Name="First Name" Type="String" Unicode="true"
axl:TextType="SingleLine" MaxLength="220"/>
              <Property Name="Last Name" Type="String" Unicode="true"
axl:TextType="SingleLine" MaxLength="220"/>
              <Property Name="Phone" Type="String" Unicode="true" axl:TextType="SingleLine"
MaxLength="220"/>
              <axl:EventDataMacro>
                <axl:DataMacro Event="AfterInsert"/>
              </axl:EventDataMacro>
              <axl:EventDataMacro>
                <axl:DataMacro Event="AfterUpdate"/>
              </axl:EventDataMacro>
              <axl:EventDataMacro>
                <axl:DataMacro Event="AfterDelete"/>
              </axl:EventDataMacro>
            </EntityType>
          </Schema>
        </Body>
      </parameters>
    </CreateAccessObject>
  </soap12:Body>
</soap12:Envelope>
```

The protocol server responds with the following message:

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CreateAccessObjectResponse
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService">
      <CreateAccessObjectResult>
        <Warning xsi:nil="true" />
        <Objects>
          <AccessObject xsi:type="Table" ID="2" Name="Contacts" ObjectType="Table"
Description="" Version="2011-11-17T02:18:56.4500000">
            <ParentId xsi:nil="true" />
            <Definition>
              <Schema Namespace="Access.Store"
xmlns="http://schemas.microsoft.com/ado/2008/09/edm"
xmlns:axl="http://schemas.microsoft.com/office/accessservices/2010/12/application">
                <EntityContainer Name="AccessStoreContainer">
                  <EntitySet Name="Contacts" EntityType="Access.Store.Contacts"/>
                </EntityContainer>
                <EntityType Name="Contacts">
                  <Key>
                    <PropertyRef Name="ID"/>
                  </Key>
                  <Property Name="ID" Type="Int32" axl:ObjectId="ID" Nullable="false"
axl:StoreGeneratedPattern="Identity"/>
                  <Property Name="First Name" Type="String" axl:ObjectId="First Name"
Unicode="true" axl:TextType="SingleLine" MaxLength="220"/>
                  <Property Name="Last Name" Type="String" axl:ObjectId="Last Name"
Unicode="true" axl:TextType="SingleLine" MaxLength="220"/>
                  <Property Name="Phone" Type="String" axl:ObjectId="Phone" Unicode="true"
axl:TextType="SingleLine" MaxLength="220"/>
                  <axl:EventDataMacro>
                    <axl:DataMacro Event="AfterInsert"/>
                  </axl:EventDataMacro>
                  <axl:EventDataMacro>
                    <axl:DataMacro Event="AfterUpdate"/>
                  </axl:EventDataMacro>
                  <axl:EventDataMacro>
                    <axl:DataMacro Event="AfterDelete"/>
                  </axl:EventDataMacro>
                </EntityType>
              </Schema>
            </Definition>
          </AccessObject>
        </Objects>
        <RefreshRequired>false</RefreshRequired>
      </CreateAccessObjectResult>
    </CreateAccessObjectResponse>
  </soap:Body>
</soap:Envelope>
```

In this example, the protocol server responds with an **AccessObject**, as defined in section [2.2.4.1](#). The **ID** attribute uniquely identifies this object within the database application. The **Version** attribute uniquely identifies this version of the object. The **Definition** element contains the schema for the table that was created by the protocol server. The **ID** and **Version** are used by the protocol

client when it sends an **UpdateAccessObject** request, as described in section [3.1.4.8](#). See section [4.2](#) for an example of **UpdateAccessObject**.

## 4.2 Use UpdateAccessObject to update a Table in a database application

This example describes how to use **UpdateAccessObject**, as described in section [3.1.4.8](#), to update a table in a database application.

The protocol client sends the following message to the protocol server using an HTTP POST to `http://www.example.com/exampleapplication/_vti_bin/acccsvc/ApplicationDesignService.asmx` to update the table. In this example, the protocol client requests the update of a table named "Contacts". The protocol client is adding a "Birthday" field (1) to the Contacts table.

The **ID** attribute equals the "2", which is the identity of this object on the protocol server. The **ObjectVersion** attribute contains the version of this object. **ID** and **ObjectVersion** are returned by the protocol server as part of the response to requests such as **CreateAccessObject**, **GetAccessObject**, or **GetApplicationInformation**. An example of **CreateAccessObject** can be found in section [4.1](#).

The element **Body**, as defined in section [3.1.4.8.3.1](#), contains the schema for the table including the new "Birthday" field (1). The **axl:ObjectId** attribute is used to uniquely identify the fields (1) within this table. Existing fields (1) such as "First Name" include an **axl:ObjectId** attribute, and new fields (1) such as "Birthday" do not. The **axl:ObjectId** attribute is returned as part of the response to requests such as **CreateAccessObject**, **GetAccessObject**, or **GetApplicationInformation**.

```
<?xml version="1.0" encoding="UTF-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-
envelope">
  <soap12:Body>
    <UpdateAccessObject
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesig
nService">
      <parameters ProtocolVersion="15.0.24.0" ID="2" ObjectVersion="2011-11-
17T02:18:56.4500000" Name="Contacts" Description="">
        <Body>
          <Schema Namespace="Access.Store"
xmlns="http://schemas.microsoft.com/ado/2008/09/edm"
xmlns:axl="http://schemas.microsoft.com/office/accessservices/2010/12/application">
            <EntityContainer Name="AccessStoreContainer">
              <EntityType Name="Contacts" EntityType="Access.Store.Contacts"/>
            </EntityContainer>
            <EntityType Name="Contacts">
              <Key>
                <PropertyRef Name="ID"/>
              </Key>
              <Property Name="ID" Type="Int32" axl:StoreGeneratedPattern="Identity"
axl:ObjectId="ID" Nullable="false"/>
              <Property Name="First Name" Type="String" Unicode="true"
axl:TextType="SingleLine" axl:ObjectId="First Name" MaxLength="220"/>
              <Property Name="Last Name" Type="String" Unicode="true"
axl:TextType="SingleLine" axl:ObjectId="Last Name" MaxLength="220"/>
              <Property Name="Phone" Type="String" Unicode="true" axl:TextType="SingleLine"
axl:ObjectId="Phone" MaxLength="220"/>
              <Property Name="Birthday" Type="DateTime" axl:UnderlyingType="Date"
axl:Format="Short Date"/>
              <axl:EventDataMacro>
                <axl:DataMacro Event="AfterInsert"/>
              </axl:EventDataMacro>
            </EntityType>
          </Schema>
        </Body>
      </parameters>
    </UpdateAccessObject>
  </soap12:Body>
</soap12:Envelope>
```

```

        <axl:EventDataMacro>
          <axl:DataMacro Event="AfterUpdate"/>
        </axl:EventDataMacro>
      <axl:EventDataMacro>
        <axl:DataMacro Event="AfterDelete"/>
      </axl:EventDataMacro>
    </EntityType>
  </Schema>
</Body>
</parameters>
</UpdateAccessObject>
</soap12:Body>
</soap12:Envelope>

```

The protocol server responds with the following message:

```

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <UpdateAccessObjectResponse
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/ApplicationDesignService">
      <UpdateAccessObjectResult>
        <Warning xsi:nil="true" />
        <Objects>
          <AccessObject xsi:type="Table" ID="2" Name="Contacts" ObjectType="Table"
Description="" Version="2011-11-17T02:28:41.7300000">
            <ParentId xsi:nil="true" />
            <Definition>
              <Schema Namespace="Access.Store"
xmlns="http://schemas.microsoft.com/ado/2008/09/edm"
xmlns:axl="http://schemas.microsoft.com/office/accessservices/2010/12/application">
                <EntityContainer Name="AccessStoreContainer">
                  <EntitySet Name="Contacts" EntityType="Access.Store.Contacts"/>
                </EntityContainer>
                <EntityType Name="Contacts">
                  <Key>
                    <PropertyRef Name="ID"/>
                  </Key>
                  <Property Name="ID" Type="Int32" axl:ObjectId="ID" Nullable="false"
axl:StoreGeneratedPattern="Identity"/>
                  <Property Name="First Name" Type="String" axl:ObjectId="First Name"
Unicode="true" axl:TextType="SingleLine" MaxLength="220"/>
                  <Property Name="Last Name" Type="String" axl:ObjectId="Last Name"
Unicode="true" axl:TextType="SingleLine" MaxLength="220"/>
                  <Property Name="Phone" Type="String" axl:ObjectId="Phone" Unicode="true"
axl:TextType="SingleLine" MaxLength="220"/>
                  <Property Name="Birthday" Type="DateTime" axl:ObjectId="Birthday"
axl:UnderlyingType="Date" axl:Format="Short Date"/>
                <axl:EventDataMacro>
                  <axl:DataMacro Event="AfterInsert"/>
                </axl:EventDataMacro>
                <axl:EventDataMacro>
                  <axl:DataMacro Event="AfterUpdate"/>
                </axl:EventDataMacro>
                <axl:EventDataMacro>
                  <axl:DataMacro Event="AfterDelete"/>
                </axl:EventDataMacro>
              </Schema>
            </Definition>
          </AccessObject>
        </Objects>
      </UpdateAccessObjectResult>
    </UpdateAccessObjectResponse>
  </soap:Body>
</soap:Envelope>

```

```

        </axl:EventDataMacro>
        </EntityType>
        </Schema>
        </Definition>
        </AccessObject>
    </Objects>
    <Error xsi:nil="true" />
    <RefreshRequired>false</RefreshRequired>
</UpdateAccessObjectResult>
</UpdateAccessObjectResponse>
</soap:Body>
</soap:Envelope>

```

In this example, the protocol server responds with an **AccessObject**, as defined in section [2.2.4.1](#). The **Version** attribute is updated to reflect the latest version of the object. The **Definition** element contains the updated schema for the table. Notice that the Birthday field (1) now has an **axl:ObjectId** attribute.

### 4.3 Use **GetApplicationInformation** to retrieve information about a database application from the protocol server

This example describes how to use **GetApplicationInformation**, as described in section [3.1.4.4](#), to retrieve the information about a database application from the protocol server.

The protocol client sends the following message to the protocol server using an HTTP POST to [http://www.example.com/exampleapplication/\\_vti\\_bin/acscvc/ApplicationDesignService.asmx](http://www.example.com/exampleapplication/_vti_bin/acscvc/ApplicationDesignService.asmx) to retrieve information about the database application. In this example, the protocol client has previously retrieved information about the database application, so the **KnownObjects** element in the message includes the list of objects that have previously been retrieved. For each of these objects, an **ObjectIdentity** element with an **ID** and **Version** attribute are included in the message. **ID** and **Version** are returned by the protocol server as part of the response to requests such as **CreateAccessObject**, **GetAccessObject**, or **GetApplicationInformation**.

```

<?xml version="1.0" encoding="UTF-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-
envelope">
  <soap12:Body>
    <GetApplicationInformation
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesig
nService">
      <parameters>
        <ProtocolVersionOptions>
          <ProtocolVersion>15.0.24.0</ProtocolVersion>
        </ProtocolVersionOptions>
        <KnownObjects>
          <ObjectIdentity ID="2" Version="2011-11-17T06:08:49.4330000" />
          <ObjectIdentity ID="1" Version="2011-11-17T06:08:11.2030000" />
          <ObjectIdentity ID="4" Version="2011-11-17T06:10:46.6058200" />
          <ObjectIdentity ID="3" Version="2011-11-17T06:10:45.5433200" />
        </KnownObjects>
      </parameters>
    </GetApplicationInformation>
  </soap12:Body>
</soap12:Envelope>

```

The protocol server responds with the following message:

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetApplicationInformationResponse
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/ApplicationDesig
nService">
      <GetApplicationInformationResult ProtocolVersion="15.0.24.0" Name="exampleapplication"
DatabaseName="ACCESS_EF43A3CE7B8F4250824F39A2E0DBF3C5" DataServerName="example.com"
ApplicationCulture="en-US" RequestIPAddress="2001:4898:0:fff:0:5efe:172.18.168.80"
IsDataMacroTracingOn="false" IsFirewallRestricted="true" IsDataConnectivitySupported="false">
        <Warning xsi:nil="true" />
        <Collation Culture="en-US" CaseSensitive="false" AccentSensitive="true"
KanaSensitive="true" WidthSensitive="true" UseSupplementaryCharacters="true" />
        <NewObjects>
          <AccessObject xsi:type="Form" ID="5" Name="Contacts PreviewDatasheet"
ObjectType="Form" Description="" Version="2011-11-17T06:10:47.6526950">
            <ParentId xsi:nil="true" />
            <Definition>
              <FormDef
xmlns="http://schemas.microsoft.com/office/accessservices/2010/12/application">
                <Html>
                  &lt;?xml version="1.0" encoding="UTF-8"?&gt;

                  . . . . . content omitted from the example . . . . .

                  &lt;/html&gt;
                </Html>
              </FormDef>
            </Definition>
          </AccessObject>
          <AccessObject xsi:type="Form" ID="6" Name="_AppHomeForm" ObjectType="Form"
Description="" Version="2011-11-17T06:11:54.6683200">
            <ParentId xsi:nil="true" />
            <Definition>
              <FormDef
xmlns="http://schemas.microsoft.com/office/accessservices/2010/12/application">
                <Html>
                  &lt;?xml version="1.0" encoding="UTF-8"?&gt;

                  . . . . . content omitted from the example . . . . .

                  &lt;/html&gt;
                </Html>
              </FormDef>
            </Definition>
          </AccessObject>
        </NewObjects>
        <UpdatedObjects />
        <DeletedObjects />
      </GetApplicationInformationResult>
    </GetApplicationInformationResponse>
  </soap:Body>
</soap:Envelope>
```



In this example, the protocol server responds with additional information about the application. There are two forms that the protocol client had not retrieved information about previously, so the **NewObjects** element contains an **AccessObject** element (as defined in section [2.2.4.1](#)) for each of those Form objects. The **Definition** element of each **AccessObject** element contains the definition of the form (in the preceding example SOAP message, the declaration of each form has been omitted to aid the clarity of the example).

## **5 Security**

### **5.1 Security Considerations for Implementers**

None.

### **5.2 Index of Security Parameters**

None.

## 6 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this appendix.

```
<?xml version="1.0"?>
<wsdl:definitions xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:s1="http://microsoft.com/wsdl/types/"
xmlns:tns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ApplicationDesignService">
      <xs:import namespace="http://microsoft.com/wsdl/types/" />
      <xs:element name="GetApplicationInformation">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetApplicationInformationParameters" />
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="GetApplicationInformationParameters">
        <xs:complexContent mixed="false">
          <xs:extension base="tns:ServiceParameters">
            <xs:sequence>
              <xs:element minOccurs="0" maxOccurs="1" name="ProtocolVersionOptions"
type="tns:ProtocolVersionList" />
              <xs:element minOccurs="0" maxOccurs="1" name="KnownObjects"
type="tns:ObjectIdentityList" />
            </xs:sequence>
          </xs:extension>
        </xs:complexContent>
      </xs:complexType>
      <xs:complexType name="ServiceParameters">
        <xs:complexType name="ProtocolVersionList">
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="unbounded" name="ProtocolVersion"
type="xs:string" />
          </xs:sequence>
        </xs:complexType>
        <xs:complexType name="ObjectIdentityList">
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="unbounded" name="ObjectIdentity"
type="tns:AccessObjectIdentity" />
          </xs:sequence>
        </xs:complexType>
        <xs:complexType name="AccessObjectIdentity">
          <xs:attribute name="ID" type="xs:int" use="required" />
          <xs:attribute name="Version" type="xs:string" />
        </xs:complexType>
      <xs:element name="GetApplicationInformationResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetApplicationInformationResult"
type="tns:GetAppInfoResult" />
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:schema>
  </wsdl:types>

```

```

        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="GetAppInfoResult">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceResult">
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="Collation" type="tns:Collation"/>
                <xs:element minOccurs="0" maxOccurs="1" name="NewObjects"
type="tns:AccessObjectList"/>
                <xs:element minOccurs="0" maxOccurs="1" name="UpdatedObjects"
type="tns:AccessObjectList"/>
                <xs:element minOccurs="0" maxOccurs="1" name="DeletedObjects"
type="tns:IDList"/>
            </xs:sequence>
            <xs:attribute name="ProtocolVersion" type="xs:string"/>
            <xs:attribute name="Name" type="xs:string"/>
            <xs:attribute name="AlternateUrl" type="xs:string"/>
            <xs:attribute name="Title" type="xs:string"/>
            <xs:attribute name="DatabaseName" type="xs:string"/>
            <xs:attribute name="DataServerName" type="xs:string"/>
            <xs:attribute name="ApplicationCulture" type="xs:string"/>
            <xs:attribute name="RequestIPAddress" type="xs:string"/>
            <xs:attribute name="IsDataMacroTracingOn" type="xs:boolean" use="required"/>
            <xs:attribute name="IsFirewallRestricted" type="xs:boolean" use="required"/>
            <xs:attribute name="IsDataConnectivitySupported" type="xs:boolean"
use="required"/>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="ServiceResult">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Warning" nillable="true"
type="tns:ServiceWarning"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ServiceWarning">
    <xs:attribute name="Code" type="xs:string"/>
    <xs:attribute name="Message" type="xs:string"/>
</xs:complexType>
<xs:complexType name="Collation">
    <xs:attribute name="Culture" type="xs:string"/>
    <xs:attribute name="CaseSensitive" type="xs:boolean"/>
    <xs:attribute name="AccentSensitive" type="xs:boolean"/>
    <xs:attribute name="KanaSensitive" type="xs:boolean"/>
    <xs:attribute name="WidthSensitive" type="xs:boolean"/>
    <xs:attribute name="UseSupplementaryCharacters" type="xs:boolean" use="required"/>
</xs:complexType>
<xs:complexType name="AccessObjectList">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="AccessObject"
type="tns:AccessObject"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="AccessObject">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="ParentId" nillable="true"
type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Definition" nillable="true">

```

```

        <xs:complexType mixed="true">
            <xs:sequence>
                <xs:any/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:sequence>
<xs:attribute name="ID" type="xs:int" use="required"/>
<xs:attribute name="Name" type="xs:string"/>
<xs:attribute name="ObjectType" type="tns:AccessObjectType" use="required"/>
<xs:attribute name="Description" type="xs:string"/>
<xs:attribute name="Version" type="xs:string"/>
</xs:complexType>
<xs:simpleType name="AccessObjectType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Unknown"/>
        <xs:enumeration value="Table"/>
        <xs:enumeration value="Query"/>
        <xs:enumeration value="DataMacro"/>
        <xs:enumeration value="Form"/>
        <xs:enumeration value="UIMacro"/>
        <xs:enumeration value="Report"/>
        <xs:enumeration value="Image"/>
        <xs:enumeration value="NavigationPane"/>
        <xs:enumeration value="AccessProperties"/>
        <xs:enumeration value="ApplicationVersion"/>
        <xs:enumeration value="ApplicationLogic"/>
        <xs:enumeration value="ApplicationStyle"/>
        <xs:enumeration value="LinkedTable"/>
        <xs:enumeration value="EmbeddedExpression"/>
        <xs:enumeration value="LinkedQuery"/>
    </xs:restriction>
</xs:simpleType>
<xs:complexType name="LinkedTable">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AccessObject"/>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="AccessStorageObject" abstract="true">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AccessObject"/>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="EmbeddedExpression">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AccessStorageObject"/>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="UIMacro">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AccessStorageObject"/>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="Form">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AccessStorageObject"/>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="DataMacro">

```

```

    <xs:complexContent mixed="false">
      <xs:extension base="tns:AccessObject"/>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="Query">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:AccessObject"/>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="Table">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:AccessObject"/>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="IDList">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="ID" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="GetAccessObject">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetParameters"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="GetParameters">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceParameters">
        <xs:attribute name="ProtocolVersion" type="xs:string"/>
        <xs:attribute name="ID" type="xs:int" use="required"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="GetAccessObjectResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="GetAccessObjectResult"
type="tns:GetResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="GetResult">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceResult">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="Objects"
type="tns:AccessObjectList"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="CreateAccessObject">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:CreateParameters"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

    </xs:complexType>
  </xs:element>
  <xs:complexType name="CreateParameters">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceParameters">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="ParameterObjects"
type="tns:ParameterObjectList"/>
        </xs:sequence>
        <xs:attribute name="ProtocolVersion" type="xs:string"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="ParameterObjectList">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="ParameterObject"
type="tns:ParameterObject"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ParameterObject">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="Body">
        <xs:complexType mixed="true">
          <xs:sequence>
            <xs:any/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
    <xs:attribute name="Name" type="xs:string"/>
    <xs:attribute name="Description" type="xs:string"/>
    <xs:attribute name="ObjectType" type="tns:AccessObjectType" use="required"/>
  </xs:complexType>
  <xs:element name="CreateAccessObjectResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="CreateAccessObjectResult"
type="tns:CreateResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="CreateResult">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceResult">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="Objects"
type="tns:AccessObjectList"/>
          <xs:element minOccurs="1" maxOccurs="1" name="RefreshRequired"
type="xs:boolean"/>
          <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="ServiceError">
    <xs:attribute name="Code" type="xs:string"/>
    <xs:attribute name="Message" type="xs:string"/>
    <xs:attribute name="CorrelationId" type="xs:string"/>

```

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        <xs:attribute name="Timestamp" type="xs:string"/>
    </xs:complexType>
    <xs:element name="RenameAccessObject">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:RenameParameters"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="RenameParameters">
        <xs:complexContent mixed="false">
            <xs:extension base="tns:ServiceParameters">
                <xs:sequence>
                    <xs:element minOccurs="0" maxOccurs="1" name="KnownObjects"
type="tns:ObjectIdentityList"/>
                    <xs:element minOccurs="0" maxOccurs="1" name="OpenObjects"
type="tns:ObjectIdentityList"/>
                </xs:sequence>
                <xs:attribute name="ProtocolVersion" type="xs:string"/>
                <xs:attribute name="ID" type="xs:int" use="required"/>
                <xs:attribute name="ObjectVersion" type="xs:string"/>
                <xs:attribute name="Name" type="xs:string"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:element name="RenameAccessObjectResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="RenameAccessObjectResult"
type="tns:RenameResult"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="RenameResult">
        <xs:complexContent mixed="false">
            <xs:extension base="tns:ServiceResult">
                <xs:sequence>
                    <xs:element minOccurs="0" maxOccurs="1" name="AccessObject"
type="tns:AccessObject"/>
                    <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
                    <xs:element minOccurs="1" maxOccurs="1" name="UpdatedObjects" nillable="true"
type="tns:AccessObjectList"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:element name="UpdateAccessObject">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:UpdateParameters"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="UpdateParameters">
        <xs:complexContent mixed="false">
            <xs:extension base="tns:ServiceParameters">
                <xs:sequence>

```



```

        <xs:element minOccurs="0" maxOccurs="1" name="Body">
            <xs:complexType mixed="true">
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                    <xs:any/>
                </xs:sequence>
            </xs:complexType>
        </xs:element>
        <xs:element minOccurs="0" maxOccurs="1" name="KnownObjects"
type="tns:ObjectIdentityList"/>
        <xs:element minOccurs="0" maxOccurs="1" name="OpenObjects"
type="tns:ObjectIdentityList"/>
    </xs:sequence>
    <xs:attribute name="ProtocolVersion" type="xs:string"/>
    <xs:attribute name="ID" type="xs:int" use="required"/>
    <xs:attribute name="ObjectVersion" type="xs:string"/>
    <xs:attribute name="Description" type="xs:string"/>
</xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:element name="UpdateAccessObjectResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="UpdateAccessObjectResult"
type="tns:UpdateResult"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="UpdateResult">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceResult">
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="Objects"
type="tns:AccessObjectList"/>
                <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
                <xs:element minOccurs="1" maxOccurs="1" name="RefreshRequired"
type="xs:boolean"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="DeleteAccessObject">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns>DeleteParameters"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="DeleteParameters">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceParameters">
            <xs:attribute name="ProtocolVersion" type="xs:string"/>
            <xs:attribute name="ID" type="xs:int" use="required"/>
            <xs:attribute name="ObjectVersion" type="xs:string"/>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="DeleteAccessObjectResponse">

```

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        <xs:complexType>
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            <xs:element minOccurs="0" maxOccurs="1" name="DeleteAccessObjectResult"
type="tns:DeleteResult"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="DeleteResult">
        <xs:complexContent mixed="false">
          <xs:extension base="tns:ServiceResult">
            <xs:sequence>
              <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
              <xs:element minOccurs="0" maxOccurs="1" name="AccessObject"
type="tns:AccessObject"/>
            </xs:sequence>
            <xs:attribute name="ID" type="xs:int" use="required"/>
          </xs:extension>
        </xs:complexContent>
      </xs:complexType>
      <xs:element name="CreatePackage">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:CreatePackageParameters"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="CreatePackageParameters">
        <xs:complexContent mixed="false">
          <xs:extension base="tns:ServiceParameters">
            <xs:attribute name="ProtocolVersion" type="xs:string"/>
            <xs:attribute name="Title" type="xs:string"/>
            <xs:attribute name="Data" type="xs:boolean" use="required"/>
          </xs:extension>
        </xs:complexContent>
      </xs:complexType>
      <xs:element name="CreatePackageResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="CreatePackageResult"
type="tns:CreatePackageResult"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="CreatePackageResult">
        <xs:complexContent mixed="false">
          <xs:extension base="tns:ServiceResult">
            <xs:sequence>
              <xs:element minOccurs="0" maxOccurs="1" name="PackageId" type="xs:string"/>
            </xs:sequence>
          </xs:extension>
        </xs:complexContent>
      </xs:complexType>
      <xs:element name="GetPackage">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetPackageParameters"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>

```

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        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="GetPackageParameters">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceParameters">
            <xs:attribute name="ProtocolVersion" type="xs:string"/>
            <xs:attribute name="PackageId" type="xs:string"/>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetPackageResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetPackageResult"
type="tns:GetPackageResult"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="GetPackageResult">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceResult">
            <xs:sequence>
                <xs:element minOccurs="1" maxOccurs="1" name="Status"
type="tns:PackageStatus"/>
                <xs:element minOccurs="0" maxOccurs="1" name="Data" type="xs:string"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:simpleType name="PackageStatus">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Creating"/>
        <xs:enumeration value="Created"/>
    </xs:restriction>
</xs:simpleType>
<xs:element name="SetDataMacroTracing">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:SetDataMacroTracingParameters"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SetDataMacroTracingParameters">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceParameters">
            <xs:attribute name="ProtocolVersion" type="xs:string"/>
            <xs:attribute name="TurnTracingOn" type="xs:boolean" use="required"/>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="SetDataMacroTracingResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="SetDataMacroTracingResult"
type="tns:SetDataMacroTracingResult"/>
        </xs:sequence>
    </xs:complexType>

```

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</xs:element>
<xs:complexType name="SetDataMacroTracingResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:attribute name="IsTracingOn" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="GetLinkedTableInformation">
  <xs:complexType>
    <xs:sequence>
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type="tns:GetLinkedTableInformationParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="GetLinkedTableInformationParameters">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="ListID" type="s1:guid" use="required"/>
      <xs:attribute name="SiteUrl" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="GetLinkedTableInformationResponse">
  <xs:complexType>
    <xs:sequence>
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type="tns:GetLinkedTableInformationResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="GetLinkedTableInformationResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects"
type="tns:AccessObjectList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="RefreshLinkedTableInformation">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:RefreshLinkedTableInformationParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="RefreshLinkedTableInformationParameters">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
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      <xs:attribute name="ID" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

```

<xs:element name="RefreshLinkedTableInformationResponse">
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      <xs:element minOccurs="0" maxOccurs="1"
name="RefreshLinkedTableInformationResult" type="tns:RefreshLinkedTableInformationResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="RefreshLinkedTableInformationResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Objects"
type="tns:AccessObjectList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="ImportData">
  <xs:complexType>
    <xs:sequence>
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type="tns:ImportDataParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="ImportDataParameters">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Body">
          <xs:complexType mixed="true">
            <xs:sequence>
              <xs:any/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="Version" type="xs:string"/>
      <xs:attribute name="TargetObjectID" type="xs:int" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="ImportDataResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ImportDataResult"
type="tns:ImportDataResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="ImportDataResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

```

        <xs:attribute name="RowsProcessed" type="xs:int" use="required"/>
    </xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:element name="SetDataConnectivityStatus">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:SetDataConnectivityStatusParameters"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SetDataConnectivityStatusParameters">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceParameters">
            <xs:attribute name="ProtocolVersion" type="xs:string"/>
            <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel"
use="required"/>
            <xs:attribute name="IsEnabled" type="xs:boolean" use="required"/>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:simpleType name="ConnectivityPermissionLevel">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Reader"/>
        <xs:enumeration value="Writer"/>
    </xs:restriction>
</xs:simpleType>
<xs:element name="SetDataConnectivityStatusResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="SetDataConnectivityStatusResult"
type="tns:SetDataConnectivityStatusResult"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SetDataConnectivityStatusResult">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:ServiceResult">
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="ConnectivityStatusInformation"
type="tns:ConnectivityStatusInformation"/>
                <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="ConnectivityStatusInformation">
    <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel"
use="required"/>
    <xs:attribute name="IsEnabled" type="xs:boolean" use="required"/>
</xs:complexType>
<xs:element name="GetDataConnectivityStatus">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetDataConnectivityStatusParameters"/>
        </xs:sequence>
    </xs:complexType>

```

```

    </xs:complexType>
  </xs:element>
  <xs:complexType name="GetDataConnectivityStatusParameters">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceParameters">
        <xs:attribute name="ProtocolVersion" type="xs:string"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="GetDataConnectivityStatusResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="GetDataConnectivityStatusResult"
type="tns:GetDataConnectivityStatusResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="GetDataConnectivityStatusResult">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceResult">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="StatusInformations"
type="tns:ArrayOfConnectivityStatusInformation"/>
          <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="ArrayOfConnectivityStatusInformation">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded"
name="ConnectivityStatusInformation" nillable="true"
type="tns:ConnectivityStatusInformation"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="GetDataConnectivity">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetDataConnectivityParameters"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="GetDataConnectivityParameters">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceParameters">
        <xs:attribute name="ProtocolVersion" type="xs:string"/>
        <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel"
use="required"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="GetDataConnectivityResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="GetDataConnectivityResult"
type="tns:GetDataConnectivityResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

</xs:element>
<xs:complexType name="GetDataConnectivityResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
      <xs:attribute name="UserName" type="xs:string"/>
      <xs:attribute name="Password" type="xs:string"/>
      <xs:attribute name="Permission" type="tns:ConnectivityPermissionLevel"
use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="GetFirewallRules">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:GetFirewallRulesParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="GetFirewallRulesParameters">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="GetFirewallRulesResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetFirewallRulesResult"
type="tns:GetFirewallRulesResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="GetFirewallRulesResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="FirewallRules"
type="tns:ArrayOfFirewallRule"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="ArrayOfFirewallRule">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="FirewallRule" nillable="true"
type="tns:FirewallRule"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="FirewallRule">
  <xs:attribute name="StartIPAddress" type="xs:string"/>
  <xs:attribute name="EndIPAddress" type="xs:string"/>

```



```

</xs:complexType>
<xs:element name="AddFirewallRule">
  <xs:complexType>
    <xs:sequence>
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type="tns:AddFirewallRuleParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="AddFirewallRuleParameters">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="StartIPAddress" type="xs:string"/>
      <xs:attribute name="EndIPAddress" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="AddFirewallRuleResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="AddFirewallRuleResult"
type="tns:AddFirewallRuleResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="AddFirewallRuleResult">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
      </xs:sequence>
      <xs:attribute name="RuleName" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="DeleteFirewallRules">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns>DeleteFirewallRulesParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="DeleteFirewallRulesParameters">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SpecifiedFirewallRules"
type="tns:FirewallRulesList"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="DeleteOption" type="tns>DeleteFirewallRulesOption"
use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="FirewallRulesList">

```

```

        <xs:sequence>
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type="tns:FirewallRule"/>
        </xs:sequence>
      </xs:complexType>
      <xs:simpleType name="DeleteFirewallRulesOption">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Specified"/>
          <xs:enumeration value="All"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:element name="DeleteFirewallRulesResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="DeleteFirewallRulesResult"
type="tns:DeleteFirewallRulesResult"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="DeleteFirewallRulesResult">
        <xs:complexContent mixed="false">
          <xs:extension base="tns:ServiceResult">
            <xs:sequence>
              <xs:element minOccurs="1" maxOccurs="1" name="Error" nillable="true"
type="tns:ServiceError"/>
            </xs:sequence>
          </xs:extension>
        </xs:complexContent>
      </xs:complexType>
    </xs:schema>
    <xs:schema elementFormDefault="qualified"
targetNamespace="http://microsoft.com/wsdl/types/">
      <xs:simpleType name="guid">
        <xs:restriction base="xs:string">
          <xs:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-
9a-fA-F]{12}"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:schema>
  </wsdl:types>
  <wsdl:portType name="ApplicationDesignServiceSoap">
    <wsdl:operation name="GetApplicationInformation">
      <wsdl:input message="tns:GetApplicationInformationSoapIn"/>
      <wsdl:output message="tns:GetApplicationInformationSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="GetAccessObject">
      <wsdl:input message="tns:GetAccessObjectSoapIn"/>
      <wsdl:output message="tns:GetAccessObjectSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="CreateAccessObject">
      <wsdl:input message="tns:CreateAccessObjectSoapIn"/>
      <wsdl:output message="tns:CreateAccessObjectSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="RenameAccessObject">
      <wsdl:input message="tns:RenameAccessObjectSoapIn"/>
      <wsdl:output message="tns:RenameAccessObjectSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="UpdateAccessObject">
      <wsdl:input message="tns:UpdateAccessObjectSoapIn"/>

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    <wsdl:output message="tns:UpdateAccessObjectSoapOut"/>
</wsdl:operation>
<wsdl:operation name="DeleteAccessObject">
    <wsdl:input message="tns:DeleteAccessObjectSoapIn"/>
    <wsdl:output message="tns:DeleteAccessObjectSoapOut"/>
</wsdl:operation>
<wsdl:operation name="CreatePackage">
    <wsdl:input message="tns:CreatePackageSoapIn"/>
    <wsdl:output message="tns:CreatePackageSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetPackage">
    <wsdl:input message="tns:GetPackageSoapIn"/>
    <wsdl:output message="tns:GetPackageSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetDataMacroTracing">
    <wsdl:input message="tns:SetDataMacroTracingSoapIn"/>
    <wsdl:output message="tns:SetDataMacroTracingSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetLinkedTableInformation">
    <wsdl:input message="tns:GetLinkedTableInformationSoapIn"/>
    <wsdl:output message="tns:GetLinkedTableInformationSoapOut"/>
</wsdl:operation>
<wsdl:operation name="RefreshLinkedTableInformation">
    <wsdl:input message="tns:RefreshLinkedTableInformationSoapIn"/>
    <wsdl:output message="tns:RefreshLinkedTableInformationSoapOut"/>
</wsdl:operation>
<wsdl:operation name="ImportData">
    <wsdl:input message="tns:ImportDataSoapIn"/>
    <wsdl:output message="tns:ImportDataSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetDataConnectivityStatus">
    <wsdl:input message="tns:SetDataConnectivityStatusSoapIn"/>
    <wsdl:output message="tns:SetDataConnectivityStatusSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetDataConnectivityStatus">
    <wsdl:input message="tns:GetDataConnectivityStatusSoapIn"/>
    <wsdl:output message="tns:GetDataConnectivityStatusSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetDataConnectivity">
    <wsdl:input message="tns:GetDataConnectivitySoapIn"/>
    <wsdl:output message="tns:GetDataConnectivitySoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetFirewallRules">
    <wsdl:input message="tns:GetFirewallRulesSoapIn"/>
    <wsdl:output message="tns:GetFirewallRulesSoapOut"/>
</wsdl:operation>
<wsdl:operation name="AddFirewallRule">
    <wsdl:input message="tns:AddFirewallRuleSoapIn"/>
    <wsdl:output message="tns:AddFirewallRuleSoapOut"/>
</wsdl:operation>
<wsdl:operation name="DeleteFirewallRules">
    <wsdl:input message="tns>DeleteFirewallRulesSoapIn"/>
    <wsdl:output message="tns>DeleteFirewallRulesSoapOut"/>
</wsdl:operation>
</wsdl:portType>
<wsdl:binding name="ApplicationDesignServiceSoap" type="tns:ApplicationDesignServiceSoap">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetApplicationInformation">

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    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/Application
DesignService/GetApplicationInformation" style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="GetAccessObject">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/Application
DesignService/GetAccessObject" style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="CreateAccessObject">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/Application
DesignService/CreateAccessObject" style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="RenameAccessObject">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/Application
DesignService/RenameAccessObject" style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="UpdateAccessObject">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/Application
DesignService/UpdateAccessObject" style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="DeleteAccessObject">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/Webservices/Application
DesignService/DeleteAccessObject" style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>

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    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="CreatePackage">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
      DesignService/CreatePackage" style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="GetPackage">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
      DesignService/GetPackage" style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="SetDataMacroTracing">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
      DesignService/SetDataMacroTracing" style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="GetLinkedTableInformation">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
      DesignService/GetLinkedTableInformation" style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="RefreshLinkedTableInformation">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
      DesignService/RefreshLinkedTableInformation" style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>

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    <wsdl:operation name="ImportData">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/ImportData" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetDataConnectivityStatus">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/SetDataConnectivityStatus" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetDataConnectivityStatus">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetDataConnectivityStatus" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetDataConnectivity">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetDataConnectivity" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetFirewallRules">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetFirewallRules" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="AddFirewallRule">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/AddFirewallRule" style="document"/>
      <wsdl:input>

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        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="DeleteFirewallRules">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/DeleteFirewallRules" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:binding name="ApplicationDesignServiceSoap12"
type="tns:ApplicationDesignServiceSoap">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetApplicationInformation">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetApplicationInformation" style="document"/>
            <wsdl:input>
                <soap12:body use="literal"/>
            </wsdl:input>
            <wsdl:output>
                <soap12:body use="literal"/>
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="GetAccessObject">
            <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetAccessObject" style="document"/>
                <wsdl:input>
                    <soap12:body use="literal"/>
                </wsdl:input>
                <wsdl:output>
                    <soap12:body use="literal"/>
                </wsdl:output>
            </wsdl:operation>
            <wsdl:operation name="CreateAccessObject">
                <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/CreateAccessObject" style="document"/>
                    <wsdl:input>
                        <soap12:body use="literal"/>
                    </wsdl:input>
                    <wsdl:output>
                        <soap12:body use="literal"/>
                    </wsdl:output>
                </wsdl:operation>
                <wsdl:operation name="RenameAccessObject">
                    <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/RenameAccessObject" style="document"/>
                        <wsdl:input>
                            <soap12:body use="literal"/>
                        </wsdl:input>
                    </wsdl:operation>
                </wsdl:operation>
            </wsdl:operation>
        </wsdl:binding>
    </wsdl:binding>

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        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="UpdateAccessObject">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/UpdateAccessObject" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="DeleteAccessObject">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/DeleteAccessObject" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="CreatePackage">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/CreatePackage" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetPackage">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetPackage" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetDataMacroTracing">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/SetDataMacroTracing" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>

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    <wsdl:operation name="GetLinkedTableInformation">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetLinkedTableInformation" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RefreshLinkedTableInformation">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/RefreshLinkedTableInformation" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ImportData">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/ImportData" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetDataConnectivityStatus">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/SetDataConnectivityStatus" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetDataConnectivityStatus">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetDataConnectivityStatus" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetDataConnectivity">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetDataConnectivity" style="document"/>
      <wsdl:input>

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        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="GetFirewallRules">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/GetFirewallRules" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
<wsdl:operation name="AddFirewallRule">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/AddFirewallRule" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
<wsdl:operation name="DeleteFirewallRules">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Application
DesignService/DeleteFirewallRules" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:message name="AddFirewallRuleSoapIn">
    <wsdl:part name="parameters" element="tns:AddFirewallRule"/>
</wsdl:message>
<wsdl:message name="AddFirewallRuleSoapOut">
    <wsdl:part name="parameters" element="tns:AddFirewallRuleResponse"/>
</wsdl:message>
<wsdl:message name="CreateAccessObjectSoapIn">
    <wsdl:part name="parameters" element="tns:CreateAccessObject"/>
</wsdl:message>
<wsdl:message name="CreateAccessObjectSoapOut">
    <wsdl:part name="parameters" element="tns:CreateAccessObjectResponse"/>
</wsdl:message>
<wsdl:message name="CreatePackageSoapIn">
    <wsdl:part name="parameters" element="tns:CreatePackage"/>
</wsdl:message>
<wsdl:message name="CreatePackageSoapOut">
    <wsdl:part name="parameters" element="tns:CreatePackageResponse"/>
</wsdl:message>
<wsdl:message name="DeleteAccessObjectSoapIn">

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```

    <wsdl:part name="parameters" element="tns:DeleteAccessObject"/>
</wsdl:message>
<wsdl:message name="DeleteAccessObjectSoapOut">
    <wsdl:part name="parameters" element="tns:DeleteAccessObjectResponse"/>
</wsdl:message>
<wsdl:message name="DeleteFirewallRulesSoapIn">
    <wsdl:part name="parameters" element="tns:DeleteFirewallRules"/>
</wsdl:message>
<wsdl:message name="DeleteFirewallRulesSoapOut">
    <wsdl:part name="parameters" element="tns:DeleteFirewallRulesResponse"/>
</wsdl:message>
<wsdl:message name="GetAccessObjectSoapIn">
    <wsdl:part name="parameters" element="tns:GetAccessObject"/>
</wsdl:message>
<wsdl:message name="GetAccessObjectSoapOut">
    <wsdl:part name="parameters" element="tns:GetAccessObjectResponse"/>
</wsdl:message>
<wsdl:message name="GetApplicationInformationSoapIn">
    <wsdl:part name="parameters" element="tns:GetApplicationInformation"/>
</wsdl:message>
<wsdl:message name="GetApplicationInformationSoapOut">
    <wsdl:part name="parameters" element="tns:GetApplicationInformationResponse"/>
</wsdl:message>
<wsdl:message name="GetDataConnectivitySoapIn">
    <wsdl:part name="parameters" element="tns:GetDataConnectivity"/>
</wsdl:message>
<wsdl:message name="GetDataConnectivitySoapOut">
    <wsdl:part name="parameters" element="tns:GetDataConnectivityResponse"/>
</wsdl:message>
<wsdl:message name="GetDataConnectivityStatusSoapIn">
    <wsdl:part name="parameters" element="tns:GetDataConnectivityStatus"/>
</wsdl:message>
<wsdl:message name="GetDataConnectivityStatusSoapOut">
    <wsdl:part name="parameters" element="tns:GetDataConnectivityStatusResponse"/>
</wsdl:message>
<wsdl:message name="GetFirewallRulesSoapIn">
    <wsdl:part name="parameters" element="tns:GetFirewallRules"/>
</wsdl:message>
<wsdl:message name="GetFirewallRulesSoapOut">
    <wsdl:part name="parameters" element="tns:GetFirewallRulesResponse"/>
</wsdl:message>
<wsdl:message name="GetLinkedTableInformationSoapIn">
    <wsdl:part name="parameters" element="tns:GetLinkedTableInformation"/>
</wsdl:message>
<wsdl:message name="GetLinkedTableInformationSoapOut">
    <wsdl:part name="parameters" element="tns:GetLinkedTableInformationResponse"/>
</wsdl:message>
<wsdl:message name="GetPackageSoapIn">
    <wsdl:part name="parameters" element="tns:GetPackage"/>
</wsdl:message>
<wsdl:message name="GetPackageSoapOut">
    <wsdl:part name="parameters" element="tns:GetPackageResponse"/>
</wsdl:message>
<wsdl:message name="ImportDataSoapIn">
    <wsdl:part name="parameters" element="tns:ImportData"/>
</wsdl:message>
<wsdl:message name="ImportDataSoapOut">
    <wsdl:part name="parameters" element="tns:ImportDataResponse"/>
</wsdl:message>

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```
<wsdl:message name="RefreshLinkedTableInformationSoapIn">
  <wsdl:part name="parameters" element="tns:RefreshLinkedTableInformation"/>
</wsdl:message>
<wsdl:message name="RefreshLinkedTableInformationSoapOut">
  <wsdl:part name="parameters" element="tns:RefreshLinkedTableInformationResponse"/>
</wsdl:message>
<wsdl:message name="RenameAccessObjectSoapIn">
  <wsdl:part name="parameters" element="tns:RenameAccessObject"/>
</wsdl:message>
<wsdl:message name="RenameAccessObjectSoapOut">
  <wsdl:part name="parameters" element="tns:RenameAccessObjectResponse"/>
</wsdl:message>
<wsdl:message name="SetDataConnectivityStatusSoapIn">
  <wsdl:part name="parameters" element="tns:SetDataConnectivityStatus"/>
</wsdl:message>
<wsdl:message name="SetDataConnectivityStatusSoapOut">
  <wsdl:part name="parameters" element="tns:SetDataConnectivityStatusResponse"/>
</wsdl:message>
<wsdl:message name="SetDataMacroTracingSoapIn">
  <wsdl:part name="parameters" element="tns:SetDataMacroTracing"/>
</wsdl:message>
<wsdl:message name="SetDataMacroTracingSoapOut">
  <wsdl:part name="parameters" element="tns:SetDataMacroTracingResponse"/>
</wsdl:message>
<wsdl:message name="UpdateAccessObjectSoapIn">
  <wsdl:part name="parameters" element="tns:UpdateAccessObject"/>
</wsdl:message>
<wsdl:message name="UpdateAccessObjectSoapOut">
  <wsdl:part name="parameters" element="tns:UpdateAccessObjectResponse"/>
</wsdl:message>
</wsdl:definitions>
```

## 7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft Access 2013
- Microsoft SharePoint Server 2013

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

[<1> Section 2.2.9.3:](#) Access Services does not specify Service Warnings in SharePoint Server 2013.

## 8 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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