

# [MS-ISPAC]: Integration Services Project Deployment File Format

---

## Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](#) or the [Community Promise](#). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplg@microsoft.com](mailto:iplg@microsoft.com).
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights.
- **Fictitious Names.** The example companies, organizations, products, domain names, email addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

## Revision Summary

Date	Revision History	Revision Class	Comments
09/03/2010	0.1	New	Released new document.
02/09/2011	0.1	No change	No changes to the meaning, language, or formatting of the technical content.
07/07/2011	1.0	Major	Significantly changed the technical content.
11/03/2011	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
01/19/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
02/23/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
03/27/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
05/24/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
06/29/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
10/08/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.
10/23/2012	1.0	No change	No changes to the meaning, language, or formatting of the technical content.

# Contents

<b>1</b>	<b>Introduction</b>	<b>4</b>
1.1	Glossary	4
1.2	References	4
1.2.1	Normative References	4
1.2.2	Informative References	5
1.3	Overview	5
1.4	Relationship to Protocols and Other Structures	5
1.5	Applicability Statement	5
1.6	Versioning and Localization	5
1.7	Vendor-Extensible Fields	5
<b>2</b>	<b>Structures</b>	<b>6</b>
2.1	Project Deployment File	6
2.2	IS Package	6
2.3	Project Manifest	6
2.3.1	XML Namespace	6
2.3.2	Properties	6
2.3.3	Property	7
2.3.4	Project	7
2.3.5	Packages	9
2.3.6	Package	9
2.3.7	ConnectionManagers	9
2.3.8	ConnectionManager	10
2.3.9	DeploymentInfo	10
2.3.10	PackageInfo	11
2.3.11	PackageMetadata	11
2.3.12	Parameters	12
2.3.13	Parameter	13
<b>3</b>	<b>Structure Examples</b>	<b>15</b>
<b>4</b>	<b>Security</b>	<b>19</b>
4.1	Security Considerations for Implementers	19
4.2	Index of Security Fields	19
<b>5</b>	<b>Appendix A: XML Schema Definition</b>	<b>20</b>
<b>6</b>	<b>Appendix B: Product Behavior</b>	<b>22</b>
<b>7</b>	<b>Change Tracking</b>	<b>23</b>
<b>8</b>	<b>Index</b>	<b>24</b>

# 1 Introduction

This document specifies the file format for the Microsoft SQL Server Integration Services project deployment file, which is a file type that is used to represent the packaged metadata of a data integration **project**.

Sections 1.7 and 2 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. All other sections and examples in this specification are informative.

## 1.1 Glossary

The following terms are defined in [\[MS-GLOS\]](#):

**globally unique identifier (GUID)**  
**XML namespace**

The following terms are specific to this document:

**Integration Services (IS) package:** A module of a **project**. The module contains control flow and data flow, as specified in [\[MS-DTSX\]](#).

**Open Packaging Conventions (OPC) package:** A logical entity that holds a collection of **parts**, as specified in [\[ISO/IEC 29500-2:2008\]](#).

**part:** A stream of bytes with a MIME content type and associated common properties, as specified in [\[ISO/IEC 29500-2:2008\]](#).

**project:** A collection of **IS packages** that are developed and deployed as a unit.

**project manifest:** The metadata that describes the properties of a **project** as well as its contents.

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

## 1.2 References

References to Microsoft Open Specifications documentation 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. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[FIPS46-2] National Institute of Standards and Technology, "Federal Information Processing Standards Publication 46-2: Data Encryption Standard (DES)", December 1993, <http://www.itl.nist.gov/fipspubs/fip46-2.htm>

[ISO/IEC 29500-2:2008] Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions, [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)

[MS-DTSX] Microsoft Corporation, "[Data Transformation Services Package XML File Format](#)".

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

## 1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

## 1.3 Overview

This document specifies the file format for the Microsoft SQL Server Integration Services project deployment file, a file type that is used to represent the packaged metadata of a data integration project.

The project deployment file is an implementation of Open Packaging Conventions (OPC). The project deployment file contains one or more **Integration Services (IS) packages** and one **project manifest**.

Each IS package is represented as one OPC **part**. The part is uniquely identified by a URI formatter part name. The part contains an IS package file in the .dtsx file format that is specified in [\[MS-DTSX\]](#). The content type of the part is text/xml.

The project manifest is an OPC part of content type text/xml. A project deployment file must have a part that contains the project manifest. The project manifest contains metadata that describes the project properties, project parameter, and deployment metadata for each of the contained IS packages.

## 1.4 Relationship to Protocols and Other Structures

The project deployment file format can be used as a payload in protocols that support the transport of binary data.

## 1.5 Applicability Statement

The project deployment file format is applicable for use in a standalone representation of project metadata, for deploying a project from a client to a server, or for extracting a project from a server to a client.

## 1.6 Versioning and Localization

This document describes version 1.0 of the project deployment file format. There are no localization-dependent structures in the project deployment file format.

## 1.7 Vendor-Extensible Fields

Extensions to the file format that is specified in this document are not allowed. Tools that process this format do not have to preserve unrecognized structures when loading or persisting.

## 2 Structures

### 2.1 Project Deployment File

A project deployment file is an implementation of an Open Packaging Conventions (OPC) package. The file **MUST** contain the following parts:

- One part that contains a project manifest.
- Zero or more parts that contain an IS package.

### 2.2 IS Package

An IS package is stored as one OPC part in the project deployment file. The following rules apply to the package:

- The content type of the part **MUST** be text/xml.
- The part data stream **MUST** contain exactly one instance of a file in .dtsx format [\[MS-DTSX\]](#) representing one IS package.
- The part **MUST** have a unique part name within the **OPC package**.
- The part name URI **MUST NOT** contain the at sign (@).
- The part name URI **MUST** be a root URI; subfolders are not allowed.
- The part name file name extension **MUST** be .dtsx.

### 2.3 Project Manifest

The project manifest specifies the properties, parameters, and deployment information for a project. The project manifest is stored as a data stream in an OPC part of the project deployment file. The following rules apply to the project manifest:

- The part name **MUST** be @Project.manifest.
- The content type of the part **MUST** be text/xml.

#### 2.3.1 XML Namespace

The project manifest part contains an XML structure. The namespace URI for the project manifest XML structure is [www.microsoft.com/SqlServer/SSIS](http://www.microsoft.com/SqlServer/SSIS).

#### 2.3.2 Properties

The **Properties** element specifies a list of the [Property](#) elements.

The following is the child element of the **Properties** element.

Child elements
<a href="#">Property</a>

The **Properties** element schema is specified by the **PropertiesType** type. The following is the XML schema definition of the **PropertiesType** type.

```

<xsd:complexType name="PropertiesType">
  <xsd:choice minOccurs="1" maxOccurs="unbounded">
    <xsd:element name="Property" type="PropertyType"/>
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

```

### 2.3.3 Property

The **Property** element specifies the value of one property of an object such as a project, an IS package, or a parameter.

The **Property** element has a **Name** attribute of type **string** that specifies the name of the property.

The **Property** element schema is defined by the **PropertyType** type. The following is the XML schema definition of the **PropertyType** type.

```

<xsd:complexType name="PropertyType">
  <xsd:simpleContent>
    <xsd:extension base="xsd:string">
      <xsd:attribute name="Name" type="xsd:string" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>

```

### 2.3.4 Project

The **Project** element is the root element of the project manifest.

The **Project** element MUST have the following attribute.

Attribute	Type	Description
<b>ProtectionLevel</b>	String	Specifies the protection level of the project. The protection level MUST be one of the following values: EncryptAllWithUserKey EncryptAllWithPassword EncryptSensitiveWithUserKey EncryptSensitiveWithPassword DontSaveSensitive ServerStorage All IS packages in the project MUST be serialized by using the same protection level as specified for the project.

The following child elements MUST be specified in the **Project** element.

Child elements
<a href="#">Properties</a>

<b>Child elements</b>
<a href="#">Parameters</a>
<a href="#">Packages</a>
<a href="#">ConnectionManagers</a>
<a href="#">DeploymentInfo</a>

The following is the XML schema definition of the **Project** element.

```

<xsd:element name="Project">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Properties" type="PropertiesType"
        minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Parameters" type="ParametersType"
        minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Packages" type="PackagesType"
        minOccurs="1" maxOccurs="1"/>
      <xsd:element name="ConnectionManagers" type="ConnectionManagersType"
        minOccurs="1" maxOccurs="1"/>
      <xsd:element name="DeploymentInfo" type="DeploymentInfoType"
        minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="ProtectionLevel" type="xsd:string"/>
    <xsd:anyAttribute namespace="##other" processContents="skip" />
  </xsd:complexType>
</xsd:element>

```

The **Project** element MUST contain a **Properties** child element. The **Properties** child element, in turn, MUST contain a list of [Property](#) elements for each **Project** property that is listed in the following table.

Property	Value	Description
<b>ID</b>	Guid	Specifies the GUID that is assigned to the project.
<b>Name</b>	String	Specifies the name of the project.
<b>Description</b>	String	Specifies the description of the project.
<b>VersionMajor</b>	Positive integer	Specifies the major version of the project.
<b>VersionMinor</b>	Positive integer	Specifies the minor version of the project.
<b>VersionBuild</b>	Positive integer	Specifies the build version of the project.
<b>VersionComments</b>	String	Specifies comments for the version of the project.
<b>VersionGUID</b>	Guid	Specifies the GUID of the version of the project.
<b>CreationDate</b>	DateTimeOffset	Specifies the date, time, and time zone offset of the time when the project was created.



### 2.3.5 Packages

The **Packages** element specifies an ordered list of [Package](#) elements. The **Packages** element MUST contain a child **Package** element for each IS package in the project deployment file.

The following is the child element of the **Packages** element.

Child elements
<a href="#">Package</a>

The **Packages** element schema is specified by the **PackagesType** type. The following is the XML schema definition of the **PackagesType** type.

```
<xsd:complexType name="PackagesType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded">
    <xsd:element name="Package" type="PackageType" />
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>
```

### 2.3.6 Package

The **Package** element specifies an IS package that is included in the project deployment file.

The **Package** element MUST have the following attributes.

Attribute	Type	Description
<b>EntryPoint</b>	Boolean	Specifies whether the IS package is a project entry point for execution. Possible values are: 1 – The IS package is an entry point. 0 – The IS package is not an entry point.
<b>Name</b>	String	Specifies the name of the IS package. This name MUST match the part name of the corresponding OPC part.

The **Package** element schema is specified by the **PackageType** type. The following is the XML schema definition of the **PackageType** type.

```
<xsd:complexType name="PackageType">
  <xsd:attribute name="EntryPoint" type="xsd:boolean" />
  <xsd:attribute name="Name" type="xsd:string" />
</xsd:complexType>
```

### 2.3.7 ConnectionManagers

The **ConnectionManagers** element specifies an ordered list of [ConnectionManager](#) elements. A **ConnectionManager** element MUST exist for each connection manager (.conmgr) file that exists in the project deployment file.

The following is the child element of the **ConnectionManagers** element.

Child elements
<a href="#">ConnectionManager</a>

The **ConnectionManagers** element schema is specified by the **ConnectionManagersType** type. The following is the XML schema definition of the **ConnectionManagersType** type.

```
<xsd:complexType name="ConnectionManagersType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded">
    <xsd:element name="ConnectionManager" type="ConnectionManagerType" />
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>
```

### 2.3.8 ConnectionManager

The **ConnectionManager** element specifies an IS connection manager that is included in the project deployment file.

The **ConnectionManager** element MUST have the following attributes.

Attribute	Type	Description
Name	String	Specifies the name of the IS connection manager. This name MUST match the part name of the corresponding OPC part.

```
<xsd:complexType name="ConnectionManagerType">
  <xsd:attribute name="Name" type="xsd:string" />
</xsd:complexType>
```

### 2.3.9 DeploymentInfo

The **DeploymentInfo** element is an ordered list of [PackageInfo](#) elements. A **PackageInfo** element MUST be specified for each IS package that is included in the project.

The following is the child element of the **DeploymentInfo** element.

Child elements
<a href="#">PackageInfo</a>

The **DeploymentInfo** element schema is specified by the **DeploymentInfoType** type. The following is the XML schema definition of the **DeploymentInfoType** type.

```
<xsd:complexType name="DeploymentInfoType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded" >
    <xsd:element name="PackageInfo" type="PackageInfoType"/>
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>
```

### 2.3.10 PackageInfo

The **PackageInfo** element contains the metadata for an IS package that is contained in a project. The **PackageInfo** element MUST specify exactly one [PackageMetadata](#) element.

The following is the child element of the **PackageInfo** element.

Child elements
<a href="#">PackageMetadata</a>

The **PackageInfo** element schema is specified by the **PackageInfoType** type. The following is the XML schema definition of the **PackageInfoType** type.

```
<xsd:complexType name="PackageInfoType">
  <xsd:sequence>
    <xsd:element name="PackageMetadata" type="PackageMetadataType"
      minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>
```

### 2.3.11 PackageMetadata

The **PackageMetadata** element contains the metadata for an IS package contained in the project, including the core IS package properties and the IS package parameters.

The **PackageMetadata** element MUST specify the following attribute.

Attribute	Type	Description
<b>Name</b>	String	Specifies the name of the IS package. This name MUST match the part name of the corresponding OPC part.

The **PackageMetadata** element MUST specify the following child elements.

Child elements
<a href="#">Properties</a>
<a href="#">Parameters</a>

The **PackageMetadata** element schema is specified by the **PackageMetadataType** type. The following is the XML schema definition of the **PackageMetadataType** type.

```
<xsd:complexType name="PackageMetadataType">
  <xsd:sequence>
    <xsd:element name="Properties" type="PropertiesType"
      minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Parameters" type="ParametersType"
      minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

```
<xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>
```

The **PackageMetadata** element MUST contain a **Properties** child element. The **Properties** child element, in turn, MUST contain a list of [Property](#) elements for each **PackageMetadata** property that is listed in the following table.

Property	Value	Description
<b>ID</b>	Guid	Specifies the GUID that is assigned to the IS package.
<b>Name</b>	String	Specifies the name of the IS package.
<b>Description</b>	String	Specifies the description of the IS package.
<b>ProtectionLevel</b>	Integer	Specifies an integer value. The value MUST be one of the following: 0 – DontSaveSensitive 1 – EncryptAllWithPassword 2 – EncryptAllWithUserKey 3 – EncryptSensitiveWithPassword 4 – EncryptSensitiveWithUserKey 5 – ServerStorage
<b>VersionMajor</b>	Positive integer	Specifies the major version of the IS package.
<b>VersionMinor</b>	Positive integer	Specifies the minor version of the IS package.
<b>VersionBuild</b>	Positive integer	Specifies the build version of the IS package.
<b>VersionComments</b>	String	Specifies comments of the version of the IS package.
<b>VersionGUID</b>	Guid	Specifies the GUID of the version of the IS package.

### 2.3.12 Parameters

The **Parameters** element specifies an ordered list of [Parameter](#) elements that declare the parameters of a project or an IS package.

The following is the child element of the **Parameters** element.

Child elements
<a href="#">Parameter</a>

The **Parameters** element schema is specified by the **ParametersType** type. The following is the XML schema definition of the **ParametersType** type.

```
<xsd:complexType name="ParametersType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded">
```

```

    <xsd:element name="Parameter" type="ParameterType"/>
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

```

### 2.3.13 Parameter

The **Parameter** element specifies one parameter of a project or an IS package.

The **Parameter** element MUST have the following attribute.

Attribute	Type	Description
<b>Name</b>	String	Specifies the name of the parameter.

The following is the child element of the **Parameter** element.

Child elements
<a href="#">Properties</a>

The **Parameter** element schema is specified by the **ParameterType** type. The following is the XML schema definition of the **ParameterType** type.

```

<xsd:complexType name="ParameterType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded">
    <xsd:element name="Properties" type="PropertiesType"/>
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

```

The **Parameter** element MUST contain a **Properties** child element. The **Properties** child element, in turn, MUST contain a list of [Property](#) elements for each **Parameter** property that is listed in the following table.

Property	Value	Description
<b>ID</b>	Guid	Specifies the GUID that is assigned to the parameter.
<b>Description</b>	String	Specifies the description of the parameter.
<b>Required</b>	Boolean	Specifies whether the value is required. <ul style="list-style-type: none"> <li>▪ True specifies that the parameter is required.</li> <li>▪ False specifies that the parameter is not required.</li> </ul>
<b>Sensitive</b>	Boolean	Specifies whether the value is sensitive. <ul style="list-style-type: none"> <li>▪ True specifies that the parameter is sensitive.</li> <li>▪ False specifies that the parameter is not sensitive.</li> </ul>

Property	Value	Description
<b>DefaultValue</b>	String	Specifies the serialized value of the parameter. If the project protection level is EncryptSensitiveWithPassword or EncryptSensitiveWithUserKey, the value MUST be encrypted by using a triple Data Encryption Standard (DES) encryption algorithm <a href="#">[FIPS46-2]</a> that uses the corresponding encryption key. The encrypted value then MUST be encoded by using base64 encoding.
<b>Data Type</b>	Integer	Specifies that the value MUST be one of the following: 3 - Boolean 5 - SByte 6 - Byte 9 - Int32 10 - UInt32 11 - Int64 12 - UInt64 13 - Single 14 - Double 16 - DateTime 18 - String

### 3 Structure Examples

The following is an example of a typical project manifest for a project deployment file, including all the mandatory elements and examples of property, parameter, and connection manager declarations.

```
<Project ProtectionLevel="EncryptSensitiveWithUserKey">
  <Properties>
    <Property Name="ID">{dd0733bd-0382-4511-91d3-ed34210d5469}</Property>
    <Property Name="Name">DWLoad</Property>
    <Property Name="VersionMajor">1</Property>
    <Property Name="VersionMinor">0</Property>
    <Property Name="VersionBuild">1</Property>
    <Property Name="VersionComments">
    </Property>
    <Property Name="CreationDate">06/22/2010 01:13:02 -07:00</Property>
    <Property Name="CreatorName">MYDOMAIN\user1</Property>
    <Property Name="CreatorComputerName">MyServer</Property>
    <Property Name="OfflineMode">0</Property>
    <Property Name="Description">
    </Property>
  </Properties>
  <Packages>
    <Package Name="MasterControl.dtsx" EntryPoint="1" />
    <Package Name="LoadCustomerDim.dtsx" EntryPoint="1" />
    <Package Name="LoadProductDim.dtsx" EntryPoint="1" />
    <Package Name="LoadSalesFact.dtsx" EntryPoint="1" />
    <Package Name="Cleanup.dtsx" EntryPoint="1" />
  </Packages>
  <Parameters />
  <ConnectionManagers>
    <ConnectionManager Name="Love.conmgr" />
  </ConnectionManagers>
  <DeploymentInfo>
    <PackageInfo>
      <PackageMetaData Name="MasterControl.dtsx">
        <Properties>
          <Property Name="ID">{169F8551-25AA-4D90-B9FD-39C8F1A0E363}</Property>
          <Property Name="Name">MasterControl</Property>
          <Property Name="VersionMajor">1</Property>
          <Property Name="VersionMinor">0</Property>
          <Property Name="VersionBuild">3</Property>
          <Property Name="VersionComments">
          </Property>
          <Property Name="VersionGUID">{D95E1FD4-E1BC-4BD3-84BD-7ECE2C48C2EF}</Property>
          <Property Name="PackageFormatVersion">4</Property>
          <Property Name="Description">
          </Property>
          <Property Name="ProtectionLevel">1</Property>
        </Properties>
        <Parameters>
          <Parameter Name="DWPassword">
            <Properties>
              <Property Name="ID">{21B7E59E-62B5-44E8-AF1C-FF7A8A78B225}</Property>
              <Property Name="CreationName">
              </Property>
            </Properties>
          </Parameter>
        </Parameters>
      </PackageMetaData>
    </PackageInfo>
  </DeploymentInfo>
</Project>
```

```

    <Property Name="Description">
    </Property>
    <Property Name="IncludeInDebugDump">0</Property>
    <Property Name="Required">1</Property>
    <Property Name="Sensitive">1</Property>
    <Property Name="DefaultValue"
Sensitive="1">AQAAANCMnd8BFdERjHoAwE/Cl+sBAAAT1admM5G+EmcVt60OLna+QAAAAACAAAAAADZgAAwAAAAABA
AAACyXjYXsjUrMnUPBsJleDKAAAAAASAAACgAAAAEAAAADZUUCbG8oqLjVx1OamH8CJAAAAAmDJujhbCxEtBq6FiRAVz
q3BGVACvLGW3OPkgIDkSv5woRpotOhXZyCkMZsP6kJvt/FKvDIXwF/qDfY//ijG/ahQAAAAimi6gMlFu1RSRzUFMK2WSo
dk75w==</Property>
    <Property Name="DataType">18</Property>
  </Properties>
</Parameter>
<Parameter Name="DWServer">
  <Properties>
    <Property Name="ID">{1D86BA36-9FAC-43BA-9784-CCF54C502E8A}</Property>
    <Property Name="CreationName">
    </Property>
    <Property Name="Description">
    </Property>
    <Property Name="IncludeInDebugDump">0</Property>
    <Property Name="Required">1</Property>
    <Property Name="Sensitive">0</Property>
    <Property Name="DefaultValue">DevDWSRV</Property>
    <Property Name="DataType">18</Property>
  </Properties>
</Parameter>
<Parameter Name="DWUser">
  <Properties>
    <Property Name="ID">{76C82FBC-B4A7-4FE7-9CDA-DAF2446DF85A}</Property>
    <Property Name="CreationName">
    </Property>
    <Property Name="Description">
    </Property>
    <Property Name="IncludeInDebugDump">0</Property>
    <Property Name="Required">1</Property>
    <Property Name="Sensitive">0</Property>
    <Property Name="DefaultValue">DevAcct</Property>
    <Property Name="DataType">18</Property>
  </Properties>
</Parameter>
<Parameter Name="RunCleanup">
  <Properties>
    <Property Name="ID">{9E54B3C5-F3CF-42A6-8427-994D15C5B6E8}</Property>
    <Property Name="CreationName">
    </Property>
    <Property Name="Description">
    </Property>
    <Property Name="IncludeInDebugDump">0</Property>
    <Property Name="Required">0</Property>
    <Property Name="Sensitive">0</Property>
    <Property Name="DefaultValue">0</Property>
    <Property Name="DataType">9</Property>
  </Properties>
</Parameter>
</Parameters>
</PackageMetaData>
<PackageMetaData Name="LoadCustomerDim.dtsx">
  <Properties>

```



```

<Property Name="ID">{7CDBB704-93D6-43B8-B2BD-EBEA57862072}</Property>
<Property Name="Name">LoadCustomerDim</Property>
<Property Name="VersionMajor">1</Property>
<Property Name="VersionMinor">0</Property>
<Property Name="VersionBuild">1</Property>
<Property Name="VersionComments">
</Property>
<Property Name="VersionGUID">{7962C979-1C76-4EE1-BD90-B33A12687A67}</Property>
<Property Name="PackageFormatVersion">4</Property>
<Property Name="Description">
</Property>
<Property Name="ProtectionLevel">1</Property>
</Properties>
<Parameters />
</PackageMetaData>
<PackageMetaData Name="LoadProductDim.dtsx">
<Properties>
<Property Name="ID">{A502C05C-A08A-4A76-A960-15F37F070DA5}</Property>
<Property Name="Name">LoadProductDim</Property>
<Property Name="VersionMajor">1</Property>
<Property Name="VersionMinor">0</Property>
<Property Name="VersionBuild">1</Property>
<Property Name="VersionComments">
</Property>
<Property Name="VersionGUID">{B3DF69C4-309F-400B-8850-87FFE481AD95}</Property>
<Property Name="PackageFormatVersion">4</Property>
<Property Name="Description">
</Property>
<Property Name="ProtectionLevel">1</Property>
</Properties>
<Parameters />
</PackageMetaData>
<PackageMetaData Name="LoadSalesFact.dtsx">
<Properties>
<Property Name="ID">{D6794D56-2A03-43C0-B47E-69F43DA13C42}</Property>
<Property Name="Name">LoadSalesFact</Property>
<Property Name="VersionMajor">1</Property>
<Property Name="VersionMinor">0</Property>
<Property Name="VersionBuild">1</Property>
<Property Name="VersionComments">
</Property>
<Property Name="VersionGUID">{9E2587D4-765C-44D5-B9FD-1C0BD4C3E2CC}</Property>
<Property Name="PackageFormatVersion">4</Property>
<Property Name="Description">
</Property>
<Property Name="ProtectionLevel">1</Property>
</Properties>
<Parameters />
</PackageMetaData>
<PackageMetaData Name="Cleanup.dtsx">
<Properties>
<Property Name="ID">{D30FBC74-FD46-4918-8908-D33707426F30}</Property>
<Property Name="Name">Cleanup</Property>
<Property Name="VersionMajor">1</Property>
<Property Name="VersionMinor">0</Property>
<Property Name="VersionBuild">2</Property>
<Property Name="VersionComments">
</Property>
<Property Name="VersionGUID">{A18DA090-0A36-4289-85F8-FD5E5C6B3E66}</Property>

```

```

    <Property Name="PackageFormatVersion">4</Property>
    <Property Name="Description">
    </Property>
    <Property Name="ProtectionLevel">1</Property>
  </Properties>
  <Parameters>
    <Parameter Name="Date">
      <Properties>
        <Property Name="ID">{A4A0E563-A0F3-4C82-8378-5785E9F142E6}</Property>
        <Property Name="CreationName">
        </Property>
        <Property Name="Description">
        </Property>
        <Property Name="IncludeInDebugDump">0</Property>
        <Property Name="Required">0</Property>
        <Property Name="Sensitive">0</Property>
        <Property Name="DefaultValue">1899-12-30T00:00:00-08:00</Property>
        <Property Name="DataType">16</Property>
      </Properties>
    </Parameter>
    <Parameter Name="FullCleanup">
      <Properties>
        <Property Name="ID">{65E8AE90-50EB-495F-BED3-67CF648372BC}</Property>
        <Property Name="CreationName">
        </Property>
        <Property Name="Description">
        </Property>
        <Property Name="IncludeInDebugDump">0</Property>
        <Property Name="Required">0</Property>
        <Property Name="Sensitive">0</Property>
        <Property Name="DefaultValue">>false</Property>
        <Property Name="DataType">3</Property>
      </Properties>
    </Parameter>
  </Parameters>
</PackageMetaData>
</PackageInfo>
</DeploymentInfo>
</Project>

```

## 4 Security

### 4.1 Security Considerations for Implementers

The project deployment file can contain sensitive information, such as deployment configurations that define user names and passwords that are used to access data sources.

When sensitive values are present in a project or its IS packages, the user should use the appropriate protection level for serialization, as described in this document and in [\[MS-DTSX\]](#).

### 4.2 Index of Security Fields

None.

## 5 Appendix A: XML Schema Definition

The following is the complete XML schema definition for the project deployment file format.

```
<?xml version="1.0" encoding="utf-8"?>
<xsd:schema targetNamespace="www.microsoft.com/SqlServer/SSIS"
  elementFormDefault="qualified"
  xmlns="www.microsoft.com/SqlServer/SSIS"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  >
  <xsd:element name="Project">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="Properties" type="PropertiesType"
          minOccurs="1" maxOccurs="1"/>
        <xsd:element name="Parameters" type="ParametersType"
          minOccurs="1" maxOccurs="1"/>
        <xsd:element name="Packages" type="PackagesType"
          minOccurs="1" maxOccurs="1"/>
        <xsd:element name="DeploymentInfo" type="DeploymentInfoType"
          minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="ProtectionLevel" type="xsd:string"/>
      <xsd:anyAttribute namespace="##other" processContents="skip" />
    </xsd:complexType>
  </xsd:element>

  <xsd:complexType name="PropertyType">
    <xsd:simpleContent>
      <xsd:extension base="xsd:string">
        <xsd:attribute name="Name" type="xsd:string" />
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>

  <xsd:complexType name="PropertiesType">
    <xsd:choice minOccurs="1" maxOccurs="unbounded">
      <xsd:element name="Property" type="PropertyType"/>
    </xsd:choice>
    <xsd:anyAttribute namespace="##other" processContents="skip" />
  </xsd:complexType>

  <xsd:complexType name="PackageType">
    <xsd:attribute name="EntryPoint" type="xsd:boolean" />
    <xsd:attribute name="Name" type="xsd:string" />
  </xsd:complexType>

  <xsd:complexType name="PackagesType">
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="Package" type="PackageType" />
    </xsd:choice>
    <xsd:anyAttribute namespace="##other" processContents="skip" />
  </xsd:complexType>

  <xsd:complexType name="ParameterType">
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="Properties" type="PropertiesType"/>
    </xsd:choice>
  </xsd:complexType>
```

```

    </xsd:choice>
    <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

<xsd:complexType name="ParametersType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded">
    <xsd:element name="Parameter" type="ParameterType"/>
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

<xsd:complexType name="PackageMetadataType">
  <xsd:sequence>
    <xsd:element name="Properties" type="PropertiesType"
      minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Parameters" type="ParametersType"
      minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

<xsd:complexType name="PackageInfoType">
  <xsd:sequence>
    <xsd:element name="PackageMetadata" type="PackageMetadataType"
      minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

<xsd:complexType name="DeploymentInfoType">
  <xsd:choice minOccurs="0" maxOccurs="unbounded" >
    <xsd:element name="PackageInfo" type="PackageInfoType"/>
  </xsd:choice>
  <xsd:anyAttribute namespace="##other" processContents="skip" />
</xsd:complexType>

</xsd:schema>

```

## 6 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 SQL Server 2012

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.

## 7 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

## 8 Index

### C

[Change tracking](#) 23

[ConnectionManager element](#) 10

[ConnectionManagers element](#) 9

### D

[DeploymentInfo element](#) 10

### G

[Glossary](#) 4

### P

[Package element](#) 9

[PackageInfo element](#) 11

[PackageMetadata element](#) 11

[Packages element](#) 9

[Parameter element](#) 13

[Parameters element](#) 12

[Product behavior](#) 22

[Project element](#) 7

[Properties element](#) 6

[Property element](#) 7

### T

[Tracking changes](#) 23

### X

[XML structure](#) 6