

# [MS-DPRDL]: Report Definition Language Data Portability Overview

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## Revision Summary

Date	Revision History	Revision Class	Comments
06/04/2010	0.1	Major	First release.
09/03/2010	0.1.1	Editorial	Changed language and formatting in the technical content.

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# 1 Introduction

The Microsoft SQL Server Reporting Services Report Definition Language (RDL) system includes a repository for RDL documents, such as the Reporting Services report server catalog, Microsoft SharePoint Products and Technologies, or the file system and RDL documents [\[MS-RDL\]](#).

RDL documents represent the definition of the report. These documents are either set or retrieved in the report server catalog by using the SOAP endpoints—ReportService2005 [\[MS-RSWSRMNM2005\]](#), ReportService2006 [\[MS-RSWSRMSM2006\]](#), or ReportService2010 [\[MS-RSWSRM2010\]](#)—or they are opened or saved in a SharePoint library or in the file system.

## 1.1 Glossary

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

**dataset**  
**report**

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

**data source**

The following protocol abbreviations are used in this document:

**SOAP:** Simple Object Access Protocol

## 1.2 References

[MS-RDL] Microsoft Corporation, "[Report Definition Language File Format Structure Specification](#)".

[MS-RSWSRMNM2005] Microsoft Corporation, "[Report Server Web Service Specification for Report Management Native Mode: ReportService2005](#)".

[MS-RSWSRMSM2006] Microsoft Corporation, "[Report Server Web Service Specification for Report Management SharePoint Mode: ReportService2006](#)".

[MS-RSWSRM2010] Microsoft Corporation, "[Report Server Web Service Specification for Report Management: ReportService2010](#)".

## 2 Data Portability Scenarios

### 2.1 Third-Party Reporting Platform Consuming RDL Documents in the Report Server Catalog

#### 2.1.1 Data Description

The RDL [\[MS-RDL\]](#) document contains the definition of a **report**, with information about how to connect to **data sources**, which fields are used from the **datasets** that are retrieved from the data sources, how the data is aggregated, and the structure and layout of the report.

This RDL data is used to process data and to render a report. The data is stored in the report server catalog when Reporting Services is running in native mode.

This RDL data is created by a Reporting Services RDL authoring tool (Report Builder or Report Designer in the Business Intelligence Development Studio), by a third-party RDL authoring tool, or by using a text editor.

#### 2.1.2 Format and Protocol Summary

The following table provides a comprehensive list of the formats and protocols used in this scenario.

Protocol or format name	Description	Reference
ReportService2005 Web service protocol	This protocol is used to communicate with the report server to execute report server catalog operations. The ReportService2005 Web service protocol is available in Microsoft® SQL Server® 2005, Microsoft® SQL Server® 2008, and Microsoft® SQL Server® 2008 R2.	<a href="#">[MS-RWSRNM2005]</a>
ReportService2010 Web service protocol	This protocol is used to communicate with the report server to execute report server catalog operations. The ReportService2010 Web service protocol is available in SQL Server 2008 R2.	<a href="#">[MS-RWSRM2010]</a>
Report Definition Language file format	This format specifies the file format for SQL Server Report Definition Language, a file type that is used to represent the metadata for defining a report.	<a href="#">[MS-RDL]</a>

#### 2.1.3 Data Portability Methodology

For this scenario, the documents containing the RDL data are extracted from the report server catalog one by one and stored in a file on the file system. The method of extracting the RDL data from the report server catalog for use in a third-party reporting platform in this scenario is to use the **SOAP** endpoints that are provided by the report server.

In this scenario, the ReportService2005 [\[MS-RWSRNM2005\]](#) and the ReportService2010 [\[MS-RWSRM2010\]](#) SOAP endpoints enable implementers to programmatically extract the data from the report server catalog.

To extract the data:

1. Create a folder on the client machine for storing the retrieved RDL documents.

2. Using a SOAP proxy to access the ReportService2005 Web service or the ReportService2010 Web service, get the list of RDL documents in the report server catalog by using the **ListChildren()** SOAP Web method.
  1. For the first call to **ListChildren()**, use "/" as the value for the *Item* parameter. This returns each **CatalogItem** that is at the root level.
  2. For each **CatalogItem** returned, follow these steps:
    1. If the **CatalogItem** is of type **Report**, store the **CatalogItem.Path**.
    2. If the **CatalogItem** is of type **Folder**, repeat steps 2.1 and 2.2.
3. Retrieve each RDL definition from the report server catalog. For each of the item paths stored in step 2, follow these steps:
  1. Call the **GetReportDefinition()** SOAP Web method, passing in the item path as the value for the *Report* parameter.
  2. Create a file in the folder that was created in step 1. Use the returned byte array as the contents of the file.
4. Use the RDL documentation [\[MS-RDL\]](#) to interpret the RDL data that was retrieved in the previous step for use in the third-party reporting platform.

#### **2.1.3.1 Preconditions**

Ensure that the Reporting Services service is started on the server. Grant the appropriate permissions to the user who is using the ReportService2005 or ReportService2010 SOAP endpoint to access the report server catalog.

#### **2.1.3.2 Versioning**

None.

#### **2.1.3.3 Error Handling**

None.

#### **2.1.3.4 Coherency Requirements**

There are no special coherency requirements.

#### **2.1.3.5 Additional Considerations**

There are no additional considerations.

## **2.2 Third-Party Reporting Platform Consuming RDL Documents in SharePoint**

### **2.2.1 Data Description**

The [\[MS-RDL\]](#) document contains the definition of a report, with information about how to connect to data sources, which fields are used from the datasets retrieved from the data sources, how the data is aggregated, and the structure and layout of the report.

This RDL data is used to process data and to render a report. The data is stored in both the report server catalog and the SharePoint repository when running Reporting Services in SharePoint integrated mode.

This data is created by a Reporting Services RDL authoring tool (Report Builder or Report Designer in the Business Intelligence Development Studio), by a third-party RDL authoring tool, or by using a text editor.

## 2.2.2 Format and Protocol Summary

The following table provides a comprehensive list of the formats and protocols used in this scenario.

Protocol or format name	Description	Reference
ReportService2006 Web service protocol	This protocol is used to communicate with the report server in SharePoint integrated mode to execute report server catalog operations.	<a href="#">[MS-RSWSRMSM2006]</a>
Report Definition Language file format	This format is used to specify the file format for SQL Server Report Definition Language (RDL), a file type that is used to represent the metadata for defining a report.	<a href="#">[MS-RDL]</a>

## 2.2.3 Data Portability Methodology

Because the data is stored in both the SharePoint repository and the report server catalog, the approach for this scenario is to extract the data by accessing the report server catalog by using the steps outlined in section [2.1.3](#). However, instead of using the ReportService2005 [\[MS-RSWSRMNM2005\]](#) SOAP endpoint, the ReportService2006 [\[MS-RSWSRMSM2006\]](#) SOAP endpoint is used in this scenario.

The ReportService2006 SOAP endpoint enables implementers to programmatically manage objects on a report server that is configured for SharePoint integrated mode.

To extract the data:

1. Create a folder on the client machine for storing the retrieved RDL documents.
2. Using a SOAP proxy to access the ReportService2006 Web service, get the list of RDL documents in the report server catalog by using the **ListChildren()** SOAP Web method.
  1. For the first call to **ListChildren()**, use "/" as the value for the *Item* parameter. This returns each **CatalogItem** that is at the root level.
  2. For each **CatalogItem** returned, follow these steps:
    1. If the **CatalogItem** is of type **Report**, store the **CatalogItem.Path**.
    2. If the **CatalogItem** is of type **Folder**, repeat steps 2.1 and 2.2.
3. Retrieve each RDL definition from the report server catalog. For each of the item paths stored in step 2, follow these steps:
  1. Call the **GetReportDefinition()** SOAP Web method, passing in the item path as the value for the *Report* parameter.

2. Create a file in the folder that was created in step 1. Use the returned byte array as the contents of the file.
4. Use the RDL documentation [\[MS-RDL\]](#) to interpret the RDL data that was retrieved in the previous step for use in the third-party reporting platform.

### **2.2.3.1 Preconditions**

Ensure that the Reporting Services service is started on the server, and that the SharePoint service is running. Grant the appropriate permissions to the user who is using the ReportService2006 SOAP endpoint to access the report server catalog.

### **2.2.3.2 Versioning**

None.

### **2.2.3.3 Error Handling**

None.

### **2.2.3.4 Coherency Requirements**

There are no special coherency requirements.

### **2.2.3.5 Additional Considerations**

There are no additional considerations.

## **2.3 Third-Party Reporting Platform Consuming RDL Documents in the File System**

### **2.3.1 Data Description**

The RDL document contains the definition of a report, with information about how to connect to data sources, which fields are used from the datasets retrieved from the data sources, how the data is aggregated, and the structure and layout of the report. This RDL data is used to process data and to render a report. The data is stored in the file system on the local computer.

This data is created by a Reporting Services RDL authoring tool (Report Builder or Report Designer in the Business Intelligence Development Studio), by a third-party RDL authoring tool, or by using a text editor.

### **2.3.2 Format and Protocol Summary**

No formats or protocols are used in this scenario.

### **2.3.3 Data Portability Methodology**

In this scenario, the RDL data is stored in the file system as reports (\*.rdl files). By default, reports are saved in the Documents folder for a user on the local machine (in Windows Vista, this folder is C:\Users\<username>\Documents\). Use the RDL documentation [\[MS-RDL\]](#) to interpret the RDL data in these files.



### **2.3.3.1 Preconditions**

None.

### **2.3.3.2 Versioning**

None.

### **2.3.3.3 Error Handling**

None.

### **2.3.3.4 Coherency Requirements**

There are no special coherency requirements.

### **2.3.3.5 Additional Considerations**

There are no additional considerations.

### **3 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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