



# searchRetrieve: Part 0. Overview Version 1.0

## Candidate OASIS Standard 01

25 October 2012

### Specification URIs

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#### Additional artifacts:

This prose specification is one component of a Work Product which also includes:

- XML schemas: <http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/schemas/>
- *searchRetrieve: Part 0. Overview Version 1.0.* (this document)  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part0-overview/searchRetrieve-v1.0-cos01-part0-overview.html>
- *searchRetrieve: Part 1. Abstract Protocol Definition Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part1-apd/searchRetrieve-v1.0-cos01-part1-apd.html>
- *searchRetrieve: Part 2. searchRetrieve Operation: APD Binding for SRU 1.2 Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part2-sru1.2/searchRetrieve-v1.0-cos01-part2-sru1.2.html>

- *searchRetrieve: Part 3. searchRetrieve Operation: APD Binding for SRU 2.0 Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part3-sru2.0/searchRetrieve-v1.0-cos01-part3-sru2.0.html>
- *searchRetrieve: Part 4. APD Binding for OpenSearch Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part4-opensearch/searchRetrieve-v1.0-cos01-part4-opensearch.html>
- *searchRetrieve: Part 5. CQL: The Contextual Query Language Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part5-cql/searchRetrieve-v1.0-cos01-part5-cql.html>
- *searchRetrieve: Part 6. SRU Scan Operation Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part6-scan/searchRetrieve-v1.0-cos01-part6-scan.html>
- *searchRetrieve: Part 7. SRU Explain Operation Version 1.0.*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part7-explain/searchRetrieve-v1.0-cos01-part7-explain.html>

#### Related work:

This specification is related to:

- Search/Retrieval via URL. The Library of Congress. <http://www.loc.gov/standards/sru/>
- Scan Operation. Library of Congress. <http://www.loc.gov/standards/sru/specs/scan.html>
- Explain Operation. Library of Congress. <http://www.loc.gov/standards/sru/specs/explain.html>
- OpenSearch » 1.1 » Draft 5 specification.  
[http://www.opensearch.org/Specifications/OpenSearch/1.1/Draft\\_5](http://www.opensearch.org/Specifications/OpenSearch/1.1/Draft_5)

#### Declared XML namespaces:

- <http://docs.oasis-open.org/ns/search-ws/agnostic>
- <http://docs.oasis-open.org/ns/search-ws/facetedResults>
- <http://docs.oasis-open.org/ns/search-ws/scan>
- <http://docs.oasis-open.org/ns/search-ws/searchResultAnalysis>
- <http://docs.oasis-open.org/ns/search-ws/soap>
- <http://docs.oasis-open.org/ns/search-ws/sruRequest>
- <http://docs.oasis-open.org/ns/search-ws/sruResponse>
- <http://docs.oasis-open.org/ns/search-ws/xcq>

#### Abstract:

This is one of a set of documents for the OASIS Search Web Services (SWS) initiative. This document is the Overview and serves to introduce the full collection of documents.

#### Status:

This document was last revised or approved by the OASIS Search Web Services TC on the above date. The level of approval is also listed above. Check the "Latest version" location noted above for possible later revisions of this document.

Technical Committee members should send comments on this specification to the Technical Committee's email list. Others should send comments to the Technical Committee by using the "Send A Comment" button on the Technical Committee's web page at <http://www.oasis-open.org/committees/search-ws/>.

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#### Citation format:

When referencing this specification the following citation format should be used:

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<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/cos01/part0-overview/searchRetrieve-v1.0-cos01-part0-overview.html>.

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# 1 Introduction

This is one of a set of documents for the OASIS Search Web Services (SWS) initiative.

This document is the Overview and serves to introduce the full collection of documents.

The documents in the collection of specifications are:

1. Overview
2. APD
3. SRU1.2
4. SRU2.0
5. OpenSearch
6. CQL
7. Scan
8. Explain

## 1.1 Terminology

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

## 1.2 Normative References

The following list of references applies to all of the documents in this collection.

- **RFC2119**  
*Key words for use in RFCs to Indicate Requirement Levels*, IETF RFC 2119, March 1997  
<http://www.ietf.org/rfc/rfc2119.txt>
- **Overview**  
*searchRetrieve: Part 0. Overview Version 1.0*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part0-overview/searchRetrieve-v1.0-csd01-part0-overview.doc>
- **APD**  
*searchRetrieve: Part 1. Abstract Protocol Definition Version 1.0*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part1-apd/searchRetrieve-v1.0-csd01-part1-apd.doc>
- **SRU1.2**  
*searchRetrieve: Part 2. SRU searchRetrieve Operation: APD Binding for SRU 1.2 Version 1.0*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part2-sru1.2/searchRetrieve-v1.0-csd01-part2-sru1.2.doc>
- **SRU2.0**  
*searchRetrieve: Part 3. SRU searchRetrieve Operation: APD Binding for SRU 2.0 Version 1.0*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part3-sru2.0/searchRetrieve-v1.0-csd01-part3-sru2.0.doc>
- **OpenSearch**  
*searchRetrieve: Part 4. APD Binding for OpenSearch 1.0 version 1.0*  
<http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part4-openSearch1.0/searchRetrieve-v1.0-csd01-part4-openSearch.doc>
- **CQL**  
*searchRetrieve: Part 5. CQL: The Contextual Query Language version 1.0*

- 44 <http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part5-cql/searchRetrieve-v1.0-csd01-part5-cql.doc>
- 45
- 46 • **Scan**
- 47 *searchRetrieve: Part 6. SRU Scan Operation version 1.0*
- 48 <http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part6-scan/searchRetrieve-v1.0-csd01-part6-scan.doc>
- 49
- 50 • **Explain**
- 51 *searchRetrieve: Part 7. SRU Explain Operation version 1.0*
- 52 <http://docs.oasis-open.org/search-ws/searchRetrieve/v1.0/csd01/part7-explain/searchRetrieve-v1.0-csd01-part7-explain.doc>
- 53
- 54 • **MODS**
- 55 *Metadata Object Description Schema: MODS (Library of Congress)*
- 56 <http://www.loc.gov/standards/mods/>

## 57 1.3 Namespaces

58 **XML namespaces used in this standard, and their prefixes:**

Prefix	Namespace
sruRequest	<a href="http://docs.oasis-open.org/ns/search-ws/sruRequest">http://docs.oasis-open.org/ns/search-ws/sruRequest</a>
diag	<a href="http://docs.oasis-open.org/ns/search-ws/diagnostic">http://docs.oasis-open.org/ns/search-ws/diagnostic</a>
facet	<a href="http://docs.oasis-open.org/ns/search-ws/facetedResults">http://docs.oasis-open.org/ns/search-ws/facetedResults</a>
scan	<a href="http://docs.oasis-open.org/ns/search-ws/scan">http://docs.oasis-open.org/ns/search-ws/scan</a>
sra	<a href="http://docs.oasis-open.org/ns/search-ws/searchResultAnalysis">http://docs.oasis-open.org/ns/search-ws/searchResultAnalysis</a>
sruResponse	<a href="http://docs.oasis-open.org/ns/search-ws/sruResponse">http://docs.oasis-open.org/ns/search-ws/sruResponse</a>
xcql	<a href="http://docs.oasis-open.org/ns/search-ws/xcql">http://docs.oasis-open.org/ns/search-ws/xcql</a>
sru-soap	<a href="http://docs.oasis-open.org/ns/search-ws/soap">http://docs.oasis-open.org/ns/search-ws/soap</a>

## 59 1.4 Schemas

60 **XML Schemas used in this standard:**

	Schema	Used for	URL
1	SRU	The default format for an SRU response.	/schemas/sruResponse.xsd
2	Diagnostics	The format for presentation of a diagnostic within an SRU or Scan response.	/schemas/diagnostic.xsd
3	Explain	Explain for SRU 2.0.	/schemas/explain.xsd
4	Faceted Search Results	The format for presentation of faceted results within an SRU 2.0 response.	/schemas/ facetedResults.xsd
5	Search Result Analysis	The format for presentation of search result analysis within an SRU 2.0 response.	/schemas/ searchResultAnalysis.xsd

6	XCQL	CQL expressed in XML, used to echo a query in a search/retrieve response. It is not used in search/retrieve requests.	/schemas/xcql.xsd
7	Scan	The format for a Scan response.	/schemas/scan.xsd
8	SOAP Support	Used for the SRU binding to SOAP.	/schemas/sru-wsdl11.wsdl and /schemas/sruRequest.xsd

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---

## 2 Rationale

62

63 The OASIS Search Web Services (SWS) initiative defines a generic protocol for the interaction required  
64 between a client and server for performing searches. SWS defines an Abstract Protocol Definition (APD  
65 searchRetrieve Part 1) to describe this interaction. All search protocols can be regarded as concrete  
66 implementations of this definition. The Abstract Protocol Definition facilitates interoperability between  
67 different search protocols by providing a common framework and terminology for describing search  
68 protocols.

69 The APD is a simplification and revision of the abstract model for search and retrieval contained within  
70 the NISO Z39.50 standard.

71 The APD defines the following abstract models:

72

73 1. **Data Model** – an abstract model describing the data upon which the search is to be performed

74 2. **Query Model** – an abstract model describing how the search query is constructed

75 3. **Processing Model** – an abstract model describing how the query is sent from the client to the  
76 server

77 4. **Result Set Model** – an abstract model describing the structure for the results returned by the  
78 search

79 5. **Diagnostics Model** – an abstract model for how errors are communicated by the server to the  
80 client

81 6. **Description and Discovery Model** – an abstract model for how the search service may be  
82 discovered and to enable self-description of the functionality of the service

83

84 The **Processing Model** presumes a client-server model where the client and server communicate via a  
85 searchRetrieve protocol which incorporates a query language. In this model a client sends a  
86 searchRetrieve request to a server, which processes the request and responds with a searchRetrieve  
87 request. The APD defines abstract request parameters and abstract response elements. Part of the  
88 request parameters include a search query as defined in the **Query Model**. Part of the response  
89 parameters include the results generated from the **Data Model** and represented in the response  
90 according to the **Result Set Model**. The Response may also include error handling information according  
91 to the **Diagnostics Model**. In addition, a client may query the capabilities of the server via the  
92 **Description and Discovery Model** (in terms of available data sets which can be queried, available  
93 **Result Set Models** in cases where a server supports multiple formats for returning results, available  
94 query languages where a server support multiple **Query Models** etc.)

95

96 The APD serves as a guideline for the development of *application protocol bindings*. A binding indicates  
97 the corresponding actual names of the parameters and elements to be transmitted in a request or  
98 response. The SWS document collection includes bindings for SRU1.2, SRU2.0 and OpenSearch

99

100

101

102



---

## 103 3 SWS documents: Roles and Relationships

### 104 3.1 Abstract Protocol Definition

105 The core of the SWS document collection is the Abstract Protocol Definition (**APD**). The **APD** is described  
106 in:

107 **APD**

108 *searchRetrieve: Part 1. Abstract Protocol Definition Version 1.0*

109  
110 The remaining documents describe three bindings of the **APD**: SRU1.2, SRU2.0, and OpenSearch.

### 111 3.2 OpenSearch

112 The **OpenSearch** binding is intended to be fully compatible with  
113 [http://www.opensearch.org/Specifications/OpenSearch/1.1/Draft\\_5](http://www.opensearch.org/Specifications/OpenSearch/1.1/Draft_5)

114 The **OpenSearch** binding is described in:

115 **OpenSearch**

116 *searchRetrieve: Part 4. APD Binding for OpenSearch 1.0 version 1.0*

### 117 3.3 SRU

118 **SRU** (*SRU: Search/Retrieve via URL*) is a web service protocol supported over both SOAP and REST for  
119 client-server based search. **SRU1.x** was developed as a web service replacement for the NISO Z39.50  
120 protocol. **SRU2.0** is a revision to **SRU** which as well as including many enhancements to SRU1.2 was  
121 developed alongside the **APD**.

122 For the SRU protocol model, three operations are defined as part of its **Processing Model**:

- 123 1. **SearchRetrieve Operation**. The actual SearchRetrieve operation defined by the SRU protocol; A  
124 SearchRetrieve operation consists of a SearchRetrieve request from client to server followed by a  
125 SearchRetrieve response from server to client.
- 126 2. **Scan Operation**. Similar to SRU, the Scan protocol defines a request message and a response  
127 message for iterating through available search terms. a Scan operation consists of a Scan  
128 request followed by a Scan response.
- 129 3. **Explain Operation**. . Every SRU or scan server provides an associated Explain document as  
130 part of its **Description and Discovery Model**, providing information about the server's  
131 capabilities. A client may retrieve this document and use the information to self-configure and  
132 provide an appropriate interface to the user. When a client retrieves an Explain document, this  
133 constitutes an Explain operation.

#### 134 3.3.1 SRU1.2

135 The **SRU1.2** binding is the specification of the protocol *SRU: Search/Retrieve via URL*, and is intended to  
136 be compatible with the specification at <http://www.loc.gov/standards/sru/specs/>.

137 The base **SRU1.2** binding is defined in:

138 **SRU1.2**

139 *searchRetrieve: Part 2. SRU searchRetrieve Operation: APD Binding for SRU 1.2 Version 1.0*

140 As part of its processing model, **SRU1.2** supported the ability to iterate through search terms using the  
141 Scan operation which is defined in:

142 **Scan**

143 *searchRetrieve: Part 6. SRU Scan Operation version 1.0*

144 The **SRU1.2 Query Model** is defined to be the Contextual Query Language and is defined in:

145 **CQL**

146 *searchRetrieve: Part 5. CQL: The Contextual Query Language version 1.0*

147 The **SRU2.0 Discovery and Description Model** is implemented via the Explain Operation which is  
148 defined in:

149 **Explain**

150 *searchRetrieve: Part 7. SRU Explain Operation version 1.0*

### 151 **3.3.2 SRU2.0**

152 **SRU2.0** is a revised specification of the SRU protocol, includes many enhancements to SRU1.2 that  
153 SRU developers have requested. The base **SRU2.0** binding is defined in:

154 **SRU2.0**

155 *searchRetrieve: Part 2. SRU searchRetrieve Operation: APD Binding for SRU 1.2 Version 1.0*

156 As part of its processing model, **SRU2.0** supported the ability to iterate through search terms using the  
157 Scan operation which is defined in:

158 **Scan**

159 *searchRetrieve: Part 6. SRU Scan Operation version 1.0*

160 The **SRU2.0 Query Model** is defined to be the Contextual Query Language and is defined in:

161 **CQL**

162 *searchRetrieve: Part 5. CQL: The Contextual Query Language version 1.0*

163 The **SRU2.0 Discovery and Description Model** is implemented via the Explain Operation which is  
164 defined in:

165 **Explain**

166 *searchRetrieve: Part 7. SRU Explain Operation version 1.0*

## 167 **3.4 Other protocols and bindings**

168 Other protocols for search can be described in terms of the **APD**.

169 Both the **Explain** and **CQL**, whilst mandatory components of **SRU**, are defined to be usable  
170 independently of **SRU** by other protocols and bindings.

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171 **Appendix A. Acknowledgements**

172 The following individuals were members of the OASIS SWS TC at the time of publication of this standard:

173  
174 Ray Denenberg, Library of Congress  
175 Larry Dixon, Library of Congress  
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177 Janifer Gatenby, OCLC  
178 Tony Hammond, Nature Publishing  
179 Matthew Dovey, JISC Executive, University of Bristol