



# How to use Elsevier SUSHI COP4

A brief explanation of harvesting Usage Reports from Elsevier with SUSHI



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# 1. Introduction

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The current document serves to give all the details about Elsevier's SUSHI COP4 web service. Customers or integrators who are new to Elsevier's SUSHI COP4 support are requested to fill out the application request form which can be found [https://www.elsevier.com/\\_data/assets/word\\_doc/0003/184791/Elsevier-SUSHI-application-form.docx](https://www.elsevier.com/_data/assets/word_doc/0003/184791/Elsevier-SUSHI-application-form.docx). For more information on establishing Elsevier SUSHI COP4 support, please refer to section 2.1.

Elsevier provides SUSHI COP4 web service support in accordance with version 1.7 of the Standardized Usage Statistics Harvesting Initiative (SUSHI) protocol standard (ANSI/NISO Z39.93.2014) for obtaining COUNTER usage statistics for ScienceDirect and Scopus.

SUSHI COP4 follows the Simple Object Access Protocol (SOAP). In order to be able to communicate with the Elsevier endpoint you need a compliant SUSHI COP4 client, which needs to be authorized by Elsevier.

## 1.1 About COUNTER

**COUNTER** (Counting Online Usage of Networked Electronic Resources) is an international initiative setting standards for controlled and compatible facilitation of recording and reporting of online usage statistics.

COUNTER Code of Practice Release 4 (COP4) has been accepted by librarians, publishers and service providers as the leading standard and resulted in a set of usage metrics (reports) that can be trusted as a reliable and consistent source of usage statistics information.

COUNTER Code of Practice Release 5 (effective per January 2019) will replace COP4 in due course during 2019-2020 migration period. This document is applicable to COP4 only.

*“COUNTER serves librarians, vendors, intermediaries and others by facilitating the recording and exchange of online usage statistics. The COUNTER Code of Practice provides guidance on data elements to be measured, definitions of these data elements, output report content and format, as well as on data processing and auditing. To have their usage statistics and reports designated COUNTER compliant, vendors must provide usage statistics that conform to the Code of Practice”*

Source: <http://www.projectcounter.org/code-of-practice-sections/general-information/>

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## 1.2 About SUSHI

SUSHI (ANSI/NISO Z39.93.2014) has been introduced as a standard communication protocol for automated harvesting of COUNTER reports by information systems. For more information about the protocol and SUSHI COP4 schemas, please go to: <http://www.niso.org/workrooms/sushi>

For COUNTER COP5 SUSHI support (effective per January 2019) Elsevier provides JSON/Restful API support. Information about the SUSHI COP5 service can be found at [https://dev.elsevier.com/sushi\\_apis.html](https://dev.elsevier.com/sushi_apis.html)

The SUSHI COP4 communication protocol currently consists of 1 GetReport method and 2 messages: A ReportRequest and ReportResponse. The protocol is extensible and capable to support COP4 COUNTER reports.

### **“WHAT IT IS ...**

- *An ANSI/NISO Standard*
- *Defines automated request and response model for harvesting e-resource usage data*
- *Designed to work with COUNTER, the most frequently retrieved usage reports*

### **WHY YOU SHOULD USE IT ...**

- *It replaces the time-consuming user-mediated collection of usage data reports*
- *The protocol is generalized and extensible, meaning it can be used to retrieve a variety of usage reports”*

Source: <http://www.niso.org/workrooms/sushi/>

### **“About SUSHI COP4 Schemas**

*The SUSHI COP4 standard has three supporting XML schemas posted on the NISO website.*

*The core schema (sushi[version].xsd) can be used with any conforming usage statistics reports.*

*If COUNTER reports are desired, the base schema calls up a second schema, the COUNTER-SUSHI schema (counter\_sushi[version].xsd), which is also used. This schema references the COUNTER reports schema (counter[version].xsd), which creates an XML-formatted version of the requested COUNTER reports.*

*The two schemas with “sushi” in their name are basically retrieval envelopes for the XML-formatted COUNTER reports. The COUNTER XML schemas can be used separately from SUSHI by anyone who wants the reports in XML formats.”*

Source: <http://www.niso.org/schemas/sushi>

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## 2. Elsevier SUSHI COP4

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### 2.1 How to establish Elsevier SUSHI COP4 support

You will need a SUSHI COP4 client to be able to communicate with the Elsevier SUSHI COP4 Service. This can be an open source client, an in-house developed client, a client of a commercial product or a client of a tool like SOAPUI or other similar tool.

Your client and the IP address it operates from must be authorized to harvest usage statistics as a trusted Requestor ID on behalf of particular Elsevier customer account numbers. Authorization is done by the Elsevier Customer Service helpdesk. Information on how to contact the regional Customer Service helpdesks can be found on the Elsevier support pages: <https://www.elsevier.com/solutions/sciencedirect/support>

The Elsevier SUSHI COP4 service checks whether the combination of Requestor ID, Customer Reference ID and IP address in the request match the information in the SUSHI COP4 back end. If the validation fails, exception code 2010 is generated.

SUSHI COP4 backend authentication support can be requested by sending a completed SUSHI application form to the Elsevier Customer Helpdesk of your region. The application form can be downloaded from the [Librarians Usage reports](#) page.

A short description of the procedure to follow can also be found in the Elsevier server registry entries for ScienceDirect and Scopus on the [COUNTER Registries of Compliance](#) web page.

### 2.2 Elsevier SUSHI COP4 WSDL and Service Endpoint

For endpoint developers, the WSDL can be retrieved from:  
<https://services.elsevier.com/SushiWebSvc/services/SushiService?wsdl>

To learn about WSDL:  
[https://en.wikipedia.org/wiki/Web\\_Services\\_Description\\_Language](https://en.wikipedia.org/wiki/Web_Services_Description_Language)

The address of the service endpoint is:  
<https://services.elsevier.com/SushiWebSvc/services/SushiService.SushiServicePort/>

# 3. Elsevier SUSHI COP4 Authentication

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For successful communication with Elsevier's SUSHI COP4 Web service, the following credentials are needed:

- 1 IP address
- 2 Unique requestor ID
- 3 Customer (reference) ID

The Elsevier endpoint will verify these components against the SUSHI COP4 authentication details as set up in the SUSHI COP4 back end system based on the information that has been provided in the SUSHI application request form (see section 2.1).

## Exception Response

- If the verification fails during the processing of the ReportRequest, the service returns an exception ReportResponse to indicate the reason of failure.

## 3.1 IP Address

For SUSHI COP4 requestors the IP address from where the request will be submitted needs to be registered in the Elsevier back end system in conjunction with Requestor ID and Customer (reference) ID number.

This IP address needs to be the IP address of the SUSHI COP4 client endpoint from where the communication with the Elsevier service endpoint happens. The IP address depends on the type of endpoint: for commercial ERM products from service providers (e.g. Intota, Alma, WCS) this will in general be an IP address of the service provider. For service endpoints set up in-house by institutions, it usually is an address within the customer IP range.

Customers who do not know the IP address while requesting support for remote endpoints will be requested to identify for which service provider or product Elsevier SUSHI COP4 support needs to be set up.

## Exception Response

- If the Elsevier endpoint is not able to verify the IP address from the ReportRequest, it will respond with exception 2010 ReportResponse.

## 3.2 Requestor ID

The Requestor ID uniquely identifies the requesting SUSHI COP4 endpoint client and is generated by Elsevier upon registration of each new service endpoint.

If the service provider or product is not supported, they need to be added to the list of supported service providers. For this, contact needs to be established between Elsevier and a service provider representative who will be able to provide Company, Product and IP address details. Upon receipt of these details, a new Requestor ID will be issued by Elsevier.

## Exception Response

- If the Elsevier endpoint is not able to verify the Requestor ID from a ReportRequest, it will return an exception 2000 ReportResponse.
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### 3.3 Customer Reference ID

The customer reference ID consists of two parts:

1. A customer identifier, which indicates for which customer the report is requested
2. A platform identifier, which indicates for which product the report is requested

The required basic format for the Customer Reference ID element in an Elsevier Report Request is XX/Y999999999, where XX is the platform identifier, '/' a separator and Y999999999 the Customer Account ID.

#### 3.3.1 Customer Account ID

The Customer ID identifies for which customer account numbers (institution or consortium account numbers) usage statistics are requested.

The Elsevier account number used by SUSHI COP4 is a 10-digit number of the format Y999999999, where Y is either 'C' or 'S'.

'C' is an indication for an institutional account and 'S' for a consortium account, for example: 'C000001234' or 'S123456789'.

Customers approaching the helpdesk with requests for SUSHI COP4 support will be requested to provide the Elsevier account number(s) for which SUSHI COP4 support needs to be set up.

#### Exception Response

- If the Elsevier endpoint is not able to verify the Customer Account ID component from the CustomerReference ID from a ReportRequest, it will return an exception 2010 ReportResponse.

#### 3.3.2 Platform identifier

Since Elsevier provides SUSHI COP4 support for several platforms and standard SUSHI COP4 report filters don't provide support for platform, the first 2 digits of the CustomerReference ID in the ReportRequest have been reserved for a platform identifier.

Elsevier supports the following platform (channels):

Identifier	Platform/Channel
SD	ScienceDirect
SC	Scopus
EV	Engineering Village

Example: 'SD/C000001234' for a ScienceDirect report, 'SC/C000001234' for a Scopus report.

#### Exception Response

- If the Elsevier endpoint is not able to verify the Platform ID component of the CustomerReference ID from a ReportRequest, it will return an exception 3000 ReportResponse.
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### 3.3.3 Filtering for Consortium statistics

Elsevier provides COUNTER usage statistics support for consortia at different organizational administration levels (consortium super account or member account). This capability is supported by different CustomerReference ID parameter combinations, which are outlined in the table below.

CustomerReference ID	Usage statistics returned
SD/S123456789	Consortium usage statistics ScienceDirect for all member accounts
SD/S123456789/C123456789	Consortium usage statistics ScienceDirect for member account C123456789 only
SD/C123456789	Account usage statistics ScienceDirect for account C123456789. All usage: own account

Table 1 shows which parameter combinations are available for Elsevier supported COUNTER reports and platforms. The filtering parameters are not mandatory; however, when they are used, they need to be used in the specified format.

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**Table 1: Supported reporting dimensions for COUNTER COP4 reports**

Report	CustomerReference ID Platform/Account	Description
JR1	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Number of Successful Full-text Article Requests by subscribed journal per period and consortium (SuperAccount), consortium member (SuperAccount/Account) or Account
JR1GOA	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Number of successful Full-text Gold Open Access Article requests by journal per period and consortium (SuperAccount), consortium member (SuperAccount/Account) or Account
JR2	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Access Denied to Full-text Articles by journal per period and consortium, consortium member or individual account (Super account, Account and SuperAccount/Account)
JR5	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Number of Successful Full-Text Article Requests by Year-of-Publication (YOP) and Journal per period and consortium (SuperAccount), consortium member (SuperAccount/Account) or Account
TDMJR1	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Number of Successful Full-Text Article Requests related to TDM activity by Month and Journal
BR2	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Number of successful section request by Book per period and consortium (SuperAccount), consortium member (SuperAccount/Account) or Account
BR3	'SD/S123456789' 'SD/C123456789' 'SD/S123456789/C123456789'	Access denied to Book content items by Book per period and consortium (SuperAccount), consortium member (SuperAccount/Account) or Account
CR1	'SD/S123456789'	Number of successful Full-Text Journal Article and Book Chapter requests by period and consortium (SuperAccount), consortium member (SuperAccount/Account)
PR1 only for Scopus	'SC/S123456789' 'SC/C123456789' 'SC/S123456789/C123456789'	Total Searches, Result clicks and record Views by period and consortium (SuperAccount), consortium member (SuperAccount/Account) or Account
DB1 only for Engineering Village	'EV/S123456789' 'EV/C123456789' 'EV/S123456789/EV/C123456789'	Total Searches, Result Clicks and Record Views by Month and Database

# 4. Elsevier SUSHI COP4 URLs and message samples

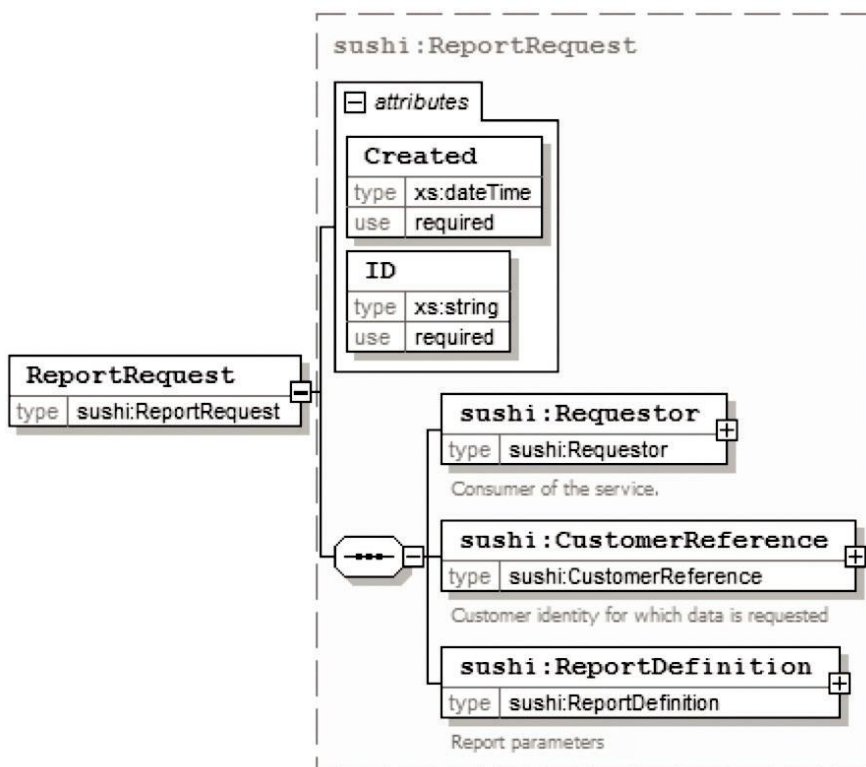
This section provides URLs for the Service endpoint and for the WSDL. It also contains the Elsevier ReportRequest and ReportResponse message schemas and samples for these.

## 4.1 URLs

URL Endpoint	<a href="https://services.elsevier.com/SushiWebSvc/services/SushiService">https://services.elsevier.com/SushiWebSvc/services/SushiService</a>
URL WSDL	<a href="https://services.elsevier.com/SushiWebSvc/services/SushiService?wsdl">https://services.elsevier.com/SushiWebSvc/services/SushiService?wsdl</a>

## 4.2 SUSHI COP4 ReportRequest

### 4.2.1 ReportRequest Schema



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## 4.2.2 ReportRequest XML example

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:coun="http://www.niso.org/schemas/sushi/counter"
xmlns:sus="http://www.niso.org/schemas/sushi">
  <soapenv:Header/
  <soapenv:Body>
    <coun:ReportRequest Created="2016-05-12T14:52:06.788Z"
      ID="1"> <sus:Requestor>
      <sus:ID>SUSHI-XXXX</sus:ID>
      <sus:Name>?</sus:Name>
      <sus:Email>?</sus:Email>
    </sus:Requestor>
    <sus:CustomerReference>
      <sus:ID>SD/C123456789</sus:ID>
      <!--Optional:-->
      <sus:Name>?</sus:Name>
    </sus:CustomerReference>
    <sus:ReportDefinition Name="JR1" Release="4">
      <sus:Filters>
        <sus:UsageDateRange>
          <sus:Begin>2015-08-01</sus:Begin>
          <sus:End>2015-08-31</sus:End>
        </sus:UsageDateRange>
      </sus:Filters>
    </sus:ReportDefinition>
  </coun:ReportRequest>
</soapenv:Body>
</soapenv:Envelope>
```

---

### 4.2.3 ReportRequest Parameters descriptions

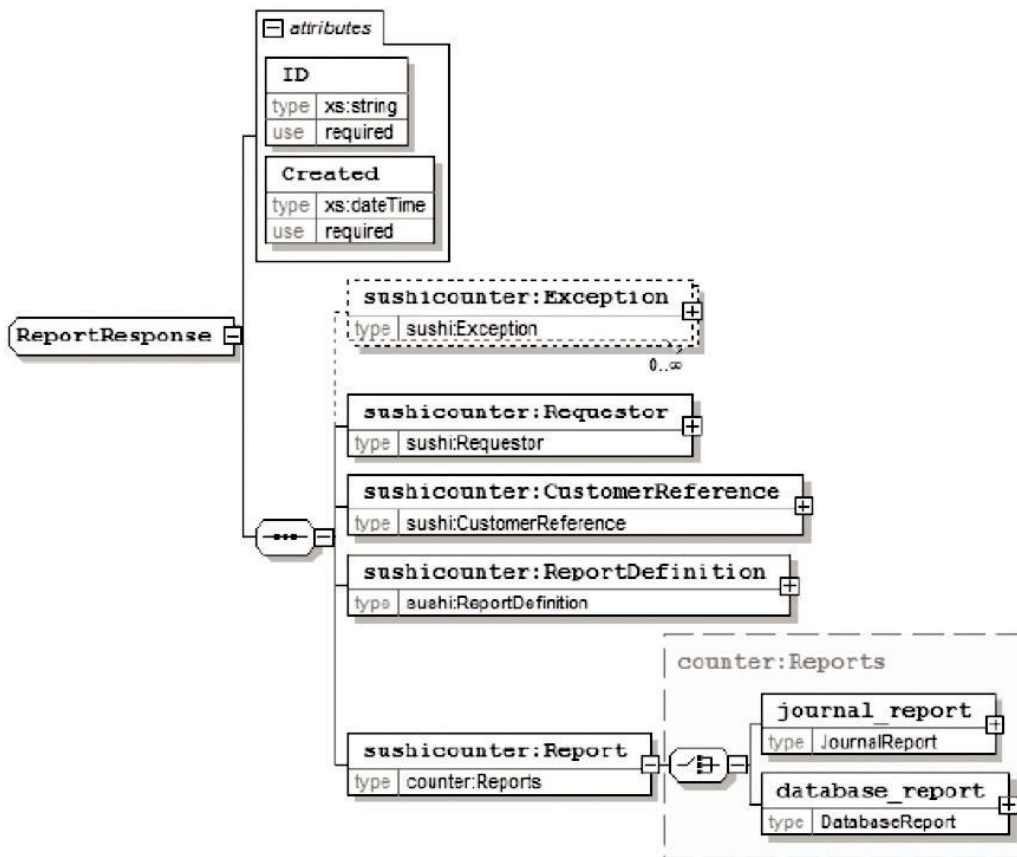
Elsevier-specific information about usage of specific parameter values for different purposes can be found in columns **Description** and **Values** of Table 2.

**Table 1: Description of ReportRequest Parameters**

Parent Element	Child Element	Description	Values
ReportRequest	ID	Text Identifier	Any
	Created	Date time stamp of request	Required Any
Requestor	ID	Required field ID is the 'integrator ID' of the organization submitting the Request	Any ID issued by Elsevier, provided the Requestor ID has been associated by Elsevier with CustomerReference ID.
	Name	Requestor Name	Any
	Email	Requestor e-mail address	Any
CustomerReference	ID	Required Platform Code	"SD" for ScienceDirect , "SC" for Scopus, "EV" for Engineering Village "SD/C123456789" No or unsupported value generates 3000 exception.
		Required Account ID	"C123456789" for Account or "S123456789" for Super account Unsupported Requestor ID – Customerreference ID combination generates 2010 exception.
		Optional account parameter for consortium member statistics	"S123456789/C123456789" this parameter limits member usage statistics to selected consortium related only.
ReportDefinition	Name	Required Name and Release representing report ID and version of requested COUNTER report Names as assigned by COUNTER	COUNTER report IDs: JR1, JR1GOA, JR2, JR5, TDMJR1, BR2, BR3, CR1, PR1 (Scopus only), DB1 (Engineering Village only)
Release	Required SUSHI Release	Release numbers currently supported by SUSHI Elsevier: 3 and 4	
UsageDateRange	Begin	Start date	2016-08-01
	End	End date	2016-08-31

### 4.3 SUSHI COP4 ReportResponse

#### 4.3.1 ReportResponse Schema





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### 4.3.2 ReportResponse example

The example below shows the (exception) response for above ReportRequest; in this case a 2000 exception indicating that the endpoint was not able to verify the Requestor ID.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <ns3:ReportResponse ID="1" Created="0001-02-05T10:12:13" xmlns="http://www.niso.org/schemas/counter"
xmlns:ns2="http://www.niso.org/schemas/sushi" xmlns:ns3="http://www.niso.org/schemas/sushi/counter">
      <ns2:Exception Created="0001-02-05T10:12:13">
        <ns2:Number>2000</ns2:Number>
        <ns2:Severity>Error</ns2:Severity>
        <ns2:Message>Requestor ID is not recognized or not authorized by the
service</ns2:Message> </ns2:Exception>
      <ns2:Requestor>
        <ns2:ID>SUSHI-XXXX</ns2:ID>
        <ns2:Name>?</ns2:Name>
        <ns2:Email>?</ns2:Email>
      </ns2:Requestor>
      <ns2:CustomerReference>
        <ns2:ID>SD/C123456789</ns2:ID>
        <ns2:Name>?</ns2:Name>
      </ns2:CustomerReference>
      <ns2:ReportDefinition Release="4" Name="JR1">
        <ns2:Filters>
          <ns2:UsageDateRange>
            <ns2:Begin>2015-08-01</ns2:Begin>
            <ns2:End>2015-08-31</ns2:End>
          </ns2:UsageDateRange>
        </ns2:Filters>
      </ns2:ReportDefinition>
      <ns3:Report xsi:nil="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"/> </ns3:ReportResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

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### 4.3.3 Exception codes

Table 3 below shows supported exceptions. Flagged exceptions are included in the ReportResponse and reported back to the requestor to provide an indication of what went wrong.

In case the issue needs to be reported to the Elsevier Customer service helpdesk, it is advised to provide the XML of the exception ReportResponse response; this will considerably speed up the resolution process.

**Table 3: Return codes for SUSHI COP4 client requests**

Exception Severity	Level	Exception	Number Invocation Conditions
Info or Debug	Info Debug	0	Any. These messages will never be standardized and service providers can design them as they see fit.
Warnings	Warning	1-999	Any. This range is reserved for the use of service providers to supply their own custom warnings.
Service Not Available	Fatal	1000	Service is executing a request, but due to internal errors cannot complete the request. Service must return ReportResponse and no payload.
Service Busy	Fatal	1010	Service is too busy to execute the incoming request. Service must return ReportResponse with this exception and no payload. Client should retry the request after some reasonable time.
Requestor Not Authorized to Access Service	Error	2000	If Requestor ID is not recognized or not authorized by the service.
Requestor is Not Authorized to Access Usage for Institution	Error	2010	If Requestor has not been authorized to harvest usage for the institution identified by the CustomerReference ID, or if the CustomerReference ID is not recognized.
Report Not Supported	Error	3000	The requested report name, version, or other means of identifying a report that the service can process is not matched against the supported reports.
Report Version Not Supported	Error	3010	Requested version of the data is not supported by the service.
Invalid Date Arguments	Error	3020	Any format or logic errors involving date computations, e.g., end date
No Usage Available for Requested Dates	Error	3030	Service did not find any data for the date range specified.

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## 5. Contact information

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Learn & Support with Elsevier Customer service contact information

<https://www.elsevier.com/solutions/sciencedirect/support>

Usage Reports page providing information about supported reports and

SUSHI <https://www.elsevier.com/librarians/usage-reports>

The SUSHI section on this page with downloadable SUSHI application form and this

document <https://www.elsevier.com/librarians/usage-reports#sushi>

SUSHI server registry in NISO SUSHI workroom providing information for service endpoint users how to

establish Requestor ID support by SUSHI Elsevier <https://www.projectcounter.org/about/register/>





