

COUNTER Code of Practice

3.0 Technical Specifications for COUNTER Reports

3.1 COUNTER Reports for Libraries

Reports for R5 consist of four Master Reports that allow the librarian to filter and configure to create customized views of their usage data. R5 also specifies Standard Views (pre-set filters/configuration).

To achieve compliance, a content provider MUST offer the Master Reports and Standard Views that are applicable to their Host_Types, with the exception of Standard Views that always would be empty (e.g. an Access Denied Standard View if denials cannot occur). An independent audit is required for these reports.

Content providers may offer additional Master Reports and Standard Views not required for compliance or custom reports (see Section 11.2), according to the rules set for the reports by the Code of Practice. For these reports an audit isn't required.

3.1.1 Master Reports

Master Reports include all relevant metrics and attributes; they are intended to be customizable through the application of filters and other configuration options, allowing librarians to create a report specific to their needs. The four Master Reports are shown in Table 3.a along with their Report_ID, Report_Name and Host_Types who are REQUIRED to provide these reports. See [Section 3.3.1](#) below for details on Host_Types.

Table 3.a (below): Master Reports

Report_ID	Report_Name	Details	Host_Types
PR	Platform Master Report	A customizable report summarizing activity across a content provider's platforms that allows the user to apply filters and select other configuration options.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository* Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network
DR	Database Master Report	A customizable report detailing activity by database that allows the user to apply filters and select other configuration options.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection
TR	Title Master Report	A customizable report detailing activity at the title level (journal, book, etc.) that allows the user to apply filters and select other configuration options.	Aggregated_Full_Content eBook eBook_Collection eJournal
IR	Item Master Report	A granular, customizable report showing activity at the level of the item (article, chapter, media object, etc.) that allows the user to apply filters and select other configuration options.	Data_Repository* Multimedia Repository Scholarly_Collaboration_Network

*Data repositories may choose to conform to the Code of Practice Release 5 or, alternatively, may wish to work with the Code of Practice for Research Data.

Figure 3.a (below) provides an example of how the user interface could look. The user will be presented with an interface that allows them to select usage dates, one or more Metric_Types, Data_Types, Access_Types, etc. and indicate if the filter columns are to be included. Including the column will cause usage to be broken out by individual values for the selected filter, whereas not including the column will result in usage being summarized for the selected filter.

Title Master Report

Begin
End

Usage Dates: (include column)

Metric Type:

☐

Data Type:

☐

Access Type:

☐

Access Method:

☐

YOP:

☐

Exclude Monthly Details: ☐

Submit

Cancel

Figure 3.a: Example of a user interface

3.1.2 Standard Views

The goal of Standard Views is to provide a set of pre-filtered views of the Master Reports covering the most common set of library needs. Report_IDs for Standard Views are derived from the Report_ID of the Master Report that they are based on. The format is {Master Report_ID}_{View ID}.

3.1.2.1 Platform Usage Standard Views

The Platform Usage Standard Views are derived from the Platform Master Report and provide a summary of activity on a given platform to support the evaluation of platforms and to provide high-level statistical data to support surveys and reporting to funders.

Table 3.b (below): Platform Usage Standard Views

Report_ID	Report_Name	Details	Host_Types
PR_P1	Platform Usage	Platform-level usage summarized by Metric_Type.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository* Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network

*Data repositories may choose to conform to the Code of Practice Release 5 or, alternatively, may wish to work with the Code of Practice for Research Data.

See [Section 4.1](#) below for details on Platform Usage Reports.

3.1.2.2 Database Usage Standard Views

The Database Usage Standard Views support the evaluation of the value of a given database of resources (e.g. a full-text database, an A&I database, or a multimedia collection).

Table 3.c (below): Database Usage Standard Views

Report_ID	Report_Name	Details	Host_Types
DR_D1	Database Search and Item Usage	Reports on key Searches, Investigations and Requests metrics needed to evaluate a database.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection
DR_D2	Database Access Denied	Reports on Access Denied activity for databases where users were denied access because simultaneous-use licenses were exceeded or their institution did not have a license for the database.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection

See [Section 4.2](#) below for details on Database Usage Reports.

3.1.2.3 Title Usage Standard Views

Title Usage Standard Views are used to support the evaluation of the value of a given serial (e.g. journal, magazine, or newspaper) or monograph (e.g. book, eBook, textbook, or reference work) title.

Table 3.d (below): Title Usage Standard Views

Report_ID	Report_Name	Details	Host_Types
TR_B1	Book Requests (Excluding OA_Gold)	Reports on full-text activity for books, excluding Gold Open Access content, as Total_Item_Requests and Unique_Title_Requests. The Unique_Title_Requests provides comparable usage across book platforms. The Total_Item_Requests shows overall activity; however, numbers between sites will vary significantly based on how the content is delivered (e.g. delivered as a complete book or by chapter).	Aggregated_Full_Content eBook eBook_Collection
TR_B2	Book Access Denied	Reports on Access Denied activity for books where users were denied access because simultaneous-use licenses were exceeded or their institution did not have a license for the book.	Aggregated_Full_Content eBook eBook_Collection
TR_B3	Book Usage by Access Type	Reports on book usage showing all applicable Metric_Types broken down by Access_Type.	Aggregated_Full_Content eBook eBook_Collection
TR_J1	Journal Requests (Excluding OA_Gold)	Reports on usage of journal content, excluding Gold Open Access content, as Total_Item_Requests and Unique_Item_Requests. The Unique_Item_Requests provides comparable usage across journal platforms by reducing the inflationary effect that occurs when an HTML full text automatically displays and the user then accesses the PDF version. The Total_Item_Requests shows overall activity.	Aggregated_Full_Content eJournal
TR_J2	Journal Access Denied	Reports on Access Denied activity for journal content where users were denied access because simultaneous-use licenses were exceeded or their institution did not have a license for the title.	Aggregated_Full_Content eJournal
TR_J3	Journal Usage by Access Type	Reports on usage of journal content for all Metric_Types broken down by Access_Type.	Aggregated_Full_Content eJournal
TR_J4	Journal Requests by YOP (Excluding OA_Gold)	Breaks down the usage of journal content, excluding Gold Open Access content, by year of publication (YOP), providing counts for the Metric_Types Total_Item_Requests and Unique_Item_Requests. Provides the details necessary to analyze usage of content in backfiles or covered by perpetual access agreements. Note that COUNTER reports do not provide access model or perpetual access rights details.	Aggregated_Full_Content eJournal

See [Section 4.3](#) below for details on Title Usage Standard Views.

3.1.2.4 Item Usage Standard Views

The Standard Views for item-level reporting are designed to support the most common reporting needs. The Standard View for repositories (Journal Article Requests) provides insight into the usage of individual journal articles. The Standard View for multimedia (Multimedia Item Requests) allows evaluation of multimedia at the title level.

Table 3.e (below): Item Usage Standard Views

Report_ID	Report_Name	Details	Host_Types
IR_A1	Journal Article Requests	<p>Reports on journal article requests at the article level. This report is limited to content with a Data_Type of Article, Parent_Data_Type of Journal, and Metric_Types of Total_Item_Requests and Unique_Item_Requests.</p> <p>This Standard View must be provided only if (a) it is clear for all articles in IR whether they are journal articles or not and (b) the parent item is known for all</p>	Repository Scholarly_Collaboration_Network

		Journal articles.	
IR_M1	Multimedia Item Requests	Reports on multimedia requests at the item level.	Multimedia

See [Section 4.4](#) below for details on Item Usage Reports.

3.2 Formats for COUNTER Reports

R5 reports can be delivered in tabular form or as machine-readable data (JSON) via the COUNTER_SUSHI API. The tabular form MUST be either Excel or a tab-separated-value (TSV) file. The reports in JSON and TSV format MUST be encoded using UTF-8. The JSON format MUST comply with the COUNTER_SUSHI API Specification (see [Section 8](#) below).

All COUNTER reports have the same layout and structure. Figure 3.b (below) provides an example of the “Journal Requests (Excluding OA_Gold)” Standard View. Figure 3.c (below) shows the layout for tabular reports, which will be the focus of the discussions throughout this document. Note that the COUNTER_SUSHI API Specification includes the same elements with the same or similar names; therefore, understanding the tabular reports translates to an understanding of what is REQUIRED in reports retrieved via the COUNTER_SUSHI API.

	A	B	C	D	E
1	Report_Name	Journal Requests (Excluding OA_Gold)			
2	Report_ID	TR_J1			
3	Release	5			
4	Institution_Name	Sample University			
5	Institution_ID	isni=1234567890			
6	Metric_Types	Total_Item_Requests; Unique_Item_Requests			
7	Report_Filters	Data_Type=Journal; Access_Type=Controlled; Access_Method=Regular			
8	Report_Attributes				
9	Exceptions				
10	Reporting_Period	2017-01-01 to 2017-06-30			
11	Created	2017-05-25			
12	Created_By	Platform X			
13					
14	Title	Publisher	Publisher_ID	Platform	DOI
15	Journal A	Publisher X	isni=1234123412341234	PlatformX	/12.1.0.1/11
16	Journal A	Publisher X	isni=1234123412341234	PlatformX	/12.1.0.1/11
17	Journal B	Publisher X	isni=1234123412341234	PlatformX	/12.1.0.1/11
18	Journal B	Publisher X	isni=1234123412341234	PlatformX	/12.1.0.1/11
19					
20					
21					
22					
23					
24					

Figure 3.b: Sample “Journal Requests (Excluding OA_Gold)” Standard View

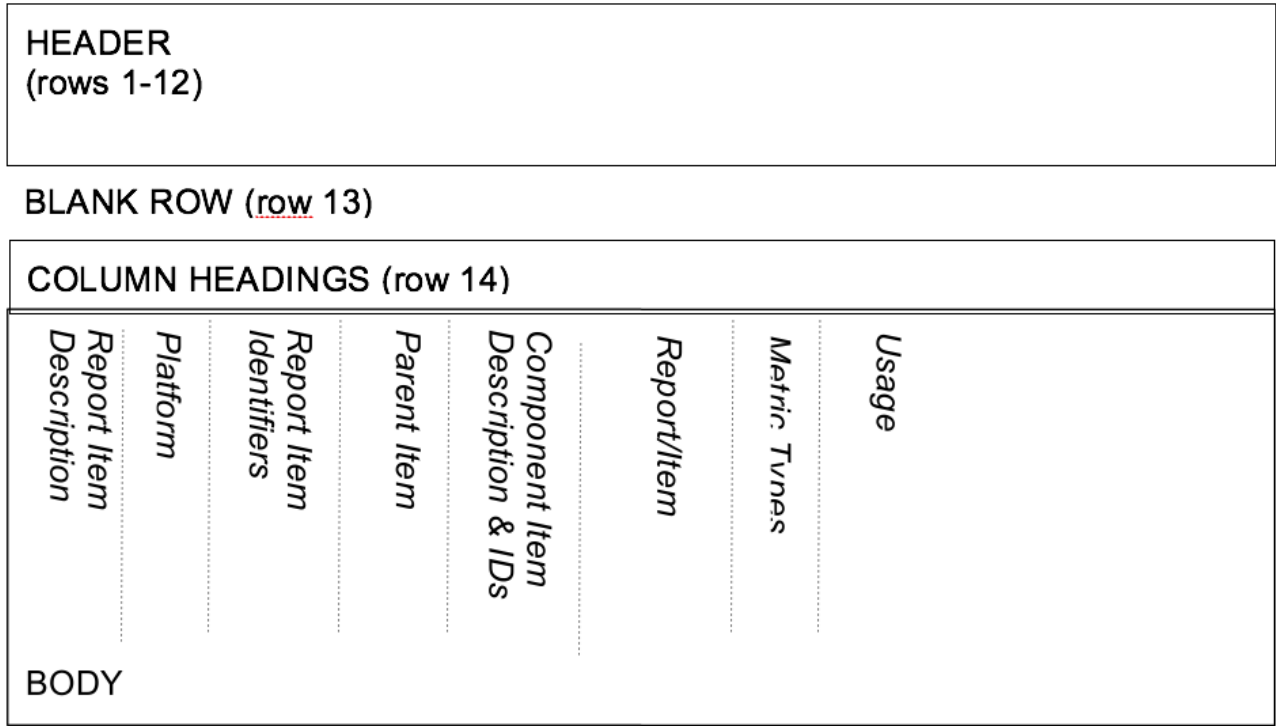


Figure 3.c: Layout for tabular COUNTER reports

All COUNTER reports have a header. In tabular reports, the header is separated from the body with a blank row (to facilitate sorting and filtering in Excel). Beneath that is the body of the report with column headings. The contents of the body will vary by report. Figure 3.c (above) identifies the different kinds of information you may find in the report and the relative positioning of this information. All of this is discussed in more detail below.

3.2.1 Report Header

The first 12 rows of a tabular COUNTER report contain the header, and the 13th row is always blank. The header information is presented as a series of name-value pairs, with the names appearing in Column A and the corresponding values appearing in Column B. All tabular COUNTER reports have the same names in Column A. Column B entries will vary by report.

	A	B
1	Report_Name	<i><Report Name></i>
2	Report_ID	<i><Report ID></i>
3	Release	<i><COUNTER Release Number></i>
4	Institution_Name	<i><Institution Name></i>
5	Institution_ID	<i><type>=<identifier>; <type>=<identifier></i>
6	Metric_Types	<i><metricType>; <MetricType></i>
7	Report_Filters	<i><Report Filter List as name=value pairs separated with "; "></i>
8	Report_Attributes	<i><Report Attribute List as name=value pairs separated with "; "></i>
9	Exceptions	<i><ErrorNo>:<Description>(<Data>) <ErrorNo>:<Description>(<Data>)</i>
10	Reporting_Period	<i>begin_date=<yyyy-mm-dd>; end_date=<yyyy-mm-dd></i>
11	Created	<i><Date report run in the form yyyy-mm-dd></i>
12	Created_By	<i><Name of organization creating the report></i>
13		

Figure 3.d: Common Report Header Information

Figure 3.d (above) shows the layout of the common header. The 12 elements in Column A and the values in Column B are discussed in more detail in the table below. Note that the element names (Column A) MUST appear in the COUNTER report exactly as they are shown here. Capitalization, spelling, and punctuation MUST match exactly.

Table 3.f (below): COUNTER Report Header Elements

Element Name	Description of value to provide	Example
Report_Name	The name of the report as it appears in Section 3.1.	Journal Requests (Excluding OA_Gold)
Report_ID	The unique identifier for the report as it appears in Section 3.1.	TR_J1
Release	The COUNTER release this report complies with.	5
Institution_Name	For subscription-based services, the name of the institution to which the usage is attributed. For OA publishers and repositories, where it is not possible to identify usage by individual institutions, the usage should be attributed to "The World".	Mt. Laurel University
Institution_ID	A series of identifiers that represent the institution in the format of {namespace}:{value}. Include multiple identifiers by separating with a semicolon-space ("; "). Permitted identifier namespaces are ISIL, ISNI, OCLC and, for local identifiers assigned by the content provider, the platform ID of the content provider.	ISNI:0000000419369078; pubsiteA:PrncU
Metric_Types	A semicolon-space delimited list of Metric_Types requested for this report. Note that even though a Metric_Type was requested, it might not be included in the body of the report if no report items had usage of that type.	Unique_Item_Investigations; Unique_Item_Requests
Report_Filters	A series of zero or more report filters applied on the reported usage, excluding Metric_Type, Begin_Date and End_Date (which appear in separate rows in the tabular reports for easier reading). Typically, a report filter affects the amount of usage reported. Entries appear in the form of {filter name}={filter value} with multiple filter name-value pairs separated with a semicolon-space ("; ") and multiple filter values for a single filter name separated	Access_Type=Controlled; Access_Method=Regular

Element Name	Description	Reports	Examples
Platform	Identifies the platform/content host where the activity took place. Note that in cases where individual titles or groups of content have their own branded user experience but reside on a common host, the identity of the underlying common host MUST be used as the Platform.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	EBSCOhost ProQuest ScienceDirect

Report Item Identifiers

The item being reported on is further identified by the columns to the right of the platform.

Table 3.i (below): Elements for Report Item Identifiers

Element Name	Description	Reports	Examples
Authors	Authors of the work for which usage is being reported in the format <i>{author name} ({author identifier})</i> with author identifier in the format <i>{namespace}:{value}</i> . Permitted identifier namespaces are ISNI and ORCID. A maximum of three authors should be included with multiple authors separated by semicolon-space ("; "). Note that this element is only used in tabular reports, in JSON reports authors are represented as Item_Contributors with Type Author.	IR IR_A1	John Smith (ORCID:0000-0001-2345-6789)
Publication_Date	Date of publication for the work in the format <i>yyyy-mm-dd</i> .	IR IR_A1	2018-09-05
Article_Version	ALPSP/NISO code indicating the version of the parent work. Possible values are the codes for Accepted Manuscript, Version of Record, Corrected Version of Record, and Enhanced Version of Record.	IR IR_A1	VoR
DOI	Digital Object Identifier for the item being reported on in the format <i>{DOI prefix}/{DOI suffix}</i> .	TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	10.1629/uksg.434
Proprietary_ID	A proprietary ID assigned by the content provider for the item being reported on. Format as <i>{namespace}:{value}</i> where the namespace is the platform ID of the host which assigned the proprietary identifier.	DR, TR, IR DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	publisherA:jnrlCode123
ISBN	International Standard Book Number in the format ISBN-13 with hyphens.	TR, IR TR_B1, TR_B2, TR_B3	978-3-16-148410-0
Print_ISSN	International Standard Serial Number assigned to the print instance of a serial publication in the format <i>nnnn-nnn[nX]</i> .	TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1	0953-1513
Online_ISSN	International Standard Serial Number assigned to the online instance of a serial publication in the format <i>nnnn-nnn[nX]</i> .	TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1	2048-7754
Linking_ISSN	International Standard Serial Number that links together the ISSNs assigned to all instances of a serial publication in the format <i>nnnn-nnn[nX]</i> (JSON reports only).	TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1	0953-1513
URI	Universal Resource Identifier, a valid URL or URN according to RFC 3986.	TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	

Parent Item Description and Identifiers

When reporting usage on content items like articles and book chapters, it is often desirable to identify the item's parent item, such as the journal or book it is part of. This next grouping of columns identifies the parents and is used by a small subset of reports.

Table 3.j (below): Elements that Describe a Parent Item

Element Name	Description	Reports	Examples
Parent_Title	Title of the parent item.	IR IR_A1	The Serials Librarian
Parent_Authors	Authors of the parent work. See the Authors element in Table 3.i for the format.	IR IR_A1	
Parent_Publication_Date	Date of publication for the parent item in the format <i>yyyy-mm-dd</i> .	IR	
Parent_Article_Version	ALPSP/NISO code indicating the version of the parent work. Possible values are the codes for Accepted Manuscript, Version of Record, Corrected Version of Record, and Enhanced Version of Record.	IR IR_A1	VoR
Parent_Data_Type	Identifies the nature of the parent.	IR	Journal
Parent_DOI	DOI assigned to the parent item in the format <i>{DOI prefix}/{DOI suffix}</i> .	IR IR_A1	
Parent_Proprietary_ID	A proprietary ID that identifies the parent item. Format as <i>{namespace}:{value}</i> where the namespace is the platform ID of the host which assigned the proprietary identifier.	IR IR_A1	TandF:wsr20
Parent_ISBN	ISBN of the parent item in the format ISBN-13 with hyphens.	IR	
Parent_Print_ISSN	Print ISSN assigned to the parent item in the format <i>nnnn-nnn[nX]</i> .	IR IR_A1	0361-526X
Parent_Online_ISSN	Online ISSN assigned to the parent item in the format <i>nnnn-nnn[nX]</i> .	IR IR_A1	1541-1095
Parent_URI	URI (valid URL or URN according to RFC 3986) for the parent item.	IR IR_A1	https://www.tandfonline.com/action/journalInformation?journalCode=wsr20

Component Item Description and Identifiers

Repositories often store multiple components for a given repository item. These components could take the form of multiple files or datasets, which can be

identified and usage reported on separately in Item Master Reports. Note that the component usage may only be reported for Total_Item_Investigations and Total_Item_Request. For other Metric_Types the usage cannot be broken down by component and the corresponding cells MUST be empty.

Table 3.k (below): Elements that Describe a Component Item

Element Name	Description	Reports	Examples
Component_Title	Name or title of the component item.	IR	
Component_Authors	Authors of the component item. See the Authors element in Table 3.i for the format.	IR	
Component_Publication_Date	Date of publication for the component item in the format <i>yyyy-mm-dd</i> .	IR	
Component_Data_Type	Data type of the component item.	IR	
Component_DOI	DOI assigned to the component item in the format <i>{DOI prefix}{DOI suffix}</i> .	IR	
Component_Proprietary_ID	A proprietary ID assigned by the repository to uniquely identify the component. Format as <i>{namespace}:{value}</i> where the namespace is the platform ID of the repository which assigned the proprietary identifier.	IR	
Component_ISBN	ISBN that is assigned to the component item in the format ISBN-13 with hyphens.	IR	
Component_Print_ISSN	Print ISSN that is assigned to the component item in the format <i>nnnn-nnn[nX]</i> .	IR	
Component_Online_ISSN	Online ISSN that is assigned to the component item in the format <i>nnnn-nnn[nX]</i> .	IR	
Component_URI	URI (valid URL or URN according to RFC 3986) assigned to the component item.	IR	

Item and Report Attributes

Table 3.l (below): Elements for Item and Report Attributes

Element Name	Description	Reports	Examples
Data_Type	Nature of the content that was used. See 3.3.2 for more detail.	PR, DR, TR, IR	Book Journal
Section_Type	When content is accessed in chunks or sections, this attribute describes the nature of the content unit. See 3.3.3 for more detail.	TR	Article Chapter
YOP	Year of publication for the item being reported on. See 3.3.7 for more detail.	TR, IR TR_B1, TR_B2, TR_B3, TR_J4	1997
Access_Type	See 3.3.5 for more detail.	TR, IR TR_B3, TR_J3, IR_A1	Controlled OA_Gold
Access_Method	See 3.3.6 for more detail.	PR, DR, TR, IR	Regular TDM

Metric Type

Table 3.m (below): Report Element for Metric_Type

Element Name	Description	Reports	Examples
Metric_Type	The type of activity that is being counted. See 3.3.4 for more detail.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	Total_Item_Investigations

Usage Data

Table 3.n (below): Elements for Usage Data

Element Name	Description	Reports	Examples
Reporting_Period_Total	Total of usage in this row for all months covered. Note that this element does NOT appear in the JSON reports, instead the JSON format offers a Granularity report attribute (see Section 3.3.8 for details).	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	123456
Mmm-yyyy	A series of columns with usage for each month covered by the report. The format is <i>Mmm-yyyy</i> . Note: In the JSON format this is represented by Begin_Date and End_Date date elements for each month.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1	May-2016

3.3 COUNTER Report Common Attributes and Elements

Early releases of the COUNTER Code of Practice focused on usage statistics related to journals. That was expanded to books, and later articles and multimedia collections were added. R5 further expands the scope of COUNTER into the area of research data and social media. In order to help organize this increased scope in a single, consistent, and coherent Code of Practice, several new elements and attributes have been added.

3.3.1 Host Types

Usage reports are provided by many different types of content hosts ranging from eBook to A&I_Database, eJournal, Discovery_Service, Multimedia etc. The usage reporting needs vary by Host_Type. To accommodate this variance, the R5 defines a set of Host_Type categories. Although the Host_Type does not appear on the COUNTER report, the Code of Practice uses Host_Types throughout this document to help content providers identify which reports, elements, metric types, and attributes are relevant to them. The Host_Types are:

Table 3.o (below): List of Host_Type Values

Host_Type	Description	Examples

A&I_Database	Provides access to databases containing abstract and index information on scholarly articles intended to support discovery.	APA EBSCOhost ProQuest
Aggregated_Full_Content	Provides access to aggregated pre-set databases of full text and other content where content is accessed in the context of the licensed database.	EBSCOhost ProQuest
Data_Repository	Includes subject repositories, institution, etc.	UK Data Service – ReShare Figshare DSpace Eprints
Discovery_Service	Assists users with discovery of scholarly content by providing access to a central index of articles, books, and other metadata.	EBSCOhost (EDS) ProQuest (Primo/Summon)
eBook	Provides access to eBook content made available as individual eBooks or eBook packages.	EBL EBSCOhost ScienceDirect
eBook_Collection	Provides access to eBook content that is sold as fixed collections and behaves like databases.	EBSCOhost
eJournal	Provides access to online serial (journals, conferences, newspapers, etc.) content made available as individual titles or packages.	ScienceDirect
Full_Content_Database	Provides access to databases that are a collection of content items that are not otherwise part of a serial or monograph (i.e. non-aggregated).	Cochrane
Multimedia	Provides access to audio, video, or other multimedia content.	Alexander Street Press
Multimedia_Collection	Provides access to multimedia materials sold as and accessed like databases.	
Repository	Provides access to an institution's research output. Includes subject repositories, institution, department, etc.	Cranfield CERES
Scholarly_Collaboration_Network	A service used by researchers to share information about their work.	Mendeley Reddit/science

Note that a given content host may be classified as having multiple Host_Types and would be expected to provide reports, metric types, elements, and attributes applicable to all. For example, EBSCOhost would be classified as A&I_Database, Aggregated_Full_Content, Discovery_Service, eBook, and eBook_Collection.

3.3.2 Data Types

R5 reports on scholarly information in many ways. These major groupings, referred to as Data_Types, are listed in the table below along with the Host_Types and reports that they apply to. All Data_Types apply to the Platform Reports since they summarize the usage on the platform. Note that the table lists only Host_Types required to provide one or more reports for compliance, but that content providers may offer additional reports. For example, Host_Type eJournal might also offer IR and IR_A1 and would then use Data_Type Article in these reports.

Table 3.p (below): List of Data_Type Values

Data_Type	Description	Host_Types	Reports
Article	An article, typically published in a journal or reference work. Note that Data_Type Article is only applicable for Item Reports when the article is the item, in Title Reports this is represented by the Section_Type.	Repository Scholarly_Collaboration_Network	PR, IR PR_P1, IR_A1
Book	A monograph text.	A&I_Database Aggregated_Full_Content Discovery_Service eBook eBook_Collection Repository Scholarly_Collaboration_Network	PR, DR, TR, IR PR_P1, DR_D1, TR_B1, TR_B2, TR_B3
Book_Segment	A book segment (e.g. chapter, section, etc.). Note that Data_Type Book_Segment is only applicable for Item Reports when the book segment is the item, in Title Reports this is represented by the Section_Type.	Repository Scholarly_Collaboration_Network	PR, IR PR_P1
	A fixed database where		

Database	content is searched and accessed in the context of the database. A given item on the host may be in multiple databases but a transaction must be attributed to a specific database. Note that Data_Type Database is only applicable for Searches and Access Denied at the database level and for Investigations and Requests for Full_Content_Databases*.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection	PR, DR PR_P1, DR_D1, DR_D2
Dataset	A data set.	Data_Repository Repository	PR, IR PR_P1
Journal	Textual content published serially as a journal or magazine.	A&I_Database Aggregated_Full_Content Discovery_Service eJournal Repository	PR, DR, TR, IR PR_P1, DR_D1, TR_J1, TR_J2, TR_J3, TR_J4
Multimedia	Multimedia content such as audio, image, streaming audio, streaming video, and video.	Multimedia Multimedia_Collection	PR, DR, IR PR_P1, DR_D1, IR_M1
Newspaper_or_Newsletter	Textual content published serially in a newspaper or newsletter.	A&I_Database Aggregated_Full_Content Discovery_Service Repository	PR, DR, TR, IR PR_P1, DR_D1
Other	Content that cannot be classified by any of the other Data_Types.	A&I_Database Aggregated_Full_Content Discovery_Service Repository	PR, DR, TR, IR PR_P1, DR_D1
Platform	A content platform that may reflect usage from multiple Data_Types. Note that Data_Type Platform is only applicable for Searches_Platform.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network	PR PR_P1
Report	A report.	A&I_Database Aggregated_Full_Content Discovery_Service Repository	PR, DR, TR, IR PR_P1, DR_D1
Repository_Item	A generic classification used for items stored in a repository.	Repository	PR, IR PR_P1
Thesis_or_Dissertation	A thesis or dissertation.	A&I_Database Aggregated_Full_Content Discovery_Service Repository	PR, DR, TR, IR PR_P1, DR_D1

*Full_Content_Databases may also use Data_Type Database in the Master Title Report if this report is offered. All other Host_Types MUST report Investigations and Requests either with the title-level Data_Types (e.g. Journal for a journal article or Book for a book, from Host_Type A&I_Database, Aggregated_Full_Content, Discovery_Service, eBook, eBook_Collection and eJournal), or with the item-level Data_Types (e.g. Article for an article or Multimedia for a video from Host_Type Data_Repository, Multimedia, Multimedia_Collection, Repository and Scholarly_Collaboration_Network). These Data_Types MUST be used across all reports required for compliance to ensure a consistent reporting.

3.3.3 Section Types

Some scholarly content is accessed in sections. For example, a user may access a chapter or section at a time. Section_Type was introduced to provide a categorization of the transaction based on the type of section accessed. For example, a librarian could use a Title Master Report to see a breakdown of usage by Title and Section_Type. The following table lists the Section_Types defined by COUNTER and the Host_Types and reports to which they apply.

Table 3.q (below): List of Section_Type Values

Section_Type	Description	Host_Types	Reports
Article	An article from a compilation, such as a journal, encyclopedia, or reference book.	Aggregated_Full_Content eJournal	TR
Book	A complete book, accessed as a single file.	Aggregated_Full_Content eBook eBook_Collection	TR
Chapter	A chapter from a book.	Aggregated_Full_Content eBook eBook_Collection	TR
Other	Content delivered in sections not otherwise represented on the list.	Aggregated_Full_Content	TR
Section	A group of chapters or articles.	Aggregated_Full_Content eBook eBook_Collection eJournal	TR

3.3.4 Metric Types

Metric_Types, which represent the nature of activity being counted, can be grouped into the categories of Searches, Investigations, Requests, and Access Denied. The Tables 3.r, 3.s and 3.t (below) list the Metric_Types and the Host_Types and reports they apply to.

Searches

Table 3.r (below): List of Metric_Types for Searches

Metric_Type	Description	Host_Types	Reports
Searches_Regular	Number of searches conducted against a user-selected database where results are returned to the user on the host UI. The user is responsible for selecting the databases or set of databases to be searched. This metric only applies to usage tracked at the database level and is not represented at the platform level.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection	DR DR_D1
Searches_Automated	Searches conducted on the host site or discovery service where results are returned in the host UI and multiple databases are searched without user selection of databases. This metric only applies to usage that is tracked at the database level and is not represented at the platform level.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection	DR DR_D1
Searches_Federated	Searches conducted by a federated search engine where the search activity is conducted remotely via client-server technology. This metric only applies to usage that is tracked at the database level and is not represented at the platform level.	A&I_Database Aggregated_Full_Content Discovery_Service eBook_Collection Full_Content_Database Multimedia_Collection	DR DR_D1
Searches_Platform	Searches conducted by users and captured at the platform level. Each user-initiated search can only be counted once regardless of the number of databases involved in the search. This metric only applies to Platform Reports.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository* Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository* Scholarly_Collaboration_Network	PR PR_P1

*Repositories should provide these Metric_Types if they are able to.

Investigations and Requests of Items and Titles

This group of Metric_Types represents activities where content items were retrieved (Requests) or information about a content item (e.g. an abstract) was examined (Investigations). Any user activity that can be attributed to a content item will be considered an Investigation including downloading or viewing the item. Requests are limited to user activity related to retrieving or viewing the content item itself. The figure below provides a graphical representation of the relationship between Investigations and Requests.

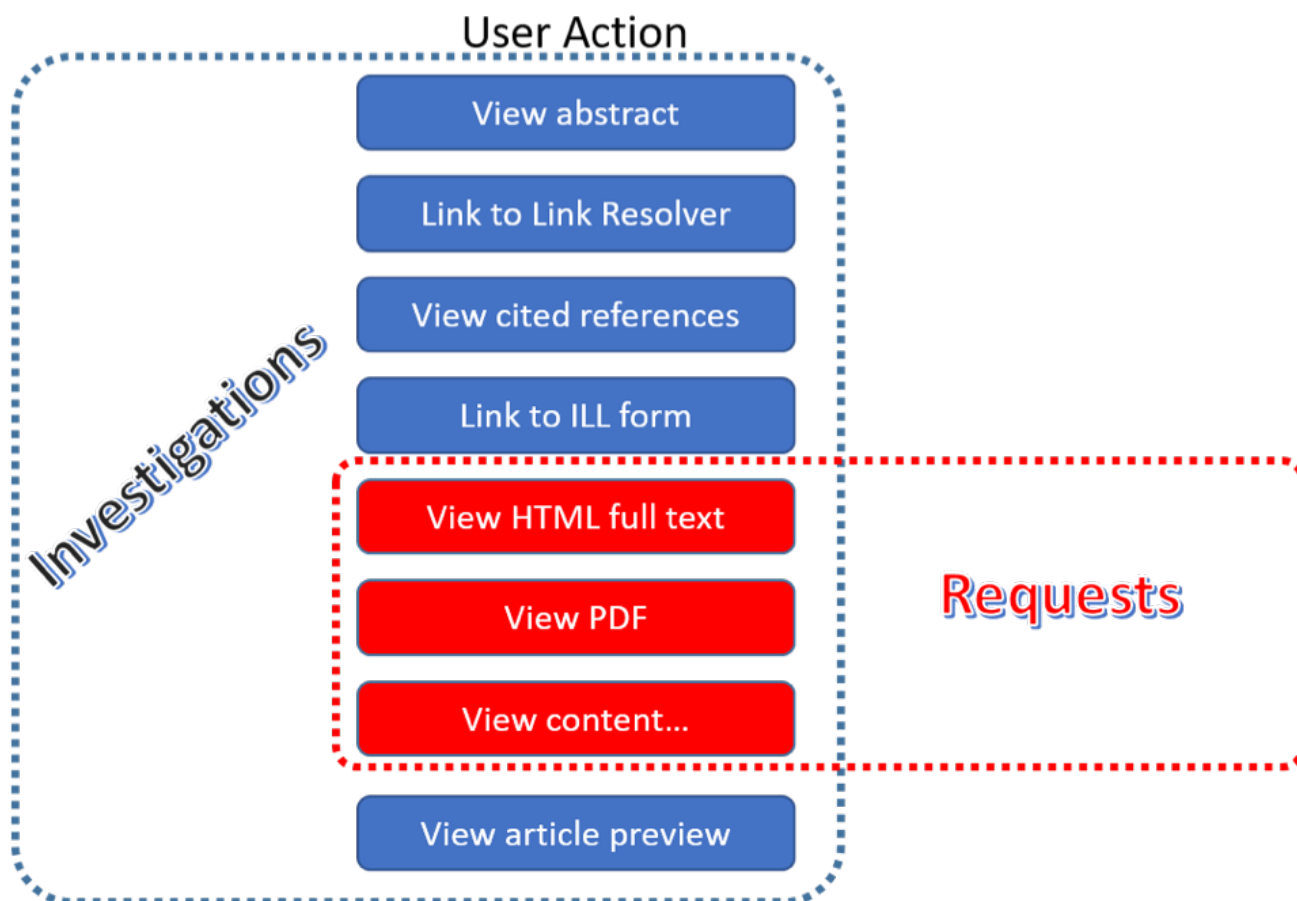


Figure 3e: The relationship between Investigations and Requests

Totals, Unique Items and Unique Titles

R5 also introduces the concept of unique items and unique titles. The Metric_Types that begin with Total are very similar to the metrics of R4, i.e. if a given article or book or book chapter was accessed multiple times in a user session, the metric would increase by the number of times the content item was accessed (minus any adjustments for double-clicks).

Unique_Item metrics have been introduced in R5 to help eliminate the effect different styles of user interfaces may have on usage counts. With R5, if a single article is accessed multiple times in a given user session, the corresponding Unique_Item metric can only increase by 1 to simply indicate that the content item was accessed in the session. Unique_Item metrics provide comparable usage across journal platforms by reducing the inflationary effect that occurs when an HTML full text automatically displays and the user then accesses the PDF version.

Unique_Title metrics have been introduced in R5 to help normalize eBook metrics. Since eBooks can be downloaded as an entire book in a single PDF or as separate chapters, the counts for R4's BR1 (book downloads) and BR2 (section downloads) are not comparable. With R5, the book's Unique_Title metrics are only increased by 1 no matter how many (or how many times) chapters or sections were accessed in a given user session. Unique_Title metrics provide comparable eBook metrics regardless of the nature of the platform and how eBook content was delivered.

The Unique_Title metrics MUST NOT be used for Data_Types other than Book as they are not meaningful for them. If a book contains both OA_Gold and Controlled sections or sections with different YOPs, the usage must be broken down by Access_Type and YOP so that the total counts are consistent between reports including and not including these columns/elements.

Table 3.s (below): List of Metric_Types for Requests and Investigations

Metric_Type	Description	Host_Types	Reports
Total_Item_Investigations	Total number of times a content item or information related to a content item was accessed. Double-click filters are applied to these transactions. Examples of content items are articles, book chapters, or multimedia files.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository* Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository* Scholarly_Collaboration_Network	PR, DR, TR, IR, DR_D1, TR_B3, TR_J3
Unique_Item_Investigations	Number of unique content items investigated in a user-session. Examples of	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository* Discovery_Service eBook eBook_Collection	PR, DR, TR, IR, TR_B3,

	content items are articles, book chapters, or multimedia files.	eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network	TR_J3
Unique_Title_Investigations	Number of unique titles investigated in a user-session. Examples of titles are books.	A&I_Database Aggregated_Full_Content Discovery_Service eBook eBook_Collection	PR, DR, TR TR_B3
Total_Item_Requests	Total number of times a content item was requested (i.e. the full text or content was downloaded or viewed). Double-click filters are applied to these transactions. Examples of content items are articles, book chapters, or multimedia files.	Aggregated_Full_Content Data_Repository eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network	PR, DR, TR, IR PR_P1, DR_D1, TR_B1, TR_B3, TR_J1, TR_J3, TR_J4, IR_A1, IR_M1
Unique_Item_Requests	Number of unique content items requested in a user-session. Examples of content items are articles, book chapters, or multimedia files.	Aggregated_Full_Content Data_Repository eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network	PR, DR, TR, IR PR_P1, TR_B3, TR_J1, TR_J3, TR_J4, IR_A1
Unique_Title_Requests	Number of unique titles requested in a user-session. Examples of titles are books.	Aggregated_Full_Content eBook eBook_Collection	PR, DR, TR PR_P1, TR_B1, TR_B3

*Repositories should provide these Metric_Types if they are able to.

Access Denied

Table 3.t (below): List of Metric_Types for Access Denied

Metric_Type	Description	Host_Types	Reports
No_License	Number of times access was denied because the user's institution did not have a license to the content. Double-click filtering applies to this Metric_Type. Note that if the user is automatically redirected to an abstract, that action will be counted as a No_License and also as an Item_Investigation.	A&I_Database Aggregated_Full_Content Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Scholarly_Collaboration_Network	DR, TR, IR DR_D2, TR_B2, TR_J2
Limit_Exceeded	Number of times access was denied because the licensed simultaneous-user limit for the user's institution was exceeded. Double-click filtering applies to this Metric_Type.	A&I_Database Aggregated_Full_Content Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Scholarly_Collaboration_Network	DR, TR, IR DR_D2, TR_B2, TR_J2

3.3.5 Access Types

In order to track the value of usage for licensed content, librarians want to know how much Open Access or other freely available content was used and how much content was behind a paywall. To accommodate this R5 has introduced an Access_Type attribute with values of Controlled, OA_Gold, OA_Delayed, and Other_Free_To_Read. The table below lists the Access_Types and the Host_Types and reports they apply to. Note that Access_Type relates to access on the platform where the usage occurs: if access to a Gold Open Access article is restricted on a platform (for example because the article is included in an

aggregated full-text database available to subscribers only) the Access_Type is Controlled.

Table 3.u (below): List of Access_Type Values

Access_Type	Description	Host_Types	Reports
Controlled	<p>At the time of the Request or Investigation the content item was not open (e.g. behind a paywall) because access is restricted to authorized users. Access of content due to a trial subscription/license would be considered Controlled.</p> <p>Platforms providing content that has been made freely available but is not OA_Gold (e.g. free for marketing purposes or because the title offers free access after a year) MUST be tracked as Controlled.</p>	<p>Aggregated_Full_Content Data_Repository eBook eBook_Collection eJournal Multimedia Repository Scholarly_Collaboration_Network</p>	<p>TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1</p>
OA_Gold	<p>At the time of the user Request or Investigation the content item was available under a Gold Open Access license (content that is immediately and permanently available as Open Access because an article processing charge applies or the publication process was sponsored by a library, society, or other organization). Content items may be in hybrid publications or fully Open Access publications.</p> <p>Note that content items offered as Delayed Open Access (open after an embargo period) MUST currently be classified as Controlled, pending the implementation of OA_Delayed.</p>	<p>Data_Repository eBook eJournal Multimedia Repository Scholarly_Collaboration_Network</p>	<p>TR, IR TR_B3, TR_J3, IR_A1, IR_M1</p>
OA_Delayed	<p>*** RESERVED FOR FUTURE USE – DO NOT IMPLEMENT ***</p> <p>At the time of the user Request or Investigation the content item was available as Open Access after an embargo period had expired (Delayed Open Access). Note that author-archived works hosted in institutional repositories where access is restricted from public access for an embargo period will report usage as OA_Delayed for content accessed after the embargo period expires.</p> <p>NOTE: This value is not to be used until its inclusion has been approved by COUNTER and a timeframe for implementation published by COUNTER.</p>		

Other_Free_To_Read	At the time of the transaction the content item was available as free-to-read (no license required) and did not qualify under the OA_Gold Access_Type. NOTE: This value is for institutional repositories only.	Data_Repository Repository	IR IR_A1
--------------------	--	-------------------------------	-------------

3.3.6 Access Methods

In order to track content usage that was accessed for the purpose of text and data mining (TDM) and to keep that usage separate from normal usage, R5 introduces the Access_Method attribute, with values of Regular and TDM. The table below lists the Access_Methods and the Host_Types and reports they apply to.

Table 3.v (below): List of Access_Method Values

Access_Method	Description	Host_Types	Reports
Regular	Refers to activities on a platform or content host that represent typical user behaviour.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1
TDM	Content and metadata accessed for the purpose of text and data mining, e.g. through a specific API used for TDM. Note that usage representing TDM activity is to be included in Master Reports only.	All Host_Types: A&I_Database Aggregated_Full_Content Data_Repository Discovery_Service eBook eBook_Collection eJournal Full_Content_Database Multimedia Multimedia_Collection Repository Scholarly_Collaboration_Network	PR, DR, TR, IR

3.3.7 YOP

Analyzing collection usage by the age of the content is also desired. The YOP usage attribute represents the year of publication, and it must be tracked for all Investigations, Requests and Access Denied metrics in the Title and Item Reports. The table below lists the Host_Types and reports the YOP attribute applies to.

Table 3.w (below): YOP Values

YOP	Description	Host_Types	Reports
yyyy	The year of publication for the item as a four-digit year. If a content item has a different year of publication for an online version than the print, use the year of publication for the Version of Record. If the year of publication is not known, use a value of 0001. For articles-in-press (not yet assigned to an issue), use the value 9999.	Aggregated_Full_Content Data_Repository eBook eBook_Collection eJournal Multimedia Repository Scholarly_Collaboration_Network	TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1

3.3.8 Report Filters and Report Attributes

Customized views of the usage data are created by applying report filters and report attributes to the Master Reports. The Standard Views specified by R5 are examples of such views. Report attributes define the columns (elements) and report filters the rows (values) included in the reports. For Master Reports the user can choose from specific sets of filters and attributes depending on the report, while for Standard Views the filters and attributes are pre-set except for an optional Platform filter.

The filters and attributes used to create a report are included in the report header (unless the default value is used, in this case the filter/attribute MUST be omitted), for JSON reports as name/value pairs in the Report_Filters and Report_Attributes elements and for tabular reports encoded in the Metric_Types, Reporting_Period, Report_Filters and Report_Attributes elements (see section 3.2.1 for the encoding). For the COUNTER_SUSHI API each filter/attribute corresponds to a method parameter with the same name in lower case (see the [COUNTER_SUSHI API Specification](#) for details).

The tables below show the attributes and filters and the reports where they (might) appear in the header (excluding Standard Views using the default values).

Table 3.x (below): Report Attributes

Report Attribute	Description	Reports
Attributes_To_Show	List of optional columns/elements to include in the report (default: none). See sections 4.1.2, 4.2.2, 4.3.2 and 4.4.2 for permissible values. Note that the component and parent columns/elements cannot be selected individually and MUST NOT be included in the list (see the Include_Component_Details and Include_Parent_Details attributes below).	PR, DR, TR, IR

Exclude_Monthly_Details	Specifies whether to exclude the columns with the monthly usage from the report. Permissible values are False (default) and True. This attribute is only applicable for tabular reports. The corresponding attribute for JSON reports is Granularity.	PR, DR, TR, IR (tabular)
Granularity	Specifies the granularity of the usage data to include in the report. Permissible values are Month (default) and Totals. This attribute is only applicable to JSON reports, the corresponding attribute for tabular reports is Exclude_Monthly_Details. For Totals each Item_Performance element represents the aggregated usage for the reporting period. Support for Month is REQUIRED for COUNTER compliance, support for Totals is optional.	PR, DR, TR, IR (JSON)
Include_Component_Details	Specifies whether to include the component columns/elements (see table 3.k) in the report. Permissible values are False (default) and True.	IR
Include_Parent_Details	Specifies whether to include the parent columns/elements (see table 3.j) in the report. Permissible values are False (default) and True.	IR

Table 3.y (below): Report Filters

Report Filter	Description	Reports
Access_Method	List of Access_Methods for which to include usage (default: all). See sections 4.1.3, 4.2.3, 4.3.3 and 4.4.3 for permissible/pre-set values.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1
Access_Type	List of Access_Types for which to include usage (default: all). See sections 4.3.3 and 4.4.3 for permissible/pre-set values.	TR, IR TR_B1, TR_B2, TR_J1, TR_J2, TR_J4, IR_A1
Begin_Date End_Date	Beginning and end of the reporting period. Note that the COUNTER_SUSHI API allows the format yyyy-mm for the method parameters, which must be expanded with the first/last day of the month for the report header. For the tabular reports these filters are included in the Reporting_Period header instead of the Reporting_Filters header for easier reading.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1
Database	Name of a specific database for which usage is being requested (default: all). Support for this filter is optional but recommended for the reporting website.	DR
Data_Type	List of Data_Types for which to include usage (default: all). See sections 4.1.3, 4.2.3, 4.3.3 and 4.4.3 for permissible/pre-set values.	PR, DR, TR, IR TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1
Item_Contributor	Identifier of a specific contributor (author) for which usage is being requested (default: all). Support for this filter is optional but recommended for the reporting website.	IR
Item_ID	Identifier of a specific item for which usage is being requested. Support for this filter is optional but recommended for the reporting website.	TR, IR
Metric_Type	List of Metric_Types for which to include usage (default: all). See sections 4.1.3, 4.2.3, 4.3.3 and 4.4.3 for permissible/pre-set values. For the tabular reports this filter is included in the Metric_Types header instead of the Reporting_Filters header for easier reading.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1
Platform	The Platform filter is only intended in cases where there is a single endpoint for multiple platforms; that is, the same base URL for the COUNTER_SUSHI API is used for multiple platforms and the platform parameter is required for all API calls. In the web interface this would correspond to first selecting one platform and then creating reports only for that platform.	All reports: PR, DR, TR, IR PR_P1, DR_D1, DR_D2, TR_B1, TR_B2, TR_B3, TR_J1, TR_J2, TR_J3, TR_J4, IR_A1, IR_M1
Section_Type	List of Section_Types for which to include usage (default: all). See section 4.3.3 for permissible values.	TR
YOP	Range of years of publication for which to include usage (default: all). For the COUNTER_SUSHI API more complex filter values (list of years and ranges) MUST be supported.	TR, IR

3.3.9 Zero Usage

Not all content providers or other COUNTER report providers link their COUNTER reporting tool to their subscription database, so R5 reports cannot include zero-usage reporting based on subscription records. Inclusion of zero-usage reporting for everything, including unsubscribed content, could make reports unmanageably large. The need for libraries to identify subscribed titles with zero usage will be addressed by the [KBART Automation Working Group](#) initiative.

- For tabular reports
 - Omit any row where the Reporting_Period_Total would be zero.
 - If the Reporting_Period_Total is not zero, but usage for an included month is zero, set the cell value for that month to 0.
- For JSON reports
 - Omit any Instance element with a Count of zero.
 - Omit Performance elements that don't have at least one Instance element.
 - Omit Report_Items elements that don't have at least one Performance element.

3.3.10 Missing and Unknown Field Values

- For tabular reports
 - If a field value is missing or unknown (e.g. the ISBN for a title doesn't exist or isn't known), the field MUST be left blank. For clarity, the field MUST NOT contain values such as "unknown" or "n/a".
- For JSON reports
 - If the value of a field is missing or unknown and the COUNTER_SUSHI API Specification (see [Section 8](#) below) indicates the field is REQUIRED, the value of the field MUST be expressed as empty as appropriate for the data type.
 - If the value of a field is missing or unknown and the field is not REQUIRED according to the COUNTER_SUSHI API Specification, the field MUST be omitted from the response.

