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Internet Publication (IPCPUB) URLs and Services

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1. Introduction

The purpose of this file is to document how some of functionality of the IPC Internet publication (IPCPUB) proposed by WIPO can be accessed through:

- URL e.g. to hyperlink IPC symbols in a patent document to the corresponding place in the IPC internet publication in authentic languages (hosted by WIPO) or to the corresponding place in the internet publication of national translation of the IPC for IP offices using IPCPUB.
- Services:
 - Web Services that are accessible through an HTTP based API
 - Products made publicly available on WIPO web site or delivered on demand.

The URL of the IPC Internet publication is made of a fixed character string e.g. <https://ipcpub.wipo.int/> and can optionally be concatenated with a number of parameters that can be used to indicate specific aspects of what should be displayed.

The parameters are set through a list of statements in the form of *parameter_name=value* and separated by **&**.

Part of the terminology used in this document is explained in the on-line help of the system.

In the following, mandatory parameters i.e. without which nothing would be displayed are indicated by (*) and parameter default values are indicated by (+).

Note that *parameter_name* and *value* are case sensitive **excepted for symbol value**.

2. URLs

Access to specific functionality of part of the user interface

2.1. Scheme

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters and values:

Parameter	Description	Values	Meaning
NONE	The scheme at Section level for the current edition of the IPC with all default values		
notion	<u>IPC Scheme</u>	scheme	scheme
version	<u>version of the IPC</u> in YYYYMMDD format e.g., 20060101	(+)	Current version by default, i.e. version in force
		latest	Latest published version of the IPC
symbol	14 character string with zero padding (same convention described in the XML validity file) e.g. [A01N0065000000]		
		none	Displays the list of IPC sections
viewmode	Different ways to <u>view</u> of the IPC.	f (+)	Fulltext
		a	Path
		h	Hierarchic view
		m	Maingroup view
notes	presentation of the <u>notes</u>	yes (+) no	
headings	presentation of the <u>guidance headings</u>	yes (+) no	
indexes	Allows the presentation of the subsection, class and subclass <u>indexes</u> .	yes no (+)	
showdeleted	If yes , deleted entries are presented (for the 8th edition, valid only on the advanced level).	yes(+) no	
menulang	The <u>language</u> of the interface (<u>menu</u> , buttons, ...)	FR	French
		EN (+)	English
lang	<u>Language(s)</u> in which the IPC is displayed.	en (+)	English
		fr	French
		enfr	double language EN/FR presentation
fipipc	Display of <u>FI</u> and/or <u>CPC</u> related information	cpc fi no (+)	
tree	Display of guiding lines instead of dots below Groups to better visualize the <u>tree</u> structure	yes no (+)	
definitions	Display of specified Symbol (see symbol parameter above) <u>Definitions</u>	yes no (+)	

2.2. RCL

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters and values:

Parameter	Description	Values	Meaning
notion (*)	<u>Reverse Concordance List</u>	rcl	RCL
symbol	14 character string with zero padding, e.g. [A01N0065000000] If not specified the RCL summary page is accessed		
direction	Whether the concordance is shown from the old version to the new or the opposite.	o2n (+)	Old-to-new
		n2o	New-to-old
version	Target version of the IPC in YYYYMMDD format e.g., 20100101 to get the RCL from IPC 2009.01 to IPC 2010.01	(+)	Current version by default, i.e. version in force
		latest	Latest published version of the IPC
menulang	The <u>language</u> of the interface (<u>menu</u> , buttons, ...)	EN (+)	English
		FR	French

2.3. Catchwords

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters and values:

Parameter	Description	Values	Meaning
notion (*)	<u>Catchword Index</u>	cw	<u>Catchword Index</u>
initial	A capital letter, the initial of the catchword entry.		
cwid	An integer with “CW” prefix, as defined in the catchword master file as the unique identifier for any catchword entry. If not specified the Catchword index summary page is accessed		
version	version of the IPC in YYYYMMDD format e.g., 20060101	(+)	Current version by default
		latest	Latest published version of the IPC
lang	<u>Language(s)</u> in which the IPC is displayed.	en (+)	English
		fr	French
		enfr	Both English and French
menulang	The <u>language</u> of the interface (<u>menu</u> , buttons...)	EN (+)	English
		FR	French

2.4. Compilation

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters and values:

Parameter	Description	Values	Meaning
notion (*)	Compilation of changes in the full IPC	compilation	Full IPC compilation
version	<u>version of the IPC</u> in YYYYMMDD format e.g., 20060101	(+)	Current version by default
		latest	Latest published version of the IPC
lang	<u>Language(s)</u> in which the IPC is displayed.	en (+)	English
		fr	French
menulang	The <u>language</u> of the interface (menu, buttons...)	EN (+)	English
		FR	French

2.5. Definitions with their embedded illustrations

Definitions including their embedded illustrations are accessible in IPCPUB through the Scheme URL for the corresponding Symbol.

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters and values:

Parameter	Description	Value	Meaning
symbol (*)	14 character string with zero padding (same convention described in the XML validity file) e.g. [A01N0065000000]		
definitions (*)	Display of <u>definitions</u> .	yes	

2.6. Search modes

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters:

2.6.1. STATS Assistance (advance search)

Parameter	Description	Value	Meaning
searchmode (*)	Search options to be displayed	stats	STATS search options tab is displayed, advance search options are enabled and Smart search is unselected.

2.6.2. IPCCAT Assistance (advance search)

Parameter	Description	Value	Meaning
searchmode (*)	Search options to be displayed	ipccat	IPCCAT search options tab is displayed, advance search options are enabled and Smart search is unselected.

2.6.3. Smart search

Parameter	Description	Value	Meaning
searchmode (*)	Search mode	smart (+)	Smart search is selected and advance search options are disabled.

2.6.4. Other Advance search options

Parameter	Description	Values	Meaning
searchmode_(*)	Search mode (and options to be displayed)	advance	Smart search is unselected and advance search options are enabled.
		terms	Terms search options tab is displayed, advance search options are enabled and Smart search is unselected.
		xrefs	Cross-references search options tab is displayed, advance search options are enabled and Smart search is unselected.

2.7. Example

Shows English version of the IPC 2010.01 internet publication scheme for symbol A01N 3/04:

<https://ipcpub.wipo.int/?version=20100101&symbol=A01N0003040000>

3. Services

3.1. XML Services Layer

3.1.1. IPC Scheme XML files

It provides XML files at specified granularity (i.e. one per Section, Class or Subclass).

3.1.2. IPC Definitions XML files

It provides a set of XML files, one per Symbol.

3.1.3. CPC Scheme in IPC compliant format

It provides a subset of CPC XML Scheme (and referenced files such as images) in IPC-like XML format (see [subcpc2ipc_scheme_specs_v3_1](#)).

3.1.4. FI Scheme in IPC compliant format

It provides the CPC XML Scheme (and referenced files such as images) in IPC-like XML format (see [fi2ipc_scheme_specs_v3_1](#)).

3.2. Other Web Services

3.2.1. “Check IPC Symbol Validity” service

This service is for checking the validity of an IPC symbol.

The {variable} parts of the URL

“https://ipcpub.wipo.int/ws/getvalidity/{symbol}/{version}/” are to be replaced with the following parameters:

Parameter	Description	Values	Meaning
symbol (*)	14 character string with zero padding, e.g. [A01N0065030000]		Symbol to check for validity
version (*)	version of the IPC in YYYYMMDD format e.g., 20090101	version of the IPC in YYYYMMDD format	Version for which the symbol must be valid
		latest	Latest published version of the IPC

This optional parameter can be appended to above URL:

jsonpcallback	If set to a value other than “none”, this parameter allow for cross-domain call of the service from JavaScript enabled web browsers and returns a JSON object instead of an XML fragment	Key or none	<i>Key</i> is a value which allow client and server sides of the application to identify each other. It is more safe to leave the generation of <i>Key</i> to the client application (see example below)
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If **jsonpcallback** is not specified or set to “none”, this service returns an XML fragment such as:

```
<ipc-validity-check>
  <classification-ipcr>
    <version>20130101</version>
    <section>A</section>
    <class>01</class>
    <subclass>N</subclass>
    <main-group>0065</main-group>
    <subgroup>030000</subgroup>
    <ipc-version-indicator>20090101</ipc-version-indicator>
    <symbol-category>I</symbol-category>
    <classification-validity>V</classification-validity>
  </classification-ipcr>
</ipc-validity-check>
```

With:

version: version of the IPC in YYYYMMDD format.

section, class, subclass, main-group, subgroup: describe the concerned IPC symbol. These elements are defined in the IPC validity file specification.

ipc-version-indicator: IPC version in which the symbol was last revised (YYYYMMDD format).

As all symbols were considered revised at the opportunity of the IPC reform in January 2006, the following convention is used: if the symbol is marked in the IPC scheme as last revised in a version before 2006.01 the returned ipc-version-indicator is 2006.01.

This element is not returned if symbol is not valid.

symbol-category: “K”, “I” or “D” (see entry-type in IPC validity file specification). This element is not returned if symbol is not valid.

classification-validity: “V” or “N” (Valid / Not valid). The value in this element is the binary result of checking existence of symbol defined by **section, class, subclass, main-group, subgroup** in the IPC version referred to by **version**.

If **jsoncallback** is different to “none”, this service returns a JSON object such as:

```
key({
  "version": "20130101",
  "section": "A",
  "class": "01",
  "subclass": "N",
  "main_group": "0065",
  "subgroup": "030000",
  "ipc_version_indicator": "20090101",
  "symbol_category": "K",
  "classification_validity": "V"
})
```

3.2.1.1. Example using JQuery

To call the service from JavaScript in a web browser and to check the validity of an IPC symbol A01N0001000000 for the latest version of the IPC:

```
jQuery.getJSON(
  'https://ipcpub.wipo.int/ws/getvalidity/A01N/latest/?jsoncallback=
  ?',
  function(data) {
    if(data.classification_validity=='V')
      alert('Your symbol is valid!');
    else
      alert('Your symbol is NOT valid!');
  });
```

3.2.1.2. Example using Python

```
import requests
from xml.etree import ElementTree

# Call the service
request = requests.get(
    (
        'https://ipcpub.wipo.int/ws/'
        'getvalidity/'
        'A01N0001000000/'
        '20100101/'
    ),
    verify=False
)

# Load HTTP response body into an XML Element Tree
xmlltree = ElementTree.fromstring(request.text)

# Find validity element
validity = xmlltree.find(
    'classification-ipcr/classification-validity'
)

# Test validity element content
if validity.text == 'V':
    print 'Your symbol is valid!'
else:
    print 'Your symbol is NOT valid!'
```

3.2.2. “Store Selected IPC Symbol” service

Caution: web browser must accept Cookies from wipo.int in order to use this service.

This option stores the information specified as value of the parameter in a file associated to the current client session. This is used for example to retrieve later an IPC symbol previously selected by the user (using the Get IPC Symbol web service described in the next paragraph) from other IPC related web applications.

The fixed part of the URL “https://ipcpub.wipo.int/” is to be concatenated with the following parameters:

Parameter	Description	Values	Meaning
Store	The IPC notion to be stored. Activates the automatic storage of the “Current symbol”.	symbol	The symbol in the “Current Symbol” box

3.2.3. “Get Selected IPC Symbol” service

Caution: web browser must accept Cookies from wipo.int in order to use this service.

This service is to retrieve the symbol stored in application server as described in the previous paragraph.

The fixed part of the URL <https://ipcpub.wipo.int/ws/getcurrentsymbol/> is to be concatenated with the following parameter:

Parameter	Description	Values	Meaning
jsonpcallback	If set to a value other than “none”, this parameter allow for cross-domain call of the service from JavaScript enabled web browsers.	<i>Key</i>	<i>Key</i> is a value which allow client and server sides of the application to identify each other. It is recommended to leave the generation of <i>Key</i> to the client application (see example below)

3.2.3.1. Example using JQuery

- a) The calling web application displays the IPC internet publication:

```
jQuery('iframe#ipcpub').attr('src', 'https://ipcpub.wipo.int/?store=symbol', 'ipcpub');
```

- b) An IPC symbol is expected to be selected in the IPC internet publication (the selected symbol is shown in the “Current symbol field”).

- c) The calling web application calls the Get IPC Symbol service to retrieve the symbol stored. For example: using JQuery to update an element named “symbol” with the IPC Symbol captured through a button named “getsymbol”:

```
jQuery('#getsymbol').click(function () {
var
url='https://ipcpub.wipo.int/ws/getcurrentsymbol/?jsonpcallback=?'
});
jQuery.getJSON(url,
function(data) {jQuery('#symbol').val(data)});
});
```

3.2.4. "IPCCAT" service

This service provided by the IPCCAT system is documented as part of IPC PUB which provides a user interface for text categorization in the IPC and IPCCAT web service.

Caution: this service does not support many queries in a short period of time, **please use it sparingly.**

The purpose of this service is to get IPC predictions based on a given text. Information about IPCCAT, its training set and coverage of the IPC is available under the IPCCAT section of IPC PUB online help.

The fixed part of the URL of this service is:

<https://ipcpub.wipo.int/api/v1/search/ipccat>

The IPCCAT service accepts the following parameters to be passed as URL:

Parameter	Description	Values	Meaning
lang	ISO 639-1 two-letter code of the language in which text categorization is requested	ar de en (+) es fr ja ko pt ru zh	Arabic German English Spanish French Japanese Korean Portuguese Russian Chinese
numberofpredictions	Number of predictions	1 2 3 (+) 4 5	The maximum number of IPC Symbols to be returned by this service
hierarchiclevel	IPC hierarchic level name	CLASS SUBCLASS MAINGROUP SUBGROUP (+)	The IPC hierarchic level at which the classification should be proposed: Class, Subclass, Main Group or Sub Group
startfromsymbol	A symbol valid in the IPC version indicated as relevant for IPCCAT training, e.g. A01N0065030000		The place of the IPC delimiting the search scope.
text (*)	UTF-8 encoded text, maximum length is 200 words		The text on which the prediction is based.

3.2.4.1. Example

Example of parameters passed as URL parameters:

```
https://ipcpub.wipo.int/api/v1/search/ipccat
?startfromsymbol=G06
&hierarchiclevel=MAINGROUP
&lang=en
&numberofpredictions=2
&text=automatic text classification for patent
```

The JSON data returned in the HTTP response body is for example:

```
{
  "code": 0,
  "message": "Success",
  "count": 2,
  "lang": "en",
  "return": "symbols",
  "results": [
    {
      "code": "G06F0017000000",
      "display": "G06F 17/00",
      "score": 5
    },
    {
      "code": "G06K0009000000",
      "display": "G06K 9/00",
      "score": 4
    }
  ]
}
```

3.2.4.2. JSON response description

"lang" is the 2-letter language code specified in the "lang" parameter.

"code" and "message":

- 0 - **"No result"**: the text to be classified is too short or the specific combination of parameter values cannot produce any result.
- 0 - **"Success"**: there is no error in request parameters and there is at least one prediction as result.
- 3 - **"IPCCAT connection error"**: the IPCCAT service is not accessible and is most probably down.
- 4 - **"Categorization error: reason"**: the IPCCAT service failed to provide some results for this *reason*.
- 6 - **"Unsupported language"**: the language specified in the "lang" parameter is not supported.
- 9 - **"WIPO Translate connection error"**: the WIPO Translate service is not accessible and is most probably down.

"count" is the number of results in the "results" list.

"return" is the type of information returned in the "results" list (for IPCCAT, it is always "symbols").

"results" is a list of result triplet:

- "code": the value is an IPC Symbol of hierarchic level according to `hierarchiclevel` parameter value. This Symbol is the IPC place that IPCCAT predicts as best matching the content of `text` parameter value.
- "display": the value is the human readable form of the IPC Symbol as returned in the "code" value.
- "score": the value is an integer indicating the level of confidence that IPCCAT has in the content of the submitted text, matching the concerned category in the requested IPC hierarchical level.

3.1. Other services

The following services are available as downloadable files at <https://www.wipo.int/classifications/ipc/en/ITsupport/>.

3.1.1. Inventory of ever used IPC Symbols

It provides a list of the Symbols that were ever valid in the IPC, with their date of creation and their date of deletion.

3.1.2. List of IPC scheme titles in authentic languages

Lists of IPC Symbol / Title pairs that can be loaded in a database or a spreadsheet.

3.1.3. List of IPC symbols referred to by IPC Definitions

List of IPC symbols referred to by each Definition of a given IPC version. Each referring Definition is indicated by the symbol of the IPC Scheme where this Definition appears.

4. Prototypes

Some calls to IPC internet publication services are illustrated by prototypes available under <https://www.wipo.int/classifications/ipc/en/ITsupport/prototypes/index.html> .

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