

STANDARD ST.37

RECOMMENDATION FOR AN AUTHORITY FILE OF PUBLISHED PATENT DOCUMENTS

Version 2.01

Revision approved by the Committee on WIPO Standards (CWS)

at its seventh session on July 5, 2019

Editorial Note by the International Bureau

*Revision approved by the Committee on WIPO Standards (CWS)
at its eighth session on December 4, 2020*

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INTRODUCTION

1. This Standard defines data elements to constitute an authority file of patent documents, as well as its structure and format.
2. The primary purpose of the authority file generated by an industrial property office (IPO) is to allow other IPOs and other interested parties to assess the completeness of the available patent documentation.
3. In order to allow consistency checks, the authority file should contain the list of all publication numbers assigned by the IP office. This may include publication numbers for which no published document is available – this can be the case for applications withdrawn shortly before the publication or for destroyed documents – as well as publication numbers for which the publication contains only bibliographic data.

DEFINITIONS

4. For the purposes of this Standard:
 - (a) the term “patent documents” includes patents for inventions, plant patents, design patents, inventors’ certificates, utility certificates, utility models, patents of addition, inventors’ certificates of addition, utility certificates of addition, and published applications therefor. “Documents” means patent documents, unless otherwise stated;
 - (b) the terms “publication” and “published” are used in the sense of making available:
 - (i) a patent document to the public for inspection or supplying a copy on request; and
 - (ii) multiple copies of a patent document produced on, or by, any medium (e.g., paper, film, magnetic tape or disc, optical disc, online database, computer network, etc.); and
 - (c) according to certain national industrial property laws or regulations or regional or international industrial property conventions or treaties, the same patent application may be published at various procedural stages. For the purpose of this standard, a “publication level” is defined as the level corresponding to a procedural stage at which normally a document is published under a given national industrial property law or under a regional or international industrial property convention or treaty.

REFERENCES

5. References to the following Standards are of relevance to this Recommendation:

- WIPO Standard ~~ST.1~~ **ST.1** Recommendation Concerning the Minimum Data Elements Required to Uniquely Identify a Patent Document
- WIPO Standard ~~ST.2~~ **ST.2** Standard Manner for Designating Calendar Dates by Using the Gregorian Calendar
- ~~WIPO Standard ST.3~~ **WIPO Standard ST.3** Recommended Standard on Two–Letter Codes for the Representation of States, Other Entities and Intergovernmental Organizations
- WIPO Standard ~~ST.6~~ **ST.6** Recommendation for the Numbering of Published Patent Documents
- WIPO Standard ~~ST.10/C~~ **ST.10/C** Presentation of Bibliographic Data Components
- ~~WIPO Standard ST.16~~ **WIPO Standard ST.16** Recommended Standard Code for the Identification of Different Kinds of Patent Documents

WIPO Standard **ST.36** Recommendation for the Processing of Patent Information Using XML (eXtensible Markup Language)

WIPO Standard **ST.96** Recommendation for the Processing of **Industrial Intellectual** Property Information Using XML (eXtensible Markup Language)

RECOMMENDATIONS

6. An authority file is generated by the IPO and contains a list of all patent documents published by that **IP office** from the first publication onwards. It should also include document numbers which were allocated but for which no published document is available (see paragraphs 22 to 25 below).

7. For practical reasons, an authority file may not include documents published during certain period (not longer than two months) before the date when the authority file was generated by the **IP office**. This period depends on the document processing practices of the IP office and, should an **IP office** submit a definition file as laid down in paragraphs 33 and 34 below, then it is recommended to indicate there the date of the publication of the latest document listed in the authority file.

DATA ELEMENTS

8. For each publication, the authority file should contain the following minimum data elements to uniquely identify all types of patent documents as originally published by the **IP office**:

- (a) Two-letter alphabetic code of the IPO publishing the document (publication authority);
- (b) publication number;
- (c) kind code of the patent document (kind-of-document code); and
- (d) publication date.

9. In addition to the elements listed above, the authority file may contain the following data elements:

- (a) publication exception code (to indicate, for example, withdrawn or missing documents);
- (b) priority application identification of the corresponding publication, which should contain the following sub-elements:
 - i. two-letter alphabetic code of the IPO publishing the priority application;
 - ii. priority application number;
 - iii. kind-of-document code of the priority application; and
 - iv. filing date of the priority application.
- (c) application identification of the corresponding publication, which should contain the following sub-elements:
 - v. two-letter alphabetic code of the IPO publishing the application;
 - vi. application number; and
 - vii. filing date.

10. Publication exception code (as per paragraph 9(a) above) should be always included for the documents, for which the complete publication in machine-readable form is not available (see paragraphs 22 to 25 below). Otherwise, the data element “publication exception code” should not be populated.

11. The provision of the optional data elements indicated in paragraphs 9(b) and 9(c) above remains within the discretion of the IPO generating the authority file.

12. The list of documents in the authority file should be sorted firstly by publication number, secondly by type of document (kind code), thirdly by publication date and (optionally) fourthly by publication exception code and fifthly by priority number.

13. For the cases where a publication number has been allocated but no document has been published, data elements “kind code” and “publication date” may not be populated.

Field formatting

14. All elements and sub-elements listed in paragraphs 8 and 9 above must be recorded in separate fields.

15. Examples of text format and XML file structures are provided in Annexes II to IV.

Publication Authority

16. The two-letter alphabetic code for the publication authority – country or region of the IPO generating the authority file – should follow recommendations of WIPO Standard ST.3.

Publication Number

17. Any non-alphanumeric characters – for example, those used as separators, such as dots, commas, dashes, slashes, spaces – should preferably be removed from the publication number, while generally the publication number should be following the recommendations of WIPO Standard ST.6.

Kind Code

18. Different kinds of patent documents should be identified following the recommendations of WIPO Standard ST.16. If the **IP office** IPO uses kind-of-document codes which do not follow the recommendations of WIPO Standard ST.16, the definitions of such codes should be provided in the definition file (see paragraphs 33 and 34 below).

19. If no kind of patent document code was allocated or it is unknown, the corresponding data element “kind code” may not be populated.

Publication date

20. The publication date should be presented in accordance with paragraph 7(a) of WIPO Standard ST.2. For example, ‘20170602’ for ‘June 2, 2017’.

21. If the publication date is unknown to the **IP office** IPO generating the authority file, the corresponding data element “publication date” may not be populated.

Publication exception code

22. The publication exception code should be used for publication numbers for which the complete publication is not available in machine-readable form.

23. The following single-alphabetic letter codes should be used to indicate the reason why the complete published document, for which the corresponding number is assigned, is not available:

C	Defective documents.
D	Documents deleted after the publication.
E	Publication number allocated by the IPO representing a PCT national/regional phase entry (for example Euro-PCT). No corresponding document published. A Euro-PCT application is an international (PCT) patent application that entered the European regional phase.
M	Missing published documents.
N	Not used publication number, for example, when publication numbers have been issued, but for some reason have not been allocated to any publication. See also paragraph 24 below.
P	Documents available on paper only.
R	Reissued publications.
U	Unknown publication numbers, for example, when during compilation of the authority file certain publication numbers have been found in the database, but the corresponding documents are missing without known cause. Typically this code can indicate a database error that requires further analysis.
W	Applications (or patents), which were withdrawn before the publication; this can include lapsed or ceased patents and might depend on national patent law regulations.
X	Code available for individual or provisional use by an IPO.

24. It is recommended to list only the numbers assigned by the IPO, but in case of small gaps in the numbering sequence (less than 1000 consecutive publication numbers), the IPO may use the publication exception code “N” to identify the numbers, which were not used.

25. The use of codes “N”, “W” and “X” should be described in the definition file (see paragraphs 33 and 34 below).

Priority application identification

26. The recommendations for data elements, as indicated in paragraphs 16 to 21 above, should be applied mutatis mutandis to all sub-elements of “priority application identification” element.

27. Priority application numbers should be indicated in accordance with paragraphs 12 and 13 of WIPO Standard ST.10/C.

Application Identification

28. The recommendations for data elements, as indicated in paragraphs 16 to 21 above, should be applied mutatis mutandis to all sub-elements of “application identification” element.

29. Application numbers should be provided in the same format as it appeared on the original patent publication issued by the IP-office IPO. If the IP-office IPO uses application number formats in the Authority File that are different from those used on the original publication, an explanation of the format should be provided in the definition file

RECOMMENDED STRUCTURE AND FORMAT OF THE AUTHORITY FILE

30. It is recommended to provide a single file for all publication numbers listed in the authority file.

31. If generating a single file proves impractical due to the resulting file size, the IP-office IPO may generate several files, dividing the list of publication numbers based on one of the following criteria:

- (a) Publication date (file per year or several years);
- (b) Publication level (applications, granted IP rights); and
- (c) Types of patent documents (file per kind-of-document code).

32. To improve file handling, IPO may generate an update file which includes data for the current year and the last calendar year and a static file including all older data.

Definition File

33. If some of the records included in the authority file contain information, which is not evident or easily understandable, it is recommended to provide a definition file in addition to the authority file. For example, in the definition file the IP-office IPO may:

- (a) describe specific criteria for building the authority file(s);
- (b) describe the use of publication exception codes, in particular codes “N”, “W” or “X”;
- (c) describe the use of kind-of-documents codes (see paragraph 18 above) or provide a reference to Part 7.3 of the WIPO Handbook if up-to-date information on kind-of-documents codes is already described in Part 7.3 of the WIPO Handbook;
- (d) indicate the date of the most recent document listed (see paragraph 7 above); and
- (e) describe the numbering systems used or provide a reference to Parts 7.2.6 and 7.2.7 of the WIPO Handbook if up-to-date information on the numbering systems used is already described in Parts 7.2.6 and 7.2.7 of the WIPO Handbook.

34. To assist other IP-offices IPOs and interested parties in a first assessment of the completeness of the available patent documentation, the definition file may also include an overview of the data coverage, for example indicate the number of publications per year by kind code or by publication level. Annex I contains an example of a definition file to assist IP-offices IPOs in drafting their definition files.

File Format

35. The file must be encoded using Unicode UTF-8.

36. With the aim to harmonize, as much as possible, the current practices to exchange and parsing of authority files, two file formats are recommended:

- (a) XML (eXtensible Markup Language) format – to identify the content of data fields of an authority file (see paragraphs 8 and 9 above) using XML tags within an instance, either in an XML schema (as defined in Annex III) or a Document Type Definition (DTD) (see Annex IV) format; and
- (b) Text format (file extension TXT) – to identify the content of minimum data fields and the optional publication exception code element using a single text coded list, where the elements are separated by commas

(preferred), tabs or semicolons and a “Carriage Return and Line Feed” (CRLF character) to represent the end of each record (as defined in Annex II). Text files are smaller in size than XML files.

37. XML is the preferred format for the purpose of this Standard, as it provides clear data element contents and allows automatic validation of its structure and type. IPOs may use text format for simple authority files, which contain minimum data elements (as per paragraph 8 above) and, if applicable, publication exception code only; the content of each data field should be obvious.

File name

38. The name of the authority file generated by an IPO should be structured as follows:

- (a) for a single file (see paragraph 30 above) – CC_AF_YYYYMMDD, where “CC” is the ST.3 code of the IP office, “AF” means “authority file” and “YYYYMMDD” – date of the generation of the authority file.

For example,

EP_AF_20160327 – single authority file generated by the EPO on March 27, 2016; and

- (b) for each one of multiple files (see paragraph 31 above) CC_AF_{criterion information}_KofN_YYYYMMDD, where “CC” is the ST.3 code of the IPO, “AF” means “authority file”, {criterion information} is a place-holder and K is the index number of this file, N is the total number of files generated and “YYYYMMDD” – date of the generation of the authority file.

For example,

EP_AF_A-documents_1of2_20160327 – first of two parts of the authority file generated by the EPO on March 27, 2016, this part covers applications only;

EP_AF_B-documents_2of2_20160327 – second of two parts of the authority file generated by the EPO on March 27, 2016, this part covers granted patents only.

- (c) for the instance where multiple files are provided, and each covers a different time period, please refer to the table below for an example of recommended file naming:

CC_AF_gazetteNNXXXX_YYYYMMDD.ff	contains the authority file for publication NNXXXX where NN is the week number, XXXX is the year and ff is the file format (XML or TXT)
CC_AF_yearXXXX_YYYYMMDD.ff	contains the authority file for the year XXXX
CC_AF_YYYYMMDD.ff	contains the authority file with file format ff
CC_AF.zip	A zipped file which contains the three files above

IMPLEMENTATION OF THE AUTHORITY FILE

39. In order to ensure efficiency of the data exchange, authority files in XML format must be structured according to the XML schema (XSD) or the data type definition (DTD) file as specified in Annex III and Annex IV, respectively.

40. The update frequency for the authority file should be at least annual. The date the annual update should be provided by IPOs is March 1 each year.

41. It is recommended that IPOs generate and make available authority files covering all assigned document numbers, no later than two months after the last covered publication date. For example, an authority file with data coverage until the end of 2017 should be made available before March 1, 2018.

42. If an error is discovered in an authority file, a replacement file should be provided by the IP office as soon as possible.

[Annex I follows]

ANNEX I

EXAMPLE OF A DEFINITION FILE

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DEFINITION FILE FOR XX AUTHORITY FILE

This definition file relates to the following authority file: XX_AF_20170322

Date of production

2017-03-22

Data coverage

Public XX documents from 1974-01-01 to 2016-12-31.

The XX authority file lists all XX patent and XX utility model publications

Coverage according to document type and kind-of-document code (see Part 7.3 of the WIPO Handbook for details on kind codes):

Type	Kind Code	Total
Patent Application	A1	125.568
Patent Application	A2	96.430
Patent Granted	B1	144.879
Utility Model Application	U	24.332
Utility Model Examined	Y1	18.445

A detailed (annual) data-coverage can be found online at <http://www.XX-office.org/coverage>.

Used options

- Application information is provided where available
- Priority data not included
- Publication Exception Codes used are the following:

Publication Exception Code	Definition
D	Documents deleted after the publication.
E	PCT applications which have not been republished
M	Missing published documents
R	Reissued publications
U	Unknown publication numbers
X	Bibliographic details of filed patent applications, as announced in the Gazette published by the office
W	Applications (or patents), which were withdrawn before the publication

Remark:

R – Reissued publication

Before 2001-01-01 correction requests from applicants and proprietors at the XX office were registered and executed, but not recorded in necessary electronic formats. Therefore these so-called reissued publications are only available with bibliographic data but not as published documents.

Numbering Formats:

For details on the numbering systems used by XX office see the corresponding entries in Parts 7.2.6 and 7.2.7 of the WIPO Handbook.

[Annex II follows]

ANNEX II

TEXT FILE (TXT)

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1. The authority file text structure lists the minimum data elements and the optional publication exception code element (see paragraphs 8 and 9) for each publication record in one line, separated by a comma (preferred), tab or semicolon and a "Carriage Return and Line Feed" (CRLF character) to represent the end of each record.
2. Data structure: <publication authority>,<publication number>,<kind-of-document code>,<publication date>,<publication exception code><CRLF>.
3. This example illustrates an authority file represented using a TXT structure where the data elements are separated by a comma:

```
...  
EP,2363052,A1,20110907,W<CRLF>  
EP,2363053,A2,20110907,M<CRLF>  
EP,2540632,A1,20130102,P<CRLF>  
EP,2540632,B1,20151202,<CRLF>
```

[Annex III follows]

ANNEX III

XML SCHEMA DEFINITION (XSD) FOR AUTHORITY FILE

Version 2.01

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Editorial Note by the International Bureau:

Annex III of WIPO Standard ST.37 is the set of XML schema components to represent the minimum and extended data elements of an Authority File of patent documents issued by a Patent Office. Annex III is based on WIPO Standard ST.96, including the naming convention used to identify the names of the specific data components for Authority File. Annex III includes an Appendix which is a sample XML instance of an Authority File structured according to the XML schema according to WIPO ST.96 V4.0.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:afp="http://www.wipo.int/standards/XMLSchema/AFPatent"
xmlns:com="http://www.wipo.int/standards/XMLSchema/ST96/Common"
xmlns:pat="http://www.wipo.int/standards/XMLSchema/ST96/Patent"
targetNamespace="http://www.wipo.int/standards/XMLSchema/AFPatent"
elementFormDefault="qualified" attributeFormDefault="qualified" version="V2_01">
  <xsd:import namespace="http://www.wipo.int/standards/XMLSchema/ST96/Patent"
schemaLocation="ST96_Patent_V2_2V4_0.xsd"/>
  <xsd:import namespace="http://www.wipo.int/standards/XMLSchema/ST96/Common"
schemaLocation="ST96_Common_V2_2V4_0.xsd"/>
  <xsd:annotation>
    <xsd:appinfo>
      <com:SchemaLastModifiedDate>20192020-12-1715</com:SchemaLastModifiedDate>
      <com:SchemaContactPoint>xml.standards@wipo.int</com:SchemaContactPoint>
      <com:SchemaReleaseNoteURL>http://www.wipo.int/standards/XMLSchema/AFPatent/V2_01/Relea
seNotes.pdf</com:SchemaReleaseNoteURL>
    </xsd:appinfo>
  </xsd:annotation>
  <xsd:element name="PatentAuthorityFile" type="afp:PatentAuthorityFileType">
    <xsd:annotation>
      <xsd:documentation>Authority file for patent documents provided by patent
offices according to WIPO Standard ST.37.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="AuthorityFileDataCoverage"
type="afp:AuthorityFileDataCoverageType">
    <xsd:annotation>
      <xsd:documentation>List of patent documents published by industrial
property offices grouped according to their ST.16 kind-of-document codes for a given date
range.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:complexType name="AuthorityFileDataCoverageType">
    <xsd:sequence>
      <xsd:element ref="com:PublicationDateRange"/>
      <xsd:element ref="afp:PublicationNumberRange" minOccurs="0"/>
      <xsd:element ref="afp:KindCodeCoverageBagKindCodeCoverage" minOccurs="0"/>
      <xsd:element ref="afp:ExceptionCodeCoverageBagExceptionCodeCoverage"
minOccurs="0"/>
      <xsd:element ref="com:DataCoverageURI" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
```

```

    <xsd:element name="AuthorityFileDefinition" type="afp:AuthorityFileDefinitionType">
      <xsd:annotation>
        <xsd:documentation>Provide definition file information relating to this
associated authority file, including file coverage.</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  <xsd:complexType name="AuthorityFileDefinitionType">
    <xsd:choice maxOccurs="unbounded">
      <xsd:element ref="afp:ExceptionCodeDefinitionBag" />
      <xsd:element ref="pat:PatentDocumentKindCodeDefinitionBag" />
      <xsd:element ref="com:MostRecentDocument" />
      <xsd:element ref="afp:AuthorityFileDataCoverage" />
      <xsd:element ref="com:CommentText" />
      <xsd:element ref="com:DocumentLocationURI" />
    </xsd:choice>
    <xsd:attribute ref="com:id" />
    <xsd:attribute ref="afp:groupedAFIndicator" use="required" />
    <xsd:attribute ref="afp:groupAFCategory" />
    <xsd:attribute ref="com:updateAFCategory" use="required" />
  </xsd:complexType>
  <xsd:element name="AuthorityFileEntry" type="afp:AuthorityFileEntryType">
    <xsd:annotation>
      <xsd:documentation>An authority file entry consists of data required to
uniquely identify a patent publication according to WIPO ST.37.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:complexType name="AuthorityFileEntryType">
    <xsd:sequence>
      <xsd:element ref="pat:afp:PatentPublicationIdentification" />
      <xsd:element ref="afp:ExceptionCode" minOccurs="0" />
      <xsd:element ref="pat:ApplicationIdentification" minOccurs="0" />
      <xsd:element ref="pat:PriorityApplicationIdentificationBag" minOccurs="0" />
    </xsd:sequence>
    <xsd:attribute ref="com:id" />
  </xsd:complexType>
  <xsd:complexType name="PatentAuthorityFileType">
    <xsd:sequence>
      <xsd:element ref="afp:AuthorityFileDefinition" minOccurs="0" />
      <xsd:element ref="afp:AuthorityFileEntry" maxOccurs="unbounded" />
    </xsd:sequence>
    <xsd:attribute ref="com:id" />
    <xsd:attribute ref="com:officeCode" use="required" />
    <xsd:attribute ref="com:creationDate" />
    <xsd:attribute ref="afp:st37Version" use="required" />
    <xsd:attribute ref="com:ipoVersion" />
  </xsd:complexType>
  <xsd:element name="PatentPublicationIdentification"
type="afp:PatentPublicationIdentificationType">
    <xsd:annotation>
      <xsd:documentation>Details identifying a particular published patent
document, as part of an authority file entry. Refers to ST.9 INID Code
10.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:complexType name="PatentPublicationIdentificationType">
    <xsd:sequence>
      <xsd:element ref="com:IPOfficeCode" />
      <xsd:element ref="afp:PublicationNumber" />
      <xsd:element ref="com:PublicationLanguageCode" minOccurs="0" />
      <xsd:element ref="com:PatentDocumentKindCode" minOccurs="0" />
      <xsd:element ref="com:PublicationDate" minOccurs="0" />
    </xsd:sequence>
    <xsd:attribute ref="com:id" />
  </xsd:complexType>
  <xsd:attribute name="groupedAFIndicator" type="xsd:boolean">
    <xsd:annotation>

```

```

        <xsd:documentation>Indicates that the authority file has been grouped, or
not, according to one of the defined categories.</xsd:documentation>
    </xsd:annotation>
</xsd:attribute>
<xsd:element name="ExceptionCode" type="afp:ExceptionCodeType">
    <xsd:annotation>
        <xsd:documentation>Exception code as indicated in WIPO
ST.37</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="ExceptionCodeCoverage" type="afp:ExceptionCodeCoverageType">
    <xsd:annotation>
        <xsd:documentation>Data coverage summary by exception code including total
quantity of documents.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:complexType name="ExceptionCodeCoverageType">
    <xsd:sequence base="afp:ExceptionCodeCoverageType">
        <xsd:element ref="afp:ExceptionCode"/>
        <xsd:element ref="com:DocumentTotalQuantity"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:element name="ExceptionCodeCoverageBag" type="afp:ExceptionCodeCoverageBagType">
    <xsd:annotation>
        <xsd:documentation>Collection of data coverage summary by exception code</
xsd:documentation>
    </xsd:annotation>
<xsd:complexType name="ExceptionCodeCoverageBagType">
    <xsd:sequence maxOccurs="unbounded">
        <xsd:element ref="afp:ExceptionCodeCoverageExceptionCode"/>
        <xsd:element ref="com:DocumentTotalQuantity"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:element name="ExceptionCodeDefinition" type="afp:ExceptionCodeDefinitionType">
    <xsd:annotation>
        <xsd:documentation>A set of Exception codes, particularly the codes N, W
and X, and their descriptions as defined by the IP Office, which are different from
definitions in WIPO ST.37.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:complexType name="ExceptionCodeDefinitionType">
    <xsd:sequence base="afp:ExceptionCodeDefinitionType">
        <xsd:element ref="afp:ExceptionCode"/>
        <xsd:element ref="afp:ExceptionCodeDescriptionText"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:element name="ExceptionCodeDescriptionText" type="xsd:string">
    <xsd:annotation>
        <xsd:documentation>A different or specific description of an exception
code, which an IP Office uses in their authority file.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="ExceptionCodeDefinitionBag"
type="afp:ExceptionCodeDefinitionBagType">
    <xsd:annotation>
        <xsd:documentation>List of exception codes that have a different or
specific definition in use by the IP Office rather than the definitions of exception codes
defined in WIPO ST.37.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:complexType name="ExceptionCodeDefinitionBagType">
    <xsd:sequence maxOccurs="unbounded">
        <xsd:element ref="afp:ExceptionCodeDefinition"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="ExceptionCodeType">
    <xsd:restriction base="xsd:token">
        <xsd:enumeration value="C">
            <xsd:annotation>
                <xsd:documentation>Defective publication documents
            </xsd:documentation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
</xsd:documentation>

```

```

        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="D">
        <xsd:annotation>
            <xsd:documentation>The document was deleted after the
publication</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="E">
        <xsd:annotation>
            <xsd:documentation>Publication number allocated by the IPO
representing a PCT national/regional phase entry (for example Euro-PCT). No corresponding
document published. A Euro-PCT application is an international (PCT) patent application
that entered the European regional phase.
</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="M">
        <xsd:annotation>
            <xsd:documentation>Published document is
missing</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="N">
        <xsd:annotation>
            <xsd:documentation>This code is for Office internal-use and the
code description for 'N' must be provided using ExceptionCodeDefinition, for instance in
the IP Office's Authority Definition File.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="P">
        <xsd:annotation>
            <xsd:documentation>Document available only on
paper</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="R">
        <xsd:annotation>
            <xsd:documentation>Reissued publication</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="U">
        <xsd:annotation>
            <xsd:documentation>Unknown publication number, for example,
when during compilation of the authority file one or a list of publication number(s) has
been found in the database, but the corresponding document(s) is(are) missing without known
cause. Typically this code can indicate could be a database error that requires further
analysis.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="W">
        <xsd:annotation>
            <xsd:documentation>This code is for Office internal-use and the
code description for 'N' must be provided using ExceptionCodeDefinition, for instance in
the IP Office's Authority Definition File.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="X">
        <xsd:annotation>
            <xsd:documentation>The use of code 'X' must be described in the
IP Office's Authority Definition File.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
<xsd:attribute name="groupAFCategory" type="afp:GroupCategoryType">
    <xsd:annotation>

```

```

        <xsd:documentation>Identifies how the authority files has been grouped
i.e., by date, publication-level or document-kind code.</xsd:documentation>
    </xsd:annotation>
</xsd:attribute>
<xsd:simpleType name="GroupCategoryType">
    <xsd:restriction base="xsd:token">
        <xsd:enumeration value="date">
            <xsd:annotation>
                <xsd:documentation>Date</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="publication-level">
            <xsd:annotation>
                <xsd:documentation>Publication level</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="document-kind">
            <xsd:annotation>
                <xsd:documentation>Document kind</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
<xsd:element name="KindCodeCoverage" type="afp:KindCodeCoverageType">
    <xsd:annotation>
        <xsd:documentation>Data coverage summary by kind code including document
total quantity.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:complexType name="KindCodeCoverageType">
    <xsd:sequence>
        <xsd:sequence maxOccurs="unbounded">
            <xsd:element ref="com:PatentDocumentKindCode"/>
            <xsd:element ref="com:DocumentTotalQuantity"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="KindCodeCoverageBag" type="afp:KindCodeCoverageBagType">
        <xsd:documentation>Collection of data coverage summary by kind code
    </xsd:documentation>
    <xsd:complexType name="KindCodeCoverageBagType">
        <xsd:sequence>
            <xsd:element ref="afp:KindCodeCoverage"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="PublicationNumberRange" type="afp:PublicationNumberRangeType">
        <xsd:annotation>
            <xsd:documentation>A range of patent publication numbers which are included
within this authority file.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:complexType name="PublicationNumberRangeType">
        <xsd:sequence>
            <xsd:element ref="pat:BeginRangeNumber"/>
            <xsd:element ref="pat:EndRangeNumber"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="PublicationNumber" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>Publication Number.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:attribute name="st37Version" type="xsd:token" fixed="V2_01">
        <xsd:annotation>
            <xsd:documentation>A specific release version of ST.37 XML
Schema</xsd:documentation>
        </xsd:annotation>
    </xsd:attribute>
</xsd:schema>

```

[Appendix to Annex III follows]

APPENDIX: XML INSTANCE

The Appendix is available at:

https://www.wipo.int/standards/en/st37/annexIII_appendix_V2_0.xml https://www.wipo.int/standards/en/st37/annexIII_appendix_V2_1.xml

[Annex IV follows]

ANNEX IV

DOCUMENT TYPE DEFINITION (DTD) FOR AUTHORITY FILE

Version 2.0

*Approved by the Committee on WIPO Standards (CWS
at its seventh session on July 5, 2019*

*Editorial Note by the International Bureau
Revision approved by the Committee on WIPO Standards (CWS)*

at its seventh session on July 5, 2019

Annex IV of WIPO Standard ST.37 is the set of XML DTD components to represent the minimum and extended data elements of an Authority File of patent documents issued by a Patent Office. Annex IV is based on WIPO Standard ST.36, including the naming convention used to identify the names of the specific data components for Authority File. Annex IV includes an Appendix which is a sample XML instance of an Authority File structured according to the XML DTD.

```
<?xml version='1.0' encoding='UTF-8' ?>
```

```
<!--Annex IV of WIPO Authority File Standard ST.37, XML Data Type Definition (DTD) for Authority Files
```

This entity may be identified by the PUBLIC identifier:

```
*****
PUBLIC "-//WIPO//XSD AUTHORITY FILE 2.0//EN" "AuthorityFile_V2_0.dtd"
*****
```

```
*****
```

```
* Revision of Annex IV was approved by the Committee on WIPO Standards (CWS) at its sixth session on October 19, 2018.
```

```
* Revision of Annex IV was approved by the Committee on WIPO Standards (CWS) at its seventh session on 2019-07-02 :
```

```
* (i) group-category renamed grouped-af-indicator and is now a list of boolean values 'yes' and 'no'
```

```
* (ii) backup-category renamed update-af-category
```

```
* (iii) additional-comment renamed comment-text
```

```
*
```

```
*****
```

```
* PUBLIC DTD URL
```

```
* http://www.wipo.int/standards/ataDTD/AuthorityFile\_V2\_0.dtd
```

```
*****
```

```
*****
```

```
* CONTACTS
```

```
*****
```

```
xml.standards@wipo.int
```

Date draft created: 2018-09-19

-->


```

<!ELEMENT authority-file (authority-file-definition? , authority-file-entry+)>

<!ATTLIST authority-file  country          CDATA #REQUIRED
                          date-produced CDATA #REQUIRED >
<!ELEMENT authority-file-definition (exception-code-list | document-kind-code-list | most-recent-
document | data-coverage | comment-text | document-location-uri)+>

  <!ATTLIST authority-file-definition  grouped-af-indicator (yes | no ) #REQUIRED
                                        group-af-category (date |
                                                         publication-level |
                                                         document-kind ) #IMPLIED
                                        update-af-category (full |
                                                         incremental |
                                                         differential ) #REQUIRED >

<!ELEMENT document-location-uri (#PCDATA)>

<!ELEMENT exception-code-list (exception-code-definition)+>

<!ELEMENT exception-code-definition (exception-code, exception-code-description)>

<!ELEMENT exception-code-description (#PCDATA)>

<!ELEMENT exception-code (#PCDATA)>
<!--
<!ATTLIST exception-code  (C |
                          D |
                          E |
                          M |
                          N |
                          P |
                          R |
                          U |
                          W |
                          X ) #IMPLIED >
-->
<!ELEMENT document-kind-code-list (document-kind-code-definition)+>

<!ELEMENT document-kind-code-definition (kind, document-kind-code-description)+>

<!ELEMENT document-kind-code-description (#PCDATA)>

<!ELEMENT most-recent-document EMPTY>

<!ATTLIST most-recent-document  publication-number CDATA #REQUIRED
                                publication-date   CDATA #REQUIRED >
<!ELEMENT data-coverage (publication-date-range? , publication-number-range? , kind-code-coverage? ,
exception-code-coverage? , data-coverage-uri?)>

<!ELEMENT publication-date-range EMPTY>

<!ATTLIST publication-date-range  start-date CDATA #REQUIRED
                                end-date   CDATA #REQUIRED >
<!ELEMENT publication-number-range EMPTY>

<!ATTLIST publication-number-range  begin-range-number CDATA #REQUIRED
                                    end-range-number   CDATA #REQUIRED >
<!ELEMENT kind-code-coverage (kind, document-total-quantity)*>

<!ELEMENT document-total-quantity (#PCDATA)>

<!ELEMENT exception-code-coverage (exception-code, document-total-quantity)*>

<!ELEMENT data-coverage-uri (#PCDATA)>

```

```
<!ELEMENT authority-file-entry (publication-reference , exception-code? , application-reference? ,
priority-claims?)>

<!ELEMENT publication-reference (document-id)>

<!-- document-id tag as defined in ST.36 -->
<!ELEMENT document-id (country , doc-number , kind? , date?)>

<!--Two-letter alphabetic codes which represent the names of states, other entities
and intergovernmental organizations the legislation of which provides for the protection of
IP rights or which organizations are acting in the framework of a treaty in the field of IP. e.g.
"XX".
Always in upper case.-->
<!ELEMENT country (#PCDATA)>

<!--Doc-number: The number of the referenced patent (or application) document-->
<!ELEMENT doc-number (#PCDATA)>

<!--Document kind code; e.g., A1 (WIPO ST.16)-->
<!ELEMENT kind (#PCDATA)>

<!--Date: components of a date. Format: YYYYMMDD (WIPO ST.2)-->
<!ELEMENT date (#PCDATA)>

<!--Publication exception code; single-alphabetic letter code to indicate the reason why the
complete published document, for which the corresponding number is assigned, is not available:
C=Defective documents;
D= Documents deleted after the publication;
E=Publication number allocated by the IPO representing a PCT national/regional phase entry (for
example Euro-PCT). No corresponding document published. A Euro-PCT application is an international
(PCT) patent application that entered the European regional phase;
M=Missing published documents;
N=Not used publication number: e.g. publication numbers have been issued, but finally have not
been allocated to any publication;
P=Document available on paper only;
R=Reissued publications;
U=Unknown publication numbers: e.g. when during compilation of the authority file certain
publication number(s) has been found in the database, but the corresponding document(s) is(are)
missing without known cause. Typically this code can indicate a database error that requires further
analysis;
W=Applications (or patents) which were withdrawn before the publication;
this can include lapsed or ceased patents and might depend on national patent law
regulations;
X=Code available for individual or provisional use by an IPO;
-->

<!--Application reference information: application number, country.
In case of a filing reference, the kind code is empty and the date refers to the filing date.
-->
<!ELEMENT application-reference (country , doc-number , filing-date?)>

<!--Filing Date: components of a date. Format: YYYYMMDD (WIPO ST.2)-->
<!ELEMENT filing-date (#PCDATA)>

<!--Priority application identification (priority-claim)-->
<!ELEMENT priority-claims (priority-claim+)>

<!ELEMENT priority-claim (country , doc-number , kind , date)>

<!ATTLIST priority-claim sequence          CDATA #REQUIRED
                priority-claim-kind (national | regional | international ) #REQUIRED >

<!-- 1/07/2019 - Add CWS/7/17 for alignment with XSD <!ELEMENT additional-comment (#PCDATA)-->
<!ELEMENT comment-text (#PCDATA)>
```

[Appendix to Annex IV follows]

APPENDIX: XML INSTANCE

The Appendix is available at:

https://www.wipo.int/standards/en/st37/annexIV_appendix_V2_0.xml

https://www.wipo.int/standards/en/docs/st37-annexiv_appendix_V2_0.xml

[End of Annex IV and of Standard]