

Committee on WIPO Standards (CWS)

Thirteenth Session
Geneva, November 10 to 14, 2025

REPORT ON TASKS NO. 62, NO. 63 AND NO. 65 BY THE DIGITAL TRANSFORMATION TASK FORCE

Document prepared by the Digital Transformation Task Force Leader

SUMMARY

1. The Digital Transformation Task Force is responsible for conducting Tasks No. 62, No. 63 and No. 65. This report provides a summary of the work carried out by the Task Force since the last session of the Committee on WIPO Standards (CWS). In addition, the Task Force presents a working draft of the functional specification for the DOCX2XML converter for the consideration and comments by the CWS.

BACKGROUND

2. The Digital Transformation Task Force was established at the sixth session of the CWS and the United States Patent and Trademark Office (USPTO) was designated as the leader of this Task Force. The Task Force initially began its activities with Task No. 62, which was created and assigned to the Task Force at the same session of the CWS. The description of Task No. 62 reads as follows:

"Review WIPO Standards: ST.6, ST.8, ST.10, ST.11, ST.15, ST.17, ST.18, ST.63 and ST.81 in view of electronic publication of IP documentation; and propose revisions of those Standards if needed."

(See paragraphs 149 and 150 of document CWS/6/34.)

The aim of this Task is to modernize particular WIPO Standards, as several of these Standards were created when IP offices published documents on paper.

3. At the seventh and eighth sessions of the CWS, the Task Force presented a plan to discuss existing practices, establish criteria for prioritization and for review of the Standards

detailed as part of Task No. 62 (see paragraphs 102 to 104 of document CWS/7/29 and paragraphs 7 to 10 of document CWS/8/18). During the development of its work plan, the Task Force identified the need for more detailed information on current practices of intellectual property (IP) offices, particularly regarding intake and publication procedures. To address this, the Task Force prepared a questionnaire to survey IP office practices, which was submitted for approval at the ninth session (see document CWS/9/17). The results of the survey were subsequently presented at the tenth session of the CWS (see document CWS/10/15).

4. Additionally, at its seventh session, the CWS supported the reassignment of Task No. 63 to the Digital Transformation Task Force (see paragraphs 39 to 40 of document CWS/7/29). The description of Task No. 63 reads as follows:

“Develop visual representation(s) of XML data, based on WIPO XML Standards, for electronic publication.”

5. Furthermore, at its tenth session, the CWS agreed to create Task No. 65 and assigned it to the Digital Transformation Task Force. The Task Force was requested to give priority to this Task and to present a proposal for a new WIPO standard on the electronic exchange of priority documents at the eleventh session of the CWS. This Task was prompted by the entry into force of WIPO Standard ST.26, to ensure that sequence listings forming part of a priority document can be exchanged in their original format across IP offices. The description of Task No. 65 reads as follows:

“To prepare a proposal for recommendations on the data package format for the electronic exchange of priority documents and certified copies for patents, marks and industrial designs.”

(See paragraph 23 and 25 of document CWS/10/22.)

6. At the same session, the CWS approved the addition of a new activity to the Task Force’s workplan: the development of a common requirements specification for the DOCX2XML converter (see paragraphs 104 and 106 of document CWS/10/22).

7. At its eleventh session, the CWS agreed to transfer responsibility for updating Part 6.1 of the WIPO Handbook on Intellectual Property Information and Documentation, originally part of Task No. 62, from the Digital Transformation Task Force to the Public Access to Patent Information (PAPI) Task Force (see paragraph 19 of document CWS/11/28). Subsequently, the CWS approved a revision to the description of Task No. 62 as follows:

“Review paper or image-based WIPO Standards in view of electronic filing and publication and exchange of IP documentation and propose revisions of those Standards or new recommendations if needed; and prepare a proposal for the recommendation on a common requirements specification for a DOCX to XML (DOCX2XML) converter.”

(See paragraph 59 of document CWS/11/28.)

8. At the same session, the Task Force presented a proposal for a new WIPO standard on priority document exchange. The CWS considered the proposed standard was not mature enough to be adopted and requested the Task Force to prepare and present an updated proposal for consideration at its twelfth session. (See paragraphs 111 and 113 of document CWS/11/28.)

9. At its twelfth session, the CWS noted that the Task Force had conducted a review and performed an analysis of the functionality of DOCX2XML converters in use at the USPTO and at the International Bureau. The analysis has been consolidated as a concise specification and posted for comment on the Task Force wiki. At the same session, the CWS encouraged IP offices that are currently using a DOCX2XML converter to share information with the Digital Transformation Task Force regarding the functionalities of their converter.

10. At the same session, the CWS adopted WIPO Standard ST.92, which sets recommendations for the electronic exchange of priority patent documents. The CWS agreed to a tentative sunset date of June 30, 2027, and requested the Digital Transformation Task Force draft a survey questionnaire on preparedness for implementation of WIPO ST.92. The CWS requested that the Secretariat issue a circular inviting IP offices to respond to the survey and that the Task Force report the survey results at the thirteenth CWS session. The CWS also noted that the International Bureau plans to update the WIPO Digital Access Service (WIPO DAS) to support WIPO ST.92-compliant documents. This update was discussed with WIPO DAS Participating Offices, at the Working Group on the Digital Access Service for Priority Documents meeting, held from March 10 to 12, 2025. The outcome of the meeting was discussed at the Digital Transformation Task Force subsequent meetings. Following the adoption of the new Standard, the CWS approved the proposal for the revised description of Task No. 65 which reads as follows:

“Ensure the necessary revisions and updates of WIPO Standard ST.92 and support IP offices for their implementation of the Standard before July 1, 2027.”

(See paragraphs 80 to 84 of document CWS/12/29.)

PROGRESS REPORT ON TASK NO. 62

11. Following the agreement at the tenth session of the CWS, the Task Force began developing consolidated requirements specification for converting DOCX documents to XML. This activity began by reviewing existing DOCX2XML converters used by the USPTO, the International Bureau and other IP offices. A working draft of DOCX2XML converter functional specification document, is presented for comments by the CWS as the Annex to the present document. Feedback on the use of DOCX2XML converters was received from the USPTO, the International Bureau, the China National Intellectual Property Administration (CNIPA), the European Patent Office (EPO) and the Ministry of Intellectual Property (MOIP) - the former Korean Intellectual Property Office (KIPO). The details of those IP offices' DOCX2XML conversion can be found in Annex I of the draft specification document.

Potential challenges or dependencies

12. The Task Force notes that many IP offices have just started using or planned to use XML for patent processing. The significant variability in IP office practices and IT priorities may be challenging to further develop the draft functional specification.

Work Plan

13. The Task Force will continue discussion on the common DOCX2XML converter functional specification document, monitor the DOCX to XML conversion experiences of IP offices and update the specification document as necessary.

PROGRESS REPORT ON TASK NO. 63

14. The Digital Transformation Task Force has prioritized the work of Task No. 65 and secondarily Task No. 62. This has limited their capacity to make progress on Task No. 63. As such, work on this Task has not been conducted since the eleventh session of the CWS.

Potential challenges or dependencies

15. No challenges or dependencies are reported as no work has been conducted since the eleventh session of the Committee.

Work Plan

16. The Task Force Task Force may restart its work on this Task upon request by the CWS.

PROGRESS REPORT ON TASK NO. 65

17. Since the twelfth session of the CWS, the Digital Transformation Task Force has prepared a proposal for the revision of WIPO Standard ST.92. The proposed version 2.0 of the Standard extends its scope to include industrial designs and trademark priority documents. The Task Force submits this proposal of the revised Standard for consideration and adoption at the current session. Approval of the revised WIPO Standard ST.92 will enable IP offices and the WIPO DAS team to move forward with detailed implementation planning. IP offices are encouraged to provide and accept certified priority document packages compliant with WIPO Standard ST.92. Further details regarding the proposed revised WIPO Standard ST.92 are available in document CWS/13/20.

18. In response to the request made at the previous session of the CWS, the Task Force this year developed a survey questionnaire to evaluate IP offices' readiness to implement WIPO Standard ST.92 by the proposed sunset date. Further details regarding the survey results are available in document CWS/13/20.

Potential challenges or dependencies

19. Once the revised Standard is approved, the Task Force will focus on implementation planning by working with the International Bureau and WIPO DAS teams. The implementation process will be dependent on Offices making changes to:

- IT systems to generate packages compliant with the new WIPO Standard format;
- Implement WIPO DAS API as needed; and
- Legal or administrative guidelines if needed.

Changes to the WIPO DAS system will also be needed so it can process packages received in the new PDDP format.

Work Plan

20. The next activities foreseen for this Task Force in the upcoming year are:

- To continue to support implementation planning for the WIPO Standard ST.92. Changes to the Standard may be needed based on feedback from IPOs and their experiences during their implementation;
- To continue working with the WIPO DAS team to make the necessary updates for WIPO ST.92; and
- To support Offices to implement the revised WIPO ST.92 version 2.0, once approved.

21. *The CWS is invited to:*

(a) note the content of the present document and its Annex;

(b) *review and comment on the working draft of the DOCX2XML Converter Functional Specification Document, as referred in paragraph 11 above and reproduced in the Annex to the present document; and*

(c) *note the work plan as indicated in paragraphs 13, 16 and 20 above.*

[Annex follows]

DOCX2XML Converter Functional Specification Document

DOCUMENT VERSION 1.1

Working draft for consultation

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1. Introduction

At its tenth session held in November 2022, the Committee on WIPO Standards (CWS) approved that the Digital Transformation Task Force (DTTF) explore DOCX to XML conversion as an option for Offices (see paragraphs 105 and 106 of document CWS/10/22). Based on the DTTF survey results discussed in document CWS/10/15, almost half the respondents indicated that they accept DOCX files. At its eleventh session held in December 2023, the CWS noted that the DTTF had conducted a review and performed an analysis of the functionality of DOCX to XML converters in use at the United States Patent and Trademark Office and at the International Bureau for ePCT. At the same session, the CWS approved the DTTF to prepare a proposal for the recommendation on a common requirements specification for a DOCX to XML converter (see paragraphs 56 to 58 of document CWS/11/28). It would be very beneficial for the intellectual property (IP) offices to use a conversion tool with commonly agreed-upon functionality to support the efforts of accepting and processing patent application information in structured text format, thereby advancing towards the common goal of using WIPO Standard ST.36 or ST.96 as the standard XML format. This document and its Annex I consolidate and summarize the feedback provided by IP offices about the functionality of the DOCX converter used at their Office. It is relevant to note that more than half of the survey respondents indicated that they provide initial content-based validation information to the applicants, at the time of filing, prior to submission. Annex I includes a list of existing DOCX converters, outlining consistencies and differences for reference.

1.1. Purpose

The purpose of this document is to provide a description of the functional requirements for a DOCX2XML converter, which will convert patent applications submitted in DOCX format to XML. The converter should generate output in compliance with WIPO Standard ST.36 or ST.96. The DOCX is a word processing file format based on the Office Open XML (OOXML) and is governed by international standards ECMA-376 and ISO/IEC 29500.

1.2. Project Scope Details

A user should be able to create a new submission with one or more related DOCX documents via a filing system. If a submitted document results in DOCX validation errors or warnings in the filing system, it should return feedback to the submitter for resubmission. The filing system may generate and send a corrected DOCX file to the DOCX2XML converter for processing and conversion. After the conversion process, the system should return a success or failure feedback message to the reviewer at the IP office. Failure message covers non-compliance to business rules which happen before actual conversion process. Additionally, this document also explains how content such as tables and math equations should be converted into XML as referred to in section 3.1 below.

Note: Corrected DOCX refers to producing a DOCX copy (to be used for transformation to ST.36 or ST.96 XML) from the original copy by applying all the business rules and removing any metadata like author, comments, bookmarks, and making list numbering in the original document explicit.

1.2.1. Supported input document types

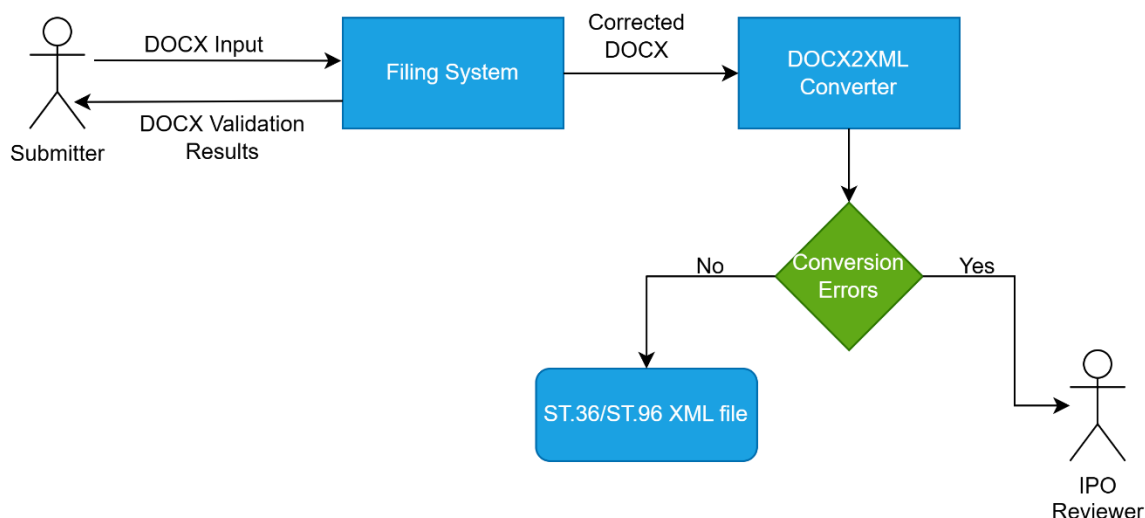
Documents produced by editors that can save or export the content in the DOCX format are the following:

- Microsoft Word 2007 or higher (for the PC or Mac);
- Google docs;
- Office online;
- LibreOffice; and
- Pages for Mac.

1.3. Assumptions, Recommendations and Constraints

- The conversion process may not be able to convert all DOCX features to the WIPO Standard ST.36 or ST.96 format, and practically support only a very limited range of basic formatting. Notably, this does not include fonts, font color, font size or any form of specific positioning of text elements on the page such as tabs, other than some limited support through tables, using images instead of text or the <pre> tag.
- This document does not specify any specific content management system solutions.
- DOCX file should contain section headers as specified in Annex II.

2. Requirements Overview .96



The **above diagram** is an example of a DOCX application conversion process system workflow, and is described in detail below.

Upon the user uploading the DOCX document using a filing system, the DOCX2XML converter will process the conversion. The following steps illustrate the associated flow:

- i. Filing System validates the DOCX document against IP office business rules and returns any Error(s) or Warning(s) if they are present;
- ii. Corrected DOCX generated by filing system will be provided to DOCX2XML converter; and
- iii. If no Error(s) or Warning(s) are identified during the validation process, the converter service then converts the corrected DOCX document into XML, and the XML document should be validated against WIPO Standard ST.36 or ST.96 schemas.

2.1. Use case

The use case below describes how the filing system processes the DOCX document. The filing system may split the DOCX document into multi section documents based on the section header (Claims, Description, Abstract and Drawings). Please see Annex II in this document for section headings.

DOCX Document Processing Flow

- 1) Submitter uploads DOCX file as application content to a filing system;
- 2) Filing system performs validations (file name, extension, etc.);
- 3) Filing system may convert original DOCX to corrected DOCX (after compliance with business rules);

- 4) Corrected DOCX Success or Failure feedback is sent to the submitter;
- 5) Filing system stores original DOCX (prior to correction);
- 6) Corrected DOCX is converted to an XML compliant with WIPO Standard ST.36 or ST.96 via DOCX2XML converter; and
- 7) WIPO ST.36 or ST.96 XML conversion Success or Failure feedback is sent to the IPO reviewer.

3. Software detail design

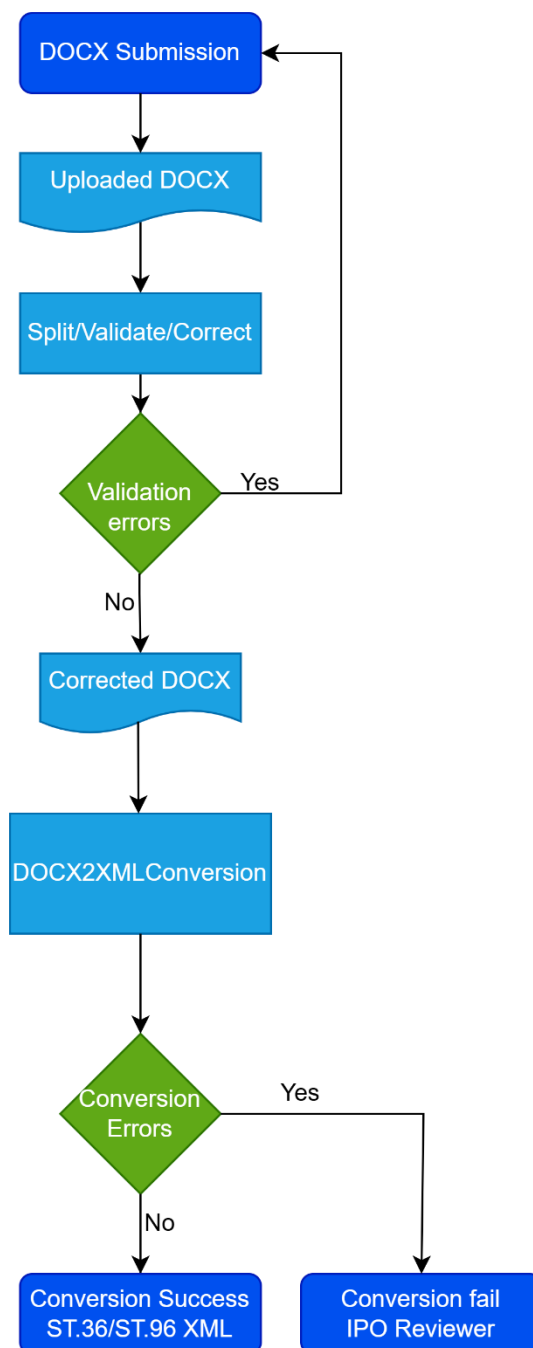
3.1. XML Resources

Mapping of Major DOCX Constructs to WIPO ST.36 or ST.96

Major DOCX Construct	XML equivalent Construct
Tables	(OASIS CALS) tables
Math equations	Embedded math equation object will be converted into MathML format, others will be converted to image
ChemDraw objects (some IP offices may not support ChemDraw)	Converted to image
Drawings, SmartArt, charts, shapes (some IP offices may not support)	Converted to image
JPEG, TIFF, PNG, GIF, EMF, WMF and SVG images (some IP offices may not support SVG format)	Converted to image

3.2. Filing System and Converter Detailed Design Example

DOCX2XML filing system and converter process flow chart



3.3. Exception Handling and Error Reporting

Below is a table of errors and warnings which may occur during DOCX processing.

DOCX filing system and converter service errors and warnings:

Message Category	Examples	Corrected DOCX	Generated XML
Error: system level	Virus or password protected	No	No
Error: content level	No parts, invalid font	No	No
Warning: uncorrected	Oversized abstract	Yes	Yes
Warning: corrected	Remove comments, track changes	Yes	Yes
Error: no WIPO ST.36 or ST.96 XML conversion	Unsupported image format, validation errors	Yes	No
Happy Path	Most cases	Yes	Yes

4. References

ISO/IEC 29500 <https://www.iso.org/standard/71691.html>

ECMA-376 <https://ecma-international.org/publications-and-standards/standards/ecma-376/>

WIPO Standard ST.36 <https://www.wipo.int/documents/d/standards/docs-en-03-36-01.pdf>

WIPO Standard ST.96 <https://www.wipo.int/documents/d/standards/docs-en-03-96-01.pdf>

ANNEX I: IP Office DOCX2XML Conversion Details

The IP offices DOCX2XML conversion details (XSLX), is available at:
https://www.wipo.int/edocs/mdocs/cws/en/cws_13/cws_13_12-annexii.xlsx

ANNEX II: Section Headings for Patent Applications in DOCX

Annex II provides exemplary section headings as a guide for filing submissions based on WIPO ST.36 or ST.96. These headings will assist the converter in auto-detection of the various sections of the application such as the Description, Claims, Abstract and Drawings. A generic heading element can be used for headings not in the list below.

Item Number	Section Headings
1	Technical Field
2	Background Art
3	Disclosure
4	Invention Summary
5	Drawing Description
6	Embodiment Description
7	Best Mode
8	Invention Mode
9	Industrial Applicability
10	Reference Sign
11	Deposited Biological Material
12	Sequence Listing
13	Citation
14	Claims
15	Abstract
16	Drawings

[End of Annex and of document]