

## **Patent Cooperation Treaty (PCT) Working Group**

**Ninth Session  
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### **COLOR DRAWINGS**

*Document prepared by the International Bureau*

### **SUMMARY**

1. A revised plan is provided, seeking to offer full color processing in the international phase only for international applications filed in XML format and not those filed as PDF.
2. To provide support for applicants unable to file in XML format, a previous proposal is revisited, to continue to process applications filed in color as PDF documents based on conversion to black and white, but to make reference on the front page to the fact that the application had been filed in color and to make the original document available on PATENTSCOPE for easy reference.

### **BACKGROUND**

3. At its seventh session, the Working Group endorsed a proposal (document PCT/WG/7/10 and paragraphs 339 to 355 of document PCT/WG/7/30) to allow electronic filing of international applications containing color drawings, which would then be processed in color during at least the international phase, including for the purposes of international search and international publication. Arrangements would be made to permit the centralized submission of black and white versions of drawings for use in designated Offices which could not accept color drawings for national phase processing.

4. As described in document PCT/WG/8/21, the International Bureau subsequently discovered a number of technical barriers which would have made the proposal as originally envisaged impractical to implement and might also have caused reduced levels of service in other respects.

5. The largest issue would have been that the systems used by the International Bureau for handling image-based document processing (the normal case for all international applications which are filed in formats other than XML) expect all the pages of a document to be in the same file format. Without a fundamental rewrite of a large number of systems, it would not have been possible to handle documents with some pages in black and white and others in color. The pure black and white TIFF file format presently used for storing document images is extremely efficient. Creating documents entirely in color when this was not necessary would greatly increase the demands on the IT infrastructure, not only in terms of storage space, but in network transmission capacity and processing requirements.

6. Furthermore, conversion of black and white text to a color format will often result in coding of the black regions as a range of shades of dark grey. This can reduce the quality of OCR performed and result in a loss of quality of image if the text is converted back to a pure black and white format, as will frequently happen on national phase entry at Offices which do not accept applications in color.

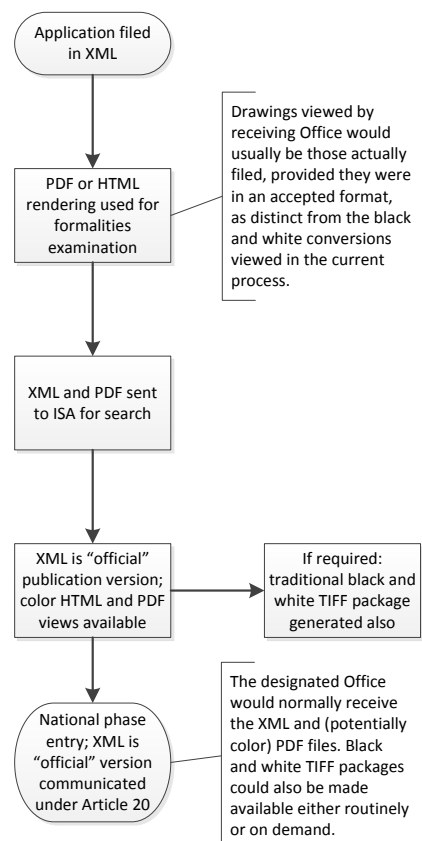
## POTENTIAL PROCESSING OF XML APPLICATIONS

7. A potential processing flow which would avoid the technical problems during the international phase by limiting the processing of international applications in color only to those filed in XML format could be as follows:

(a) International applications filed in XML format are permitted to contain color drawings in certain file formats to be agreed (most likely, certain common types of JPEG and PNG files). Drawings in the relevant file types are kept in the original formats, rather than converted to black and white TIFF as at present. Conversions are only made in the case of file types which are accepted by the receiving Office but not by the International Bureau – in this case, the minimum conversion is made, seeking to retain the original color values of the files concerned (full color or greyscale).

(b) The receiving Office conducts its formalities examination based on an HTML or PDF view of the XML, with the drawings being based on the image files originally filed or with minimum conversions.

(c) The International Bureau receives and stores the record copy as the XML with drawings in the formats originally filed or minimum conversions.



(d) The XML format application in the record copy would be the basis of any further processing and official publication by the International Bureau.

(e) PDF versions (containing color images where relevant) would be generated for use by the International Searching Authority and to accompany the international publication, but would be used by the International Bureau only for reference purposes and not as the basis for further processing.

(f) If required, a black and white TIFF image package, as at present, could also be provided as a one-off creation, to be made available together with the international publication and for communication under Article 20 to designated Offices which required it. However, it would not be the subject of any further international phase processing.

8. This arrangement assumes that all International Searching Authorities would be willing to conduct the international search based on either an XML package potentially including color drawings, or a PDF document containing color drawings, or at least to perform any further conversions which might be required for the needs of its internal systems.

9. It also assumes that designated Offices would be willing to begin national phase processing based on one of:

(a) the XML package forming the official international publication including, where relevant, color drawings;

(b) a PDF document rendered from the XML package, including color drawings where the XML contained color;

(c) a package of black and white TIFF files resulting from an automatic conversion by the International Bureau's systems, equivalent to what is published today in relation to an international application filed in color, but without necessarily having had a formalities check to indicate whether the quality of the conversion would be adequate "for the purpose of reasonably uniform international publication"; or

(d) a set of black and white replacement sheets provided by an applicant who had reviewed the automatic conversion referred to in paragraph (c) and considered it inadequate.

10. The systems required for this arrangement at the International Bureau would likely be ready for applications filed from the middle of 2018, though implementation would require the International Authorities also to indicate that they would be ready to process the relevant documents as search copies. Furthermore, designated Offices and patent information service suppliers would need to be ready to accept color images as part of international publications.

## **POSSIBLE INTERIM SOLUTION**

11. The above solution would still require some effort by both the International Bureau and at least those Offices which act as International Searching Authorities. To be most effective, designated Offices should also begin adapting their systems to deal with color drawings even if their national laws still state a requirement for black and white, noting that, inevitably, they will begin to receive priority documents in color at some stage in the not too distant future.

12. Furthermore, the proposed solution implies that applicants would be willing and able to file in XML format. This is not presently a popular filing route in most receiving Offices. In the second half of 2015, only three receiving Offices received more than 3 per cent of their international applications in that format (RO/JP: 98.9 per cent; RO/KR: 95.6 per cent; RO/CN: 15.3 per cent). Many of the Offices with electronic filing systems received applications only in PDF format and, as in the case of the receiving Office of the United States of America, it

may not currently be possible to file XML applications at all to some receiving Offices. The International Bureau is promoting XML filing by allowing .docx files to be uploaded to ePCT and automatically converted to Annex F XML, accompanied by the original .docx file as a “pre-conversion file” in accordance with Section 706 of the Administrative Instructions, and is considering to present a proposal soon to recognize the .docx filing format more directly as a valid e-filing format, but take-up so far remains very low.

13. Consequently, as a transitional measure, the Working Group may wish to reconsider a proposal which had been made in May 2012 to the fifth session of the Working Group (see paragraph 21 of document PCT/WG/5/15). Where an application contains color or greyscale drawings but is filed in an electronic format which cannot be published in color, the application could be published in black and white, with a front page notice indicating that the initial filing was in color or greyscale and that a copy of the application in the form originally filed was available for download from PATENTSCOPE. The applicant could then more easily rely on the original color drawings for use in the national phase at Offices which permit color drawings.

14. It is extremely difficult to reliably detect color and greyscale drawings automatically. The ePCT-filing system detects and warns about file formats which support color and greyscale. However, it cannot differentiate between a black and white line drawing scanned in a format allowing 256 shades of grey – which in some cases may be converted to black and white almost perfectly – and a “black and white” photograph which actually contains many shades which will be lost on conversion. Consequently, such an arrangement would preferably be triggered by the applicant checking a box in the online request form, rather than by either automatic detection or administrative action by the receiving Office or International Bureau.

15. This arrangement would be very simple to implement and could be made available in the time taken to agree and implement changes to online filing systems to provide the necessary checkbox (likely January 2017, in the case of applications made using ePCT-filing or PCT-SAFE), though a slightly longer timescale would be required if the “as-filed” documents also needed to be provided on DVDs containing communications under Article 20 and Rule 87, for which more complicated consultations with users are required.

## **RELATIONSHIP WITH RULES 11 AND 26**

16. As discussed in earlier sessions, a color drawings system would be most effective if it were based on an amendment to Rule 11, allowing color drawings uniformly through both the international and national phases. However, it appears that many designated Offices would not be technically or legally ready for such a change for an indefinite period. Consequently, no such amendment is proposed at this time.

17. With an effect limited to the international phase, either the main proposal or the interim solution may be implemented without amendments to the PCT Regulations. The only legal changes needed would be to the Administrative Instructions, notably Annex F, concerning file formats permitted and the definition of the electronic version of the request form, and information to be published on the front page and in the Gazette. The changes to the format of the international publication would be subject to a consultation through a PCT Circular and could be implemented using an Administrative Instruction, but would more likely be simply involve a notice in the PCT Gazette. The procedures would, of course, also be explained in the Receiving Office Guidelines.

18. The change in practice would rely on the receiving Offices to understand the effect of the change in publication practice on the extent of formalities examination which is to be carried out:

- (a) Rule 11.13 would continue to specify a formal requirement that drawings be in the form of black and white line art.

(b) Rule 26.3 would continue to require the receiving Office to check compliance with the formalities requirements for the purposes of international phase processing “only to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication.”

19. Because international publication would permit color for international applications filed in XML format, the receiving Office would not require the applicant to make any correction to the drawings solely because they contained color or greyscale images. Corrections could, of course, be required if the color image files were defective in other respects.

20. For international applications filed in color in PDF format, the receiving Office would continue to exercise judgement as to whether a corrected drawing would be needed, depending on whether the drawing remained possible to read and understand once converted to a black and white format for publication.

21. The proposals do not include any provision to cover the centralized filing of black and white drawings for the purposes of the national phase in Offices which do not accept color drawings. Such a provision could be envisaged, if considered necessary, as set out in document PCT/WG/5/15. However, for the present proposal, it is assumed that applicants should be encouraged to continue filing in black and white where this is practical, thereby meeting the requirements of all designated Offices and that individual amendments on national phase entry can be made to deal with cases where there is a strong need to file color drawings for use where possible but it is nevertheless wished to continue the application in some designated Offices which absolutely require black and white.

*22. The Working Group is invited to consider the proposals set out in the present document.*

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