

Patent Cooperation Treaty (PCT) Working Group

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PCT ONLINE SERVICES

Document prepared by the International Bureau

SUMMARY

1. PCT online services are healthy and most Office-to-Office communications are conducted online, but could be made more efficient. In the coming year, the International Bureau intends to offer new services in various areas, but the focus will be on consolidation and development of background services with a view to supporting major improvements in the future. The long term goals include:

- (a) a move away from transferring images equivalent to traditional paper forms towards transferring directly usable data (for bibliographic data, application bodies and correspondence currently conducted using forms and letters);
- (b) improved definitions and implementations of data standards so that the International Bureau and national Offices can process applications consistently irrespective of their source;
- (c) improved validations and Office processes, seeking to have errors identified and corrected before they are formally submitted and to avoid the need for checking the same issues at different stages due to variations in processes or understanding of requirements;
- (d) greater real-time sharing of information and services, rather than batch processes being run at long intervals;
- (e) easy-to-use but secure services for correspondence and transactions from Offices to applicants, minimizing the number of paper documents needing to be sent by mail;

(f) consolidation of services on a set of modern tools, used across all international applications, and the decommissioning of legacy products, including PCT-SAFE, to improve the quality and consistency of processing and to reduce support costs.

2. Most significant improvements will require developments to be coordinated with national Offices. National Offices with roles as receiving Office or International Searching and Preliminary Examining Authority are invited to seek improvements to the timeliness and quality of processing and to the delivery of documents and data, where possible, in high quality, consistently implemented machine-readable formats.

3. Offices are also invited to identify goals to be pursued in the development of improved systems and standards and to contribute towards the development and implementation of a common plan for PCT online systems to support a high quality, consistent PCT service throughout the world.

STATUS OF MAIN ONLINE SERVICES

ePCT and PCT-SAFE

4. The browser-based view of ePCT is a stable production system, offering services to applicants, Offices and third parties. The system is highly reliable and is monitored 24/7, so that it was available 99.86 per cent of the time over the course of 2018 – around 12.6 hours of non-availability (including scheduled maintenance), with the longest outage being just 2 hours 16 minutes. Recognizing that any outage can have serious consequences for applicants, a contingency service has also been deployed, allowing a basic upload service for documents independent of the services required by the main ePCT system.

5. Since the previous session of the Working Group, the other major technical developments for applicants have been improvements to the collaboration tools (including a mechanism for signatures to be added by people who do not have ePCT accounts). The main development for Offices has been the introduction of basic workflow arrangements. However, various other functional improvements have also been made for applicants and Offices alike.

6. ePCT-Filing is now available for 57 receiving Offices from all around the world. Subsequently filed documents can be uploaded through ePCT for delivery to 71 Offices in their role as either receiving Office (RO) or International Searching and Preliminary Examining Authority (ISA and IPEA). Eighty Offices have access to ePCT services in their role as RO, ISA/IPEA or designated or elected Office.

7. The browser-based access is the most visible aspect of ePCT, but various options are available or under development for integrating services into other systems. Secure web services are now in use with a small number of Offices and applicants, allowing machine-to-machine automation of certain services, equivalent to those available through the browser. A pilot project is also under way with a view to embedding ePCT services within national Offices' online portals. This will allow Offices to reduce their development and support costs and guarantee full consistency with current PCT Rules and standards, while offering a portal integrated with that used for their national services.

8. In addition, a new option has recently been deployed allowing applicants filing with RO/KR to embed information into an international application prepared using ePCT-Filing to automatically associate it with a KIPO account as well as a WIPO account. This improves the ability of applicants to conduct simple document exchanges within the normal national system, while allowing the full ePCT services to be used to validate and create consistent data for complex actions, most notably drafting and filing the initial international application. Similar arrangements could also be put in place for other Offices.

9. The International Bureau considers that the goals expressed in Annex F of the PCT Administrative Instructions of a single common standard for the filing of international applications in electronic form and a common piece of software able to file in that format to any receiving Office remain important ones. However, changes in technology mean that bespoke client software is no longer considered the best solution and the common software for most receiving Offices is now ePCT-Filing. Of the 12 remaining receiving Offices allowing the use of PCT-SAFE for electronic filing, only four receive more than 10 per cent of their applications based on that software. The International Bureau wishes to seek arrangements with these remaining Offices to allow PCT-SAFE to be discontinued in favor of solutions based on ePCT-Filing.

eSearchCopy

10. The eSearchCopy service is now in use in 216 out of the 370 total possible pairs of RO and ISA where those roles are not played by the same Office and more will be added shortly. These routes represent almost 57 per cent of the total volume of transmissions of search copies between different Offices. Furthermore, a further 40 per cent of search copies transmitted between Offices are sent using pre-existing bilateral online services. Consequently, less than three per cent of search copies transmitted between different Offices are still sent solely by mail (some applications are sent both by mail and electronically during periods of test operations for eSearchCopy pairs).

DAS

11. The WIPO Digital Access Service for Priority Documents (DAS) now has 22 participating Offices exchanging priority documents for patent applications, up from 18 at the time of the previous Working Group.

PCT-EDI

12. PCT-EDI continues to support the largest proportion of documents exchanged between national Offices and the International Bureau (including providing the infrastructure for many of the transactions of eSearchCopy and DAS). Several Offices have increased the frequency of delivery and collection of documents.

WIPO CASE

13. The WIPO CASE (Centralized Access to Search and Examination) system plays no direct role in international phase processing, but it is significant for the access that it offers to both international and national phase search and examination reports for designated Offices, as well as national reports for any direct-filed family members. Its importance will further increase as more Offices join the system and national phase information improves. Thirty-three Offices now participate in the system, 15 of them as providing Offices, making documents available through the system.

USE OF XML

XML for Application Bodies

14. The original aim of the PCT e-filing standard was to have applications filed and processed in full text format. For many years, XML applications have only been received in significant numbers from the receiving Offices of China, Japan and the Republic of Korea. There is an increasing desire by other Offices to move ahead in this area. For several years, ePCT-Filing has included a converter to transform Office Open XML (DOCX) to ST.36 XML and a number of national Offices have introduced or are developing their own converters.

15. The International Bureau is working with the European Patent Office and others to prepare a proposal for modification of the PCT Administrative Instructions to allow effective filing and processing of full text application bodies using DOCX format as the official source

document. The greatest benefits of such an arrangement will be found if all Offices working with DOCX use common or highly compatible conversion tools. This will minimize surprises for applicants and the difficulties of dealing with amendment and correction of applications at Offices different from that where the application was filed (whether in the international or national phase). It will also assist in comparison of the text of applications, whether between different versions of the same application, between applications and their priority documents or between family members.

16. For successful implementation and take-up of DOCX filing, it is necessary to agree on the legal and technical arrangements for a consistent and effective integration into the existing systems. Furthermore, some applicants are concerned both by the risks of conversion errors and by the possibility of hidden metadata from the DOCX files becoming available when they are published. However, if well implemented, such a system could in fact reduce the risks already associated with conversion errors that apply in the national phase at Offices where the publications are typeset. It is important for applicants and agents to understand the risks of trying to convey substantive information in a manner dependent on visual formatting effects or specific text layout within the description and claims, which are unlikely to be reproduced in either a formal typeset publication (essential to the rights of the applicant in many States) or a view of text in resizable windows of search tools. A well implemented DOCX (or other XML-based) filing system should draw the applicant's attention to potential problems before the application is submitted, allowing the possibility of fixing them when it can be done without risk of adding subject matter.

XML for International Search Reports and Written Opinions

17. The International Bureau has been receiving international search reports and written opinions in XML format for some time from three ISAs (the China National Intellectual Property Administration, the European Patent Office and the Korean Intellectual Property Office). Although reports from all three are created in line with the same DTDs, a wide variety of difficulties meant that it has taken a great deal longer than expected to be able to import and use the XML effectively. However, the main problems have now been overcome. The XML has contributed to the efficient processing of international search reports and written opinions at the International Bureau. The formalities processing has been automated for approximately 70 per cent of international search reports and 90 per cent of written opinions of the ISAs. This has allowed the IB to improve productivity and timeliness in processing these documents. The original language XML has begun to be available to designated Offices and patent information users, including some older reports dating back to November 2014. The International Bureau has also begun to use the XML as the basis for translation and to make the translated XML available.

18. The International Bureau has recently released a new service in PATENTSCOPE where the XML international search reports and written opinions are used to make available more effective machine translations (using the relevant language stylesheets for a "perfect" translation of the boilerplate text) and links to cited patent documents. Similar services will become available through ePCT in due course.

19. As a result of the work to improve the services for creating reports within ePCT and the efforts to import XML noted in paragraph 17, above, the International Bureau has become aware of certain differences in the ways that the current standards are implemented between Offices. Moreover, the data structures for equivalent information between different forms (such as PCT/ISA/206, 210, 237 and PCT/IPEA/408 and 409) are not always as well aligned as might be hoped. It is hoped that the standards and their use can be improved towards the following key end results:

- (a) it should always be easy to reuse data from one stage of search and examination as a starting point for the next stage (national search report – partial international search – international search report and written opinion – Chapter II reports – national phase reports);
- (b) citation data should be sufficiently rich and consistent to allow effective comparison and use of the information between different stages, without difficulty in determining whether two citations are the same (or come from the same patent family) and without being difficult for an examiner to enter;
- (c) it should not be necessary for an examiner to enter equivalent data twice, especially at the same stage (different formats for unsearchable or non-examined claims between Forms 210 and 237; need to enter citation information into Forms 210 and 237 in different formats in certain cases).

20. Ideally, the ongoing work on defining requirements for search and examination reports according to WIPO Standard ST.96 should be taken as an opportunity to ensure that reports can be created and reused efficiently, avoiding the need to enter equivalent data twice because of different data structures. In this context, Offices should be prepared to modify the ST.36 requirements and paper PCT search and written opinion forms if a better result for reuse of information between national and international phases can be achieved.

XML for Forms and Processing

21. Almost all documents created by the International Bureau or by Offices using ePCT to process applications are prepared using XML. In the case of the PCT Forms, the DTDs and stylesheets are made available on the WIPO website¹ and are also used by some Offices that generate their own forms, capturing the business information in a machine-readable format. Some of the information coded in such forms from Offices is being used to assist processing at the International Bureau. However, much of the data is unused and the processes for the most part simply replicate the processing of paper.

22. A number of minor developments for XML forms to be prepared by applicants have recently been approved. Notably, it has been agreed to add the option of including information on the fee sheet associated with the request form to allow applicants to specify deposit accounts to which any refunds should be made. This can be relevant to receiving Offices, but is particularly important for ISAs that give large numbers of refunds based on the use of earlier search reports (such as the European Patent Office) and wish to improve the automation of that process. In addition, the XML for the demand form has been updated to reflect the amendment to Rule 69.1 due to enter force in July 2019, allowing the applicant the possibility to request delay of international preliminary examination rather than have it begin immediately.

OTHER ISSUES

Color Drawings

23. To the end of 2018, 887 international applications from 27 receiving Offices were tagged with the indicator of possible color drawings, as described in paragraphs 11 to 15 of document PCT/WG/9/19. This arrangement allows applicants filing electronically to certain receiving Offices to check a box indicating that the application as uploaded in XML or PDF format contains color or greyscale images. This causes a notice to appear on the front page of the published application indicating that the original document contained color and is available for download from PATENTSCOPE. The technical details required for receiving Offices wishing to

¹ See <https://www.wipo.int/pct/en/epct/resources/>

implement this arrangement in their own software were set out in document PCT/EF/PFC 17/003.

24. This is not a reliable indicator of the number of applications containing color drawings. For filings using ePCT, the box is checked automatically if color or greyscale images are detected. However, this includes the very common case where true black and white line drawings are converted by the applicant's PDF creation software to a color or greyscale format, but are subsequently converted back to black and white without any loss of detail. In many of these cases, the applicant has simply left this box checked, despite the application not obviously containing color or greyscale drawings.

25. The goal of the International Bureau remains to offer full color processing of international applications throughout the international phase with an effective legal framework to ensure that color drawings can be recognized in the national phase. This work is ongoing in the context of a broader review of arrangements for receiving, processing, modifying and publishing application bodies, also taking into account the desire for effective full text processing.

National Phase Entry

26. The national phase information required by PCT Rule 95 since July 1, 2017, continues to be difficult to collect. Several designated Offices have significantly improved the quality and frequency of their data delivery, but others are delivering information either infrequently, with data issues or not at all. It is understood that some Offices are waiting to install new versions of the IPAS software, which will help to automate the process of making the notifications. Other improvements are expected when the work of the Legal Status Task Force of the Committee on WIPO Standards is completed. The International Bureau will continue to work with these and other designated Offices to improve the quality of national phase information.

Data Timeliness and Quality

27. The quality and extent of documents and data held by the International Bureau has significantly improved over recent years. Nevertheless, ongoing work towards improving PCT metrics has identified a variety of problems with the quality and scope of the information held by the International Bureau. The processes for the production, transmission and processing of forms mean that data may be transcribed incorrectly by national Offices or the International Bureau; some information is lost entirely and insufficient use is made of the available arrangements to check that all data intended to be transmitted has in fact been received and correctly processed. The International Bureau will work with Offices to improve the arrangements for exchanging documents and data to minimize the risk of loss or corruption of documents and data. In the meantime, the International Bureau would encourage national Offices to seek to ensure that, as far as possible, data is transmitted in machine-readable formats and, where batch transmissions are used, the receipts are checked to ensure that the intended information has been received and processed.

Sequence Listings

28. The PCT is cooperating closely with the development of new tools to support the forthcoming XML-based WIPO Standard ST.26 for sequence listings.

NEXT STEPS

29. The ePCT system will continue to be improved for the benefit of both applicants and Offices. Some of the key areas of work in the coming year include:

- (a) better recording and display of fee-related information to support the transfer of fees to or via the International Bureau;

- (b) improvements to workflow for Offices, allowing individual pieces of work to be assigned to specific users and assisting the identification of follow-up tasks;
- (c) improvements to the browser-based arrangements for generating XML versions of international search reports, written opinions and related documents (such as the partial search reports which may be associated with Form PCT/ISA/206 in the case of an invitation to pay additional fees), including easier entry of information with less duplication required, both within a particular set of reports and between reports issued at different stages (invitation to pay additional fees; international search report and written opinion; written opinion of the IPEA; international preliminary examination report);
- (d) extension of the web services for wider adoption of near real time machine-to-machine services for Offices and integration with applicants' patent management systems;
- (e) further improvements to the login system, in particular adopting new technology for second authentication factors as it becomes available (subject to successful completion of technical and security reviews); and
- (f) improving the consistency of services delivered through ePCT with those offered by other parts of WIPO, including taking opportunities to reduce costs or improve experience by sharing services as part of the Global IP Platform project (see Annex II to document WO/PBC/27/9).

30. However, the main focus for development work in the coming year will be on improving the underlying services in order to prepare for major improvements for the future. Significant work improving the core components of the International Bureau's systems will focus on security and reliability. In addition, process improvement will look at moving from the current system, based primarily on the documents available at the International Bureau, to one based more on tasks and data efficiently tracking and supporting the activities distributed between different Offices. In particular, it would be desirable to enable changes to the overall processes to better reflect the fact that electronic filing is now the normal case and to use validations and data from one stage to support, change or eliminate the need for related work carried out at later stages.

31. Some of the key issues include:

- (a) developing the publication process to support key improvements, including effective correction, rectification and amendment of applications filed in XML format (including DOCX) as well as full support for color drawings, with the potential to extend the service to include further options such as video or 3D drawing formats if required in the future;
- (b) improving the information and validations available to applicants and Offices while preparing an application or subsequent action, so as to minimize the risk of errors being made and to bring likely issues to the attention of Offices where action may be required;
- (c) more efficient support for documents and processes hosted on behalf of other Offices as receiving Office or International Authority, while simultaneously managing interactions with Offices conducting equivalent services using their own local systems;
- (d) effective arrangements for real time interactions with other Offices and tracking of document access in order to allow the selection of ePCT as an official delivery route for documents to applicants from any Office instead of paper or email transmission, without the risk of failing to deliver the documents due to misunderstanding of whether ePCT transmissions were available in a particular case;

- (e) improved fee management to support the netting processes and pave the way for centralized payment systems, allowing a payment to be made by applicants to the International Bureau for a service delivered by a different Office, such as ePCT-Filing to receiving Offices other than the International Bureau, or payment of additional search fees;
- (f) improved web services to allow real time interactions between the International Bureau, national Offices and applicants in order to take full advantage of opportunities opened up by the above;
- (g) investigating the possibility of federated authentication services, allowing secure access to services provided by the International Bureau based on identity management and authentication from national Offices' systems, eliminating the work and risks involved in managing identities separately in different systems for large numbers of users.

32. The International Bureau has received comments from national Offices concerning developing web services ranging from general expressions of interest to detailed proposals for specific services. There may be significant benefits from introducing such services, but also major costs and risks if there is not sufficient common agreement. An approach is required that allows the same services to be adopted by all Offices, yet retaining flexibility for that adoption to take place at significantly different speeds and to allow further development of processes over time as technology and requirements progress.

33. Noting the increasing dependence on electronic systems and the importance of at least one channel of communication always being available to applicants, further consideration is needed to the questions of ensuring high availability of services, provision of contingency services and legal safeguards where the services nevertheless fail. One technical option that might be considered for both PCT and national systems is to recognize other Offices' systems as timed postboxes for certain purposes. Applicants can already upload international phase documents to ePCT for routing to Offices other than the International Bureau and they are timestamped according to the appropriate timezone and passed on to that other Office by an agreed route – in the event that the relevant Office's systems are not available at the time the upload was made, the transfer is made later, with the timestamp providing an indication of when it was made available to the Office. With suitable agreements, the same arrangement could be extended to other situations, allowing ePCT to act as a contingency service for national Offices' systems beyond the PCT international phase and, conversely, allowing national Offices' systems to timestamp documents intended for the International Bureau (or other national Offices).

34. *The Working Group is invited:*

- (i) to note the developments in PCT online services;*
- (ii) to comment on the proposed priorities for further development by the International Bureau; and*
- (iii) to identify other issues which should be given priority in PCT online services.*

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