

Committee on WIPO Standards (CWS)

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REPORT BY THE XML4IP TASK FORCE (TASKS NO. 41 AND NO. 53 AND NO. 64)

Document prepared by the International Bureau

INTRODUCTION

1. At its seventh session of the Committee on WIPO Standards (CWS), held in July 2019, the CWS heard progress reports on the activity of the XML4IP Task Force conducting the following CWS Tasks:

- Task No. 41: “Ensure the necessary revisions and updates of WIPO Standard ST.96.”;
- Task No. 53: “Develop XML schema components for geographical indications.”;
- Task No. 56: “Prepare recommendations for data exchange supporting machine to machine communications focusing on: (i) facilitation of the development of web services which access IP resources; (ii) provision of business vocabulary and appropriate data structures; (iii) naming conventions for Uniform Resource Identifier (URI) of resources; and (iv) provision of business cases for implementing web services.”; and
- Task No. 63: “Develop visual representation(s) of XML data, based on WIPO XML Standards, for electronic publication”.

2. At this seventh session, the following two Tasks were reassigned to separate CWS Task Forces, who were considered better suited:

- Task No. 56 was assigned to the newly created API Task Force, which includes a group of representatives from Intellectual Property Offices (IPOs) selected due to their expertise in API development (see paragraph 51 of document CWS/7/29) ; and
- Task No. 63 was assigned to the Digital Transformation Task Force, as this task as considered to not be related to the structure of the XML but instead to its presentation (see paragraph 40 of document CWS/7/29).

3. Also at the seventh session of the CWS, a new Task was approved by the CWS for inclusion into the CWS Work Program and to be conducted by the XML4IP Task Force: Task No. 64, which relates to the production of a JavaScript Object Notation (JSON) Standard (see paragraphs 58 to 59, CWS/7/29). The description for this Task reads:

- Task No. 64: “Prepare a proposal for recommendations for JavaScript Object Notation (JSON) resources compatible with WIPO Standard ST.96 to be used for filing, processing, publication and/or exchange intellectual property information.”

4. In order to achieve in the activities assigned to it by the CWS, the XML4IP Task Force holds regular monthly meetings. Further details on the progress of each of these Tasks by the XML4IP Task Force is elaborated below.

REVISION AND IMPLEMENTATION OF WIPO ST.96 (TASK NO. 41)

5. Under the framework of Tasks No. 41, the XML4IP Task Force prepared and published a new major release, version 4.0, one minor release, version 3.2 and produced two test versions: version 3.1_T1 and version 3.2_T1. Further details of the two official releases are provided below.

Version 3.2

6. Minor release version 3.2 was published in December 2019 and was produced to provide some urgent changes approved at the seventh session of the CWS and to incorporate the WIPO ST.37 components that were approved by the XML4IP Task Force for use in the WIPO ST.96 code library. At the seventh session, it was agreed by the CWS that reusable components from other XML Standards, such as WIPO ST.37, should be incorporated into the WIPO ST.96 code library (see paragraph 32 of document CWS/7/29).

Version 4.0

7. The major version 4.0 release was due to be released on October 1, 2019 but due to the immaturity of discussions on certain key elements of this release, it was postponed until the next available window for release, April 1, 2020. The CWS allows only a maximum of two releases of ST.96 per year (see paragraph 53 of document CWS/6/34). The global COVID-19 pandemic then had an impact on the International Bureau’s ability to finalize this release and it was then delayed to June 1, 2020.

8. WIPO ST.96 version 4.0 was the largest release to-date for WIPO ST.96 and now includes XML schemas to capture two new types of intellectual property rights: Copyright and Geographical Indications. With regard to the Copyright domain, the CWS should note that currently the XML schemas provided in WIPO ST.96 version 4.0 only capture data relating to Copyright Orphan Works. Version 4.0 also includes XML schemas to capture data relating to examination reports produced by IPOs, patent legal status data compliant with WIPO ST.27 and provides significant improvements to Madrid and Hague System bilateral communication, between IPOs and the International Bureau.

9. Further details on the version 4.0 release, in particular changes to the Annexes II, III and IV, can be found in its release notes published in the WIPO website at:

https://www.wipo.int/standards/XMLSchema/ST96/V4_0/ReleaseNotes.pdf .

10. All Annexes of the WIPO ST.96 version 4.0 release are available online at the following location: <https://www.wipo.int/standards/en/st96/v4-0/> .

Main Body

11. Due to the necessity to extend the scope of WIPO ST.96 to cover Intellectual Property (IP), the title of the Standard was updated to read:

"RECOMMENDATION FOR THE PROCESSING OF INTELLECTUAL PROPERTY INFORMATION USING XML" (previously INDUSTRIAL);

Annex I

12. Annex I of WIPO ST.96 details the XML Design Rules and Conventions (DRCs) for the creation and use of WIPO ST.96-compliant XML schemas. Several changes were necessary in order to account for the new namespaces that were included in this release, specifically Copyright (cpy) and Geographical Indications (gin).

13. The attention of the CWS is drawn to the following two schema design rules which were revised during this release:

- [SD-03]: A Patent Component, Trademark Component, Design Component, Geographical Indication Component or Copyright Component schema module MAY make reference to Common Component schema modules, schemas in the same Component module, and approved industry-standard schemas, but SHOULD NOT refer to other Component schema modules, with the exception that Geographical Indication Component schemas MAY refer to Trademark Component schemas and vice versa as they have overlapping business areas.
- [SD-45]: The characters used in enumerations MUST be restricted to the following set: 'a-z, A-Z, 0-9, space " " and underscore "_". ~~Enumeration values SHOULD NOT start with a numeric character. (note: the second sentence has been removed).~~

Annex V

14. WIPO ST.96 Annex V provides implementation rules and guidelines for the production of WIPO ST.96 XML compliant, conformant or interoperable schema. After discussion at the seventh session of the CWS in regards to how an interoperable WIPO ST.96 schema should be designed (see paragraphs 19-22 of document CWS/7/3 REV.), the XML4IP Task Force provided a revised Annex V to outline how this can be achieved.

Annex VII

15. Annex VII ("Example XML Instances") was newly added to WIPO ST.96 in version 4.0. As indicated in the progress report provided for Task No. 63 at the seventh session (see paragraph 34 of document CWS/7/3 REV.), the XML4IP Task Force prepared this Annex to provide three example XML instances, one for each industrial property right, to assist IPOs to implement WIPO ST.96.

16. In addition to the example instances themselves, there is some detail provided in the main body of this Annex to assist readers to understand how these examples were produced.

XML SCHEMA FOR GEOGRAPHICAL INDICATIONS (TASK NO. 53)

17. Task No. 53 was created at the fifth session of the CWS and assigned to the XML4IP Task Force (see paragraphs 25 to 29, CWS/5/22). The first draft of the XML schemas was discussed at the XML4IP Task Force meeting held in Ottawa, Canada in September 2017. Progress on this Task was presented to the CWS at the seventh session and the International Bureau agreed to provide the final draft in the version 4.0 release (see paragraph 26 of document CWS/7/29).

18. Since the seventh session of the CWS, the XML4IP Task Force has had two further rounds of discussion and was able to finalize the draft schemas in time for inclusion within version 4.0. The following major changes to the Geographical Indication XML schema are highlighted for the CWS:

- Renaming of components to ensure compliance with ST.96 DRCs (see Annex I, WIPO ST.26);
- Inclusion of various new components to capture mandatory components from the Lisbon application form; and
- Improvements to the structuring of the design schema to provide a more logical grouping.

19. WIPO ST.96 version 4.0 now provides a first set of design schemas to capture geographical indication data. Under the framework of Task No. 41, any necessary revisions to these schemas is now under the purview of the XML4IP Task Force. Therefore Task No. 53 should be considered complete and removed from the CWS Task List.

PROPOSAL FOR A JSON SCHEMA (TASK NO. 64)

20. At the seventh session of the CWS, Task No. 64 was added to the CWS Work Plan in recognition of the increased uptake by IPOs in the use of JSON, in particular for use as the response payload of a web service (see paragraphs 58 to 59 of document CWS/7/29).

21. Also at the seventh session, a draft standard was presented to the CWS that provided a set of guidelines for drafting JSON schema (see document CWS/7/5). It was recognized during development of this set of guidelines that there is not a formal JSON standard and so development of this standard would be a useful tool.

22. Since the seventh session, work has been conducted by the XML4IP Task Force to produce a set of transformation rules, which provide guidelines on how to transform WIPO ST.96 XML schema to JSON schema. This exercise resulted in a set of transformation rules, which specify both how to convert a WIPO ST.96 XML Schema Definition (XSD) file name to a JSON file name and also how to transform an XSD fragment to a JSON schema fragment, and four step-by-step examples which demonstrate how to apply these transformation rules. This information will be made available on the XML4IP Task Force wiki. Offices, which are interested in this work, are invited to join the Task Force discussion and if not yet Members of the Task Force to request Membership.

23. Originally, it was thought that this transformation process could be semi-automated. However this exercise revealed that the transformation process was more complex than originally considered and still required manual intervention. This is due in part to the fact that the JSON schema tend to have a more shallow hierarchy. As such, the JSON schema originally intended to form part of the final draft of the JSON standard could not be finalized for provision at this session (see paragraph 60 of document CWS/7/29). Future rounds of discussion by the XML4IP Task Force will investigate whether this transformation process can be improved or whether an alternative means of producing this JSON schema should be determined.

24. In the meantime, the XML4IP Task Force will work on developing recommendations on JSON for IP data and a set of JSON schema components based on WIPO ST.96 and plans to provide a result for consideration at the ninth session of the Committee.

WIPO ST.96 IMPLEMENTATION

25. During recent XML4IP Task Force discussions, the importance of collaboration between Offices which implement WIPO ST.96 was recognized. In order to gather information on the implementation of WIPO ST.96 by IPOs, the Task Force conducted an online survey within the Task Force in September 2020. The survey asked whether IPOs are currently using WIPO ST.96, their intentions to do so in the future, which components of the WIPO ST.96 they intend to use and their opinion on PCT communication in WIPO ST.96 format. Of the 11 IPOs that responded to the survey, seven currently implement WIPO ST.96, primarily for use in Madrid and Hague System communications. Reasons that Offices did not implement or have no plan to implement WIPO ST.96 are mainly because of resource constraints or because of a reliance on an earlier XML standard, such as WIPO Standard ST.36. Six Offices indicated a desire to communicate PCT data with the International Bureau in WIPO ST.96 format in the future such as Madrid and Hague System communications.

26. It should be noted that 23 Offices reported that they implemented WIPO ST.96 either completely or partially in 2017 according to their responses to [the Survey on the Use of WIPO Standards](#). Offices are encouraged to continue to provide their responses to this survey.

27. The Hague Registry is currently using WIPO ST.96 bilaterally with some IPOs, in other words for communication both from Offices to the International Bureau and vice versa. Since December 2018, WIPO ST.96 is the native input and output format of the International Bureau's Hague System. At present, the Registry is still maintaining backward-compatibility with a legacy XML data format, i.e., `hague-dtd` for bilateral communications with Offices. The discontinuation of this legacy data format, for both inbound and outbound communications, was scheduled for the end of 2020 at the fifth session of the CWS (see paragraph 37, document of CWS/5/22). Due to the impact of the COVID-19 pandemic on operations, the sunset period has been extended and the Hague Registry announced that as of March 31, 2021, WIPO ST.96 version 4.0 will be the sole authoritative format for Hague-related data exchange.

FURTHER COLLABORATION AND SUPPORT

28. For the purposes of sharing implementations of WIPO ST.96 among IPOs and identifying the need for improvements to WIPO ST.96, the XML4IP Task Force requested and the CWS supported that the International Bureau provide the WIPO ST.96 Centralized Repository (see paragraphs 27 and 29 of document CWS/7/29). The XML4IP Task Force agreed on the functional requirements for the Centralized Repository this year. The International Bureau has been exploring available potential solutions and plans to launch a pilot project this year. Four Offices have already volunteered to be part of the pilot. The International Bureau plans to report the results of the project to the ninth session of the CWS.

29. At its seventh session, the CWS agreed to create a new external developer's forum. The International Bureau has been working with the XML4IP Task Force to provide this forum as a means to communicate with developers who may be using or wish to use the WIPO ST.96 XML schema (see paragraphs 33 and 34 of document CWS/7/29). The XML4IP Task Force will investigate the most appropriate platform for this type of external collaboration and monitor its development. The progress on the task and considerations for such a platform will be presented by the Task Force to the CWS for consideration at the ninth session.

WORK PLAN

30. The XML4IP Task Force will continue to work on developing new XML schema and improve the existing XML schema but in particular would like to note the following for development in the period before the ninth session of the CWS:

- Patent Record and Patent Transaction XSD: there has been no progress by the XML4IP Task Force on these schemas since the last session. These two components capture data pertaining to the patent lifecycle and transactions related to patent applications respectively, but now the version 4.0 release has been completed the Task Force will have more time to focus on these schema;
- Priority Document XSD: this is still in the inception stage but will be developed further;
- Patent Request Form XSD: there has been no further progress on this task since the XML4IP Task Force provided a mapping of existing ST.96 components to the Patent Law Treaty (PLT) model international request form;
- Enhancement of copyright components: some copyright components, e.g., `RightsHolderType` and `OrphanWorkKindCode`, will be improved to provide a more structured format; and
- Alloy composition components: based on the recent proposal by the Korean Intellectual Property Office (KIPO), the XML4IP Task Force started discussion on the development of new WIPO ST.96 components to capture alloy composition information from patent documents, in particular, from patent claims. The new XML components could be used for providing this information to the public in standardized and more structured manner, free of charge.

31. The XML4IP Task Force will also continue its work under the framework of Task No. 64 to develop JSON Schema, based on the WIPO ST.96 XML schema by formalizing a set of transformation rules or investigating a suitable alternative.

32. The XML4IP Task Force previously developed XML components for the process and exchange of patent legal status data based on WIPO Standard ST.27 under the framework of Task No. 41, as mentioned in paragraph 8 above. The Task Force plans to continue this exercise to develop XML components for trademark and industrial design legal status data, based on relevant WIPO Standards.

33. *The CWS is invited to:*

- (a) *note the content of the present document;*
- (b) *note the release of ST.96 versions 3.2 and 4.0, as indicated in paragraphs 6 to 16 above;*
- (c) *note the inclusion of the geographical indication and copyright schemas in version 4.0;*
- (d) *consider and approve the request by the XML4IP Task Force to remove Task No. 53 from the CWS program, as indicated in paragraph 19 above;*

- (e) *note the progress on Task No. 64 and delays in providing JSON schema as well as the intention to present draft recommendations on JSON for IP data for consideration by the CWS at the ninth session as indicated in paragraphs 22 to 24 above;*
- (f) *note the updated date of discontinuation of support for the legacy format for Hague communication, as indicated in paragraph 27 above;*
- (g) *note that the progress of the ST.96 Centralized Repository development and the International Bureau's plan as described in paragraph 28;*
- (h) *note that the XMI4IP Task Force will provide a proposal for an appropriate platform to engage an external audience at the ninth session, as described in paragraph 29 above; and*
- (i) *note the XML4IP Task Force work plan as indicated in paragraphs 30 to 33 above.*

[End of document]