

Committee on WIPO Standards (CWS)

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REPORT ON TASKS NO. 56 AND NO. 64 BY THE API TASK FORCE

Document prepared by the API Task Force Co-Leaders

SUMMARY

1. The API Task Force, responsible for Tasks No. 56 and No. 64, reports its activities achieved since the last session of the Committee on WIPO Standards (CWS). It outlines developments related to the WIPO Standards ST.90 and ST.97, as well as improvements to the API Catalog for Intellectual Property (IP).

BACKGROUND

2. At its seventh session, the CWS established the API Task Force and assigned Task No. 56, which was initially been undertaken by the XML4IP Task Force (see paragraph 51 of document CWS/7/29). The API Task Force is currently co-led by the Canadian Intellectual Property Office (CIPO) and the European Union Intellectual Property Office (EUIPO).

3. At its eighth session, the CWS adopted WIPO Standard ST.90, "Recommendation for Processing and Communicating Intellectual Property Data Using Web APIs (Application Programming Interfaces)" (see paragraph 15 of document CWS/8/24).

4. At its tenth session, the CWS adopted WIPO Standard ST.97, "Recommendation for the Processing of Intellectual Property Data Using JSON." Alongside this adoption, the CWS revised the description of Task No. 64 and assigned it to the API Task Force. The revised description of Task No. 64 reads as follows:

"Ensure the necessary revisions and updates of WIPO Standard ST.97."

(See paragraphs 43 and 44 of document CWS/10/22.)

5. At the same session, the CWS also approved the revision of WIPO Standard ST.90, version 1.1, to align it with the newly adopted Standard ST.97 (see paragraph 48 of document CWS/10/22).

6. At its twelfth session, the CWS revised the description of Task No. 56, which reads as follows:

“Ensure the necessary revisions and updates of WIPO Standard ST.90; support the International Bureau in promoting and implementing WIPO Standard ST.90; and promote the API Catalog for Intellectual Property (IP) and facilitate further participation of IP institutions in the API Catalog.”

(See paragraph 60 of document CWS/12/29.)

7. At its thirteenth session, the CWS approved the proposed revision to WIPO Standard ST.90, version 2.0 (see paragraph 129 of document CWS/13/31).

PROGRESS ON TASK NO. 56

Objectives

8. The primary objective of Task No. 56 is to ensure the timely revision of WIPO Standard ST.90, as needed, and to assist the International Bureau in promoting both WIPO Standard ST.90 and the API Catalog for IP.

Relevant actions for 2026

9. The following priorities related to Task No. 56 were identified for the calendar year of 2026:

- Update the ST.90 Compatibility Matrix reflecting changes from v2.0;
- Share implementation plans and experiences of WIPO Standard ST.90;
- Continue engaging with participating IP offices to gather feedback and suggestions for improving WIPO Standard ST.90, and maintain these in the improvement register; and
- Support the International Bureau in enhancing the API Catalog for Intellectual Property.

Potential challenges or dependencies

10. The API Task Force identified potential challenges in achieving its goals, including ensuring the participation of IP offices in Task Force activities and addressing time and resource constraints.

Progress evaluation

11. Throughout 2026, the API Task Force discussed implementation of WIPO Standard ST.90 by IP offices and potential improvement to the Standard. The Task Force discussed also improvement of API Catalog for Intellectual Property. The progress achieved by the API Task Force is outlined below.

API Catalog for Intellectual Property

12. Launched in July 2024, the API Catalog for Intellectual Property serves as a comprehensive platform providing access to a wide range of APIs from IP offices around the world. At the time of preparing this document, the API Catalog features 171 APIs from WIPO and 9 IP offices, including IP Australia, the European Patent Office (EPO), the European Union Intellectual Property Office (EUIPO), the German Patent and Trademark Office (DPMA), the

Japan Patent Office (JPO), the Ministry of Intellectual Property of the Republic of Korea (MOIP), the National Institute of Intellectual Property of Kazakhstan (QAZPATENT), the Patent Office of the Republic of Poland (UPRP) and the United States Patent and Trademark Office (USPTO). This unified platform enables users to search for APIs offered by the participating IP offices.

13. Progress has been made in enhancing the functionality of the API Catalog for Intellectual Property. At the time of preparing this document, two releases were rolled out, primarily to improve the tool's crawler feature for identifying new APIs provided by IP offices. At the request of the Task Force, the International Bureau continues to publish monthly API Catalog usage statistics on the Task Force wiki, reflecting growing interest in the portal.

14. The International Bureau is evaluating further enhancements to the API Catalog using AI-powered features to automatically visit IP office websites and detect API-related pages. Any APIs identified through this process will be reported for human verification and approval prior to addition to the Catalog.

WIPO Standard ST.90

15. Throughout 2026, the API Task Force continued its efforts to share experience and implementation plans concerning WIPO Standard ST.90.

16. The Task Force prepared the WIPO Standard ST.90 Version 2.0 compatibility matrix, which is available in the API Task Force wiki space. IP offices that have developed APIs are encouraged to share information about the compliance level of those APIs against WIPO Standard ST.90. This would support a better understanding of how different IP offices are implementing WIPO Standard ST.90, help identifying areas for improvement of the Standard, and provide a valuable reference resource for IP offices planning to implement WIPO Standard ST.90.

PROGRESS ON TASK NO. 64

Objectives

17. Undertaking Task No. 64, the API Task Force has been working to deliver the necessary revisions and updates to WIPO Standard ST.97.

Relevant actions for 2026

18. The API Task Force held five online meetings to discuss and approve proposals for the revision of WIPO Standard ST.97. During the Task Force meeting held in February 2026, the Task Force approved the following development priorities for the calendar year 2026:

- Resolution of all open issues of the ST.97 Improvement Register;
- Upgrade of XSD2JSON transformation tool and completion of schema processing;
- Preparation of the draft of WIPO Standard ST.97 v2.0;
- Approval of WIPO Standard ST.97 v2.0; and
- Publication of the WIPO Standard ST.97 v2.0.

Potential challenges or dependencies

19. The API Task Force has identified the following challenges and dependencies:

- Maintaining the compatibility of WIPO Standard ST.97 across future revisions of WIPO Standard ST.96. The Task Force has determined that there is no need to update WIPO Standard ST.97 each time WIPO Standard ST.96 is revised; and
- Reducing the complexity inherited from WIPO Standard ST.96, with the goal of developing a clear and robust version of WIPO Standard ST.97 that facilitates maximum adoption by IP offices.

Progress evaluation

20. The work carried out by the Task Force in 2026 on the revision of WIPO Standard ST.97 is described below:

REVISION AND IMPLEMENTATION OF WIPO STANDARD ST.97

Independent revision of WIPO Standard ST.97 from ST.96

21. The API Task Force agreed that WIPO Standard ST.97 evolve independently from WIPO Standard ST.96 while maintaining compatibility with ST.96. The Task Force noted that WIPO Standard ST.97, version 1.0, was initially developed with 100 per cent automatic transformation from ST.96 to maintain identical business logic. However, considering the complexity of both Standards and the impossibility of full automated transformation from ST.96 to ST.97 due to their different technical natures of XML and JSON, the Task Force decided the independent revision of ST.97 while maintaining compatibility between the two Standards through cooperation between the XML4IP and API Task Forces. The WIPO Standard ST.97 version 2.0 would serve as the baseline for the Standard future independent revisions.

22. Under the framework of Task No. 64, the API Task Force prepared and published a new major release, version 2.0, on July 15, 2026. Specific details regarding the release are provided below, and the Standard is published on the WIPO website at:
<https://www.wipo.int/documents/d/standards/docs-en-03-97-01.pdf>.

23. As a reminder for the CWS, the API Task Force has “fast track” approval for revisions to WIPO Standard ST.97.

24. Version 2.0 is a major release and is not backward compatible with the previous version published in January 2023. The first version of WIPO Standard ST.97 was published in January 2023 without a version indicator.

25. The following changes were introduced in version 2.0 of WIPO Standard ST.97:

Changes made to the main body

26. Version 2.0 introduces explicit version indicator across the revised Standard and its associated JSON Schemas. This enables WIPO Standard ST.97 implementers to clearly identify the schema version in use within their systems, and improves traceability, validation, and compatibility management.

27. The changes made to the main body represent a comprehensive revision aimed at reflecting current JSON Schema practice, clarifying its relationship with WIPO Standard ST.96, strengthening JSON Schema design, and revising the rules to improve consistency, reuse, validation, and implementation by IP offices and organizations.

28. Systematic paragraph numbering has been introduced throughout the document, main body and annexes, to improve traceability, readability and consistency with formal WIPO Standards documentation.
29. JSON Schema examples referenced in the main body and Annex I were updated to reflect the corresponding schema for Version 2.0.
30. The introduction, purpose, and scope of the Standard were refined for clarity.
31. The terminology section was expanded to include additional JSON-related terms and definitions for patents, trademarks, industrial designs, geographical indications, and copyright orphan works.
32. The interpretation of keywords was revised, with the meanings of MUST, MUST NOT, SHOULD, SHOULD NOT, and MAY set out directly in the text. General notations were clarified, including the use of placeholders, quoted text, optional items, and fixed-width font for JSON keywords, property names, and XSD elements and attributes.
33. The scope of the Standard was expanded to cover JSON resources used as schemas, instances and messages, and the list of annexes was updated to include representational terms and an IP data dictionary. The JSON design rules and conventions were revised to improve naming consistency, clarify the use of `lowerCamelCase`, address the treatment of acronyms and abbreviations, and maintain semantic consistency across IP domains.
34. The JSON Schema design rules were aligned with JSON Schema Core and JSON Schema Validation draft 2020-12. The revision introduces clearer guidance on the use of the `$schema` keyword, UTF-8 encoding, `$defs`, modular schema design, description-based documentation, schema filenames, outermost schema object structure, required properties, and the use of reusable global definitions.
35. The documentation section was revised to replace references to schema header documentation with the use of the `description` keyword. The recommended documentation items were updated to include description, version, schema creation date, schema last modified date, schema contact point, and schema release note URL. Examples were updated accordingly, including the contact point and release note URL for Version 2.0.
36. The JSON design rules were updated to clarify the ordering of properties, validation against corresponding JSON Schemas, creation or modification of JSON Schemas where needed.
37. References section was updated and other editorial changes have been made as necessary.

Rules added

38. The following rule was added:

[JGD-24] Acronyms and abbreviations appearing at the beginning of a component name MUST be in lower camel case, e.g., "pre", "bioDeposit". If an acronym is provided all in capitals and it appears at the beginning of a component name, all characters must be lower case, e.g., "idref" and "wipo" in the property name of "wipoST3Code". Otherwise, all values of an enumeration, acronyms and abbreviation values MUST appear in upper case appear as listed in Annex IV.

39. The rule was added to clarify how acronyms and abbreviations must be treated at the beginning of object type and property names. It requires acronyms and abbreviations appearing at the beginning of names to be written in lower case, while enumeration, acronym, and abbreviation values must appear in upper case as listed in Annex IV.

Rules deleted

40. The following rule was deleted while retaining its rule identifier in accordance with the rule identifier convention:

[JGD-23] For the new Object type and property names that are not defined in WIPO Standard ST.96 or are not expected to be compatible with a component name which will be defined in ST.96, inline descriptive terms or names SHOULD be used rather than having generic or short object types or property names that are single-property objects. For example, instead of "inventor": { "fullName": "Thomas Edison" }, "inventorFullName": "Thomas Edison" is preferred.

41. The deleted rule recommended using inline descriptive terms or names, rather than generic or short single-property object types or property names, for new names not defined in ST.96 or not expected to be compatible with ST.96. The retained text now states "Deleted".

Rules revised or clarified

42. Several existing rules were revised or clarified. The principal revisions are as follows:

- [JGD-04] was expanded to encourage the use of abbreviations and acronyms to reduce component name length and to require any new abbreviations or acronyms to be added to Annex IV.
- [JGD-22] was revised to remove the limitation referring only to structures not available in ST.96, thereby making the recommendation to minimize nesting more generally applicable.
- [JSD-01] and [JSD-02] were updated to remove hyperlinks.
- [JSD-05] editorial change.
- [JSD-08], [JSD-09], and [JSD-10] were revised to replace header documentation with description-based documentation using the `description` keyword.
- [JSC-19] was revised to allow `patternProperties` only for mixed content types; an editorial change was also applied.
- [JSC-20] editorial changes were made.
- [JIN-04] was revised to replace XML4IP Task Force with API Task Force as the approval body for modifications, updates, revisions, and new releases.

Changes made to Annex I

43. The changes made to Annex I represent a comprehensive revision aimed at aligning the transformation rules from WIPO Standard ST.96 XSD to JSON Schema with Version 2.0 of WIPO Standard ST.97 and the JSON Schema Core, version 2020-12 specification. Overall, the revisions strengthen Annex I by improving its formal presentation, technical precision, internal consistency and practical usability for IP offices seeking to transform or validate JSON Schemas derived from their customized WIPO Standard ST.96 XSDs. Changes are summarized as follows:

44. Reference to the version indicator was added and systematic paragraph numbering has been introduced throughout the document to improve traceability, readability and consistency with formal WIPO Standards documentation.

45. The purpose and scope of Annex I, have been clarified by emphasizing its role as guidance for IPOs developing JSON Schemas that remain compatible with customized WIPO Standard ST.96 XML Schemas, and by updating the reference to the transformation tool as a resource available on the WIPO website rather than as an appendix to the Annex I.

46. Several outdated or inaccurate references have been corrected, including the replacement of WIPO Standard ST.96 references with WIPO Standard ST.97 where appropriate, the adjustment of version references from V5_0 to V2_0 in JSON Schema examples, and the updating of sample schema names, release information and contact details.

47. Table 2, Transformation of Simple XSD Data Types under rule [TR-03], has been revised so that `dateTime` (`xsd:dateTime`) and `time` (`xsd:time`) values are now separated and mapped more precisely to the relevant JSON Schema string formats, respectively, `"type": "string", "format": "date-time"` and `"type": "string", "format": "time"`. In addition, `gYear`, `gYearMonth`, `gMonth`, `gDay` and `gMonthDay` have been revised from earlier custom object-based definitions to pattern-based string representations. These changes make the mapping rules clearer, more concise and more consistent with JSON Schema validation practice.

48. Table 3, Transformation of XSD Constraining Facets under rule [TR-20], has been revised to align with the JSON Schema 2020-12 specification. In the previous version, the table incorrectly used `inclusiveMinimum` and `inclusiveMaximum`, which are not valid keywords in JSON Schema 2020-12, and treated `exclusiveMinimum` and `exclusiveMaximum` as Boolean values, which is also invalid under the current specification. These mappings have been corrected so that `xsd:minInclusive` and `xsd:maxInclusive` are mapped to `minimum` and `maximum`, respectively, and `xsd:minExclusive` and `xsd:maxExclusive` are mapped to `exclusiveMinimum` and `exclusiveMaximum` as direct numeric values.

49. Clarification on XSD external standards transformed into JSON and other editorial changes have been made as necessary.

50. In addition, the XSD2JSON transformation tool has been updated to ensure that numeric values are rendered as integers rather than doubles where the source XSD value is an integer, so that a value of 2 in XSD is correctly represented as 2 in JSON Schema rather than 2.0. These corrections ensure faithful and standards-compliant mappings between XSD constraining facets and their JSON Schema equivalents.

51. The Appendix to Annex I, "XSD2JSON Schema Transformation Tool", has been removed from WIPO Standard ST.97. The transformation tool is better maintained and distributed as a separate, standalone resource rather than as part of the Standard documentation. Maintaining transformation tools within the Standard document creates an unnecessary maintenance burden, as tool updates, bug fixes and enhancements would otherwise require full document revision cycles.

52. The tool is accessible through WIPO website resources, ensuring continued availability to implementers. IP offices are encouraged to use the tool to transform their customized WIPO Standard ST.96 XML schemas. Instructions on how to run the tool are provided with the tool package.

Rules added

53. The following rule has been added to address manually adjusted schemas agreed by the API Task Force, relating to unnecessary nesting for choices included in a sequence with multiple elements, and has been included in Annex I.

[TR-23] For an unbounded XML Schema choice with a sequenced elements branch, the transformation into JSON Schema SHOULD introduce a synthetic array wrapper named with a “Wrapper” suffix to preserve the structural equivalence of sequence elements within the choice branch. The new component name with the “Wrapper” suffix SHOULD not be used as a new object, but rather as a structural representation of the source XSD sequence.

Changes made to Annex II

54. Changes to JSON Schemas were made to remove unnecessary nesting levels derived from XML Schemas. This affects specific patterns elements with `maxOccurs="unbounded"`, which are now rendered as direct arrays; and `xs:choice` groups within an `xs:sequence` containing more than one element, which are now promoted to the parent object level.

55. JSON-native representations were adapted where appropriate.

56. The reserved \$ value placeholder was replaced with the clearer `value` property for simple content.

57. Translation of inherited complex types through the use of JSON Schema composition keywords, such as `allOf`, was improved.

58. Validation keywords, including `anyOf`, `required`, `minItems`, `additionalProperties` and `unevaluatedProperties`, were applied to preserve the intended constraints.

59. More details about the changes made to JSON Schemas are provided in the release note: <https://www.wipo.int/standards/en/st97/v2-0/release-notes.html>.

Changes made to Annex III - JSON example instances

60. The version indicator `V2_0` was introduced, and `trademarkApplication.json`, `designApplication.json` and `patentPublication.json` were updated to reflect changes to the JSON Schemas.

Changes made to Annex IV and Annex V

61. The version indicator `V2_0` was introduced, and the text was improved in both annexes.

Addition of Annex VI - IP Data Dictionary

62. Annex VI, “IP Data Dictionary”, was added as a structured reference for the data entities used in the filing, processing, publication and exchange of industrial property information in JSON format. It complements the JSON Schema components of WIPO Standard ST.97 by providing a clear business-oriented description of objects and enumeration values that may appear in JSON instances of IP documents. Annex VI is organized into two appendices: Appendix A, the “Object Dictionary”, which identifies and describes data entities and their relationship to schema components; and Appendix B, the “Enumeration Values Dictionary”, which defines permitted values and their meanings. By documenting dictionary entries, component groups, and enumeration values in a consistent manner, Annex VI supports common interpretation and implementation of WIPO Standard ST.97 across IP offices.

WORK PLAN

63. The API Task Force will continue its work on Tasks No. 56 and No. 64 and present the activities planned for the period prior to the fourteenth session of the CWS.

API Catalog for Intellectual Property support and evolution

64. The Task Force will continue to support the International Bureau in improving and promoting the API Catalog for Intellectual Property.

WIPO Standard ST.90

65. Discussions will continue, and proposals will be solicited and listed in the Improvement Register of WIPO Standard ST.90 managed by the Task Force. This includes potential improvements to the Standard, as deemed necessary. The Task Force will share its implementation plans for WIPO Standard ST.90, as well as its experience in carrying out those plans. The Task Force will also share the results of the compatibility matrix assessment.

WIPO Standard ST.97

66. Discussions will continue, and proposals will be solicited and listed in the Improvement Register of WIPO Standard ST.97 managed by the API Task Force. This includes potential improvements to the Standard, as deemed necessary. The Task Force will share its implementation plans for WIPO Standard ST.97, as well as its experience in carrying out those plans.

67. *The CWS is invited to:*

(a) *note the contents of the present document;*

(b) *note the decision of the Task Force on independent development of WIPO Standard ST.97 from WIPO Standard ST.96, as indicated in paragraph 21 above;*

(c) *note the release of version 2.0 of WIPO Standard ST.97 on July 15, 2026, as indicated in paragraphs 22 to 62 above;*

(d) *encourage its Members and Observers to test the upgraded version XSD2JSON Transformation Tool as indicated in paragraph 52 above;*

(e) *encourage its Members and Observers to implement WIPO Standards ST.90 and ST.97, when using APIs and JSON format, and to share their experience;*

(f) *note the availability of the API Catalog for Intellectual Property and encourage its Members and Observers to participate; and*

(g) *note the work plan of the API Task Force, as indicated in paragraphs 63 to 66 above.*

[End of document]