|  |  |  |
| --- | --- | --- |
|  | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2022-2024 | TSAG-TD385R1 |
| TSAG |
| Original: English |
| **Question(s):** | RG-WM | Geneva, 22-26 January 2024 |
| **TD** |
| **Source:** | Editors, Recommendation ITU-T A.7-rev |
| **Title:** | Analysis of the concept of “standards gap analysis” and suggested way forward for Recommendation ITU-T A.7-rev |
| **Contact:** | Olivier Dubuisson OrangeFrance | E-mail: olivier.dubuisson@orange.com |
| **Contact:** | Ena DekanicFederal Communications CommissionUSA | E-mail: ena.dekanic@fcc.gov |

|  |  |
| --- | --- |
| **Abstract:** | The RG-WM rapporteur group meeting on 21 Nov 2023 tasked the ITU-T A.7-rev editors to further study the concept of “standards gap analysis” and provide an analysis to TSAG. |

**Action**: RG-WM is invited to discuss this document.

The RG-WM rapporteur group meeting on 21 Nov 2023 agreed that:

* More discussion is needed on the need of an “initial/preliminary” or simply a “gap analysis” to be provided together with the proposal to establish a focus group. This issue is in square brackets. The co-editors were tasked to study this issue further before TSAG by providing a definition or a format for the standards gap analysis.
1. **Current uses of the term in ITU-T documents**

The term “gap analysis” (a fortiori, “standards gap analysis”) is not defined in the [ITU Terms and Definitions](https://www.itu.int/br_tsb_terms/#?q=gap%20analysis&sector=T,R&from=2005-01-01&to=2023-11-23&status=1&type=any&page=1) database.

The search feature of the ITU web site lists [441 occurrences](https://www.itu.int/search#?q=%22standards%20gap%20analysis%22&fl=0&ex=false&target=All&sector=t&group=all&collection=General) of this term (in English). The term appears in [13 ITU-T Recommendations or Supplements](https://www.itu.int/search#?q=%22standards%20gap%20analysis%22&fl=0&ex=false&target=All&sector=t&group=Recommendations&collection=General), often as a reference to a [report on standards gap analysis](https://www.itu.int/en/ITU-T/focusgroups/imt-2020/Documents/T13-SG13-151130-TD-PLEN-0208%21%21MSW-E.docx) from FG IMT-2020.

1. **Related contributions to TSAG**

In the last study period, Canada had submitted the following contributions to TSAG:

1. [TSAG-C140](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0140) (23-27 Sep 2020): “*Ecosystem Collaboration*”

|  |
| --- |
| [**Report of TSAG RG-WM meeting, 22 Sep 2020**](https://www.itu.int/md/T17-TSAG-200921-TD-GEN-0785/en)[…] Questions for clarifications were raised and different views were expressed on whether ‘gap analysis’ proposed is a ‘Recommendation’ or an ‘option’, for every new work item, when in the lifetime of a work item, how to assess whether a ‘gap analysis’ is ‘full/acceptable’ or not […]. Some ITU-T SG (SG13, SG15 and SG17) practices of gap analysis were shared. […] |

1. [RGWM-DOC2](https://extranet.itu.int/meetings/ITU-T/T17-TSAGRGM/RGWM-201021/DOCs/T17-TSAGRGM-RGWM-201021-DOC-0002.docx) (21 Oct 2020): “*Ecosystem Collaborations (Update of TSAG C-140)*”

|  |
| --- |
| [**Report of the TSAG RG-WM interim e-meetings on 20-21 Oct and 8-9 Dec 2020**](https://www.itu.int/md/T17-TSAG-210111-TD-GEN-0952/en)[…] During the discussion, it was first clarified that the first proposal should be split into two parts: * + when to expand SG scope, to consider new Q or FG, it is recommended to conduct gap analysis;
	+ when a gap analysis is warranted, use of a standardized gap analysis template is recommended.

[…] Then it was clarified that this requirement on gap analysis is not for new work item, but for new Question, Focus Group or SG scope expansion. It was also clarified that the gap analysis should not be used to prohibit ITU to start new work. |

1. [RGWM-DOC2](https://extranet.itu.int/meetings/ITU-T/T17-TSAGRGM/RGWM-201208/DOCs/T17-TSAGRGM-RGWM-201209-DOC-0002.docx) (9 Dec 2020): “*Ecosystem Collaborations (Further update of TSAG C-140)*”

|  |
| --- |
| [**Report of the TSAG RG-WM interim e-meetings on 20-21 Oct and 8-9 Dec 2020**](https://www.itu.int/md/T17-TSAG-210111-TD-GEN-0952/en)[…] The meeting reiterated that gap analysis is a useful tool for collaboration and should not be a prohibit for ITU-T to start new work items. Further inputs on this discuss on gap analysis are invited. |

1. [TSAG-C164](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0164) (11-18 Jan 2021): “*Gap Analysis Format*”

|  |
| --- |
| [**Report of TSAG RG-WM meeting, 12 & 14 Jan 2021**](https://www.itu.int/md/T17-TSAG-210111-TD-GEN-0928/en)[C164](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0164) is a further developed Contribution from Canada following their previous Contributions on this subject discussed in RG-WM recommending a gap analysis template to be used, when a Study Group is expanding its scope or considering new question text, or when a new focus group is forming. [C164](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0164) provides the text to be included as a non-normative appendix in A.1 and an example of what a gap analysis would look like in practice.Questions for clarifications were raised on the difference of the two versions of the template, the difference of the template in Appendix proposed and the existing Annex A form of A.1, and how to identify standard bodies, forum and consortia impacted. It was desired to know how gap analysis is conducted in other SDOs.While C164 received supports indicating that gap analysis is being very useful in avoiding overlap among SDOs and improve standard quality; it is already practiced in many SDOs including ITU-T, the template proposed as a non-normative requirement will promote better gap analysis in ITU-T.Different views were expressed on how to evaluate the effectiveness of gap analysis, whether it should be formalized and for which ITU-T standardization decisions. Concerns were expressed that obligatory gap analysis might delay or even prevent ITU-T to start new work, fees to join many SDOs will add cost for developing countries. The meeting agreed to continue discussion on this proposal. |

No more discussions occurred after January 2021.

1. **Possible formats for a standards gap analysis**

The [report on standards gap analysis](https://www.itu.int/en/ITU-T/focusgroups/imt-2020/Documents/T13-SG13-151130-TD-PLEN-0208%21%21MSW-E.docx) from FG IMT-2020 used the following format:

|  |  |
| --- | --- |
| Gap E.1 Considering ICN as a protocol for IMT-2020 Network | Priority: High |
| Description: In the existing mobile infrastructure, IP is the main transport protocol and everything is optimized around the layer-3 OSI (TCP/IP) stack. However, experience has shown that there is a need to migrate to protocols which can comprehensively integrate infrastructure, transport, and content. Research and development in ICN shows the possibilities to solve this problem. ICN will need further development in areas such as mobility management, end-to-end QoS, prioritization and scale to manage billions of devices, which are framework of IMT-2020 networks. […]Gap: Detailed architecture analysis of the three above options is required.  |
| Related work: IRTF/ICNRG documents |

Contribution [TSAG-C164](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0164) (11-18 Jan 2021) from Canada suggested the following format whilst clarifying that “*The gap analysis template is not mandatory and should be used to enhance a common understanding of the work that needs to be done*”:

A gap analysis can be organized in two potential ways:

1. starting from a perceived gap and then considering the groups impacted, and
2. starting from the perspective of the other groups in the standards ecosystem, identifying their role, and then determining (compare and contrast) if there is a gap to fill.

A gap analysis template related to the first option above follows in Table 1 below. A gap analysis template related to the second option above follows in Table 2 below.

Table 1 is formatted as a form that will capture each gap, provide areas to describe the gap, and point to the groups that are impacted.

|  |  |
| --- | --- |
| Gap Identifier | Provide a unique identifier for ease of referencing |
| Title | Short Descriptive Title |
| Short Description | Executive Summary |
| Tags | Keywords, tags for quick reference related to subject of gap |
| Ecosystem Description | Description of area where the gap exists |
| Gap Description | Description of the gap, including current situation, rationale, and wanted position |
| Future Work | Description of the future work/study needed to fill gap |
| Groups Impacted | List Standards Bodies, Forums, and Consortia impacted |

*Table 1 – Gap Analysis Template Option 1*

Table 2 is formatted so that each organization has multiple rows in the table providing a way to list all the documents that need to be considered as part of the gap analysis. After each table, a paragraph is provided that contrasts between the new work proposal and the existing work described in the table.

|  |  |  |
| --- | --- | --- |
| Standards Body | Standards Document Name | Description of Document |

*Table 2 – Gap Analysis Template Option 2*

The templates are not mutually exclusive. Table 2 is good for ecosystem awareness and Table 1 is useful when easy reference to the gaps is needed.

It is suggested to **reuse the above excerpt** from [TSAG-C164](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0164). Table 1 of [TSAG-C164](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-TSAG-C-0164) and the table format used in the FG IMT-2020 [report on standards gap analysis](https://www.itu.int/en/ITU-T/focusgroups/imt-2020/Documents/T13-SG13-151130-TD-PLEN-0208%21%21MSW-E.docx) could be merged and simplified as follows:

|  |  |  |
| --- | --- | --- |
| **Gap:** *<Identifier>* | **Title:** *<Short descriptive title>* | **Priority:** *<low/medium/high>* |
| **Short description:** | *<Executive summary>* |
| **Gap description:** | *<Description of the gap, including area(s) where the gap exists>* |
| **Future work:** | *<Description of the future work/study needed to fill the gap>* |
| **Related work:** | <*Existing standards; SDOs impacted>* |

1. **Attempt to define the term (if needed)**

**Standards gap analysis**: Process of assessing and comparing existing standards with desired or optimal standards within a specific domain.

Note – It involves identifying discrepancies or deficiencies between current standards and the targeted benchmarks, aiming to bridge the gaps and improve compliance, efficiency or performance.

1. **Suggested way forward**

Discussions in the previous study period always concluded that it is recommended (but not mandatory) to produce a gap analysis (when a new study group is proposed, or when a study group proposes to extend its scope, or when a new focus group is proposed). Similarly, a format for describing a gap analysis could be recommended, but it would not be mandatory. The possibility to conduct a standards gap analysis for new work items needs more discussion.

Taking account of the excerpts of previous TSAG reports copied under section 3 above, it seems that more discussion is needed to clarify to what extent a standards gap analysis is expected to be complete/accurate.

To avoid delaying the determination of Recommendation ITU-T A.7-rev and taking into consideration that a standards gap analysis could be (non-mandatorily) provided in different contexts:

* when a new study group is created or when a study group extends its scope, i.e. in relation with WTSA Resolution 1;
* when a focus group is created, i.e. in relation with Recommendation ITU-T A.7;
* possibly when a (normative or informative) work item is added to the work programme, i.e. in relation with Recommendations ITU-T A.1 and ITU-T A.13;
* when drafting a contribution related to one of the three previous items, i.e. in relation with Recommendation ITU-T A.2,

the editors of ITU-T A.7-rev suggest **developing a Supplement to the A-series of Recommendations** **"Guidelines for the development of a standards gap analysis"** and discussing it during interim RG-WM meetings until the next TSAG meeting in July 2024 where this draft Supplement could be proposed for agreement. A first draft of such a Supplement is proposed in appendix to this TD.

Consequently, **ITU-T A.7-rev could be determined at this TSAG meeting with the following modification to** [TD379](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-TSAG-240122-TD-GEN-0379):

1. delete the four occurrences of "[standards gap analysis]" in clauses 2.1.1.1, 2.1.1.2, 2.1.2.1 and 2.1.2.2;
2. add the following note underneath the second paragraph of clause 2.2 "Terms of reference":

The relationship of this work to that of the parent group must be indicated, in addition to relationships with other ITU study groups, standards organizations, forums and consortia, etc., and the degree of urgency of the specific topic. The justification that the intended activity cannot be handled as efficiently by study groups should be given.

NOTE – It is recommended to provide (as a separate document) a standards gap analysis with the work in other ITU study groups, standards organizations, forums, consortia, etc.

At the July 2024 meeting of TSAG where ITU-T A.7-rev would be put forward for (TAP) approval (together with the Supplement which would, hopefully, be proposed for agreement), we would simply add a reference to the new Supplement in this note (and the corresponding item in the bibliography at the end), to read:

NOTE – It is recommended to provide (as a separate TD) a standards gap analysis with the work in other ITU study groups, standards organizations, forums, consortia, etc. (see [b‑ITU‑T A Suppl. n]).

|  |
| --- |
| Appendix (to this TD)DRAFT Supplement n to ITU-T A-series RecommendationsGuidelines for the development of a standards gap analysis |

|  |
| --- |
| SummaryThis Supplement provides guidelines to aid ITU-T study groups in developing a standards gap analysis of work done in other study groups or other standards development organizations. A standards gap analysis may be useful when a study group is considering new areas of work (i.e. establishing a new Question, establishing a focus group, adding a new work item to its work programme). |

DRAFT Supplement n to ITU-T A-series Recommendations

Guidelines for the development of a standards gap analysis

# 1 Scope

To enhance a common understanding of work that needs to be done, and to identify potential competitive advantages and strategic standardization opportunities while optimizing the allocation of resources, conducting a standards gap analysis might prove beneficial when a study group plans to:

– expand its scope,

– establish a new Question,

– form a focus group, or

– add a new work item to its work programme.

A standards gap analysis can be developed by a study group, or provided in a contribution to a meeting and further refined by the study group.

# 2 References

[ITU-T A.1] Recommendation ITU-T A.1 (2019), *Working methods for study groups of the ITU Telecommunication Standardization Sector (ITU-T)*.

[ITU-T A.7] Recommendation ITU-T A.7 (2016), *Focus groups: Establishment and working procedures*.

[WTSA Res. 1] WTSA Resolution 1 (Rev. Geneva, 2022), *Rules of procedure of the ITU Telecommunication Standardization Sector*.

[WTSA Res. 2] WTSA Resolution 2 (Rev. Geneva, 2022), *ITU Telecommunication Standardization Sector study group responsibility and mandates*.

# 3 Terms and definitions

## 3.1 Terms defined elsewhere

None.

## 3.2 Terms defined in this supplement

This supplement defines the following terms:

**3.2.1 standards gap analysis**: Process of assessing and comparing existing standards with desired or optimal standards within a specific domain.

NOTE – It involves identifying discrepancies or deficiencies between current standards and the targeted benchmarks, aiming to bridge the gaps and improve compliance, efficiency or performance.

# 4 Abbreviations and acronyms

SDO Standards Development Organizations

# 5 Conventions

None.

# 6 Context of use and benefits

**6.1** A standards gap analysis can be used to bring together information leading to effectively and efficiently scoped work. While the templates specified in clause 7 are not mandatory, they should be used to enhance a common understanding of the work that needs to be done.

**6.2** Based on discussions at a study group meeting, it may be agreed to conduct a standards gap analysis when:

– a study group is considering to expand its scope (see [WTSA Res. 2]);

– a study group is considering to establish a new Question (see [WTSA Res. 1, section 7]);

– a focus group is being formed (see [ITU-T A.7]);

– a study group is considering to add a new work item to its work programme (see [ITU-T A.1], clause 1.4.7).

**6.3** When drafting a contribution addressing one of the cases listed in clause 6.2, a member may also find it beneficial to provide a standards gap analysis (see [ITU-T A.2]).

# 7 Templates

**7.1** A gap analysis can be organized in two potential ways:

– starting from a perceived gap and then considering the SDOs impacted (see Table 1); or

– starting from the perspective of the other SDOs in the standards ecosystem, identifying their role, and then determining (compare and contrast) if there is a gap to fill (see Table 2).

**7.2** Table 1 and Table 2 are not mutually exclusive. Table 2 is good for ecosystem awareness and Table 1 is useful when easy reference to the gaps is needed.

**7.3** Table 1 is formatted as a form that will capture each gap, provide areas to describe the gap and point to the groups that are impacted.

**Table 1 – Template to describe standardization gaps**

|  |  |  |
| --- | --- | --- |
| **Gap:** *<Identifier>* | **Title:** *<Short descriptive title>* | **Priority:** *<low/medium/high>* |
| **Short description:** | *<Executive summary>* |
| **Gap description:** | *<Description of the gap, including area(s) where the gap exists>* |
| **Future work:** | *<Description of the future work/study needed to fill the gap>* |
| **Related work:** | <*Existing and draft standards; SDOs impacted>* |

**7.4** Table 2 is formatted so that each organization has multiple rows in the table, providing a way to list all the documents that need to be considered as part of the gap analysis.

**Table 2 – Template to describe existing standards**

|  |  |  |
| --- | --- | --- |
| **SDO** | **Standards reference and title** | **Short description** |
| *<SDO name>* | *<Standards reference: "Title">* | *<Description>* |

**7.5** After each table, a paragraph is provided that contrasts between the new work proposal and the existing work described in the table.

Appendix I

Examples

This appendix provides an example of use of the templates in Table 1 and Table 2, for illustration only.

**I.1** Example of a standardization gap described using the template of Table 1:

|  |  |  |
| --- | --- | --- |
| **Gap:** G1 | **Title:**Water soluble drawing/writing instruments ink | **Priority:** Medium |
| **Short description:** | Current technologies for erasable ink are dominated by friction techniques (polymer erasers) or heat to remove the writing/drawing from the media surface. Ink that is water soluble is desirable. |
| **Gap description:** | A gap exists in the formulation of non-toxic, environmentally friendly water-soluble ink that can be applied to remove the image/writing, but not damage the paper. The ability to reuse paper many times, will aid realizing the sustainable development goals. |
| **Future work:** | Potential advancements include woven paper, wax-infused paper, and non-liquid inks. |
| **Related work:** | ISO 12756, ISO 11540, ISO 87.080, ANSI Z356.1, JIS S 6026. |

**I.2** Example of an existing standard described using the template of Table 2:

|  |  |  |
| --- | --- | --- |
| **SDO** | **Standards reference and title** | **Short description** |
| ISO/TC 10 "Technical product documentation" | [ISO 14145-1:2017](https://www.iso.org/standard/73282.html) "Roller ball pens and refills — Part 1: General use" | Requirements related to legibility of lettering and handling and storage of documents. This standard may be impacted if a new ink style is standardized. |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_