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|  | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | TSAG-TD214R1 |
| TSAG |
| Original: English |
| **Question(s):** | | RG-WPR | Geneva, 30 May - 2 June 2023 |
| **TD** | | | |
| **Source:** | | Associate Rapporteur | |
| **Title:** | | Baseline text for report of the analysis of ITU-T study group restructuring alternatives | |
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| **Abstract:** | This document provides the baseline text of the draft, final report to TSAG of the implementation by RG-WPR of the action plan for analysis of ITU-T structural alternatives. |

**Introduction**

WTSA20 added a new Resolution that resolves to implement the action plan for the analysis of ITU-T study group restructuring that was produced by TSAG during the last study period. This document provides a proposed baseline document concerning the analysis of study group restructuring alternatives to be used as a target for future contributions.

**Discussion**

The participants in the February 2023 RG-WPR meeting requested that a baseline document be created of the analysis of study group restructuring alternatives to be used as a target for future contributions. This document presents the baseline following the 19 April 2023 meeting.

**Summary**

After discussion in the May 2023 RG-WPR meeting, the attachment of this document could be used as a target for future contributions if the participants agree.

**Annex - Analysis of ITU-T study group restructuring alternatives**

Draft Text as of 19 April 2023

**List of Revisions**

|  |  |
| --- | --- |
| **Date** | **Description** |
| 23-03-15 | Creation of initial draft |
| 23-03-20 | Inclusion of agreements reached at 15 March 2023 virtual meeting |
| 23-04-19 | Inclusion of agreements reached at 19 April 2023 virtual meeting |
| 23-05-31 | Inclusion of agreements reached at TSAG meeting in May 2023 |
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**List of Issues**

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| --- | --- | --- |
| **Issue** | **Date** | **Description** |
| ~~2303-01~~ | ~~230315~~ | ~~Need to confirm accuracy of table of work activities presented in RGWPR-DOC2 (230315)~~ |
| 2304-01 | 230419 | Further discussion is desired on how timely identification of standardization needs can be converted to a KPI |
| 2304-02 | 230419 | Further discussion is desired on how BSG issues can be converted to a KPI |
| 2305-01 | 230531 | Incorporate revised table of work activities into document |
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Analysis of ITU-T study group restructuring alternatives

# Introduction

The World Telecommunication Standardization Assembly included in Resolution 99 (Geneva, 2022) an action plan initiating a thorough review of ITU-T potential restructuring options, based on empirical analysis, with a view to having a more effective, efficient, fit-for-purpose, forward-looking and inclusive ITU-T. TSAG was charged with the responsibility to manage the analysis of ITU-T study group restructuring based upon contributions to TSAG from Member States and ITU-T Sector Members. This document details the management of that analysis.

At its meeting in December 2022, TSAG agreed on how to implement the action plan for the analysis of ITU-T study group restructuring as documented in [221212-TD-GEN-152r1](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0152/en) and directed RG-WPR to execute that implementation. Within RG-WPR, an associate rapporteur was designated to lead this activity. In accordance with Resolution 99 (Geneva, 2022), the rapporteur group made a progress report on the analysis at each TSAG meeting.

Between the December 2022 and June 2023 meetings of TSAG, RG-WPR convened four virtual meetings to consider contributions to advance the implementation of the action plan.

Editor’s Note – additional information about the later execution of the work within TSAG is to be provided here.

# Overview of analytic approach

The approach utilized by RG-WPR was to apply “multiple-criteria decision-making” (MCDM) in the analysis of alternative study group structures. MCDM is concerned with structuring and solving decision and planning problems involving multiple criteria[[1]](#footnote-1). Typically, there does not exist a unique optimal solution for such problems, and it is necessary to use decision-makers' preferences to differentiate among solutions. This describes the type of decision facing this group relative to the analysis of alternative structures for ITU-T study groups.

The analysis comprises four elements: (1) identifying and making available the common set of data to be used by all participants [see clause 2.1], (2) specifying measurable KPIs in formulaic expressions and their relative importance (weight) in the evaluation [see clause 3], (3) detailing the way to use KPIs when comparing alternative proposals for ITU-T SG structure [see clause 2.2] and (4) identify [see clause 4] and compare alternative proposals [ see clause 5] for ITU-T study group structure and select an optimal one to advise TSAG on what to propose as a good ITU-T SG structure to WTSA-24.

## Data for use in analysis

Resolution 99 identified an extensive list of metrics to be used in the analysis. A roadmap to the relevant data provided by TSB for the metrics identified in the action plan for the analysis. It was emphasized that the metrics to be used should be selected carefully so that the necessary workload would be reasonable. This roadmap is contained in RGWPR-DOC1 (230315) Resolution 99 identified an extensive list of metrics to be used in the analysis. RG-WPR collected, with the assistance of TSB, the available data (metrics) identified in the action plan and posted them in the TSAG Rapporteur Group Meetings Informal FTP Area[[2]](#footnote-2). It was emphasized that the metrics to be used should be selected carefully so that the necessary workload would be reasonable. Annex A to this progress report identifies which data is available for the specific metrics identified in [221212-TD-GEN-124r1](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0124/en). The check marks (✓) in Annex A provide links to the data related to the respective metric. For those metrics that TSB does not have the resources to collect the data, guidance is provided for how to gather the pertinent data.

The attention of the reader is drawn to the observation that some of the data may be of value to other investigations within TSAG concerning metrics.

## Utilization of KPIs

The intention is to complete an analysis table such as shown in Table 1. The success of this approach is dependent upon establishing a numeric value for each KPI. The relative significance (weight) of each KPI is used to moderate the impact of that KPI in the evaluation of each alternative.

Comparison of the relative merits of the alternatives yields the optimal structure according to the analysis executed by the collaborators.

Table 1 – Model of analysis table

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | K1 | Weight1 | K2 | Weight 2 |  | Km | Weight m | Relative merit of alternatives |
| CA | EA,1 | W1 | EA,2 | W2 |  | EA,m | Wm | OPws(A) = Σi=1..m (EA,i\*Wi) |
| CB | EB,1 | W1 | EB,2 | W2 | … | EB,m | Wm | OPws(B) = Σi=1..m (EB,i\*Wi) |
| Cn | En,1 | W1 | En,2 | W2 |  | En,m | Wm | OPws(n) = Σi=1..m (En,i\*Wi) |

Where,

Cn is the candidate structure number n

Km is the KPI number m

En,m is the evaluation of candidate structure n for KPI m

Wm is the weight for KPI m

OPws is the Multiple-criteria Choice Operator (MCO) for the weighted sum

## Work areas of ITU-T study groups

Editor’s Note – introduce the matrix of work items presented in [TD277 (230530)](https://www.itu.int/md/T22-TSAG-230530-TD-GEN-0277/en) here.

# Definition of key performance indicators

It is important to recognize that, in the context of this analysis, the term “key performance indicator” (KPI) refers to a measure for evaluating the structures, not for assessing the performance of any study group against its mandate. The KPIs identify how to use the data for the metrics indicated in Annex A.

RG-WPR attempted to collect the set of measures that participants desired to use in evaluating alternative structures. These are indicated in the following clauses.

Editor’s Note – The February 2023 meeting recognized the need for identifying measurable KPIs, and that the contributions submitted to date satisfy this need; however, their proposals are included here to encourage further contributions.

Editor’s Note – the following KPIs were proposed in RGWPR-230215-DOC-0003.

3.1 Minimize the number of study groups involved with ITU-T E-series Recommendations to reduce coordination required for notifications on changes to national numbering plans.

3.2 Minimize the number of study groups involved with security topics to reduce coordination required, duplication of effort and potential for conflicting standards.

3.3 Minimize the number of study groups involved with QoS/QoE/performance to reduce coordination required, duplication of effort and potential for conflicting standards.

3.4 Address in no more than one study group tariff and accounting principles and international telecommunication/ICT economic and policy issues to clarify to where contributions should be directed, and to reduce the need for cross-question meetings.

3.5 Minimize the total number of study groups to reduce operational costs of convening study group meetings, to avoid duplication of standardization work between ITU-T study groups, and to clarify to where new work proposals should be directed.

3.6 Minimize the total number of Questions to reduce the cost and complexity of multiple meetings in parallel during study group or working party meetings, to clarify to where contributions should be directed, and to reduce the need for cross-question meetings.

Editor’s Note – the following KPIs were proposed in RGWPR-230315-DOC-0002.

3.7 Minimize the number of study groups involved with QKD/DLT topics to consolidate where the same expertise is required to advance the studies.

3.8 Minimize the number of study groups involved with AI topics to consolidate where the same expertise is required to advance the studies.

3.9 Minimize the number of study groups involved with Big Data topics to consolidate where the same expertise is required to advance the studies.

3.10 Minimize the number of study groups involved with IoT/M2M topics to consolidate where the same expertise is required to advance the studies.

3.11 Minimize the number of study groups involved with testing topics to consolidate where the same expertise is required to advance the studies.

3.12 Minimize the number of study groups involved with network/system architecture topics to consolidate where the same expertise is required to advance the studies.

3.13 Minimize the number of study groups involved with smart sustainable city and community topics to consolidate where the same expertise is required to advance the studies.

3.15 Minimize the number of study groups involved with multimedia topics to consolidate where the same expertise is required to advance the studies.

3.16 Minimize the number of study groups involved with ITS topics to consolidate where the same expertise is required to advance the studies.

3.17 Minimize the number of study groups involved with signalling/protocol topics to consolidate where the same expertise is required to advance the studies.

3.18 Minimize the number of study groups involved with future network/emerging telecom networks topics to consolidate where the same expertise is required to advance the studies.

3.19 Minimize the number of study groups involved with numbering/addressing/Identification topics to consolidate where the same expertise is required to advance the studies.

3.20 Minimize the number of study groups involved with health topics to consolidate where the same expertise is required to advance the studies.

3.21 Minimize the number of study groups involved with cloud topics to consolidate where the same expertise is required to advance the studies.

3.22 Minimize the number of study groups involved with broadband cable and TV topics to consolidate where the same expertise is required to advance the studies.

3.23 Minimize the number of study groups involved with access/transport topics to consolidate where the same expertise is required to advance the studies.

3.24 Minimize the number of study groups involved with operations topics to consolidate where the same expertise is required to advance the studies.

3.25 Minimize the number of study groups involved with policy topics to consolidate where the same expertise is required to advance the studies.

3.26 Minimize the number of study groups involved with EMF topics to consolidate where the same expertise is required to advance the studies.

3.27 Minimize the number of study groups involved with environment/climate change topics to consolidate where the same expertise is required to advance the studies.

3.28 Minimize the number of study groups involved with combatting counterfeit topics to consolidate where the same expertise is required to advance the studies.

Editor’s Note – the following KPIs were proposed in RGWPR-230419-DOC-0004.

3.29 Every study group shall have a single Question charged with considering the creation of new topics (to address timely identification of standardization needs) such that a KPI has a value of 1 if such a question exists in all SGs of a proposed structure and a value of 0 if it does not.

3.30 Every study group shall have a Question charged with support for bridging the standardization gap such that a KPI has a value of 1 if such a question exists in all SGs of a proposed structure and a value of 0 if it does not.

Editor’s Note – the following KPIs were proposed in RGWPR-230215-DOC-0004.

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| --- | --- | --- | --- |
| KPI/criteria | Available Metrics from [**TD124r1**](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0124/en) | Note | Additional considerations |
| 1. Relevance: Outputs of study group | 2.1 number of unique downloads by Recommendation from 2008 to 2021. | T22-TSAG-221212-TD-GEN-0025 shows the aggregate for each year from 2001. Confidence in data prior to 2018 is reduced. | Download of revisions of a recommendation is also indicative of the relevance of the work.  Frequency of the revisions is indicative of the level of activity of the group. |
| 2. Activity level of study group | 5.3. Number of contributions to a work item from,   * Supporters * others (by country, by region, by membership category) | DMS data is available at the Question level.  Aggregating at the WP and SG level will allow to evaluate if a WP or SG is low on active participation or on diversity. | In addition, a minimum number of meaningful contributions per year, or active work items may need to be defined to justify the existence/cost of an SG and of its structure. |
| 5.2. Number of different members, sector members and associates that have committed to contributing actively to the introduction of new work, as shown in the A.1 and A.13 justifications  • by country  • by region  • (by membership category) | Derivable from the work programme (<https://www.itu.int/ITU-T/workprog/wp_search.aspx>? ) by adding the “Supporting Member” field in the customised tab view. | Aggregating the information at the WP and SG level will indicate if a particular WP or SG is low on active participation, on diversity or steered toward a location. |
| * Nb of RGM and in particular of e-meeting * Stale work-item | Data is available from 2010 onward. T22-TSAG-221212-TD-GEN-0025 shows the aggregate from 2010 for each study group. | Stale work items may be considered over multiple study periods. If the number is consistent, it may indicate a systemic lack of expertise or participation to complete the work. |
| 5.Collaboration | * Proportion of Liaison for action over the total number of liaisons received and sent. | Received liaisons: Data is available from 2010 onward. T22-TSAG-221212-TD-GEN-0025 shows the aggregate from 2010 for each study group.  Sent liaisons: Data is available from: <https://www.itu.int/net/ITU-T/ls/ols.aspx>? |  |
| * Cross SG e-meeting or meeting. | Not available? |  |

# Alternative structures considered

# Analysis of alternatives

# Conclusion

References

WTSA Res 99

TSAG TD 124r1

**Annex A  
Data (metrics) for analysis**

| **Metric identified in** [**TD124r1**](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0124/en) | **Availability** | **Collected by TSB?** |
| --- | --- | --- |
| * 1. ~~participation, contribution and~~ leadership by types of membership from 2008 to 2021 for each study group and related subgroups | Work program data is available on main page of each Study Group (within each study period), but only from 2018 | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.1.%20leadership%20by%20types%20of%20membership.csv) |
| 1. participation, ~~contribution and leadership~~ by types of membership from 2008 to 2021 for each study group and related subgroups | Work program data is available on main page of each Study Group (within each study period), but only from 2018 | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.1.participation%20by%20types%20of%20membership%20(1).csv) (2018 – 20)  [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.1.participation%20by%20types%20of%20membership%20(2).csv) (2021-23) |
| * 1. ~~participation,~~ contribution ~~and leadership~~ by types of membership from 2008 to 2021 for each study group and related subgroups | Data is available (at SG and WP level), but only from 2011 | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.1.%20contribution%20by%20types%20of%20membership%20.csv) |
| 1. number of months elapsed between introduction and approval of Recommendations by Study Groups from 2008 and 2021 | Derivable from the work programme. [T22-TSAG-221212-TD-GEN-0026](https://www.itu.int/md/T22-TSAG-221212-TD-GEN-0026/en) shows average durations for work items that completed in the current study period. |  |
| 1. number of liaison statements from other standardization organizations during 2008 and 2021 | Data is available from 2010 onward. T22-TSAG-221212-TD-GEN-0025 shows the aggregate from 2010 for each study group. | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.3.number%20of%20liaison%20statements%20from%20other%20standardization%20organizations.csv) |
| 1. number of Recommendations approved using traditional approval process from 2008 to 2021 | Data is available by searching: <https://www.itu.int/ITU-T/workprog/wp_search.aspx>? | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.4.number%20of%20Recommendations%20approved%20using%20traditional%20approval.csv) |
| 1. number of Recommendations approved using alternative approval process from 2008 to 2021 | Data is available by searching: <https://www.itu.int/ITU-T/workprog/wp_search.aspx>? | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.5.number%20of%20Recommendations%20approved%20using%20alternative%20approval.csv) |
| 1. number of test suites developed for ITU-T Recommendations from 2008 to 2021 | Data is available by searching: <https://www.itu.int/ITU-T/workprog/wp_search.aspx>? |  |
| * 1. number of unique downloads by Recommendation from 2008 to 2021 | T22-TSAG-221212-TD-GEN-0025 shows the aggregate for each year from 2001. Confidence in data prior to 2018 is reduced. | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/2.1.number%20of%20unique%20downloads%20by%20Recommendation/) |
| * 1. number of ITU-T Recommendations incorporated or adopted by other standardization organizations from 2008 to 2021 | Not available |  |
| * 1. number of standards essential patents first in ITU-T Recommendations from 2008 to 2021 | Derivable from the IPR database:  <https://www.itu.int/net4/ipr/search.aspx>? |  |
| * 1. number of ITU-T Recommendations, Guidelines and Reports with policy or regulatory implications between 2008 to 2021 | # of ITU-T Recommendations is the same as 1.4 |  |
| * 1. number of ITU-T Recommendations cited in Sector Members’ press releases and documentation from 2008 to 2021 | Not available |  |
| * 1. number of ITU-T Recommendations adopted and implemented fully or partially by industry from 2008 to 2021 | Not available |  |
| * 1. number of liaison statements sent to other standardization organizations from 2008 to 2021 | Data is available from: <https://www.itu.int/net/ITU-T/ls/ols.aspx>? | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/3.1.number%20of%20liaison%20statements%20sent%20to%20other%20standardization%20organizations.csv) |
| * 1. number of memoranda of understanding with other SDOs | Data available on Memorandum of Understanding and Cooperation Agreements webpage: <https://www.itu.int/en/ITU-T/extcoop/Pages/mou.aspx> |  |
| * 1. number of joint workshops or activities with other SDOs | Derivable from the Events page and reading sponsor of each workshop:  <https://www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-T> |  |
| * 1. number of standards from other SDOs incorporated or adopted by ITU-T from 2008 to 2021 separated by field/subject | Derivable from the work programme. <https://www.itu.int/ITU-T/workprog/wp_search.aspx>?  By searching for A.5 references. Data is available from 2008. | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/3.4.number%20of%20standards%20from%20other%20SDOs%20incorporated%20or%20adopted%20by%20ITU-T.csv) |
| * 1. number of liaison officers from or to other SDOs | Data is available from 2008. | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/3.5.number%20of%20liaison%20officers%20from%20or%20to%20other%20SDOs.csv) |
| * 1. other mechanisms to collaborate (e.g., JCAs, invited experts) | JCA data is available on JCA webpage: [Joint Coordination Activities (itu.int)](https://www.itu.int/en/ITU-T/jca/Pages/default.aspx)  Number of invited experts is derivable from the meeting registration data | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/3.6.other%20mechanisms%20to%20collaborate.csv) |
| * + 1. Number of participants (Member States, Sector Members, Associates, Academia, SMEs, and others (e.g. UN organizations, SDOs) | CRM data is shared as a TD after each study group or working party meeting. This data could be consolidated only from 2018. It is populated in “1.1” items indicated above. | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.1.participation%20by%20types%20of%20membership%20(1).csv) (2018 – 20)  [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/1.1.participation%20by%20types%20of%20membership%20(2).csv) (2021-23) |
| * + 1. Number of different members, sector members and associates that have committed to contributing actively to the introduction of new work, as shown in the A.1 and A.13 justifications * by country * by region * by membership category | Derivable from the work programme (<https://www.itu.int/ITU-T/workprog/wp_search.aspx>?) by adding the “Supporting Member” field in the customised tab view. |  |
| * + 1. Number of contributions to a work item from * supporters * others (by country, by region, by membership category) | DMS data is available at the Question level. Open https://www.itu.int/md/Tsp-SGsg, where sp ∈ {09, 13, 17} and sg ∈ {02, 03, 05, 09, 11, 12, 13, 15, 16, 17, 20}, and for each meeting on that page click on the “consolidated list” links | [✓](https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/5.3.Number%20of%20contributions%20to%20a%20Question%20from%20members.xlsx) |

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1. Stanley Zionts, (1979) *MCDM—If Not a Roman Numeral, Then What?*. Interfaces 9(4):94-101. Published Online: August 01, 1979 <https://doi.org/10.1287/inte.9.4.94> [↑](#footnote-ref-1)
2. https://www.itu.int/ifa/t/2022/tsag/exchange/RG-WPR/Metrics%20data%20gathered%20by%20TSB/ [↑](#footnote-ref-2)