



Project Group Procedures

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Introduction

TIP's Project Groups ("PGs") are essential to TIP meeting its mission, aligning and driving the complementary goals of TIP's other activities, including education, testing/certification, etc., to advance adoption of open and disaggregated networking technology across the globe.

This document describes the processes and procedures governing all phases of activities within a PG, including PG formation, operation, and graduation.

Capitalized terms not specifically defined on this document have the meaning assigned to them in TIP's Organization Documents.

Terminology and Definitions

Several terms describe the various stakeholders/actors in these activities. For this document, these are defined as follows:

- **Charter:** The document that describes the scope, leadership, member eligibility criteria, Deliverables and IPR Treatment, etc. of a PG or Subgroup.
- **Contribution:** A proposal made by a PG Member for inclusion in a Deliverable. Contributions may be proposals that result in a new Draft Deliverable, e.g. as the starting point for a new Draft Deliverable or a revision to an existing Final Deliverable, or modification/revision to an existing Draft Deliverable. Editorial comments, grammatical fixes and the like are not Contributions. Additionally, Contributions do not include responses to requests for information such as that contained in a Statement of Compliance.
- **Deliverable:** Documentation and other artifacts generated in collaboration between PG Participants as part of a Project Group and as defined in the Project Group Charter.
- **PG:** A TIP Project Group (e.g. OOPT, OpenRAN).
- **PG Chair or PG Co-Chair:** The chair(s) of a given TIP PG as defined by the PG Charter. If a PG has more than one Chair, each is referred to as a "Co-Chair."
- **PG Code of Conduct:** The set of rules outlining the norms, rules, and responsibilities or proper practices of a PG Participant and its representative PG Members in TIP generally, and in a Project Group or Subgroup specifically, as set forth in Appendix 6.
- **PG Collaboration Space:** An online platform, created and managed by TIP, for intra-PG and cross-PG collaboration among TIP Participants.
- **PG Community Coordinators (PGCC):** Single point of contact for PG Members, provides PG onboarding, administrative and other support to the PG Leadership, PG Members, and TPMs.
- **PG Leadership:** The PG Chair(s), Co-Chairs, Subgroup Leads and Co-Leads (if applicable), TPM, & PGCC.
- **PG Members:** Individuals representing a PG Participant within a PG

- **PG Participants:** TIP Participants who have agreed to the PG Charter. Each PG Participant is a “Contributor” as that term is used in the Bylaws.
- **PG Staff:** The PGCC(s) and TPM(s) assigned by TIP to a PG.
- **Project or Workstream:** A specific initiative within a PG or Subgroup (e.g., Phoenix), such as development of a Deliverable, White Paper, etc.
- **Review Period:** A defined period of time, typically 30 days but can be longer, in which PG Members and PG Participants are requested to provide feedback. Review Periods may apply to Deliverables, other Projects, as well as PG Charters and other TIP Policies.
- **Subgroup or PG Subgroup:** A group created within the PG to focus on one or more specific technology or application areas. Each Subgroup will have its own Charter, created by modifying the PG Charter Template as appropriate. The Scope of a Subgroup may not exceed that of its PG.
- **Subgroup Lead or Subgroup Co-Lead:** Analogous to a PG Chair, the lead(s) for a given PG Subgroup as defined by the Subgroup Charter. If a Subgroup has more than one, each is referred to as a “Co-Lead.”
- **Technical Program Manager (TPM):** Responsible for the day-to-day project delivery management of the Project Group, including providing technical guidance on roadmaps, goals, and milestones; assistance in developing Deliverable frameworks; technical documentation maintenance; recruiting new PG Participants; and Deliverable technical review. A TPM may also be the interface between the PG and the TC, TVC, and other TIP Committees.
- **Test and Validation Council (TVC):** TIP Test and Validation Council, an Executive Council of TIP.
- **Technical Committee (TC):** TIP Technical Committee, an Administrative Committee of the TIP Board.

Project Group Procedures

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Project Group Lifecycle

PG and Subgroup Formation

I. PG Formation

One or more Sponsors may propose to form a new Project Group by completing and submitting a PG Charter (see Appendix 1) to the TIP Board of Directors (the “Board”) for approval. All PG Charters must be reviewed by TIP Legal or its equivalent, prior to submission to the TIP Board. The Board may delegate PG Charter approval to an Administrative Committee.

A PG Charter, in concert with these PG Procedures and TIP’s Organizational Documents, is the governing document for the PG, describing, at a minimum, its:

- Companies initially sponsoring and/or supporting the PG
- Technical scope
- PG leadership (min/max for, but not identity of, Chairs/Co-Chairs; Subgroup Leads/Co-Leads) and staff
- Initial workstreams and subgroups
- Criteria for completion of the PG’s work
- Deliverables, including (i) target dates, and (ii) reference to applicable TIP policies, licensing, or agreements that govern specific Deliverables
- Meeting cadence
- Participation Criteria/Eligibility
- Intended collaboration partners, both internal and external, if any

When submitting a PG Charter - either for a new PG or as a re-Charter of an existing PG - for Board approval, it should be accompanied by a business case for operation of the PG, describing estimated costs for tools or human resources not regularly provided by TIP, as well as potential sources of funding. PG Participants should work with TIP PG Staff, TIP Finance, and TIP Legal to develop the business case.

Upon approval by the Board, a PG, including its Subgroups if any, may begin operations.

II. Subgroup Formation

At initial formation, a PG may, but is not required to, comprise one or more Subgroups. Each Subgroup will have its own Charter, containing substantially similar information as that required by this document for the parent PG, and reference the parent PG Charter. Additionally, PG Leadership may, following approval of PG formation by the Board, initiate the formation of one or more Subgroups to advance the activities within the PG. Prior to beginning work within a Subgroup, PG Leadership must review all Subgroup Charters with TIP Legal or its equivalent, and inform the TC and the Board of the Subgroup creation.

Operations

A PG may not deviate from its stated Scope, develop Deliverables that are not listed in its Charter, or collaborate formally or informally with other groups¹ not identified in the PG Charter unless the PG Charter is modified to reflect these changes. An approved PG Charter may not be revised except pursuant to TIP's Project Group Charter Revision Policy, which is included as Appendix 2.

I. Staffing and Structure

The PG Charter will describe a PG's structure and staffing. A PG may structure itself to include formal and informal workstreams and/or formal Subgroups that are tasked with developing specific Deliverables or portions of Deliverables, or it may structure as a monolithic body in which all work is completed amongst the entire PG Membership.

II. Subgroups v. Workstreams

A Subgroup is a formal hierarchical body within a PG, working directly under supervision of the PG. Each Subgroup must have its own Charter (following the PG Charter template), including Subgroup Leads/Co-Leads (min/max but not identification of individuals), Subgroup Deliverables, eligibility, etc. Deliverables created within a Subgroup must be approved at the Subgroup level, following voting/consensus thresholds as for PGs, then at the PG level, and for certain types of Deliverables by the TVC (or other Board-designated council or committee) before becoming Final Deliverables. See Appendix 3 for a table describing the decision-making roles and responsibilities within TIP.

A workstream is an informal group of PG/members working collaboratively to accomplish a specific task or project. Workstreams do not have separate Charters. Workstreams can be created at any time by suggestion or recommendation of any PG Member(s). Adding, removing, or modifying a workstream is at the discretion of PG Leadership (Chair(s), Lead(s)) and does not require Charter Revision so long as the workstream activity falls within the PG's Scope.

III. PG Leadership

III-A. Chairs/Co-Chairs and Leads/Co-Leads^{2,3,4}

Each Project Group is led by one or more Chairs, who are responsible for driving the activities of the PG. The PG Chair is also the default person who leads PG calls, initiates voting, and interfaces with TIP employees and contractors, (e.g. TIP support, legal, marketing, etc.), and TIP Committees, (e.g. recommends proposals for adopting Final Deliverables to TVC). PG Chairs, on a quarterly basis or such other cadence as requested by the Board, will also provide the TIP Board, or such

¹ Collaboration with other consortia, trade associations, standards bodies may require a liaison agreement. TIP Legal will assist PG Leadership to evaluate the need for, and help put such an agreement in place. All TIP Liaison Agreements are subject to TIP's Liaison Policy.

² Chairs and Leads are analogous positions, and have substantially similar obligations and responsibilities within the PG or Subgroup, as the case may be.

³ See Appendix 7 for additional guidance for Chair/Lead roles and responsibilities.

⁴ For purposes of clarification, a Chair or Lead position is held by an individual PG Member, and not by the PG Participant the individual represents.

other body as designated by the Board, with updates and status reports of the activities within the PG.

Similarly, if a PG has a Subgroup, each Subgroup is led by one or more Leads having analogous role and responsibility as a PG Chair.

PG Leadership are nominated by the PG Membership or any TIP Sponsor, serve one-year terms, and must be approved by the Board (PG Co-Chairs) or the PG (Subgroup Co-Leads). An individual's nomination must include a brief description of the nominee's background, skillset, and explanation of why they are a good fit for the role. TIP PG Staff may assist in the nomination process. This applies to Chair/Co-Chairs as well as to Leads/Co-Leads. The PG will evaluate its current PG Leadership at least annually, deciding whether to appoint new, or re-appoint current, PG Members for PG Leadership roles.

A PG Chair or Subgroup Lead who wishes to resign their position, or who is no longer employed by a PG Participant, shall inform PG Leadership as well as the TC in writing as soon as possible, preferably at least 30 days prior to the effective date of resignation.

If a PG Chair or Subgroup Lead resigns, or otherwise vacates its position, PG Leadership may appoint an individual to serve out the remaining term.

A PG Chair or Subgroup Lead may be removed from office at any time by (a) majority vote of the TIP Board; or (b) consensus recommendation of the PG or Subgroup Participants and, for removal of a PG Chair, approval of the TIP Board. Open PG Chair positions will be filled at the discretion of the Board; open Subgroup Lead positions will be filled at the discretion of PG Leadership.

III-B. TIP PG Staff

A PG may also be assigned TIP Staff, comprising one or more Project Group Community Coordinators (PGCC) and/or Technical Project Managers (TPM). The PGCC provides administrative support to Chairs and Leads for PG activities, whereas the TPM provides technical support to help drive the PG's agenda, both within the PG, among TIP PGs, and external to TIP.

III-C. Meetings

There are two types of Project Group meetings: Monthly Project Group Meetings and Working Meetings:

- The purpose of Monthly Project Group meeting is to review the project group's activity from the previous month, progress against the PG's roadmap, and provide a look at milestones for the next month, 6 months, or such other period as is appropriate given a specific PG's activities
- The purpose of Working Meetings is to make progress on specific projects and/or Deliverables

Monthly Project Group meetings follow the process and procedures below:

- Call to Order
- Review of the Antitrust Guidelines, Adherence to TIP's Organizational Documents

- Reminder of meeting is closed to PG Participants and ask anyone not representing a PG Participant to drop the call
- Review and Approve Agenda
- Review and approve previous meeting notes
- Agenda Topics
- AOB (Any Other Business)
- Review of upcoming meetings
- Q&A
- Close Meeting

Working meetings may be less formal than a Monthly meeting, but must include an acknowledgement by each party of compliance with TIP's Organizational Documents and Antitrust Guidelines.

At least once per calendar year, a PG Monthly meeting will include an agenda item to discuss and deliberate regarding PG Leadership.

Unless previously approved by the PG (whether by express voting, consensus, or as set forth in the PG's Charter), no PG Member may record, using any means known now or in the future, e.g. AI bots, the proceedings of any PG meetings. TIP PG Staff, or the PG Member expressly tasked with taking meeting minutes, may, for the sole purposes of ensuring accuracy of meeting minutes, retain a recording of a PG meeting for a short period of time.

III-D. Deliverables

Please see Appendix 5 for a more detailed description of each type of TIP Deliverable, and Appendix 6 for Deliverable Confidentiality treatment.

There are three types of Deliverables:

- Documents, which include:
 - Use Case Definition (UCD), also referred informally to as "Use Case"
 - Technical Requirements Definition (TRD) and Detailed Technical Requirements Definition (dTRD)
 - Minimum Viable Solution or Blueprint, or an equivalent title
 - Other items such as Technical Papers/Case Studies, Exit Reports, Playbooks, etc.
 - Test Plans, including both Lab (controlled environment) and Commercial (field/market)
- Software, and
- Specifications⁵

Deliverables may be developed by all Participants of the PG, or be assigned to a workstream or Subgroup for completion. Participation in a workstream or Subgroup is available to any PG Participant, subject to eligibility criteria described in the relevant Charter. If a PG wishes to add, remove, or otherwise modify its list of Deliverables, it must follow the PG Charter Revision procedures.

⁵ Specifications are rarely, if ever, developed within a TIP PG. As of the date of these PG Procedures, TIP has not developed a Specification, and no current or graduated PG is empowered to develop a Specification.

Every TIP Deliverable follows the same basic steps during development:

1. Initial scoping and Deliverable definition
2. Call for Contributions to the initial Draft Deliverable
3. Deliberation of all Contributions, modification and maturing the Draft Deliverable
4. Recommendation for adoption of a Draft Deliverable as a Final Deliverable
5. Approval of Final Deliverable

Every PG Deliverable is posted in the PG's Collaboration Space. Every PG Participant is eligible, and encouraged, to offer a Contribution⁶ for the creation or improvement of a Draft Deliverable. Each Contribution must be accompanied by a Contribution Form, and listed as such within the PG Collaboration Space. All Contributions to a PG Deliverable must comply with and are subject to the TIP Contribution Process set forth in Appendix 3. In addition to Contributions, PG Participants may submit feedback and/or comments on a Draft Deliverable, other PG Participant's Contribution, etc., via the comment functionality of the PG's Collaboration Space or by emailing the PG Chairs/Co-Chairs and relevant TIP PG Staff (PGCC, TPM).

For those PGs developing Software, the PG may deviate from the contribution process outlined above, so long as the contribution process is documented in the PG Charter or otherwise available to existing and prospective PG Participants, e.g. via the PG's Collaboration Space.

The PG Chair/Co-Chairs, Subgroup Lead/Co-Leads, or workstream leader(s) are responsible for ensuring all Contributions, comments, and feedback are addressed and resolved. Subject to Appendix 3, a Draft Deliverable will become a Final Deliverable upon (a) upon approval of the PG as evidenced by the PG's consensus (lack of sustained objection) or, if consensus cannot be reached by affirmative vote of greater than 75% of the PG Participants⁷; or (b) recommended for adoption as Final using the same methodology as in (a).

For those Deliverables for which the PG is **not** the decision-making body (see Appendix 3), the TIP TVC, or such other body as determined by the Board, will deliberate and vote on such recommendation. The TVC will notify the PG Chair/Co-Chairs and PG Staff when it has reached a decision. The Board may, at any time and in its sole discretion, revoke the TVC's delegated approval authority over any Deliverable.

For additional information, including specific actions required at each stage of development of a Deliverable, please see Appendix 5.

III-E. Deliverables Roadmap / Technology Roadmap

PG Leadership, in concert with PG Staff, will devise and publish via the PG Collaboration Space a proposed timeline for completion of its Deliverables (a "Deliverables Release Roadmap"). The

⁶ Please note: Editorial comments, grammatical fixes and the like are not Contributions.

⁷ For clarity, Deliverables developed in a Subgroup must be approved at the Subgroup level, then the PG level, before being proposed as a Final Deliverable per Appendix 3. Deliverables, or portions of Deliverables, developed in a workstream are not subject to voting/consensus within the workstream members prior to being proposed within the PG.

Deliverables Release Roadmap may be, but is not required to be, included in the PG Charter. Items for inclusion as part(s) of the Deliverables Release Roadmap include:

- Start and completion dates for Draft Deliverables and portions of Draft Deliverables
- Schedule of releases, new versions of Final Deliverables, etc.
- Placeholder dates for requests for information from PG Participants, e.g. Statements of Compliance

Many PG Deliverables may depend on development of third-party technology, such as an industry technical specification (e.g. 3GPP Releases, IEEE-SA 802.11**, etc.), specification compliant components (e.g. WiFi 7 APs, 5G RUs, etc.), software, etc. PG Leadership, working in concert with PG Staff, will develop and publish via its PG Collaboration Space a list of known such dependencies as well as a roadmap indicating when, to the extent such information is available for disclosure within a TIP PG, such technology will be available for inclusion in and/or reference by a PG Deliverable (a “Technology Roadmap”). The Technology Roadmap may be, but is not required to be, included in a PG Charter.

Both the Deliverables Release Roadmap and Technology Roadmap are posted to the PG Collaboration Space, and will be reviewed periodically by PG Leadership. If modifications are required to either or both the Deliverables Release Roadmap or Technology Roadmap, PG Leadership shall inform the TC of the nature and reasons for the changes.

TIP PG Staff, typically the TPM and/or PGCC, in collaboration with the Chair(s)/Lead(s) provides regular, at least monthly, summaries of the status of progress against the Deliverables Release Roadmap to TIP’s Chief of Technology or such other role as the TC or Board may designate.

IV. PG Participation

IV-A. Eligibility

Every TIP Participant, via its individual representative(s), may participate in a TIP PG, subject to the PG’s eligibility criteria, which includes the PG Code of Conduct. PG eligibility criteria must be objective, measurable, and apply equally to all TIP Participants and their representatives wishing to participate in the PG. PG eligibility criteria must be present in the PG Charter and is subject to (a) initial review by a representative of TIP Legal and (b) periodic review by the TIP Board.

In general, all PG Participants and PG Members must be supportive of the PG’s goals, intended Deliverables, and scope, as described in the PG Charter. Each PG Participant, through its PG Member(s), is expected to actively participate in the PG, making and commenting on Contributions proposed for inclusion in PG Deliverables, attending PG meetings, voting, coordinating technical resources to support the PG’s needs, and monitoring the PG’s activity to stay abreast of updates and activities.

A TIP Participant may be denied membership in a PG if they do not meet the eligibility criteria described in the PG Charter⁸. An individual will not be permitted to participate in a PG unless (i) the individual’s employer is a TIP Participant in good standing (has entered into the applicable

⁸ By extension, an individual representing a TIP Participant may be denied access to a PG if the TIP participant does not meet the eligibility criteria.

Participation Agreement), (ii) the individual and their employer, the applicable TIP Participant, meet all eligibility criteria specified in the PG Charter, and (iii) the TIP Participant agrees to the terms of the PG Charter.

A PG Subgroup may also include specific eligibility criteria for participation in its Subgroup Charter. Subgroup eligibility criteria may be more specific, but may not conflict with, PG eligibility criteria, and is subject to the same review requirements as PG eligibility criteria. An individual wishing to participate in a PG Subgroup must meet both the PG and PG Subgroup eligibility requirements.

PGs are not intended as educational activities, marketing opportunities, etc., and so those who are not sufficiently well-versed in the field, or who do not have the available time (and commitment from their employer) to contribute meaningfully will not be permitted to participate in a TIP PG.

IV-B. Voting

It is TIP's goal that PG decisions, e.g. recommending a Draft Deliverable for approval as Final, be made by consensus, which TIP defines as there being no sustained objection to the action being considered. If a PG cannot reach consensus, the action will be approved upon receipt of the affirmative vote of (i) greater than 75% of those PG Participants represented at a duly-called and noticed PG meeting at which a quorum (greater than 50% of all PG Participants) is present, or (ii) greater than 75% of all PG Participants by virtual voting via email or polling via the PG's Collaboration Space or an equivalent.

Each PG Participant, regardless of the number of individuals representing such PG Participant in the PG, shall have 1 vote, and only 1 vote. Proxy votes are permitted if and only if the PG Participant providing its proxy provides notice to the PG Chair/Co-Chairs and TIP PG Staff (if applicable) at least 5 working days prior to the scheduled vote.

IV-C. Removal & Reinstatement

A PG Member will be removed from a PG if (a) the PG Member is no longer employed by a PG Participant or (b) the PG Participant represented by the PG Member is no longer a TIP Participant in good standing. PG Members and PG Participants removed from a PG will not be allowed to participate unless/until they meet the PG eligibility criteria.

Any PG Member or PG Participant who fails to comply with these PG Procedures, the PG Charter, and any of TIP Organizational Documents may be suspended or removed from the PG. Removal or suspension of a PG Member does not necessarily mean that the PG Participant represented by such individual will be removed or suspended from the PG. However, removal or suspension of a PG Participant does mean that each PG Member representing it is also removed or suspended.

Recommendations to suspend or remove may be made by any PG Member by sending a message outlining the reasons for such recommendation to PG Leadership and TIP PG Staff. Decisions to suspend may be made by a majority vote of disinterested individuals comprising PG Leadership, the TC, or the Board. Decisions to remove are made by a majority vote of the Technical Committee, following recommendation by PG Leadership and TIP PG Staff, or directly by the Board.

All such decisions to suspend or remove will be communicated to the PG Member and/or PG Participant, and include the reasons for such suspension or removal.

If the organization a PG Member represents is not removed or suspended, any removed or suspended PG Member may appeal the decision to the Technical Committee by communicating such request to PG Leadership and TIP PG Staff. A removed or suspended PG Member may be reinstated at the PG Leadership and Technical Committee's sole discretion.

A suspended or removed PG Participant may appeal the decision to the TC, who will then make a recommendation to the TIP Board, who will either adopt or reject the TC's recommendation. A PG Participant who wishes to appeal the Board's decision may do so by communicating an appeal request to TIP's Executive Director, President, or Secretary/Treasurer. The decision of the Board after hearing a PG Participant's appeal shall be final.

All PG Participants, and PG Members representing a PG Participant, that are no longer in good standing as a TIP Participant will be removed from the PG without notice.

A PG Member that is no longer employed by a PG Participant will be removed from the PG without notice.

The TIP Board may remove or suspend any PG Participant or PG Member of its own accord pursuant to the Bylaws, TIP's Organizational Documents, and subject to these PG Procedures.

V. PG Graduation; Merger

From time-to-time, TIP may graduate a PG, or merge the functions and responsibilities of one or more PGs. This may happen upon recommendation of PG Leadership, due to overlapping or common interest with another PG, completion of all PG Deliverables, lack of sufficient industry interest within the TIP community, etc. The merger of 2 or more PGs is accomplished by Re-Chartering, with the effect that all PG Participants of the merging PGs become part of the merged PG, unless they provide notice to TIP Staff. A Re-Chartering must comply with the Charter Revision procedures, attached as Appendix 2. The decision to merge or graduate a PG is a decision of the Board, based on recommendation of the Technical Committee.

Deliverables and all other PG materials created by a merged or graduated PG will be retained within TIP's PG Collaboration Space and/or microsite.

Supplemental

PG Audits

TIP Staff will conduct regular audits, at least annually, of all TIP PG activities, including PG Charters, PG Leadership, et al, to gauge their productivity and impact on TIP and the industry. The depth and intensity of the audit may vary in each instance depending on need. Similarly, the audit process followed may vary as well. The results of the audit will be distilled into a summary and recommendation that is formally presented by TIP Staff to the PG Chair(s), Technical Committee and/or Board of Directors. PG Leadership will collaborate with TIP PG Staff to implement the decision of the Technical Committee / Board.

Charter Review/Revision

In addition to a recommendation as a result of an annual audit, a PG may, either at its own volition or by recommendation of TIP Staff, conduct a review of its PG Charter to ensure continued alignment with current and future-planned activities. If this Charter Review indicates misalignment with the Deliverables, Scope, internal (other PGs, Committees, etc.) or external (other organizations, open source repositories, etc) interactions, technology roadmap, etc., PG Leadership may recommend updating the PG Charter accordingly. PG Leadership will review the proposed updates with a representative from TIP Operations, usually a TIP Legal representative, who will determine whether the updates are substantial enough to require a full-blown Charter Revision, or whether the existing PG Charter can be simply updated.

All revisions to a PG Charter must comply with TIP's PG Charter Revision procedures, attached as Appendix 2.

TIP-Provided Tools

TIP provides every PG with a baseline suite of tools, including the PG Collaboration Space, file storage, and meeting platform, e.g. Zoom. Additional tools required for PG activities may be provided, subject to approval by TIP Operations, and TIP Finance.

Testing, Trials, and Certification

From time-to-time, PG Leadership may announce opportunities for testing, request PG Participants to volunteer for trials (both lab and field) to help mature and advance a Draft Deliverable, or that a Final Deliverable is available for compliance testing. While PG Participants may conduct trials in advancement of Draft Deliverables without TIP's participation or involvement, they are encouraged to follow the relevant sections and guidance in the TIP Community Laboratory Policy and its successor policy(ies) ("Lab Policy"), or such other TIP policies, procedures, and guidance governing trials and testing. TIP Participants engaged in, or planning to engage in, compliance/certification testing in controlled environments, e.g. a laboratory, and/or commercial environments, e.g. field or market, are highly encouraged to follow guidance in relevant sections of the Lab Policy.

Submission of Contributions; Agreements; Signature Authority

It is the PG Member's responsibility to ensure that, if they are submitting a Contribution, agreement, project description, etc., on behalf of a PG Participant, they have the requisite permission and authority to do so.

Appendix 1 PG Charter Template

Project Group Charter

[Full Project Group Name]

[Project Group Subtitle, if applicable]

This Project Group (“PG”) Charter establishes the purpose, project scope, and intellectual property license terms applicable to the Project described below (“Project”). Only Participants whose Authorized Representative agrees to the terms of this Project Group Charter are permitted to participate in this Project Group.

Access to the PG, its draft and final Deliverables, meetings, etc. and permission to use it are offered by TIP to any TIP Participant who agrees to the terms of this Charter. You agree that you will not share any Contributions of other PG members, or any draft or final PG Deliverables with any party who is not a member of this PG.

TIP Board of Directors Approval Date: [Month Day, Year]

Project Group Charter Effective Date: [Month Day, Year]

1. PROJECT GROUP NAME

[Full Project Group Name], or “[Nickname]”

2. PURPOSE

[A few sentences describing the Project Group’s purpose, expected Deliverables, etc.]

3. SCOPE

[Fully detail the Scope of the Project Group]

4. PROJECT GROUP PARTICIPATION

Any individual who is employed by, affiliated with, or otherwise represents a TIP Participant that has agreed to this PG Charter may participate in the PG, subject to compliance with the following criteria, if any:

- [List any additional participation criteria besides being a general TIP Participant; if there are no criteria, enter “No additional participation criteria.”]

A PG Member may be suspended or removed from the PG for failure to meet the above criteria, and as otherwise set forth in the TIP PG Procedures, Bylaws, or other TIP Policy.

5. PROJECT GROUP LEADERSHIP

[Project Group] will have at least [written number] and up to [written number] designated Chairs/Co-Chairs to oversee and guide general PG activities. Additionally, upon creation of a Subgroup, individual Subgroup leads/co-leads will be designated to guide the activities of the Subgroup, reporting upwards into the larger PG.

6. PROJECT GROUP FUNCTION & STRUCTURE

The group will be structured and managed as a single Project Group, with the option to create workstreams and/or Subgroups as appropriate to meet community needs. If the Co-Chairs determine a Subgroup is needed to effectively manage and develop an activity within the PG, a Subgroup Charter will be drafted and approved pursuant to TIP Policies.

The PG will be split into [written number] different [Subgroups, Workstreams, etc.]:

- [List out Subgroups, Workstreams, etc.]

Subject to TIP Board and Technical Committee approval, additional Subgroups may be created to address new technology and market developments arising within the Scope of the Project Group.

7. COLLABORATION AND COOPERATION

The [Project Group] will collaborate with [Entity] for [Scope of collaboration].

The [Project Group] will also interface with [Entity] for [Scope of collaboration].

In addition, the [Project Group] will leverage existing network standards and infrastructure, as appropriate, from other industry groups such as:

- [List out Industry Groups]

8. PROJECT GROUP DELIVERABLES

The PG will develop the types of Deliverables selected below. Creation of and contributions to Draft Deliverables, as well as approval of Final Deliverables is subject to the PG Procedures. The IPR treatment for all Deliverables is set forth in the TIP Intellectual Property Policy, as revised from time-to-time by action of the Board, and other of TIP's Organizational Documents, as applicable.

| Deliverable | Approval Procedures |
|-------------|---------------------|
|-------------|---------------------|

| | |
|--|-----------------------------------|
| Overview and assessment of use cases | Project Group |
| Technical Requirements Document and Detailed Technical Requirements Document | Project Group |
| Test Plans and Allocation Criteria | Test and Validation Council |
| Blueprint / MVS | Project Group |
| Publications (technical papers, blogs, etc.)PoC implementation and results | Project Group |
| Specifications | Technical Committee; Board |
| Software | Project Group; Project Maintainer |

CHARTER UPDATE

This Project Group Charter will be updated to reflect any changes as set forth in the [Project Group Charter Revision Policy](#).

ORIGINAL SUPPORTING COMPANIES

[list those companies who initially sponsor/support formation of the PG]

[insert PG Short name] Charter Exhibit A
Provisions Applicable to Software

[DRAFTING NOTE: include if the SW project will be governed by a group other than PG Leadership. An example of a “Project Steering Committee is below]

Definitions

Capitalized terms not defined below that are used in this Exhibit A have the meaning assigned to them in the PG Charter or TIP’s Organizational Documents.

Contributor: Any PG Participant making a Contribution to a PG Deliverable designated as “Software” in the PG Charter.

Open Source Project Governance

[The following is an example of project governance. A PG may utilize an alternate governance model, subject to TIP Legal, TIP Staff, and/or Board approval]

The Project Group will select members to form the Project Steering Committee (PSC), the PSC will decide, based on consensus, on the day-to-day operation of the SW project including:

- Define roles & responsibilities (SW contributors / maintainers)
- Software development process
- Code contribution process

PSC guidelines:

- Any member of the [PG short name] PG is eligible for the PSC
- PSC members will be selected once a year by a vote of the community⁹
- The PSC will consist of 7 selected members + the Co-chairs of the PG
- PSC defined process, decisions & meeting notes will be published to the community (foster transparency)
- All existing TIP bylaws and policies supersede anything within this document

Software Maintainer Responsibilities

The Maintainer, according to the Telecom Infra Project IPR Policy, has the following responsibilities:

- The Maintainer will coordinate the Contributions of Contributors (including accepting or rejecting proposed Contributions), the hosting of the software project, and handling of pull requests in accordance with the then-current TIP Guidelines for Maintainers for TIP Software Projects

⁹ Each company participating in the Project Group receives one vote, regardless of the number of employees from such company that participate in the Project Group.

- The Maintainer will determine practices for releases of updates subject to approval by the Board of Directors or an Administrative Committee formed in accordance with the TIP Bylaws

If the Maintainer resigns or is removed, the Board, based on recommendation of the PG Leadership or proposal by a Sponsor, will appoint a new Maintainer. The Board may remove a Maintainer by majority vote in accordance with the Bylaws.

The Maintainer has the additional responsibilities described in this Charter and as may be delegated to him or her from time to time by the TIP Board of Directors, or PG Leadership with approval of the Board, including:

- Ensuring that all Contributors' Authorized Representatives have executed the TIP Software Contribution and License Agreement
- Tracking all Contributions submitted including the date of submission, the entity responsible for the submission, and whether the Contribution was accepted, with or without modification, or rejected
- Appointing and managing Committers, if any, in accordance with the then-current TIP Guidelines for Maintainers for TIP Software Projects
- Coordinating with TIP Legal to ensure compliance with all third-party software licenses including free and/or open-source software licenses, as necessary
- Ensuring TIP Software Projects are maintained and reside in TIP-approved repositories.

Services Provided by TIP

- [list of services, e.g. code repository, etc]
-

Initial Source Code Contribution

- [list of initial contributions. If the PG will not start from existing code, this section should be deleted or the list denoted as "none"]
-

Software License Terms

The license terms applicable to the Software Project shall be as follows:

- _____ Limited copyright-only license as approved by the TIP Board of Directors.
- _____ Standard 3-clause BSD License.
- _____ BSD License plus patent grant.

A copy of the complete license for the Project is attached hereto as Schedule 1 (the "**Project License**").

Software Contribution Terms

Organizations and individuals participating in the [PG short name] PG are considered “Contributors” in the project as defined in the TIP Software Contribution and License Agreement, the form of which is available in the TIP IPR Policy, Exhibit C.

Contributions to the Software Project for must be made pursuant to the TIP Software Contribution and License Agreement (CLA).

_____ Check here if Contributions must also be accompanied by the Developer Certificate of Origin as set forth in Exhibit D of the TIP IPR Policy.

[insert PG Short Name] Charter Exhibit B
Provisions Applicable to Specifications

This Exhibit B does not apply to any other type of Deliverable.

All Specifications must be listed in the Table of Deliverables set forth in PG Charter and the IPR Treatment must reference this Exhibit.

Patent Licensing

The patent licensing obligation applicable to all Contributions, Draft Specifications, and Final Specifications is set forth in the TIP IPR Policy

Final Specification Copyright Licensing

Each PG Contributor as defined in the TIP IPR Policy agrees that to the extent that its Contributions are incorporated into the Final Specification it hereby grants TIP a copyright license in its included Contributions to release those included Contributions as incorporated into the Final Specification under the terms indicated below. Additional detail and exact wording for each option is set forth in the TIP IPR Policy. **[Check one box]**

_____ Option 1: Creative Commons Attribution License

_____ Option 2: Limited Copyright License

_____ Option 3: Copyright Notice only

_____ Option 4: Full Release of Copyright into the public domain.

Appendix 2

PG Charter Revision Procedure

From time-to-time TIP may wish to make modifications to one or more PG Charters. This may result for a variety of reasons, such as:

- the scope stated in the PG Charter does not reflect the PG's current or intended scope
- existing Deliverables aren't sufficient to accomplish the goals of the PG
- 2 or more PGs wish to merge
- PG Leadership determines that the PG would benefit from collaborating with one or more third-party organizations not listed in the Charter
- one or more Subgroups are necessary to advance the work of the PG and myriad others.

Because all PG Participants are subject to the obligations set forth in TIP's IPR and other Policies as a result of participating in the PG, changes to a PG Charter may affect a PG Participant's rights and obligations.

Modifications to a PG Charter that merely change the names of the PG Leadership, correct typographical errors, and make other similar non-material changes may be made by TIP at any time and are not subject to the procedures that follow. Non-material changes must be reviewed with TIP Legal prior to being posted to the PG's Collaboration Space, microsite, and TIP's externally facing website, as appropriate.

For all material/substantive updates (those that are not non-material) to a PG Charter:

1. The PG Leadership may propose a change to the PG's Charter by submitting the proposed revised Charter (the "**Re-Charter**") to the TIP Technical Committee with a written explanation stating the reasons the change is in the interest of TIP and the expected impact they may have on the PG Participants' continued participation in the PG. PG Leadership is required to work with a TIP Legal representative while developing the Re-Charter.
2. The Technical Committee evaluates the Re-Charter proposal, deciding whether to reject, move it forward as a recommendation to the Board, or whether additional information is required.¹⁰ If the latter, the TC may request further information from PG Leadership. The TC will make reasonable efforts to make a decision within 30 days of receipt.
3. Upon TC recommendation, a representative of PG Leadership or TIP Staff will present the Re-Charter proposal to the Board, who shall vote to approve, reject, or modify in accordance with the Bylaws. The Board may at its discretion request further information from the TC and/or PG Leadership before taking a vote.
4. Upon Board approval of the Re-Charter proposal, in modified or unmodified form, PG Leadership, usually via the PGCC, shall notify all PG Participants, via email and the PG's Collaboration Space, that the (a) the Re-Charter proposal was approved, and (b) the date on which

¹⁰ A Re-Charter proposal that is solely limited to creation of a Sub-group to advance the PG's work, that aligns with the scope described in the PG Charter, may be approved by the TC, and does not require Board approval. Similarly, revisions to a Sub-Group Charter are approved by the TC, and do not require Board approval.

the revised Charter will take effect (the “Effective Date”). The Effective Date is typically 30-days after Board approval.

5. For Re-Charters that include merger of one or more PGs, PG Leadership, usually via the PGCC, shall notify all PG Participants of the merging PGs, via email and the merging PG’s Collaboration Space(s), that the Re-Charter proposal for merger was approved and the revised Charter’s Effective Date.

6. Any PG Participant who does not wish to continue participating in the Re-Chartered PG, whether a re-charter of a single PG or the merger of one or more PGs may avoid being subject to the revised Charter by withdrawing from the PG prior to the revised Charter’s Effective Date.

Appendix 3

Decision-making Roles and Responsibilities

| | Board | TC | TVC | PG | TIP LT | TIP PG Staff |
|---|-------|---------|---------|------|------------|--------------|
| Focus Areas (2+ years) | D | R | | I, P | A | |
| Focus Areas (<2 years) | K | D | | I, P | A, R | |
| Technology Roadmap | K | D | | P | A, R | P |
| Final Deliverable Approval | | | | | | |
| UCD | | I, R, K | | D | K | |
| TRD/dTRD | | K | I | D | | |
| Test Plan | | K | D | I, R | A, I | |
| Success Criteria / ACD | | | D | I, R | | |
| Blueprint / MVS | | K | I | D | | |
| Publications (technical papers, blogs, etc) | | K | | D, P | A, I, P | I, P |
| Specification | D | | | R | | |
| PG Formation (incl Charter approval) | D | R, P | | I, P | A, I | P |
| PG Graduation | D | R, P | | I, P | A, I, R, P | I, P |
| PG Re-Charter | D | R, P, I | | I, R | A, I, P | I, P |
| PG Subgroup Formation | K | K | | D | A, I, P, R | I, P, R |
| Subcommittee/ Subcouncil Formation | K | R, D, P | R, D, P | | A, I, P, R | |
| PG Co-Chair | D, I | R, I | | I, P | A, I, P | P |

| | | | | | | |
|---------------------|---------|---------|---------|---|---------|------|
| PG Subgroup Co-Lead | K | K | | D | A, I, P | I, P |
| TC Co-Chair | D, R, I | R, P, I | | | A, I, P | |
| TC Subcomm Co-Leads | K, I | D, P, I | | | A, I | |
| TVC Subcouncil appt | K, I | | K, I, R | | D | |

Potential Roles:

Recommender - Responsible for making a detailed recommendation for approval.

Decider - Approves/Denies action, whether recommended by other party or sui generis

Knower - Informed of decision. Has Veto power

Inputter - May provide feedback, input into a recommended action

Agree - Ensures alignment with legal/regulatory and organizational requirements

Performer - Enacts the decided course of action

Appendix 4

Contribution Process

Contribution Form (Exhibit to Contribution Process)

1. PG Member completes the contribution form, on behalf of its PG Participant and submits to the PGCC along with the draft contribution. Contributions may also be made directly to Draft Deliverables or made during PG meetings. In such an instance, the PG Member must provide a contribution form to the PGCC within 1 week of submitting the contribution.
2. PG Leadership reviews the Contribution, and either (a) accepts as is, or (b) rejects and sends feedback to the submitter. A rejected contribution may be revised and re-submitted by the PG Member.
3. All accepted Contributions are publicized to the PG Members via the PG Collaboration Space and by PG Leadership during a PG meeting. Each such announcement must include an overview of what the Contribution is and proposals on what to do with the Contribution.
4. The PG community then provides feedback/comments and, as a consensus, decides how to move forward with the Contribution. If consensus cannot be reached, disposition of a Contribution is made by an affirmative vote of greater than 75% of PG Participants represented at the meeting where such disposition is being considered.
5. For Contributions that are proposals for a new PG Deliverable:
 - a. If PG Participants approve creation of a new type of Deliverable not reflected in the PG Charter (see #4 above), the PG will have to re-Charter pursuant to the PG Charter Revision Policy.
 - b. Once the revised Charter is approved, the PG may begin development of the Deliverable
6. Contributions that are proposals for improvement or development of existing Draft Deliverables are incorporated into the Draft as it progresses toward completion and approval as Final.
7. If a Contribution is made jointly by two or more PG Participants, then each co-contributor's portion of the Contribution shall be clearly described in the Contribution Form.
8. All PG Members making a Contribution, on behalf of themselves individually as well as the PG Participant such PG Member represents within the PG, represent and warrant that it and they:
 - a. shall use reasonable endeavors to identify Third Party IP that is applicable to its Contributions, and hereby represents and warrants that it will not submit any Contribution that, to its knowledge, includes Third Party IP unless the Third Party IP is clearly identified in writing along with the Contribution;
 - b. has(have) complied with all Third Party IP licenses and agreements that, to its and their knowledge, is applicable to the Contributions; and
 - c. have the requisite authority to make the Contribution, including without limitation any and all licensing obligations associated with the Contribution.

Appendix 5

TIP Deliverables: Types, Treatment, and Relationships

I. “Use Case” or “Use Case Definition”

A Use Case Definition (UCD) defines the scope of the product(s)/solution to meet an identified business, industry, or ecosystem problem, e.g. a “high order” operator and/or industry need. Depending on the nature of the project, the UCD will contain one or both of:

- Scenarios, which describe the overall requirements of what the operator is trying to achieve
- Use cases, which provide a more detailed view of the system's behaviour as it responds to a request

The UCD should also include additional contextual information, including but not limited to:

- Background information describing relevant business or technology drivers, including but not limited to:
 - services or function the product/solution would perform
 - targeted deployment environment
 - financial/economic constraints for the deployment model
- Contextual information showing how the product(s)/solution fit within the broader network environment, including, but not limited to:
 - general product/solution architecture
 - interfaces toward other nodes or function
 - deployment model (e.g. shared/dedicated, infra, outdoor/indoor deployment, on-prem/cloud based...)
- General guidance and high level constraints (e.g. alignment with industry standards)

A single UCD document may describe multiple use cases/scenarios, or alternatively each use case/scenario may be provided using a unique UCD. When a single UCD describes multiple use cases, each use case should be clearly identified, in particular in terms of applicability.

Activities

1. PG identifies the most critical use cases and creates a Draft Use Case Definition (UCD) for each use case
2. PGCC publishes Draft UCD(s) and announces that “UCD Review Period” is open to the PG. This is an open review, and all comments are shared within the PG (with attribution). PG Leadership may put a reasonable time limitation, e.g. 45 days, on the UCD Review Period.
3. Following the end of the UCD Review Period, consideration and resolution of all comments received during the Review Period, and upon consensus or affirmative vote of >75% of the PG Members, a Draft UCD is approved as Final.
4. Once approved as Final, PGCC publishes the Final UCD via the PG Collaboration Space.

Call to Action for PG Participants: Respond to Draft UCD

Timeline: PG Leadership determines timeline for development of Draft UCD, UCD review period.

Announcements

1. PGCC notifies PG of Draft UCD publication and UCD Review Period via announcement in the PG's Collaboration space and at PG Leadership discretion via email. Announcement to have a link to the Draft UCD, with instructions on how and where to send responses. Reminder announcements should be made as the UCD Review Period deadline nears.
2. Once the Draft UCD is approved as Final, the PGCC will announce and publish the Final UCD to the PG via the PG Collaboration Space.

Document Confidentiality Level

1. TIP Confidential: All the TIP Participants that have agreed to the PG Charter, or a subset of specific individuals within a PG actively developing the draft, e.g. Subgroup Participants that have agreed to the Subgroup Charter.
2. PG Leadership may decide to make Final UCD's non-confidential and available to the public. Draft UCDs are never made available to the public.

II. "Technical Requirements Document" and "Detailed Technical Requirements Document"

A Technical Requirements Document (TRD) defines the high-level, pre-commercialization technical requirements for the product(s)/solution identified within a UCD, including:

- High-level description of architecture and technology requirements, initially expressed at a protocol level, with further development, revision and refinement within the PG ultimately resulting in feature level requirement definitions
- References to the use cases from the relevant UCD(s) (not a repetition of the use case itself)
- The rationale for any decisions underpinning the technical requirements
- Guidance regarding the importance of each requirement

A "Detailed TRD" or "dTRD" further defines the technical requirements set forth in a TRD. The goal for a dTRD is to define, at a sufficiently detailed level, the technical requirements necessary to manufacture, produce, and commercialize a product/solution needed to satisfy a particular Use Case or series of Use Cases, including:

- Granular technology requirements down to a feature level
- Details of which technology component (HW, SW, or both) associated with each requirement
- Prioritization of each requirement, e.g.:
 - P0 (critical), typically mandatory binary requirements (see below)
 - "binary" requirements are those that elicit a "compliant" or "non-compliant" answer
 - P1 (high priority), typically mandatory open-ended requirements (see below)
 - "open-ended" requirements are intended to elicit information and may take the form of "non-functional" requirements such as performance or scalability metrics, or "request for information" such as supported features or functions
 - P2 (optional), typically optional requirements
- Allocation criteria (otherwise known as pass/fail criteria) for each of the requirements, represented as a percentage of the aggregate of each that is required

The dTRD is a detailed, structured document aimed at a technical audience that is closely familiar with the associated technologies. The Final dTRD is utilized by PG Participants to demonstrate their product/solution's compliance in order to apply for and be awarded a Requirements Compliant, aka "Bronze", Badge.

NOTE: The distinction between TRD and dTRD is one of technical detail, with the TRD being a higher-level document and the dTRD containing more detail. In some situations, a PG may choose to move directly from a Use Case to dTRD, e.g. if the market and/or technology segment is sufficiently matured.

Activities:

1. PG Members define the technical requirements needed to satisfy each Use Case and produce a Draft TRD.
2. Once the Draft TRD is sufficiently mature (a decision of the Chair(s)/Lead(s) and TPM), PG Members further refine the Draft TRD to produce a Draft dTRD. The dTRD defines the detailed technical requirements for the products/solutions identified in the relevant Use Case.
3. During development, the Draft TRD and Draft dTRD are available to all PG Members for review and comment via the PG Collaboration Space.
 - a. EXCEPTION: TRD's/dTRDs developed in a PG Subgroup: while in Draft form, a TRD that has been assigned for development within a PG Subgroup will be available only to members of the Subgroup for review and comment. Upon consensus of the Subgroup Participants, or in the absence of consensus upon the affirmative vote of >75% of the Subgroup Participants, the Draft TRD will be published to all PG Members for review and approval.
4. Upon consensus of the PG Participants, or in the absence of consensus the affirmative vote of >75% of the PG Participants, PG Leadership will approve as a Final dTRD.
5. Upon approval as Final, the PGCC publishes the Final dTRD via the PG Collaboration Space.

Call to Action for PG Participants: Respond to call for participation in development of Draft TRD / Draft dTRD.

Timeline: PG Leadership determines timeline for development of Draft TRD and dTRD, including publication, review and comment periods.

Output: Technical Requirements Document (TRD); Detailed Technical Requirements Document (dTRD)

Announcements: PGCC notifies PG of publication of Draft TRD / dTRD and availability for review and comment via the PG Collaboration Space and, at PG Leadership discretion via email. Announcement to have a link to the Draft TRD / dTRD, instructions on how and where to send feedback, and deadline for feedback. Reminder announcements should be made as the deadline nears. If the TRD/dTRD is being developed in a Subgroup, the publication and announcement is limited to the relevant Subgroup until approved for publication to the PG by the Subgroup.

Document Confidentiality Level:

1. Contributions, Draft TRD and Draft dTRD: TIP Confidential
2. Final dTRD: TIP Confidential, or non-confidential with approval of PG Leadership.

III. “Minimum Viable Solution” or “Blueprint”

A Minimum Viable Solution (“MVS”) or Blueprint describes the minimum-required products, solutions, technical requirements, etc., necessary to satisfy a Use Case, or collection of Use Cases. It is intended to provide those skilled in the industry with the most basic solution for a given issue, e.g. an end-to-end telecommunications network in a rural environment, improvements to existing network capability that support immersive applications at scale.

An MVS includes many other TIP Deliverables, such as UCDs, dTRDs, and Test Plans.

An MVS should be general enough to apply in a number of scenarios and markets, allowing for site-, vendor-, operator-, or country/region-specific customizations, but specific enough to be considered an industry-wide guideline for an “off-the-shelf” solution.

Activities

1. Development of an MVS or Blueprint may start early in TIP’s process, such as during Use Case definition, but will not be completed until all of the relevant Use Cases the MVS/Blueprint intends to cover have been defined and the dTRDs and Test Plans are approved as Final.
2. Upon consensus of the PG Participants, or in the absence of consensus the affirmative vote of >75% of the PG Participants, PG Leadership will approve as a Final MVS/Blueprint¹¹.
3. Upon approval as Final the PGCC publishes the Final MVA/Blueprint via the PG Collaboration Space.

Call to action for PG Participants

Actively participate in development of the Draft and Final MVS/Blueprint, as well as the Deliverables that comprise it.

Timeline

PG Leadership determines the timeline for development of MVS/Blueprint, including publication, review and comment periods. It is anticipated that MVS/Blueprint development will coincide with the development of its component parts, e.g. Use Cases, dTRDs, etc.

Output: Minimum Viable Solution / Blueprint

Announcements: PGCC notifies PG of publication of Draft MVS/Blueprint and availability for review and comment via the PG Collaboration Space and, at PG Leadership discretion via email. Announcement to have a link to the Draft MVS/Blueprint, instructions on how and where to send feedback, and deadline for feedback. Reminder announcements should be made as the deadline nears.

Document Confidentiality Level

1. Contributions, Draft MVS/Blueprint: TIP Confidential
2. Final MVS/Blueprint: TIP Confidential, or non-confidential with approval of TVC and PG Leadership.

¹¹ A MVS/Blueprint may not be approved as a Final Deliverable prior to the Test Plan(s) associated with the MVS/Blueprint is approved as Final by the TVC

IV. Test Plan

A test plan details the test cases, objectives, resources, and processes for a specific test session for a software or hardware product, an end-to-end solution, or portion thereof. A TIP Test Plan may be applicable to a lab (controlled) or field/market (commercial) environment. The intent of a Test Plan is to provide a guide for TIP Participants to follow in order to show their product's / solution's compliance with a TIP Deliverable, typically one or more dTRDs or Blueprints.

Activities:

1. Once the dTRD is approved as Final, PG (or Subgroup) Leadership determines whether to mature the dTRD into one or more test plans. If the decision is to move forward, the dTRD information will be used to develop one or more Draft Test Plans. The PG may choose to develop separate Test Plans for lab and commercial environments, to treat the lab→commercial transition as phases in the development, or develop multiple test plans for multiple different environments. In each case, the Test Plan must be based on a Final dTRD or Blueprint and be developed and matured within the PG. PG Participants are encouraged to contribute Draft Test Plans for consideration and comment within the PG.
2. Upon consensus of the PG Participants, or the affirmative vote of greater than 75% of all PG Participants, the PG Leadership submits the Draft Test Plan(s) and corresponding allocation criteria documents to TVC for approval as Final.

Call to Action for PG Participants: Participate in development of Draft Test Plans, including associated allocation criteria.

Timeline: This is an on-going phase, with the Test Plans and associated allocation criteria being developed and submitted for TVC approval per the PG testing timeline set by PG Leadership.

Announcements:

1. PGCC informs PG Members that the Draft Test Plan(s) process is kicking off via PG Collaboration Space, and at PG Leadership discretion via email.

Document Confidentiality Level:

1. Contributions and Draft Test Plans: TIP Confidential.
2. Final Test Plans: TIP Confidential, or non-confidential with TVC approval based on recommendation by PG Leadership.

IV. Case Study / Technical Paper (fka White Paper)

A Case Study, Technical Paper, or similar document publicizes areas of interest to PG Participants, TIP, and/or the broader industry. These documents may be generated by a PG Participant or PG Leadership.

Activities

Activities within the PG for development and publishing these types of documents is more informal than other TIP Deliverables, e.g. do not require calls for inputs, review and comment

periods, etc.

All TIP Case Studies, Technical Papers, and the like are subject to TC review and approval prior to publication on platforms other than internal TIP sites, e.g. the Collaboration Space.

Call to action for PG Participants

Contribute draft document for consideration by PG Leadership as a TIP document, and provide input for purposes of maturing the document.

Timeline

Timeline set by PG Leadership

Document Confidentiality Level

TIP Confidential until approved by PG for publication.

V. Software

Software is a set of instructions that enables a device, such as a computer, smart phone, WiFi Access Point, etc., to function and accomplish a set of tasks.

At TIP, software may comprise a stand-alone code base, such as OpenWiFi, or an API, or a different model as approved in a PG Charter.

Activities

PG Participants, working from the PG Charter, collaboratively define the features and functions that will become a Software Deliverable. This set of features and functions are adopted by consensus of the PG Participants, or in the absence by a vote of the PG Participants. Features that are approved for inclusion are then prepared and inserted into the code base either by PG Members, PG Members acting in the capacity of code maintainer, or by third party commercial development companies. The PG regularly identifies improvements, areas for improvement, and other changes, making updates to the code base on a quarterly or such other timeframe as PG Leadership, working with TIP PG Staff, approve.

Call to action for PG Participants. Participate in development of TIP Software Deliverables by actively making Contributions, acting in a software maintainer role, etc.

Timeline. PG Leadership determines the timeline for development of a TIP Software Deliverable, including review and comment periods, feature update timelines, release dates, etc.

Document Confidentiality Level

Contributions and TIP Software Deliverables: TIP Confidential subject to status as Open Source project.

VI. Specifications

A Specification is a standard set of guidelines and protocols that define how information is transmitted and exchanged in the telecommunications industry. These standards ensure compatibility, interoperability, and seamless communication between different devices, networks, and applications.

Activities

1. One or more PG Participants may make a Contribution intended for inclusion in or creation of a Draft Specification. Upon acceptance by the PG as a Draft Specification, PGCC announces the availability of the Draft via the PG Collaboration Space, and, at PG Leadership discretion via email. This announcement also includes a reminder to PG Participants of their patent license obligations under TIP's IPR Policy, should the Draft mature into a Final Specification, as well as the anticipated date (as provided by PG Leadership) that the Draft will be recommended to the Board for approval.
2. PG Members, either at the PG level or within a designated Subgroup, contribute to the development and maturation of the Draft Specification.
3. When the PG agrees the Draft Specification is sufficiently stable and mature to be recommended to the Board for approval as Final, the PGCC notifies all PG Participants, via the PG Collaboration Space, that the 30-day Specification Review Period has started. Prior to the end of the Specification Review Period, any PG Participant unwilling to license their Necessary Claims as set forth in the TIP IPR Policy must provide notice to PG Leadership, including the PGCC, of its withdrawal from the PG (a "Licensing Objection").
4. Upon receipt of a Licensing Objection, PGCC notifies TIP Operations of the PG Participant's withdrawal from the PG.
5. Upon completion of the Specification Review Period and the consensus of the PG Participants, or the affirmative vote of greater than 75% of all PG Participants, PG Leadership submits the Draft Specification to the Board for approval as Final.
6. Upon Board approval, PGCC publishes the Final Specification in the PG Collaboration Space.

Call to action for PG Participants

1. Participate in development of Draft Specification
2. Respond during Specification Review Period, if unwilling to make patent license commitment

Timeline. PG Leadership determines the timeline for development of Draft Specification, including publication, review and comment periods. Specification Review Period is the 30 day period beginning on PG approving the recommendation of the Draft Specification being submitted to the TC for approval as a Final Specification.

Announcements.

1. PGCC announces the Draft Specification is open for contribution, comment, and development
2. PGCC announces beginning of 30-day Specification Review Period
3. PGCC announces receipt of Licensing Objection(s)

Document Confidentiality Level

1. Contributions and Draft Specifications: TIP Confidential
2. Final Specifications: TIP Confidential, or non-confidential with Board approval based on recommendation by PG Leadership.

Appendix 5.a

PG Procedures for Testing/Certification Opportunities

I. Bronze Badge: Compliance Evaluation against Detailed Technical Requirements Document

Activities:

1. Upon publication of the Final dTRD, a call is issued for PG Participants to submit a compliance statement (the “Statement of Compliance”) against the dTRD:
 - a. PGCC notifies PG Participants that the opportunity is open for a “Requirements Compliant Badge” and requests submission of Statement of Compliance to the TPM and PGCC.
 - b. PG Participants provide Statement of Compliance to the TPM and PGCC, including:
 - i. Compliance status (e.g. yes/fully compliant, partially compliant, non-compliant)
 - ii. Optional additional information, such as data sheets (if available) and roadmap status of the PG Participant’s product(s) (e.g. currently supported vs will be supported in the future, including relevant dates and version numbers)
 - iii. Comments and feedback
 - c. Statements of Compliance are categorized “TIP PG Staff Confidential” by default, and except as required for evaluation for issuance of a Requirements Compliant (aka “Bronze”) Badge, are not shared with PG Chairs/Co-Chairs or Subgroup Leads/Co-leads for technical review, and are **never** shared with the wider PG community. PG Participants who wish to anonymize their Statement of Compliance for purposes of preventing attribution and disclosure of potentially sensitive competitor information must request such treatment at the time of submission to the TPM. If requested, TPM will anonymize Statements of Compliance to remove attribution information, and maintain mapping table of submitted and anonymized Statements of Compliance
 - d. TPM reviews forms & submits feedback to responding PG Participants.
 - e. TPM and PG Participant request approval of Requirements Compliant Badge by the body within the relevant PG.
 - f. Upon approval, TIP Exchange Manager, or other individual designated by TIP, processes the Exchange listing.

Call to Action for PG Participants: Respond to call for Statement of Compliance.

Timeline:

1. PG Participants may respond at any time once published.
2. PG Leadership, at their discretion, may set an “initial response deadline.”

Output: Requirements Compliant (Bronze) Badge

Announcements: PGCC notifies PG that a call for the Statement of Compliance is open via email and the PG Collaboration Space with the Final dTRD - including allocation criteria -

attached/linked

Document Confidentiality Level:

1. Final dTRD: TIP Confidential
2. Statement of Compliance: TIP PG Staff Confidential

II. Silver and Gold Badge / Certification: Compliance Evaluation against TIP Controlled Environment Test Plan(s)

Activities:

1. Once a Test Plan is approved as Final, the PGCC will publish, and announce that the Final Test Plan is available for badging/certification. The announcement provides one of the following assignments:
 - a. **TIP Controlled Environment (Silver):** to include the Lab (controlled environment) Test Plan and associated allocation criteria
 - b. **TIP Commercial Grade (Gold):** to include the Field/Market (commercial environment) Test Plan and associated allocation criteria
2. Badging/Certification: All PG Participants are encouraged to badge/certify their products and/or solutions against the Lab and/or Field/Market Test Plans.
 - a. In order to be eligible to receive the TIP Controlled Environment (Silver) badge/certification or the TIP Commercial Grade (Gold) badge/certification, all products/solutions to be badged/certified must have previously received the Requirements Compliant (Bronze) badge/certificate.
 - b. All PG Participants requesting either the TIP Controlled Environment (Silver) or TIP Commercial Grade (Gold) badge/certification must comply with relevant sections of the Lab Policy
 - c. Upon completion of testing, PG Participant requests approval of project exit report, test results, etc., and issuance of Silver or Gold badge/certification by TVC.
 1. TVC reviews/approves/rejects the relevant badge/certification request.
 2. Upon approval, badge/certification is allocated and listed by TIP Exchange Manager, or other individual designated by TIP, on TIP Exchange with the applicable reference materials, e.g. requirements document, test plan, and test report.

Call to Action for PG Participants: Review published Final Test Plan(s) and initiate testing of products/solutions for badging/certification.

Timeline: TIP Testing Projects may commence at any point after the publication of a Final Test Plan

Announcements: Dependent on the TIP Exchange listing assignment, a badging/certification opportunity announcement is made via the announcement by PG Leadership during a regularly scheduled PG meeting, email to PG Participants, and/or posting to the PG Collaboration Space.

Document Confidentiality Level:

Final Test Plan: TIP Confidential
Badge/Certification: Non-confidential

Appendix 6

Deliverable Confidentiality Treatment

During its lifecycle, a PG will create myriad drafts and versions of deliverables, documents, presentations, technical papers, use cases, test plans, and others. All materials created within a PG are subject to the confidentiality terms of TIP's Bylaws and other Organizational Documents, including as set forth in these PG Procedures as specifically relating to the confidentiality treatment of TIP Deliverables and the Contributions to those Deliverables.

Confidentiality Treatment & Levels

TIP has the following confidentiality levels and treatment:

- *TIP PG Staff Confidential*: Contains vendor-specific competitively sensitive information. Access will be strictly restricted to TIP PG Staff, and members of deliberative bodies within TIP requiring access for badge/certification request review and allocation.
- *TIP Confidential*: Low level of sensitivity, access unrestricted within TIP, subject to the recipient (or the entity such recipient represents at TIP) agreeing to the relevant PG Charter, but may not be disclosed outside of TIP without approval of the Board, or such body as the Board has delegated such responsibility. As an example, TIP Confidential label applies to all Contributions, PG/Subgroup Draft Deliverables and Final Deliverables.
- *Non-confidential*: Lowest level of sensitivity may be publicly disclosed without restriction.

For file naming purposes, the following relationships apply. TIP PG Staff must ensure that all PG Deliverables include the "L*" designation as part of the relevant file name.

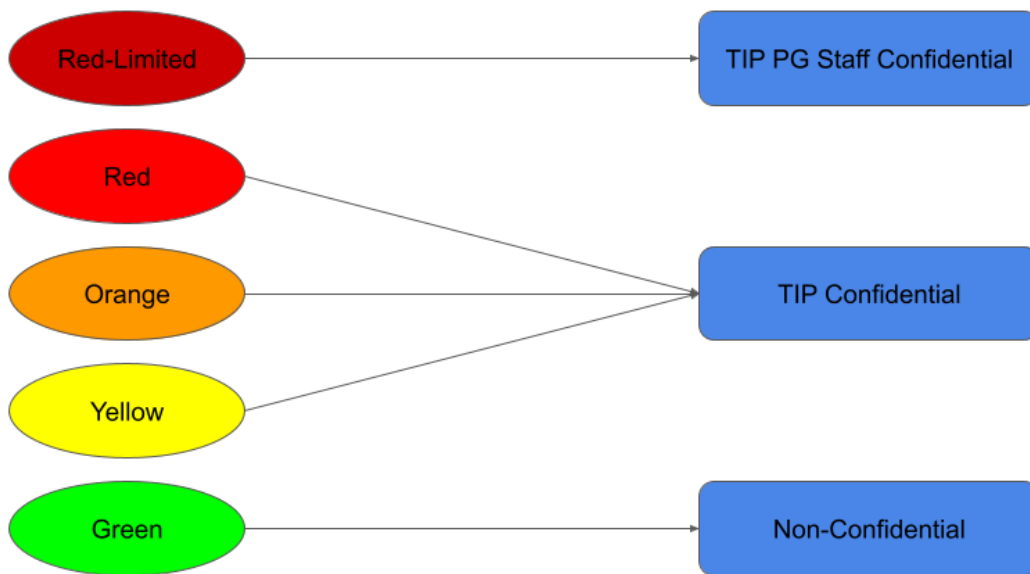
| Confidentiality Level | Reference for TIP File Naming convention |
|----------------------------------|--|
| <i>TIP PG Staff Confidential</i> | L0 |
| <i>TIP Confidential</i> | L1 |
| <i>Non-confidential</i> | L2 |

Deliverable Development - Confidentiality Treatment

- Statements of Compliance: All responses to dTRDs are categorized TIP PG Staff Confidential. Statements of Compliance may be anonymized at the request of the PG Participant.
- Contributions: All Contributions are TIP Confidential.
- Draft Deliverables: All Draft Deliverables are TIP Confidential.
- Final Deliverables: Final Deliverables are TIP Confidential. Final Deliverables may be made non-confidential with the recommendation of PG Leadership and approval by the Board, or such body as the Board has delegated such authority.

Mapping Pre-2024 Confidentiality Levels

TIP has adopted a number of confidentiality levels to address specific situations within the PGs. While the mapping isn't a perfect match, the below should help as a guide for determining the confidentiality treatment of documents created under the “Red-Yellow-Green” confidentiality levels in place before the effective date of this procedure.



Appendix 7

PG Code of Conduct

Purpose

The purpose of this PG Code of Conduct is to establish a set of guidelines and expectations for all PG Members, and the PG Participant they represent, who participate in a TIP PG or Subgroup. This Code of Conduct applies not only to activities within a PG or Subgroup meeting, but to all aspects of an individual's (and by extension the individual's employer) activities at TIP. This code aims to promote ethical behavior, integrity, and professionalism within our community, fostering an environment of trust and collaboration.

1. Compliance with Laws and Regulations

PG Participants and PG Members shall comply with all applicable laws and regulations related to their business activities. It is the responsibility of each PG Member to stay informed about and adhere to legal requirements.

2. Ethical Business Practices

PG Members shall conduct themselves with the highest ethical standards. This includes, but is not limited to, honesty, integrity, and transparency in all dealings with TIP Staff, Liaison partners, and fellow PG Members. PG Members, whether in a PG Leadership role or otherwise, are expressly prohibited from engaging in activities on TIP's behalf, e.g. securing industry conference sponsorships, acquiring equipment for a testing project, etc., unless expressly authorized by the TIP Board or its designee.

3. Respect and Inclusivity

PG Members shall treat each other, TIP Staff, and Liaison partners with respect and courtesy. Discrimination, harassment, and any form of disrespectful behavior will not be tolerated. We embrace diversity and strive to create an inclusive and welcoming community for all.

4. Confidentiality

PG Members may have access to sensitive information shared within the PG, as well as the broader TIP community. It is imperative that members respect the confidentiality of such information, the confidentiality level assigned to such information by TIP and/or a PG Participant, and refrain from disclosing it to unauthorized parties.

5. Fair Competition

Members shall engage in fair and ethical competition. Unfair business practices, such as collusion, price-fixing, and other anti-competitive behaviors, are strictly prohibited and may result in the suspension or termination of the PG Member and/or PG Participant.

6. Cooperation and Collaboration

TIP values collaboration and cooperation among its Participants and their representatives. PG Members are encouraged to share knowledge, best practices, and resources for the betterment of the relevant PG, TIP, and the entire industry.

7. Prohibition on Marketing, Spam, Data Scraping

PG Members are prohibited from engaging in non-approved marketing activities, spam, data scraping, or any other activity inconsistent with the purposes, activities, and development of Deliverables within the PG.

8. Reporting Violations

PG Members who become aware of any violations of this Code of Conduct are encouraged to report them to the PG Leadership, including TIP Staff. Reports will be treated confidentially, and appropriate action will be taken.

9. Enforcement

Failure to comply with this Code of Conduct may result in disciplinary actions, including suspension or removal of a PG Member and/or PG Participant from the PG, as well as from TIP. PG Leadership, the TC, and/or the Board will determine the appropriate course of action based on the severity and nature of the violation.

10. Review and Revision

This Code of Conduct is subject to periodic review and may be revised as needed. PG Participants and their representative PG Members will be notified of any changes, and their input may be sought during the revision process.

By participating in a TIP PG, PG Participants and their representative PG Members agree to abide by this Code of Conduct.

Appendix 8

Guidance on Roles and Responsibilities

TIP PG Co-Chair and Subgroup Co-Lead

The following presents TIP's guidance regarding roles, responsibilities, and benefits of being a TIP PG Co-Chair, or TIP Subgroup Co-Lead. In interpreting this Guidance, "Co-Chair" and "Co-Lead" should be substituted based on the role being considered or addressed

Leadership: Provide overall leadership and strategic direction to the PG community.

Community Building: Foster a positive and inclusive community culture. Encourage collaboration, communication, and knowledge sharing among community members. Develop programs and initiatives to attract new contributors and retain existing ones.

Coordination and Communication: Facilitate communication channels and engagement within the community.

Conflict Resolution: Mediate conflicts and disagreements within the community. Help resolve disputes and foster a collaborative environment. Encourage respectful communication and constructive feedback.

Community Support: Provide support and guidance to community members. Assist newcomers in getting involved and contribute to the community. Address questions, concerns, and technical issues raised by community members, and escalate within TIP as necessary.

Project Management: Coordinate project roadmaps, milestones, and deadlines. Ensure projects align with community goals and standards.

Documentation and Knowledge Management: Promote the creation and maintenance of high-quality documentation and resources. Encourage knowledge sharing through documentation, tutorials, and guidelines.

Advocacy and Outreach: Promote the PG community externally. Represent the community at conferences, events, and industry gatherings. Build relationships with external organizations, potential sponsors, and partners.

Community Recognition: Recognize and celebrate the achievements and contributions of community members.

Communication and Updating: Provide regular updates and communications to the Board, PG participants, and broader community about the activities of the PG, strategic direction and proposals, and technical/deliverable roadmaps, as well as such other information as the Board may request.

What are the benefits of being a Chair/Co-Chair?

As a Chair/Co-Chair, you and your organization will be seen as an industry leader, with the following particular benefits:

- o Individual and company recognition on TIP website and in the Community
- o Individual and company recognition in published documents

- o If required, take part in interviews for both internal TIP and industry publications on team deliverables
- o Quotes in press releases
- o Special recognition at events such as Fyuz
- o Access to Chair/Co-Chair Conference calls
- o Usage of the title externally, such as on linked-in, in presentations, and as part of your CV.

What are the responsibilities of a Chair/Co-Chair?

The Chair/Co-Chair assists in planning, executing, and promoting activities that a project undertakes. At a high level, the Chair/Co-Chair is responsible for:

- o Ensure the project is developed in line with TIP IPR policy and PG Procedures
- o Encourage all participants to take an active role in the project
- o Ensure participants have a clear understanding of what they need to complete and when
- o Drive the project team for on-time delivery
- o Organize (with the PGCC) any necessary meetings to progress teamwork (weekly, daily, or ad-hoc as appropriate)
- o Work with TIP PG staff to:
 - o Define roles within the team and reach commitment on owning team activities for any given sprint
 - o Manage escalation activities and organize discussions to address issues related to program members not fulfilling commitments
 - o Assign team responsibilities
 - o Manage the delivery of the agreed roadmap items, specifically as applies to the project and are outlined within the charter