TELECOM INFRA PROJECT

Telecom Infra Project: Project Group Charter

Date of Approval by TIP Board of Directors: [To be inserted by TIP]

This Project Group Charter establishes the scope, intellectual property and copyright terms used to develop the materials identified in this Project Group. Only Participants that execute this Working Group Charter will be bound by its terms and be permitted to participate in this Project Group, and shall be considered "Contributors" in the Project Group as defined in the Telecom Infra Project IPR Policy document.

1. <u>Project Group Name</u>. **Greenfield Project Group**

2. <u>Purpose.</u>

The objective of the Greenfield Telecom Work Group is to provide solutions for managing constantly increasing traffic volumes in networks and for expanding the economically feasible reach of networks.

One of the focus is on mobile networks with non-existent coverage. However, the solutions developed in the green-field project group are not limited to the specific rural use-case, and shall support a broad range of backhaul connectivity types as well as new business models, e.g. community deployed/operated mobile access.

Another focus area is on handling of IP traffic growth expected in the coming years on fixed and mobile networks.

3. <u>Project Group Scope</u>.

The intended Scope includes solutions for efficient packet forwarding and traffic management and the operational frameworks for a continuously changing infrastructure.

The Scope of this Work Group does NOT include the development of hardware solutions for backbone and access networks, user end-devices, or radio access technology design and development, and these areas are explicitly outside the Scope of this Work Group..

Subject to these exclusions, the following problems will be addressed in the green-field working group:
• building IP based networks for rapidly growing traffic volumes
• efficient IP networks for existing and upcoming access technologies
• network abstraction and intelligent configuration management solutions
• automation of traffic flow optimization, resilience and load protection

4. <u>Project Group Deliverables.</u>

The greenfield telecom group is detailing the project activities in multiple phases.

Phase 1: Target for June/July 2016: define the Work Group Scope, project success factors, possible dependencies to other TIP project groups and exclusions from the Work Group Scope.

Phase 2: Target for July/August 2016: define program structure and sub-projects / focus areas / work packages of the green-field project group activities. Goal is to set up projects implementing deployable solutions and spin off (shared) subprojects including but not limited to:

- configuration
- monitoring
- logging
- troubleshooting
- deployment/commissioning
- service discovery
- loadbalancing
- analytics solutions
- authentication

which can serve as standalone frameworks for other projects as well.

Phase 3: Target for Q3'16: prototype implementation following key principles of building re-usable frameworks and deployable solutions with short iteration cycles

Phase 4: Target for Q4'16 / 1H'17: deployment and iteration

Phase 5: Target for Q4'16 / 1H'17: split off frameworks with highest potential to serve as general framework for other projects into standalone projects

5. Patent Licensing. The patent license for all Contributions, Draft Specifications and Final Specifications within this Project Group shall be:

  □ RAND License Option, as set forth in Section 5.2.1 of the Telecom Infra Project IPR Policy.

  ✓ Royalty-free License Option, as set forth in Section 5.2.2 of the Telecom Infra Project IPR Policy.

6. Final Deliverable Copyright Licensing. Project Group agrees to grant the following copyright license for the Final Specification:

  ✓ Creative Commons Copyright Attribution 4, Each Project Group Contributor agrees that its Contributions are subject to the Creative Commons Attribution 4.0 International license - http://creativecommons.org/licenses/by/4.0/legalcode.

  □ Full Release of Copyright into the public domain, Each Project Group Contributor agrees to release its Contributions to the public domain and waive all copyrights associated with them.

7. Initial Project Champions.

- Facebook
- Nokia
- Deutsche Telekom

8. (Proposed) Chair and/or Co-Chair of Project.

Chair:
Rainer Schatzmayr
rainer.schatzmayr@telekom.de
Deutsche Telekom

Co-Chairs:
Subbu Subramanian
subbu@fb.com
Facebook

Heikki Almay
Heikki.almay@nokia.com
Nokia

9. Participation Criteria.

- Fit of the proposed contributions to the scope of the Greenfield Project Group.
- Technical fit of the proposed contributions to the scope of the Greenfield Project Group sub-projects / focus areas / work packages and alignment with other sub-projects / focus areas / work packages of the Greenfield Project Group.
- Impact of the proposed contributions to the overall scope of the Greenfield Project Group and alignment with other sub-projects / focus areas / work packages of the Greenfield Project Group.

PARTICIPANT SIGNATURE

_____   _____

Signed name   Title

_____   _____

Print name   Company Name

_____   _____

Email address   Date