

5G Private Networks

This Project Group Charter establishes the scope, intellectual property and copyright terms used to develop the materials identified in this Project Group (PG). 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 Organizational Documents (<https://telecominfraproject.com/organizational-documents/>).

TIP Board of Directors Approval Date: February 03, 2021

1. PROJECT GROUP NAME, SEGMENT, AND TYPE

NAME: 5G Private Networks

TIP SEGMENT(S): Indoor and Outdoor (enterprise, factory, campus networks, public venues)

TYPE: Solution Group

2. PURPOSE

The new generation of cellular networks will enable the creation of dedicated and private networks that will allow to cover the connectivity requirements of the future solutions on a new connected and digital world.

5G private networks provide a new opportunity for operators to build enhanced, localized and secure services to our customers. The features of 5G private networks provide significant benefits:

- On-premise dedicated cell deployment provides improved coverage and capacity
- Localized compute & routing of private mobile traffic enables lower latency and high bandwidth applications, and location-based private and telco applications
- Privacy of confidential/sensitive data belonging to on-premises client enabling also localized data analytics

- New management and operation model of private networks by operator, enabling automatization and self-management on operations flows
- Scale operations with the number of 5G private enterprise clients

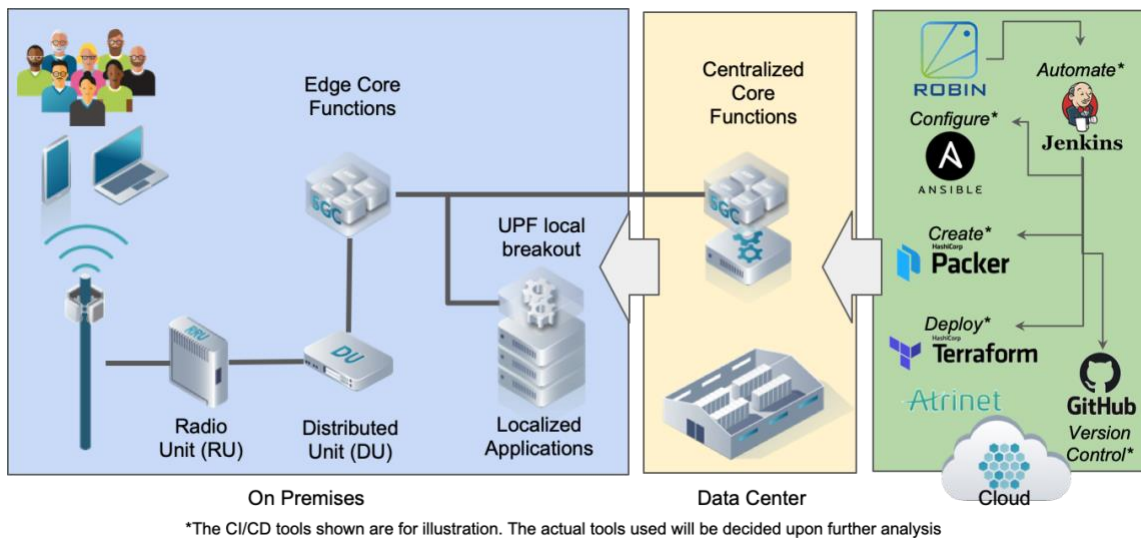
However, current legacy economics models and telco solutions and process, implemented to serve large chunks of mobile traffic are inadequate to address the needs of 5G private network market.

This Solution Group will develop a new approach to the implementation of 5G Private Networks, which will result in:

- Open licensing fees and equipment costs through the use of disaggregation, commoditization and a cloud-native architecture
- Eliminated truck rolls for solutions installation and maintenance (equipment and software), using customer driven operations, automation, CI/CI processes and cloud native-management
- Improving security and performance based on local user plane breakout

3. PROJECT GROUP SCOPE AND GOALS

The Project Group will develop requirements for the automated lifecycle management of an on-premises and edge cloud native 5G Private Network solution based on a CI/CD toolset and open, disaggregated hardware components.



The goals of this Project Group are to implement and demonstrate through lab and field trials:

1. Validate the use of telco cloud native functions for 5G private networks maximizing the use of open source software.

2. Integrate a cloud native platform for orchestrating cloud native functions and legacy virtual network functions
3. Life-cycle management (LCM) of all the different units composing the architecture: clusters, devops tools, microservices, cloud native telco functions.
4. Automated Service provisioning using a small number of COTS servers keeping a decoupled CI/CD control plane (e.g, hosted in public cloud)
5. Zero-touch e2e service provisioning and operation through CI/CD and test automation platform
6. Industrialize the integration and testing the end-to-end network, including RAN, core and compute functions and infra.
7. Leverage third party mobile edge applications to validate e2e functionality.
8. SLA and QoE metric compliance for example edge applications
9. Design, development, and implementation of the complete CI/CD flow (including tools, pipelines, tests, etc.)

The project will use open source software components (both commercial and free), based on availability and specific required functionality.

The vision is to be able to share and promote the commercial and technical blueprint outputs with wider audiences including other operators, Private Network customers, System Integrators, government policy entities and investors to deploy & scale 5G Private Networks.

Out of Scope

- Development of Interface Specifications or Component Specifications
- Development of Hardware Equipment (incl. Wi-Fi and small cells)
- SW Development of orchestrators, network functions (cloud-native functions or virtual network functions)

4. DELIVERABLES LICENSING POLICIES

Contributions to Deliverables and any license to use the Deliverable upon its finalization are governed by TIP’s Organizational Documents, which may be accessed at <https://telecominfraproject.com/organizational-documents/>.

The IPR policies and agreements referenced below are TIP Organizational Documents unless otherwise specified and attached to this Charter.

	Deliverable	IPR Treatment	Approval Procedures
1	Use Case & Requirements	Document IPR Policy	Version(s) by consensus of the SG. Final approval by Technical Committee

2	Architecture Design	Document IPR Policy	Version(s) by consensus of the SG. Final approval by Technical Committee
3	Deployment and Operation Documentation	Document IPR Policy	Version(s) by consensus of the SG. Final approval by Technical Committee
4	Project Exit Report	Document IPR Policy	Version(s) by consensus of the SG. Final approval by Technical Committee

Schedule and Milestones

Phase	Milestones	Deliverable Criteria	Timeline
Phase 1: Requirements Development and Equipment Installation	<ul style="list-style-type: none"> Requirements Development Equipment Installation 	Use Case & Requirements (see Deliverable #1) Architecture Design (see Deliverable #2)	Q1 2021
Phase 2: Integration	<ul style="list-style-type: none"> Platform, 5G Core, 5G RAN Integration 		Q3 2021
Phase 3: Lab and Field Trials	<ul style="list-style-type: none"> Lab trial(s) Field trial(s) 	Deployment and Operation Documentation (see Deliverable #3) Project Exit Report (see Deliverable #4)	Q1 2022

5. PROJECT GROUP LEADERSHIP

Proposed Leadership

Role	Name	Organization
Chair	David Martín Lambás	Telefónica
Technical Lead	José Núñez Martínez	Telefónica
Technical Lead	Sriram Subramanian	Facebook

6. PROJECT GROUP MEMBERSHIP

A TIP Participant who wishes to participate in this PG must have its TIP Authorized Representative submit an application at <https://member.telecominfraproject.com/get-started>. The TIP Authorized Representative is the individual identified in the applicable Participant's General Participation Agreement.

No Participant shall be a participant of this PG until and unless TIP notifies the applicable Authorized Representative in writing that the application submitted by such Authorized Representative has been approved by TIP.

Member Expectations

The expectations for participation are detailed below

All group members

- To actively participate in group meetings
- To assign technical resources to support the needs of the group

Consumers (includes MNOs, ISPs, Infra Providers and Owners)

- Contribute to commercial and technical requirements documents
- Provide key performance metrics for lab and field trials
- Create and execute lab and field trials
- Define scaling strategy

Producers (includes Technology Providers, OEMs / Vendors, System Integrators)

- Develop prototypes and subsequent products compliant with TIP deliverables and industry specifications
- Contribute to deployment plans

Collaboration and Cooperation

Internal (TIP)

- TIP OpenRAN Project Group
 - The 5G Private Networks Project Group may reference the OpenRAN Project Group deliverables for 5G equipment
 - The 5G Private Networks Project Group may offer 5G private network requirements to OpenRAN
- TIP Wi-Fi Project Group
 - The 5G Private Networks Project Group may reference TIP Wi-Fi Project Group deliverables

- The 5G Private Networks Project Group may offer 5G private network requirements to TIP Open Wi-Fi
- TIP Open Core Network (OCN) Project Group
 - The 5G Private Networks Project Group may reference OCN Project Group deliverables
 - The 5G Private Networks Project Group may offer 5G private network requirements to the OCN Project Group
- TIP Open Automation (OA) Solution Group
 - The 5G Private Networks Project Group may reference OA Project Group deliverables
 - The 5G Private Networks Project Group may offer 5G private network requirements to OA Solution Group

Charter Update: This Charter will be updated to reflect any changes as set forth in the Project Group Charter Revision Policy which may be accessed at https://cdn.brandfolder.io/D8DI15S7/as/q7rnyo-fv487k-2j33tl/Project_Group_Charter_Revision_Policy_-_Telecom_Infra_Project.pdf.

ACCEPTANCE

Contact Name

Contact Title

Email Address

Telephone Number (Include Country Code)

Company Name

Company Address, City, State, Country, Postal Code

Company Web Page URL

Primary services or products the company provides

Signature

Date

Signed by (print name)