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Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) Fifth Generation Fixed Network (F5G).

Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"must" and "must not" are NOT allowed in ETSI deliverables except when used in direct citation.
1 Scope

The present document specifies a framework for use within ETSI ISG F5G to coordinate public demonstrations of Proof of Concepts (PoC) validating key technical components of F5G. The PoC is not an interoperability or conformance testing activity. The objective of the PoCs is to build awareness and confidence in the F5G standard. The primary goal of a PoC is to foster the development of an open ecosystem by integrating components from different players.

This framework outlines:

- Rational for ISG F5G PoCs
- ISG F5G PoC process
- Submission, format and criteria for ISG F5G PoC proposals
- Review and acceptance criteria of ISG F5G PoC proposals
- ISG F5G PoC Report format and requirements
- ETSI support for PoC Teams

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.


2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI GR F5G 001: "Fifth Generation Fixed Network (F5G); F5G Generation Definition Release #1".

[i.2] ETSI GR F5G 002: "Fifth Generation Fixed Network (F5G); F5G Use Cases Release #1".
3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the following terms apply:

**ISG F5G PoC proposal**: initial description of a PoC Project submitted as a contribution for review and acceptance by the ISG F5G before the PoC Project start

   NOTE: See annex A for templates.

**ISG F5G PoC report**: detailed description of the results and findings of a PoC project submitted once the PoC Project has finished

   NOTE: See annex B for templates.

**manufacturer**: Company having a substantial capacity to develop and/or produce and/or install and/or maintain products to be used in, or directly or indirectly connected to, an electronics communications network. An association or organization of such manufacturers also falls within this category.

   NOTE: Member categories from Rules of procedure in ETSI Directives [1].

**network operator**: Operator of an electronics communications network or part thereof. An association or organization of such network operators also falls within this category.

   NOTE: Member categories from Rules of procedure in ETSI Directives [1].

**PoC demo objective**: detailed description of one particular aspect that the PoC Team intends to demonstrate and how it will be achieved

**PoC project**: activity oriented to perform a PoC according to the framework described in the present document

**PoC review team**: entity in charge of administering the PoC activity process

**PoC Team**: set of organizations participating in the PoC Project

**research body**: Research Body is defined as any legally established research body concerned with electronics communications and related areas. A Public Research Body is a not-for-profit research organization whose main stakeholders are in the Public sector.

   NOTE: Member categories from Rules of procedure in ETSI Directives [1].

**service provider**: Company or organization, making use of an electronics communications network or part thereof to provide a service or services on a commercial basis to third parties. An association or organization of such service providers also falls within this category.

   NOTE: Member categories from Rules of procedure in ETSI Directives [1].

**university**: any not-for-profit institution for higher education or postgraduate training having the legal power to award first and/or higher degrees

   NOTE: Member categories from Rules of procedure in ETSI Directives [1].

**user**: A User is an organization making use of services in the field of electronics communications and related areas, whose main interest in electronics communications standards is in that capacity. An association or organization of such Users also falls within this category.

   NOTE: Member categories from Rules of procedure in ETSI Directives [1].

3.2 Symbols

Void.
3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F5G</td>
<td>Fifth Generation Fixed Network</td>
</tr>
<tr>
<td>ISG</td>
<td>Industry Specification Group</td>
</tr>
<tr>
<td>PoC</td>
<td>Proof of Concept</td>
</tr>
<tr>
<td>URL</td>
<td>Universal Resource Location</td>
</tr>
<tr>
<td>WI</td>
<td>Work Item</td>
</tr>
</tbody>
</table>

4 ISG F5G PoC Framework

4.1 Rationale

The ISG F5G proposes an end-to-end ecosystem for the fixed network leveraging the fibre to everywhere paradigm. The ISG F5G targets a broad application area enabling new and/or enhanced services to residential and business users, to telecom operators and service providers, to industry digital transformation and any other areas that may be identified along F5G system development. Therefore, an F5G system has the flexibility and adaptability to be able to serve various applications and services with different traffic characteristics and cover a variety of performance and functional requirements needed for different deployment scenarios.

Proof of Concepts (PoC) are an important tool to demonstrate the F5G system as a viable technology. Results from PoCs may guide the work in the ISG F5G by providing feedback on interoperability and other technical challenges. The public demonstration of these ISG F5G concepts will help build commercial awareness and confidence in the ISG approach, and develop a diverse, open F5G ecosystem. A single PoC demonstration will impact its immediate audience, but a cumulative set of successful PoCs will provide industry momentum for ISG F5G concepts.

The PoCs shall be in scope of the ISG F5G and may adopt the ISG F5G use cases [i.2] as a working baseline, and address the technical challenges and approaches therein.

4.2 Roles and Responsibilities

4.2.1 General

The ISG F5G participants activities, when forming PoC Teams and executing PoC Projects are outside the scope of the ISG F5G and are subject to the PoC Teams agreements. The ISG F5G shall not manage individual PoC Projects nor get involved in forming PoC Teams or executing ISG F5G PoC projects.

4.2.2 PoC Team

Group of organizations participating in one PoC project. The PoC Team is in charge of:

- Writing the PoC proposal.
- Executing the PoC and collecting the relevant data.
- Eventually demo the PoC at any event of choice.
- Writing the PoC report.
- Submitting the expected contributions to the ISG F5G.

4.2.3 ISG F5G

The ISG F5G is interested in the outcome of the PoC projects. In the context of the PoC framework, it is in charge of:

- Call for PoCs.
- Eventually identifying PoC topics or discussing PoC ideas helpful for the standardization process.
- Processing the contributions made by the PoC Teams on topics learnt with the PoC project execution.

### 4.2.4 PoC Review Team

One entity in charge of administering the PoC activity process. It is in charge of:

- Providing guidance and support during the creation of PoC proposals.
- Evaluating PoC proposal conformance with the acceptance criteria Declaring the acceptance/refusal of each PoC.
- Notifying acceptance/refusal of each PoC in the 'ISG_F5G@list.etsi.org' mailing list and allow for 10 days for remote consensus approval (no objections received).
- Compiling the accepted PoC Proposals and Reports and making them available to the ISG F5G.
- Monitoring the PoC project timelines, and sending the appropriate reminders to the PoC Teams (for expected contributions, PoC report, etc.).

The PoC Review Team consists of persons from ETSI ISG F5G members. The members of the PoC Review Team will be approved by the ETSI ISG F5G.

### 4.3 PoC Summary of Activity Process

Figure 1 provides a visualization of the PoC activity process.
4.4 Call for PoCs

The ETSI ISG F5G calls for PoC proposals during the life of the ISG. Details will be made publicly available on the ISG F5G pages on the ETSI ISG F5G portal and via the main ISG F5G e-mail list (step 1 in Figure 1).

4.5 ISG F5G PoC Proposal Submission

The PoC Team formation is beyond the scope of the ISG F5G. The PoC Team shall prepare an ISG F5G PoC Proposal (step 2 in Figure 1) according to the ISG F5G PoC Proposal template in clause A.1, and the PoC Review Team may be consulted in support of this effort. The PoC Proposal shall be submitted to the ISG F5G as a contribution uploaded on the ETSI Portal and a link to the contribution shall be sent by the PoC Review Team to the e-mail distribution list 'ISG_F5G@LIST.ETSI.ORG' with [ISG F5G PoC Proposal] in the subject line.
4.6 ISG F5G PoC Proposal Review

4.6.1 General

The PoC Review Team is responsible for administering this ISG F5G PoC process. The PoC Review Team shall collect and distribute the ISG F5G PoC Proposals and announce the accepted ISG F5G PoC Proposal based on the review against the ISG F5G PoC acceptance criteria of clause 4.7.

If required, additional technical and clarification questions may be presented by the PoC Review team to the PoC team and changes may be discussed in order to ensure the proposal is in compliance with the acceptance criteria.

4.6.2 Accepted ISG F5G PoC Proposals

The PoC Review Team will send an email to the PoC Team to confirm the acceptance of the ISG F5G PoC Proposal.

The PoC Review Team will send an email to the 'ISG_F5G@LIST.ETSI.ORG' list to announce each accepted ISG F5G PoC Proposal to the ISG F5G community and allow for 10 days for remote consensus approval (no objections received). After completion of the remote consensus process the PoC Review Team will add the PoC to a "List of Accepted Proposals".

The PoC Review Team will post accepted ISG F5G PoC Proposals on a page of the publicly accessible ETSI ISG F5G portal.

Accepted ISG F5G PoC Proposals are expected to be executed by the PoC Team and a PoC Report shall be submitted by the PoC Team at completion.

4.6.3 Rejected ISG F5G PoC Proposals

The PoC Review Team will send an email to the PoC Team to notify them that the ISG F5G PoC Proposal has been rejected with the reason based on the criteria of clause 4.7.

No further action will be taken by the ISG F5G on rejected proposals. PoC Teams may submit revised ISG F5G PoC Proposals for future consideration.

4.7 ISG F5G PoC Proposal Acceptance Criteria

The criteria for acceptance of ISG F5G PoC Proposals are:

1) The ISG F5G PoC Proposal shall contain the information requested in the format of the ISG F5G PoC Proposal Template of clause A.1, referred to as the PoC Team. This will be checked by the PoC Review Team.

2) The organizations participating in a PoC Team shall include at least three participants, where at least one participants shall be a member of the ISG F5G (refer to clause A.1.1). The member categories of the PoC team's participant shall include at least one manufacturer and at least one of category Network Operator, Service Provider, or User. It is encouraged to include members from the categories of Universities and Research Bodies.

3) The ISG F5G PoC Team proposal shall address at least one goal relevant to F5G related with an F5G Use Case or the suitability of an F5G System Architecture aspect (refer to clause A.1.3.1).

4) The output of the PoC shall provide feedback to the ISG F5G in order to support the improvement of the output of the existing work items. Alignment with existing activities and Work Items is required.

5) The ISG F5G PoC proposal shall indicate the venue where the PoC will be demonstrated (e.g. PoC Team member lab, industry trade show, etc.) (refer to clause A.1.5).

6) A PoC Team project timeline shall be provided (refer to clause A.1.4).
7) Description of testing methods, how they are performed, and concrete measurement processes with expected measures should be indicated.

NOTE: This last requirement/guideline should be particularly taken into account by PoC Teams. Each set of measurements depend on the context and on the scenarios described for each PoC proposal.

Any ISG F5G PoC Proposal, which meets these required elements will be accepted.

4.8 ISG F5G PoC Report

Once a PoC Team project is concluded, an ISG F5G PoC Report with the PoC results shall be provided to ISG F5G as a contribution to an ISG F5G plenary meeting or be announced on the 'ISG_F5G@list.etsi.org' mailing list. A PoC section of the ETSI portal via a link on the F5G home page shall indicate this report.

An ISG F5G PoC Report should contain the information requested in the ISG F5G PoC Report Template of clause B.1 to notify the ISG F5G that the PoC Team has completed its PoC Project. PoC Teams are encouraged to provide additional technical details on the results of their PoC Project using the report format provided in clause B.2.

In addition, PoC Team members are also encouraged to bring technical proposals based on PoC results to ISG F5G Work Item streams as regular contributions according to what was settled in the PoC submitted proposal.

The PoC Review Team will present a list of all the ISG F5G PoC Reports to the ISG Plenary after proper evaluation of contents.

5 ETSI CTI Role within PoCs

The ETSI Centre for Testing and Interoperability (CTI) has experience in supporting the organization of technology evaluations and interoperability events (in many ways similar to PoCs). This experience may be useful in assisting the PoC Teams with administration and project management support including:

- Formation of the PoC Team.
- Preparation of the ISG F5G PoC proposal.
- Development of the ISG F5G PoC Scenario Report.
- Collecting and reporting results in a PoC Report.
- Providing feedback to the ISG.
- Administration, logistics, etc.

CTI is not a test lab. CTI assistance is free of charge for ISG participants. ISG participants may request CTI assistance by contacting 'CTI_Support@etsi.org' by email where the subject should include [ISG F5G PoC].

PoC Team members are not required to make use of CTI support. Other ISG members or commercial entities may provide additional or similar services.
Annex A (normative):
ISG F5G - PoC Proposal Template

A.1 PoC Project Details

A.1.1 PoC Project

PoC Number (assigned by ETSI):
PoC Project Name:
Short Description:

A.1.2 PoC Team Members

Table A.1

<table>
<thead>
<tr>
<th>Organization name</th>
<th>ISG F5G participant (yes/no)</th>
<th>Contact (Email)</th>
<th>PoC Point of Contact (see note 1)</th>
<th>Role (see note 2)</th>
<th>PoC Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

NOTE 1: Identify the main PoC Point of Contact with an X.
NOTE 2: The Role will be network operator/service provider, infrastructure provider, application provider or other as given in the Definitions of ETSI Classes of membership.

All the PoC Team members listed above declare that the information in this proposal is conformant to their plans at this date and commit to inform ETSI timely in case of changes in the PoC Team, scope or timeline.

A.1.3 PoC Project Scope

A.1.3.1 PoC Goals

The PoC will demonstrate a topic relevant to the ETSI ISG F5G, namely:

- implement use case number [X] of the use case document [i.2]; and/or
- show a solution to fulfil the following requirements of the technology and gap analyses document and/or generations definition document [i.1] (list the requirements); and/or
- demonstrate feasibility of an architectural feature as described in document X (list the features); and/or
- proofing concept named "X" in Work item Y.

A.1.3.2 PoC Topics

PoC Topics identified in this clause need to be taken and reference from any ETSI ISG F5G document or work item. PoC Teams addressing these topics commit to submit the expected contributions to the ISG F5G in a timely manner.
Table A.2

<table>
<thead>
<tr>
<th>PoC Topic Description</th>
<th>Related WI/Section in Document</th>
<th>Expected Contribution</th>
<th>Target Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A.1.4 PoC Project Stages/Milestones

Table A.3

<table>
<thead>
<tr>
<th>PoC Milestone</th>
<th>Stages/Milestone description</th>
<th>Target Date</th>
<th>Additional Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.S</td>
<td>PoC Project Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.D1</td>
<td>PoC Demo 1</td>
<td>Venue, F2F/Webinar</td>
<td></td>
</tr>
<tr>
<td>P.D1</td>
<td>PoC Demo 1</td>
<td>Venue, F2F/Webinar</td>
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<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>P.C1</td>
<td>PoC Expected Contribution 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.C2</td>
<td>PoC Expected Contribution 2</td>
<td></td>
<td></td>
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<tr>
<td>...</td>
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</tr>
<tr>
<td>P.R</td>
<td>PoC Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.E</td>
<td>PoC Project End</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Milestones need to be entered in chronological order.

A.1.5 Additional Details

For example, URL, planned publications, conferences, etc.

A.2 PoC Technical Details

A.2.1 PoC Overview

Describe the PoC here.

A.2.2 PoC Architecture

Include a schema outlining how the different PoC components fit in the PoC architecture.

A.2.3 PoC Success Criteria and Definition of Done

Explain how the proposal intends to verify that the goals as presented in clause A.1.3.1 have been met or what criteria regards the PoC to be done having achieved the goals.

EXAMPLE: Functional (it worked, it did not work), Performance (.), Scalability, Availability, Service Quality.

A.2.4 Additional information

Include additional information as useful.
Annex B (normative):  
ISG F5G PoC Report Template

B.1 General

The following normative disclaimer shall be included on the front page of a PoC report:

"Submission of this ISG F5G PoC Report as a contribution to the ISG F5G does not imply any endorsement by the ISG F5G of the contents of this report, or of any aspect of the PoC activity to which it refers."

B.2 ISG F5G PoC Report

B.2.1 PoC Project Completion Status

Indicate the PoC Project Status. Can the PoC be considered completed? If this is a multi-stage PoC project, indicate the Reported Stage status and plans for future Project Stages/Milestones:

- Overall PoC Project Completion Status: __________________________
- PoC Stage Completion Status (Optional - for Multi Stage projects only): __________________________

B.2.2 F5G PoC Project Participants

Specify PoC Team; indicate any changes from the ISG F5G PoC Proposal:

- PoC Project Name: ________________________________________________
- PoC Team Member A: ______________________  Contact: _____________
- PoC Team Member B: ______________________  Contact: _____________
- PoC Team Member C: ______________________  Contact: _____________
- Additional Members: _______________________  Contact: _____________

B.2.3 Confirmation of PoC Event Occurrence

To be considered as complete, the PoC should have been physically or virtually demonstrated with evidences extracted from the demonstration, i.e. the following information should be provided:

- details on venue and content of PoC demonstration event;
- pictures and supporting literature where available;
- details about the target measures that have been met;
- identification about who was present at the demonstration event (optional);
- PoC Demonstration Event Details.
B.2.4 PoC Goals Status Report

Specify PoC Goals from ISG F5G PoC Proposal (clause A.1.2). Identify any changes from the original ISG F5G PoC Proposal with an explanation as to why the changes were made. Indicate the extent that each goal was met. Provide sufficient information for those not familiar with the PoC goals to understand what has been achieved and/or learned.

- PoC Project Goal #1: ____________________ Goal Status (Demonstrated/Met?)

List additional (optional) PoC Project Goals (follow the same format).

B.2.5 PoC Feedback Received from Third Parties (Optional)

Where applicable, provide in a free text, feedback received from potential customers, Ecosystem partners, event audience and/or general public.

---

B.3 F5G PoC Technical Report (Optional)

B.3.1 General

PoC Teams are encouraged to provide technical details on the results of their PoC using the PoC Scenario Report template below.

B.3.2 PoC Contribution to ISG F5G

Use table B.1 to list any contributions to the ISG F5G resulting from this PoC Project.

<table>
<thead>
<tr>
<th>Contribution</th>
<th>WI/Document Ref</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xxxxxx</td>
<td>ETSI Gx F5G 0xx [ref]</td>
<td>i.e. “New WI proposal addressing ....“</td>
</tr>
<tr>
<td>Yyyyy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.3.3 Gaps identified in F5G standardization

Use table B.2 to indicate Gaps in standardization identified by this PoC Team including which forum(s) would be most relevant to work on closing the gap(s). Where applicable, outline any action(s) the ISG F5G should take.

<table>
<thead>
<tr>
<th>Gap Identified</th>
<th>Forum (ISG F5G, Other)</th>
<th>Affected WG</th>
<th>WI/Document Ref</th>
<th>Gap details and Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xxxxxx</td>
<td>F5G</td>
<td></td>
<td>ETSI Gx F5G 0xx [ref]</td>
<td>i.e. “The PoC demonstrated that X of Y as defined in xxx does not address the needs of a yyy implementation. The gap should be addressed by WI X or by a new WI to be created”</td>
</tr>
<tr>
<td>Yyyyy</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
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</tr>
</tbody>
</table>

B.3.4 PoC Suggested Action Items

Provide suggested Action Items and/or further work required from the ISG F5G and/or external forums.
B.3.5 Additional messages to F5G

Provide any feedback in a free text format to the ISG F5G. Please indicate whether the team wishes any specific message to be published or publicly quoted.

B.3.6 Additional messages to Network Operators and Service Providers and Users

If applicable, provide any specific requests/messages that the team would like to convey to Network Operators and Service Providers.
## History

<table>
<thead>
<tr>
<th>Document history</th>
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<tbody>
<tr>
<td>V1.1.1</td>
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<tr>
<td>June 2021</td>
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<td>Publication</td>
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