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Mobile-Edge Computing (MEC);
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Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) Mobile-Edge Computing (MEC).

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).

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1 Scope

The present document defines a framework to be used by ETSI ISG MEC to coordinate and promote multivendor Proofs of Concept (PoC) projects illustrating key aspects of MEC technology. Proofs of Concept are an important tool to demonstrate the viability of a new technology during its early days and or pre-standardisation phase.

The main objectives of the MEC PoC framework are:

- to ensure the PoC projects are scoped around relevant topics for ISG MEC that require from-the-field input;

- to ensure that the PoC results, lessons learnt and identified gaps are feedback to ISG MEC;

- to build confidence on the viability of MEC technology;

- to encourage the development of a diverse and open ecosystem by fostering the integration of components from different players;

- to support standardization and industry promotion activities of ISG MEC.

This framework describes:

- The different roles and responsibilities in the PoC activity process.

- The PoC activity process.

- The acceptance criteria for PoC proposals and reports.

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 http://docbox.etsi.org/Reference.

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

Not applicable.

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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.

Not applicable.

3   Definitions and abbreviations

3.1   Definitions

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

application provider: entity that manages and distributes software-based services and solutions to customers

content provider: entity (e.g. a web server, or a content distribution network) that provides content to consumers

expected contribution: input/feedback expected from the PoC team on a specific PoC topic

infrastructure provider: entity that provides components into the network infrastructure ranging from compute elements and/or platforms to a software component. (i.e. software component examples include security, virtualization, controller, etc.)

network operator: organisation that provides a network for the provision of telecommunications services

> NOTE: If the same organisation also offers services it also becomes the service provider.

PoC demo: public demonstration of a PoC project

PoC project: multi-party endeavour targeting to prove some concepts in the context of a given technology

PoC proposal: initial description of a multivendor PoC project, and the feedback it will provide

PoC report: compilation of test results, lessons learned, contributions and recommendations provided by a PoC team during or at the end of a PoC project

PoC team: organizations participating in the PoC project

PoC test plan: description of the test objectives of each targeted scenario

PoC topic: specific topic identified by the ISG MEC, where some from-the-field input or feedback is required from the PoCs

3.2   Abbreviations

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

CTI	Centre for Testing and Interoperability
ISG	Industry Standardization Group
MEC	Mobile-Edge Computing
PoC	Proof of Concept

4   PoC framework

4.0   Rationale

MEC proposes a new edge based service and computation platform, which may inspire the development and of new types of applications and services. Proof of Concepts are an important tool to demonstrate MEC as a viable technology. Results and feedback from the PoCs can guide the work in the ISG MEC on interoperability and other technical challenges. The public demonstration of MEC concepts helps to build commercial awareness and confidence in this technology, and helps to develop a diverse, open, MEC ecosystem.

The PoCs are scoped around the PoC Topics identified by the ISG MEC (i.e. service scenarios, use cases, etc.).

4.1   Roles and responsibilities

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

-      identifying PoC topics;

-      identifying expected contributions and timelines for PoC topics;

-      processing the contributions made by the PoC teams on those topics.

PoC Support Team: Entity in charge of administering the PoC activity process. It is in charge of:

-      maintaining and making available the PoC topics;

-      reviewing PoC proposals and PoC reports against the acceptance criteria;

-      declaring the acceptance and end of each PoC;

-      compiling the accepted PoC Proposals and Reports and making them available to the ISG MEC;

-      monitoring the PoC project timelines, and sending the appropriate reminders to the PoC teams (for expected contributions, PoC report, etc.).

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

-      writing the PoC proposal;

-      submitting the expected contributions to the ISG MEC;

-      writing the PoC report.

4.2   PoC activity process

Figure 1 provides a description of the PoC activity process.
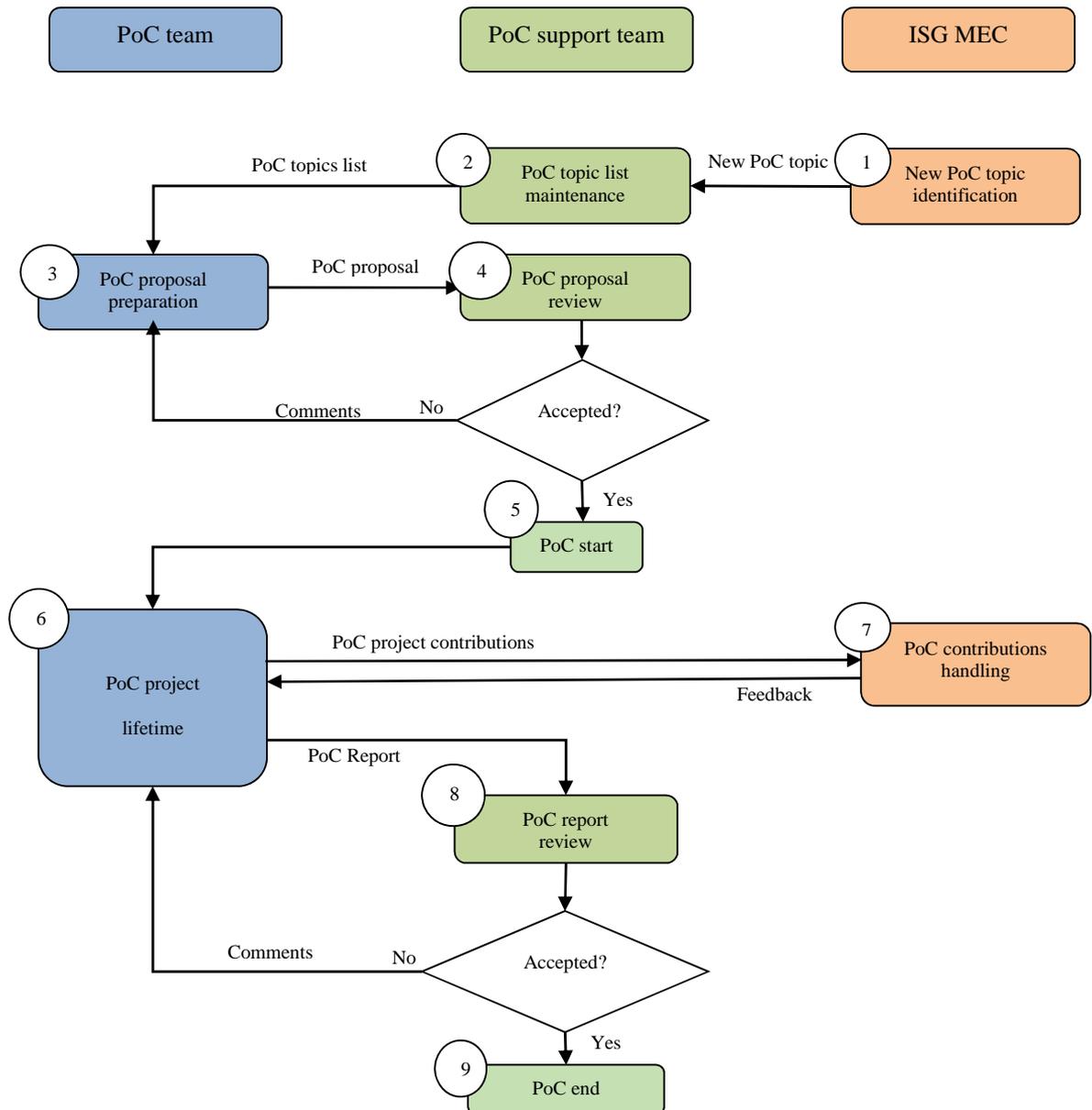
Figure 1

It includes 9 stages:

1)   **Stage 1: New PoC topic identification**

   Main task: To identify and describe a new PoC topics.

   Responsibility: ISG MEC.

   Input: None.

   Output: New PoC topic.

   Duration: Any.

   Description: The ISG MEC identify the topics and contributions expected from the PoC projects. This information is sent to the PoC support team to feed the PoC topics list. For each PoC topic, ISG MEC provides detailed information on:

   -      the contribution(s) expected from the PoC;

- the expected timing for the contributions.

2) **Stage 2: PoC topics list maintenance**

Main task: To maintain and make available the PoC topics list. To notify the community when there is a change in the list.

Responsibility: PoC support team.

Input: New PoC topics.

Output: PoC topics list, notifications (e.g. New PoC topic).

Duration: Any.

Description: The PoC support team maintains and gives visibility to the PoC topics list in the MEC WIKI. The PoC topics and the description of the specific contributions expected for each of them helps PoC teams to concentrate their efforts on the most valuable topics for the ISG MEC. The PoC topics list is made widely available among the community, and appropriate notifications are sent to the community when it is updated.

3) **Stage 3: PoC proposal preparation**

Main task: To prepare and submit the PoC proposal.

Responsibility: PoC team.

Input: Previous ISG MEC publications, PoC topics, PoC proposal template.

Output: PoC proposal.

Duration: Any.

Description: During this stage, the PoC team is formed. PoC team formation is beyond the scope of the ISG MEC. The PoC team prepares a PoC proposal according to the PoC proposal template available in the MEC WIKI, in compliance with the PoC proposal acceptance criteria. The PoC proposal will be uploaded on the ETSI Portal as a contribution to ISG MEC IEG and a link to the contribution sent to the ISG_MEC_IEG@LIST.etsi.org mailing list with [ISG MEC PoC proposal] in the subject line.

4) **Stage 4: PoC proposal review**

Main task: To review the PoC proposal according to the PoC proposal acceptance criteria.

Responsibility: PoC support team.

Input: PoC proposal, PoC proposal acceptance criteria.

Output: Response (Accepted / Not accepted), Comments.

Duration: 14 calendar days.

Description: The PoC support team reviews the PoC proposal against the PoC proposal acceptance criteria identified in clause 4.3. Comments are sent back to the PoC Team with the response: Accepted / Not accepted.

The PoC Team can incorporate the comments received to the PoC proposal and re-submit it as follows:

- The updated PoC proposal is uploaded to the ETSI portal as a revision of the original PoC proposal contribution to ISG MEC IEG.

- The PoC Team informs of the PoC proposal re-submission by emailing the revised contribution link to ISG_MEC_IEG@LIST.etsi.org.

5) **Stage 5: PoC Start**

Main task: To announce and create awareness of the new PoC project. To monitor the new PoC project milestones and to send the appropriate reminders to the PoC team.

Responsibility: PoC support team.

Input: PoC proposal.

Output: New PoC project announcement.

Duration: Any.

Description: Once the PoC support team has declared a new PoC proposal accepted, a number of actions are taken to create awareness among the wider community. These actions include, but are not restricted to:

- Send an announcement email to the ISG MEC.

- Update the MEC WIKI.

Note that all accepted PoC proposals are expected to be executed, to submit the expected contributions to the ISG MEC and to produce and submit a PoC report. The PoC support team monitors and makes available to the community the status of these PoC project milestones. Appropriate reminders are sent to the PoC teams when required.

6) **Stage 6: PoC Project Lifetime**

Main task: To run the PoC project, to produce and submit the expected contribution(s) to the ISG MEC. To produce and submit the PoC report.

Responsibility: PoC team.

Input: PoC proposal, Feedback from the ISG MEC.

Output: PoC project contribution(s), PoC report(s).

Duration: 3-9 months.

Description: During the PoC project lifetime, the PoC team will provide public demonstrations of their PoC (PoC demo). These public demos can happen at industry events, on-line webinars, open-doors day at the lab, etc. The public demo date and venue will be specified in the PoC proposal and/or announced at least 4 weeks before the demo date.

In addition, the following output is expected from the PoC project:

- **Contribution(s) to the ISG MEC** - During the PoC project lifetime, the PoC team prepares and submits contributions to the ISG MEC. PoC project contributions include the expected Contributions identified in the PoC topic.

- **PoC Report -** Once the PoC project is completed, and all the expected contributions have been submitted to the ISG MEC, the PoC team compiles the PoC results and lessons learnt in a final PoC report. PoC reports are submitted as follows:

  - PoC reports are uploaded to the ETSI portal as regular contributions to ISG MEC IEG.

  - The PoC team sends the link to the PoC report contribution to ISG_MEC_IEG@LIST.etsi.org.

7) **Stage 7: PoC contributions handling**

Main task: To process the contributions received from the PoC team. To provide feedback.

Responsibility: ISG MEC.

Input: PoC project contributions.

Output: Feedback.

Duration: 4 weeks.

Description: ISG MEC is expected to process the contributions and to provide feedback to the PoC team.

8) Stage 8: PoC Report Review

Main task: To review the PoC report according to the PoC report acceptance criteria.

Responsibility: PoC support team.

Input: PoC Report, PoC report acceptance criteria.

Output: Response (Accepted / Not accepted), Comments.

Duration*:* 2 weeks

Description: The PoC support team reviews the PoC report against the PoC report acceptance criteria identified in clause 4.4. Comments are sent back to the PoC team with the response: Accepted / Not accepted.

The PoC team can incorporate the comments received to the PoC report and re-submit it as follows:

- The new PoC report is uploaded to the ETSI portal as a revision of the original PoC report contribution.

- The PoC team informs ISG MEC of the PoC report re-submission by emailing the link to the revised contribution link to ISG_MEC_IEG@LIST.etsi.org.

9) Stage 9: PoC End

Main task: To announce and create awareness of the PoC completion and PoC report availability.

Responsibility: PoC support team.

Input: PoC report.

Output: PoC project completed announcement.

Duration: Any.

Description: Once the PoC support team has declared the acceptance of the PoC report, a number of actions can be taken to create awareness on the successful completion of the PoC and the availability of the PoC report. These actions include:

- Send an announcement email to the ISG_MEC@LIST.etsi.org.

- Update the MEC WIKI.

4.3 PoC proposal acceptance criteria

This clause lists the required acceptance criteria that any PoC proposal needs to fulfil to be accepted by the PoC support team:

- The PoC proposal will contain the information requested in the format of the PoC proposal template available in the MEC WIKI.

- The PoC team will have at a minimum 3 different organizations:

    - at least one network operator;

    - at least one infrastructure provider;

    - at least one content/application provider.

- The PoC Point of Contact will be an ISG MEC member or ISG MEC participant.

- The PoC proposal will address at least one of the PoC topics listed on the MEC WIKI.

- The PoC proposal will commit for a demonstration of the PoC at a public event, e.g. public exhibition, ISG MEC meeting, a related conference, or other events.

4.4   PoC report acceptance criteria

This clause lists the required acceptance criteria that any PoC report needs to fulfil to be accepted by the PoC support team:

-       Proof of the demonstration of the PoC topic(s);

-       Submission of the expected contribution(s).

5   PoC support tools

5.0   General

The following clauses describe the different tools used to support the MEC PoC activity.

5.1   PoC mailing list

The PoC activity will make use of the ISG MEC IEG mailing list (ISG_MEC_IEG@LIST.ETSI.ORG), which will be used:

a)   By the PoC support team to announce the addition of a new PoC topic to the PoC topic list.

b)   By the PoC teams to inform of the submission of a new PoC proposal / PoC report.

c)   By the PoC support team to inform the community of the acceptance of a new PoC proposal / PoC report.

5.2   PoC WIKI

The PoC WIKI (MECWIKI.ETSI.ORG) centralizes all the PoC related information such as:

a)   The PoC framework, PoC proposal template, PoC report template.

b)   PoC topics list.

c)   List and documentation of completed PoCs.

d)   List and documentation of on-going PoCs.

PoC WIKIs are hosted by ETSI and managed by ETSI CTI.

Annex A (informative):
Bibliography

- ETSI GS MEC-IEG 004: "Mobile-Edge Computing (MEC); Service Scenarios".

History

Document history		
V1.1.1	August 2015	Publication