



## **Zero-touch network and Service Management (ZSM); Proof of Concept Framework**

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# Contents

Intellectual Property Rights .....	4
Foreword.....	4
Modal verbs terminology.....	4
1 Scope .....	5
2 References .....	5
2.1 Normative references .....	5
2.2 Informative references.....	5
3 Definition of terms, symbols and abbreviations.....	6
3.1 Terms.....	6
3.2 Symbols.....	6
3.3 Abbreviations .....	6
4 PoC framework .....	6
4.0 Rationale.....	6
4.1 Roles and responsibilities .....	7
4.2 PoC activity process .....	7
4.3 PoC proposal acceptance criteria.....	11
4.4 PoC report acceptance criteria.....	12
5 PoC support tools .....	12
5.0 General .....	12
5.1 PoC mailing list.....	12
5.2 PoC WIKI.....	12
History .....	13

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# Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) Zero-touch network and Service Management (ZSM).

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# 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 ZSM to coordinate and promote multi stakeholder Proof of Concept (PoC) projects illustrating key aspects of ZSM. Proofs of Concept are an important tool to demonstrate the viability of a new technology during its early days and or pre-standardization phase.

The main objectives of the ZSM PoC framework are:

- to ensure the PoC projects are scoped around relevant topics for ISG ZSM that require from-the-field input;
- to ensure that the PoC results, lessons learnt and identified gaps are feedback to ISG ZSM;
- to build confidence on the viability of ZSM;
- 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 ZSM.

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.

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## 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.

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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.

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

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

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

**network provider:** organization that provides a network for the provision of telecommunications services

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

**PoC demo:** public demonstration of a PoC project

**PoC management team:** team that manages the PoC activity process and promotes the PoC framework

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

**PoC proposal:** initial description of a multiparty 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:** organization 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 ZSM, where some from-the-field input or feedback is required from the PoCs

**service provider:** organization that provides a service; a network service is excluded

**supplier:** organization that provides things such as hardware, software or application

### 3.2 Symbols

Void.

### 3.3 Abbreviations

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

CTI	Centre for Testing and Interoperability
ISG	Industry Specification Group
PoC	Proof of Concept
ZSM	Zero-touch network and Service Management

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## 4 PoC framework

### 4.0 Rationale

ZSM strives to enable network and service management in an automated way, ideally with 100 % automation, which is expected to transform the way telecommunication networks and services are managed.

Proof of Concepts are an important tool to demonstrate ZSM as a viable solution to achieve automation of Service and Management. Results and feedback from the PoCs can inform the industry about the work of the ISG ZSM on specific topics. The public demonstration of ZSM concepts helps to build commercial awareness and confidence in related solutions, and helps to develop a diverse, open, ZSM ecosystem.

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

## 4.1 Roles and responsibilities

**ISG ZSM:** The ISG ZSM 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 Management 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 ZSM;
- monitoring the PoC project timelines, and sending the appropriate reminders to the PoC teams (for expected contributions, PoC report, etc.).

Composition of the PoC Management Team: at least 1 representative of a network provider or service provider, 1 representative of a supplier, and 1 representative of ETSI Secretariat. The various groups of shareholders should be represented in balance.

The PoC Management Team members shall be active participants of ISG ZSM.

**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 ZSM;
- providing PoC Demo;
- writing the PoC report.

## 4.2 PoC activity process

Figure 1 provides a description of the PoC activity process.

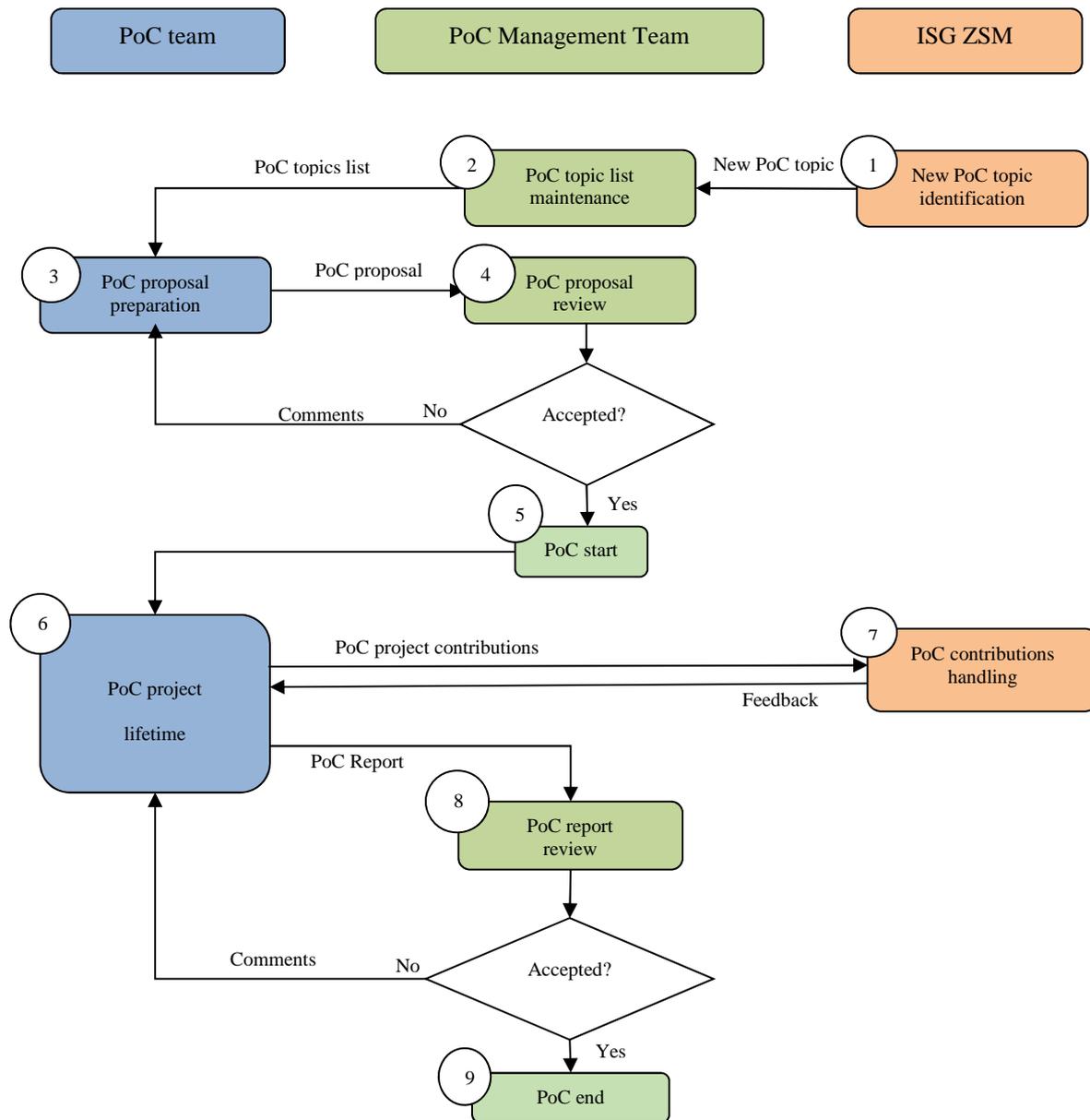


Figure 1

It includes 9 stages:

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

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

**Responsibility:** ISG ZSM.

**Input:** None.

**Output:** New PoC topic.

**Duration:** Any.

**Description:** The ISG ZSM identifies the topics and contributions expected from the PoC projects. This information is sent to the PoC Management Team to feed the PoC topics list. For each PoC topic, ISG ZSM 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 Management Team.

**Input:** New PoC topics.

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

**Duration:** Any.

**Description:** The PoC Management Team maintains and gives visibility to the PoC topics list in the ZSM 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 ZSM. 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 ZSM 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 ZSM. The PoC team prepares a PoC proposal according to the PoC proposal template available in the ZSM WIKI, in compliance with the PoC proposal acceptance criteria. The PoC proposal will be uploaded on the ETSI Portal as a contribution to ISG ZSM and a link to the contribution sent to the ISG\_ZSM@LIST.etsi.org mailing list with [ISG ZSM 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 Management Team.

**Input:** PoC proposal, PoC proposal acceptance criteria.

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

**Duration:** 14 calendar days.

**Description:** The PoC Management 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 ZSM.
- The PoC Team informs of the PoC proposal re-submission by emailing the revised contribution link to [ISG\\_ZSM@LIST.etsi.org](mailto:ISG_ZSM@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 Management Team.

**Input:** PoC proposal.

**Output:** New PoC project announcement.

**Duration:** Any.

**Description:** Once the PoC Management 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 ZSM.
- Update the ZSM WIKI.

Note that all accepted PoC proposals are expected to be executed, to submit the expected contributions to the ISG ZSM and to produce and submit a PoC report. The PoC Management 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 ZSM. To produce and submit the PoC report.

**Responsibility:** PoC team.

**Input:** PoC proposal, Feedback from the ISG ZSM.

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

**Duration:** typically 3-9 months, can be more.

**Description:** During the PoC project lifetime, the PoC team shall 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 shall 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 ZSM** - During the PoC project lifetime, the PoC team prepares and submits contributions to the ISG ZSM. PoC project contributions include the expected Contributions identified in the PoC topic. PoC teams will be expected to provide regular contributions to ISG ZSM (at least a status update every 3 months).
- **PoC Report** - Once the PoC project is completed, and all the expected contributions have been submitted to the ISG ZSM, 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 ZSM.
  - The PoC team sends the link to the PoC report contribution to [ISG\\_ZSM@LIST.etsi.org](mailto:ISG_ZSM@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 ZSM.

**Input:** PoC project contributions.

**Output:** Feedback.

**Duration:** 4 weeks.

**Description:** ISG ZSM 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 Management Team.

**Input:** PoC Report, PoC report acceptance criteria.

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

**Duration:** 2 weeks.

**Description:** The PoC Management 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 ZSM of the PoC report re-submission by emailing the link to the revised contribution link to [ISG\\_ZSM@LIST.etsi.org](mailto:ISG_ZSM@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 Management Team.

**Input:** PoC report.

**Output:** PoC project completed announcement.

**Duration:** Any.

**Description:** Once the PoC Management 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\\_ZSM@LIST.etsi.org](mailto:ISG_ZSM@LIST.etsi.org).
- Update the ZSM 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 Management Team:

- The PoC proposal shall contain the information requested in the format of the PoC proposal template available in the ZSM WIKI.
- The PoC team shall have at a minimum 2 different independent organizations. The types of organizations may be network/service providers, suppliers, universities, research centres, test labs, Open-Source projects, integrators, etc.
- The main PoC point of contact shall be an ISG ZSM member or ISG ZSM participant.
- The PoC proposal shall address at least one of the PoC topics listed on the ZSM WIKI.
- The PoC proposal shall commit for a demonstration of the PoC at a public event, e.g. public exhibition, ISG ZSM meeting, a related conference, or other types of events (e.g. webinar).

## 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 Management Team:

- Proof of the demonstration of the PoC topic(s).
- Submission of the expected contribution(s).

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## 5 PoC support tools

### 5.0 General

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

### 5.1 PoC mailing list

The PoC activity will make use of the ISG ZSM mailing list ([ISG\\_ZSM@LIST.etsi.org](mailto:ISG_ZSM@LIST.etsi.org)), which will be used:

- a) By the PoC Management 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 Management Team to inform the community of the acceptance of a new PoC proposal/PoC report.

### 5.2 PoC WIKI

The PoC WIKI (ZSMWIKI.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.
- e) PoC WIKIs are hosted by ETSI and managed by ETSI CTI.

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## History

<b>Document history</b>		
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