



TECHNICAL SPECIFICATION

**Network Technologies (NTECH);
Autonomic network engineering for the self-managing
Future Internet (AFI);
Proofs of Concept Framework**

Reference

DTS/NTECH-AFI-0026-GANA-PoC

Keywords

autonomic networking, Proof of Concept,
Self-Management, use case**ETSI**

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important noticeThe present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at
<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2015.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	4
Introduction	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	5
3 Definitions and abbreviations.....	6
3.1 Definitions	6
3.2 Abbreviations	6
4 PoC Framework.....	7
4.1 Roles and responsibilities	7
4.2 PoC Activity Process.....	7
4.3 PoC Proposal Acceptance Criteria	12
4.4 PoC Report Acceptance Criteria	12
5 PoC Support Tools	13
5.1 PoC mailing list.....	13
5.2 PoC WIKI.....	13
History	14

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Network Technologies (NTECH).

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.

Introduction

The present document defines a framework to coordinate and promote public demonstrations of Proofs of Concept (PoC) illustrating key aspects of Autonomic Management & Control (AMC).

1 Scope

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 present document defines a framework to coordinate and promote multivendor Proofs of Concept (PoC) projects illustrating key aspects of the autonomic management and control technology [i.1].

The main objectives of this PoC framework are:

- to ensure the PoC projects are scoped around relevant topics;
- to ensure that the PoC results, lessons learnt and identified gaps are feedback to the AFI working group of TC NTECH;
- to build confidence on the viability of autonomic management and control technology;
- to encourage the development of a diverse and open ecosystem by fostering the integration of components from different players;
- to support standardization activities of the AFI working group of TC NTECH.

This framework describes:

- the different roles and responsibilities in the PoC process;
- the PoC 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 reference 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>.

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.

Not applicable.

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 reference 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 TS 103 194 (V1.1.1): "Network Technologies (NTECH); Autonomic network engineering for the self-managing Future Internet (AFI); Scenarios, Use Cases and Requirements for Autonomic/Self-Managing Future Internet".

[i.2] ETSI Directives.

NOTE: Available at https://portal.etsi.org/directives/34_directives_dec_2014.pdf.

3 Definitions and abbreviations

3.1 Definitions

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

contribution: contribution of the PoC Project to the standardization work

NOTE: A contribution can take various forms, e.g. a proposal for modification of one or more ETSI deliverables, a report on lessons learnt, or a set of recommendations on future standardization activities.

Committed Contribution: contribution that the PoC Team commits to provide

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

NOTE: An association or organization of such manufacturers also falls within this category.

EXAMPLE: Membership category from ETSI Directives [i.2].

network operator: operator of an electronics communications network or part thereof

NOTE: An association or organization of such manufacturers also falls within this category.

EXAMPLE: Membership category from ETSI Directives [i.2].

PoC Demo: public demonstration of a PoC Project

PoC Project: multi-vendor endeavor 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 to a Technical Body (TB)

PoC Report: compilation of test results, lessons learnt and recommendations provided by a PoC Team at the end (of each phase) of a PoC Project

PoC Test Plan: description of the test objectives of each targeted scenario

PoC Topic: specific topic identified by the TB or a WG, where some from-the-field input or feedback is required

WIKI: website whose users can add, modify, or delete its content via a web browser using a simplified markup language or a rich-text editor

3.2 Abbreviations

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

AFI	Autonomic network engineering for the self-managing Future Internet
AMC	Autonomic Management & Control of Networks and Services
CTI	Centre for Testing and Interoperability
NTECH	Network Technologies
PoC	Proof of Concept
PPRR	PoC Proposal Review Record
PRRR	PoC Report Review Record
TB	Technical Body
TC	Technical Committee
WG	Working Group

4 PoC Framework

4.1 Roles and responsibilities

TB WG: TB or Working Group interested in the outcome of the PoC projects. In the context of the PoC Framework, it is in charge of:

- identifying PoC Topics, expected contributions and timelines; and
- processing the contributions made by the PoC Teams on those topics.

In the context of the present document, the TB WG role is played by the AFI Working Group of the NTECH Technical Committee.

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

- maintaining and making available the PoC Topics List;
- 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 TB WG; and
- monitoring the PoC Project timelines, and sending the appropriate reminders to the PoC Teams (for Committed Contributions, PoC Report, etc.).

In the context of the present document, the PoC Support Team role is assigned to a group of experts, including the chairman of the AFI Working Group of the NTECH Technical Committee, other experts from this Working Group appointed by the Technical Committee and experts from the ETSI Centre for Testing and Interoperability (CTI).

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

- writing the PoC Proposal;
- submitting the Committed Contributions to the TB WG; and
- writing the PoC Report.

4.2 PoC Activity Process

Figure 1 provides a description of the PoC activity process.

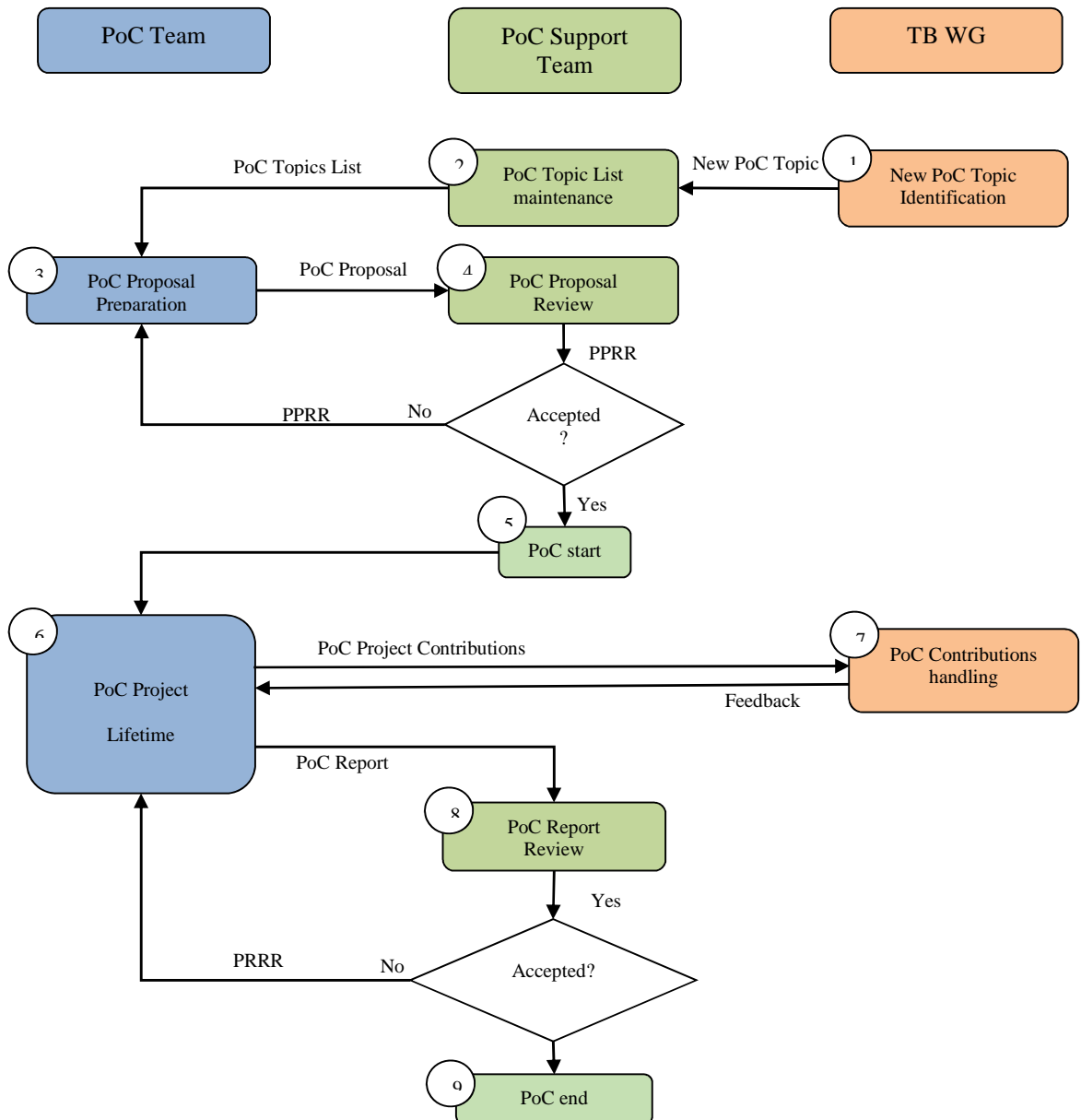


Figure 1: POC process overview

It includes 9 stages:

Stage 1: New PoC Topic identification

- **Main task:** To identify and describe a new PoC Topics
- **Responsibility:** NTECH/AFI WG
- **Input:** Member contributions, ETSI deliverables produced by the NTECH AFI WG
- **Output:** New PoC Topic
- **Duration:** Any
- **Description:** The NTECH/AFI WG identifies the topics and feedback expected from the PoC Projects. This information is sent to the PoC Support Team to feed the PoC Topics List. For each PoC Topic, the NTECH AFI WG provides detailed information on:
 - the contribution(s) expected from the PoC; and

- the expected timing for the contributions.

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. The PoC topics and the description of the specific feedback expected for each of them helps PoC Teams to concentrate their efforts on the most valuable topics for the NTECH AFI WG. The PoC Topics list is made widely available among the community, and appropriate notifications are sent to the community when it is updated.

Stage 3: PoC Proposal Preparation

- **Main task:** To prepare and submit the PoC Proposal
- **Responsibility:** PoC Team
- **Input:** Previous TB publications, PoC Topics, PoC Proposal Template
- **Output:** PoC Proposal
- **Duration:** Any
- **Description:** During this stage, the PoC Team is formed. The PoC Team prepares a PoC Proposal according to the PoC Proposal template available on the AFI PoC WIKI (see clause 5.2) and the PoC Topics from stage 2. PoC proposals are submitted as follows:
 - 1) PoC Proposals are uploaded to the ETSI portal as regular contributions to the NTECH AFI WG.
 - 2) The PoC Team informs the community of the PoC proposal submission by emailing the contribution link to NTECH_AFI@LIST.ETSI.ORG.

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:** PoC Proposal Review Record (PPRR)
- **Duration:** 2 weeks
- **Description:** The PoC Support Team reviews the PoC Proposal against the PoC Proposal Acceptance Criteria identified in clause 4.3. During the review, a PoC Proposal Review Record (PPRR) is generated to support the discussion and decision. The PPRR is sent back to the PoC Team with the response: Accepted/Not Accepted.

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

- 1) The new PoC Proposal is uploaded to the ETSI portal as a revision of the original PoC Proposal contribution.
- 2) The PoC Team informs the PoC Support Team of the PoC proposal re-submission by emailing the revised contribution link to NTECH_AFI@LIST.ETSI.ORG.

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:
 - Send an announcement email to the NTECH_AFI@LIST.ETSI.ORG and NTECH_AFI@LIST.ETSI.ORG.
 - Update the AFI PoC WIKI page.

NOTE: All accepted PoC Proposals are expected to be executed, to submit the Committed Contributions to the NTECH AFI WG 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.

Stage 6: PoC Project Lifetime

- **Main task:** To run the PoC project, to produce and submit the Committed Contribution(s) to the NTECH/AFI WG. To produce and submit the PoC Report
- **Responsibility:** PoC Team
- **Input:** PoC Proposal, Test Plan Template, Feedback from the NTECHAFI WG
- **Output:** PoC Project Contribution(s), PoC Report(s)
- **Duration:** Typically 3-9 months
- **Description:** During the PoC Project lifetime, the PoC Team works on different tasks such as (non-exhaustive list):
 - **Integration** of the PoC components.
 - **Development of the PoC Test Plan** - The PoC Test Plan describes how the different topics addressed by the PoC will be tested. A well-documented Test Plan allows to re-run the PoC by the same or another PoC Team. A Test Plan Template is available on the AFI PoC WIKI (see clause 5.2).
 - **PoC Demo(s)** - PoC Teams will provide at least one public demonstration of their PoC. These public demos can happen at industry events, on-line webinars, open-doors day at the lab, etc. The Public Demo date and venue should be specified in the PoC Proposal and/or announced at least 1 month before the demo date.

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

- **Contribution(s) to the TB WG/WIs** - During the PoC project lifetime, the PoC Team prepares and submits contributions to the NTECH AFI WG. PoC Project contributions include:
 - a) The **Committed Contribution(s)** - announced in the PoC Proposal.
 - b) Other Contributions such as interim PoC Reports.

- **PoC Report** - Once the PoC project is completed, and all the committed contributions have been submitted to the TB (WG), the PoC Team compiles the PoC Results and Lessons Learnt in a final PoC Report. PoC Reports are submitted as follows:
 - a) PoC Reports are uploaded to the ETSI portal as regular contributions to the NTECH AFI WG.
 - b) The PoC Team informs the community of the PoC Report submission by emailing the contribution link to NTECH_AFI@LIST.ETSI.ORG.

Stage 7: PoC Contributions handling

- **Main task:** To process the contributions received from the PoC Team. To provide feedback
- **Responsibility:** NTECH AFI WG
- **Input:** PoC Project Contributions
- **Output:** Feedback
- **Duration:** 3 months
- **Description:** WGs at the origin of the PoC Topics addressed by the PoC Team are expected to process their contributions and to provide feedback to the PoC Team.

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:** PoC Report Review Record (PRRR)
- **Duration:** 2 weeks
- **Description:** The PoC Support Team reviews the PoC Report against the PoC Report Acceptance Criteria identified in clause 4.4. During the review, a PoC Report Review Record (PRRR) is generated to support the decision. The PRRR is sent back to the PoC Team with the response: Accepted/Not Accepted.

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

- 1) The new PoC Report is uploaded to the ETSI portal as a revision of the original PoC Report contribution.
- 2) The PoC Team informs the community of the PoC Report re-submission by emailing the revised contribution link to NTECH_AFI@LIST.ETSI.ORG.

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 NTECH_AFI@LIST.ETSI.ORG and NTECGH@LIST.ETSI.ORG lists.
 - Update the PoC 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. These are:

- Usage of the Template: The proposal shall be submitted using the PoC Proposal Template available on the AFI PoC WIKI.
- PoC Team Composition:
 - The PoC Team shall include at least two manufacturers and at least one network operator or one service provider, where at least the one network operator or the one service provider shall be a member of the NTECH AFI WG.
 - The PoC Project Coordinator should also be a member of the ETSI NTECH AFI Working Group.
- PoC Project Scope: The PoC Project Scope shall identify at least one PoC Topic from the list available on the AFI PoC WIKI.
- PoC Project Timeline shall be provided.
- The Proposal shall indicate the target date and venue where the PoC will be demonstrated (e.g. PoC Team member lab, industry trade show, etc.).
- Completeness of the Proposal: Unless otherwise stated, all sections and tables of the PoC Proposal Template shall be completed. The proposal shall include at least one PoC Demo and one Contribution.

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. These are:

- Usage of the Template: The proposal shall be submitted using the PoC Report Template available on the AFI PoC WIKI.
- Alignment with the PoC Proposal: any change in the scope or PoC Team composition shall be motivated and still meet PoC Proposal acceptance criteria.
- PoC Project Contributions: The PoC report shall provide a list of links to the Contributions made by the PoC Team. Deviations from the PoC Proposal shall be motivated.
- Completed PoC Test Plan, if announced in the PoC Proposal.
- PoC Demo: The PoC Report shall document (at least) one PoC Demo.
- Completeness of the PoC Report: Unless otherwise stated, all sections and tables of the PoC Report Template shall be completed.

5 PoC Support Tools

5.1 PoC mailing list

The PoC activity will make use of the NTECH AFI WG mailing list (NTECH_AFI@LIST.ETSI.ORG), which will be used:

- by the PoC Support Team to announce an update of the PoC Topic List;
- by the PoC Teams to inform of the submission of a new PoC Proposal/PoC Report;
- by the PoC Support Team to inform the community of the acceptance of a new PoC Proposal/PoC Report. These announcements will also be made on the TC NTECH mailing list.

5.2 PoC WIKI

The AFI PoC WIKI (<http://ntechwiki.etsi.org>) centralizes all the PoC related information such as:

- the PoC Framework, PoC Proposal Template, PoC Report Template, PoC Test Plan Template;
- PoC Topics List;
- list and documentation of Completed PoCs;
- list and documentation of On-going PoCs.

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

History

Document history		
V1.1.1	August 2015	Publication