D2.1 Customer Feedback Methodology
Version 1.0

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Change Log

Version	Author	Description of Change
V0.5	Saber Zribi	Initial version
V1.0	*Saber Zribi*	Final version

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Executive Summary

This report presents the Customer Advocacy methodology that will be used to evaluate the customer feedback and satisfaction. The task T2.4 (Customer Advocacy) part of WP2 has to achieve its KPI target of 90% customer satisfaction after collecting feedback from POP Users.

The objective of the deliverable is to detail the methodology that will be used by the customer advocate to collect evaluations from users. The methodology includes several types of surveys and interviews to be realised with the POP users. Findings are reported back to POP experts and the management team, in order to improve the quality and efficiency of the POP services.

The methodology described in this deliverable is an updated version of the POP2 customer feedback methodology. The main changes and improvements related to the POP3 methodology are as follows:

- The Proof-of-Concept questionnaire will be replaced by the Second Level Service questionnaire.
- User's interest in analysing and potentially improving the energy efficiency of their application is considered.
- User's interest in a correctness check study is considered.
- User's interest in an Advisory study is added
- In addition to POP3 users, POP1 and POP2 users will also be asked to complete the ROI survey.

These adjustments aim to provide the most accurate and relevant analyses and evaluation of customer feedback, improving POP service quality and performance. By analysing the data we collect, we will be able to improve our knowledge of how High-Performance Computing (HPC) and POP services can benefit industrial applications, enabling us to demonstrate their value and impact more effectively.

1. Introduction

Customer feedback, which will be detailed in section 2, is essential to understand the real impact of the services delivered by the POP Centre of Excellence, and to guarantee the best quality and efficiency services offered to POP users.

Therefore, throughout the project, each time a POP service is completed and the report with the results of the performance analysis or the second level service (equivalent to the proof of concepts in POP1 and POP2) is delivered to the POP users, we will be sending out invitations to the users (customers) to complete the relevant survey.

If necessary, and in order to explore and analyse potential problems or to obtain more information, we will manage to get more details by interviewing the

identified users. It is then up to us to collate and analyse their responses, draw out the lessons to be learnt, and present them to the Project Executive Board, who need to develop the services accordingly. In section 3, we first review the overall POP process and the range of services provided by the POP Centre of Excellence. We will then present our methodology for collecting, processing and using customer satisfaction data to improve these services. The full contents of the various surveys to be used are presented in the annexes.

2. Customer Satisfaction Methodology

The purpose of our customer satisfaction methodology is to assess and enhance the quality, performance, and efficiency of POP services. By systematically collecting and analysing customer feedback, we can identify areas for improvement and implement changes that lead to greater customer satisfaction and benefits.

2.1 Overview of the POP Process

The procedures outlined in the customer satisfaction methodology are closely related to the comprehensive POP process, which involves a multitude of steps.

The process begins by sending invitations to potential customers, prompting them to complete the straightforward Request Service Form available on the POP website[i]. Through this form, users acknowledge and agree to the service's terms and conditions [ii] . This initial consultation acts as an evaluation mechanism, ensuring that POP can effectively fulfil the customer's service request.

However, before assigning the service to a POP expert, additional information is required to make the appropriate decision. To gather this information, a POP management team reaches out to the customer and uses the Questionnaire on User Requirements[iii].

Based on the gathered data and the current workload of each POP expert, assignments are made, and suitable tools are selected. Following this, the Performance Assessment service is carried out, evaluating the code's efficiency in various aspects such as parallelisation, load balancing, IPC, and data transfer. The collected performance data are then analysed to identify areas for improvement, documented, and presented along with recommendations in the Assessment Report. These recommendations may highlight specific aspects that require further examination, potentially through the setting up of a Second Level Service.

If necessary, a Second Level Service is performed (Proof of concept, Correctness check, Energy Efficiency or Advisory study) according to the need of the user.

Finally, the customer integrates the recommendations provided by POP experts and evaluates the performance enhancements.

To guarantee that project tasks meet customer satisfaction, the POP project will gather feedback through multiple ways, evaluate key performance indicators (KPIs), and present the findings at POP operational review meetings. The Task T2.4 team will collect feedback, evaluate the Key Performance Indicators (KPIs) and communicate the results to the management and POP experts. The results will be presented at the Operational Assessment meetings to ensure that the project activities are satisfactory to the customer.

2.2 The Surveys

The Customer Advocacy approach is centred on a series of surveys designed to gather customer feedback and is closely linked to the overall POP process.

2.2.1 POP Surveys

In POP1, we used five surveys for Performance Audit, Performance Plan, Proof-of-Concept, Performance Analysis Tools, and ROI.

In POP2, we updated the surveys to match changes in the POP process. For example, we merged Performance Audit and Performance Plan into Performance Assessment and removed the Performance Analysis tools survey from the Customer Advocacy work-package.

For POP3, the questionnaires have been revised and refined based on the insights gained from experiences with POP1 and POP2, as well as to take the changes in the services provided by POP3 into consideration.
The main adjustments are as follows:

- "The "Proof of Concept" questionnaire will no longer be used. Instead, POP3 offers a "Second Level Service" that can be done following the initial performance assessment to further understand the application behaviour. It will cover the following subjects:
    - Proof-of-concept: assess the potential advantages of proposed optimisations by implementing them in specific sections of the applications.
    - Correctness-check: evaluates the correctness of hybrid MPI + OpenMP applications.
    - Energy-efficiency study: investigates improvements to enhance energy efficiency or reduce energy consumption.
    - Advisory study: continue to provide advisory support. for customers opting to implement proposed optimisations independently

- Users are invited to offer additional details, if available, with their answers (e.g., could you say why?). This will enhance the feedback's relevance and ensure a deeper understanding of the customer's needs.

- The efforts required by customers to complete the Performance Assessment are adjusted to offer greater flexibility, acknowledging the challenges in some cases of accurately estimating exact values.

- Users will be asked about their interest in analysing and potentially enhancing energy efficiency, given that energy costs represent a significant challenge for most customers.

- In light of the findings of the Performance Assessment, we will inquire about consumer interest in a 'Second Level Service' (Proof of Concept in POP1 and POP2).

Therefore, we will be conducting three surveys:

- Two of these surveys will focus on POP services, aiming to measure customer satisfaction (one for each type):
  - Performance Assessment
  - Second Level Service
- The third survey aims to assess and quantify the benefits of performance enhancement to maximise Return on Investment. It will also be useful for understanding the real impact and effectiveness of the POP centre of excellence.

Each customer who has received a service report in the past month will be invited to complete the corresponding questionnaire. The surveys will be sent immediately following confirmation of the received service to gather valuable and prompt feedback. These surveys are conducted using EU Survey platform, a web-based tool provided by the European Commission. It offers efficient survey creation and an intuitive administration interface and exporting capabilities in various formats allowing external analysis, graphing and publication.

2.2.2 Participation Terms and Data Privacy Policy

The questionnaires do not ask for personal data. Instead, they simply require the Performance Assessment report number (POP-AR-nnn) or Second Level Service report number (POP-SLS-nnn), along with the name of the application.

Furthermore, as outlined in the POP Service Terms and Conditions, POP assures that all collected data remains confidential and will be anonymized before any publication. Additionally, we commit not to disclose any further information regarding the services provided to customers without their explicit consent. Each POP customer completing a questionnaire is given the option to grant or withhold consent for publication of the services reports. This information is prominently stated in the introduction of each questionnaire, along with links to the Terms and Conditions and the Data Privacy Policy of the POP project.

2.2.3 Survey analysis

A summary report detailing the number of questionnaires sent out in the previous period, along with an overview of the feedback received, will be presented during the monthly POP meeting, highlighting any potential concerns.

Ahead of each bi-yearly General Assembly, the survey results will be collated and anonymised into a PDF document, which will then be circulated to all POP experts. Additionally, a series of recommendations aimed at improving the services they offer will be included. Furthermore, a statistical analysis will offer a comprehensive view of the feedback collected during the previous period, all of which will be addressed during the General Assembly.

Detailed information regarding these surveys is available in the Annex section.

2.3 Customers interviews

Additionally, we will continue to interview customers whenever a case seems interesting or more detailed information is needed. These interviews will be conducted via phone or video conference.

In accordance with the Grant Agreement, all data collected from interviews will be depersonalised to remove references to names and emails before processing, using respondent IDs. To facilitate these interviews, we have prepared a list of essential questions to ensure all important points are covered. Below, we outline all the points that should be clear to us. However, we will skip any questions the user has already answered explicitly in the surveys.

Listed below are the steps for conducting a customer interview:

1. *Scheduling:* Arrange the interview at a time that is convenient for the customer and confirm the preferred method of communication (phone, video conference, or in-person).
2. *Introduction:* Begin the interview by explaining the purpose and ensuring the customer's consent for data use.
3. *Questionnaire:* Follow the prepared list of questions, adapting as necessary based on the customer's previous answers.
4. *Conclusion:* Wrap up the interview by expressing gratitude to the customer and outlining the next steps in the process, including any follow-up actions or additional information that may be required.

The questions to be asked can be grouped into various categories according to their subject matter or purpose:

2.3.1 Questions regarding the Performance Assessment

- **Awareness and User Background :**
  - How did you learn about POP?

  - What motivated you to engage with POP?
  - How familiar are you with the concept of POP?
  - Are you involved in the development of the code, or are you mainly a user of the application?
  - Could you provide more information about yourself, the code, and the team responsible for it?

- **Performance Analysis:**
  - Could you explain how the performance analysis was conducted?
  - Was the performance analysis completed within a reasonable time frame?
  - How were the performance metrics and benchmarks determined for the analysis?
  - Were there any complexities encountered during the performance analysis (e.g., infrastructure, application, environment, data)?
  - Were there any unexpected findings or insights discovered during the performance analysis?

- **Code Instrumentation and Output :**
  - How was the code instrumentation and output data retrieval managed?
  - Did you personally use the performance analysis tools?
  - Were there any challenges encountered in extracting and interpreting the output data from the performance analysis?
  - Was the context of the performance analysis comparable to the production environment?

- **Audit Feedback and Modification Plans:**
  - If changes were necessary in the audit, what would they be?
  - Have you begun modifying your code, or do you have plans to do so?
  - If yes, when do you expect these modifications to be completed?
  - What criteria will you use to measure the success of the code modifications and improvements?

- **Report Evaluation:**
  - Can you provide feedback on the clarity and organization of the report structure?
  - Are there any missing or irrelevant elements in the report?
  - If changes were to be made to the report, what would they be?
  - Are the figures/graphics sufficiently clear and explained?
  - Are there any specific sections of the performance assessment report that you found particularly insightful or valuable?
  - How do you plan to use the insights and recommendations outlined in the performance assessment report?

- **Future Plans and Services Interest:**
  - Do you have other applications you would like to assess?
  - Are you interested in a Second Level Service?
  - Would you be interested in exploring a proof of concept offered by the Second Level Service?
  - Are you interested in analysing and potentially improving the energy efficiency of your application?
  - Would you be interested in a correctness check study from the Second Level Service?
  - Would you like to consider an advisory study provided by the Second Level Service?

2.3.2 Questions regarding the Second Level Service

- **Proof-of-Concept**
  - How was the Proof-of-Concept carried out?
  - Did the Proof-of-Concept Report effectively communicate the findings and outcomes of the study?
  - Could you explain the process and any challenges encountered?
  - How did you find the clarity and comprehensibility of the Proof-of-Concept Report?
  - Could you tell us about any difficulties you have had in understanding it?
  - For you, what were the specific objectives of the Proof-of-Concept?
  - Overall, how satisfied are you with this Proof-of-Concept?
  - Based on your experience with this Proof-of-Concept, do you have any recommendations for improving the process in future initiatives?

- **Correctness check**
  - How would you evaluate the correctness check that was performed?
  - Would you describe the assessment of correctness as very easy, somewhat challenging, or extremely difficult?
  - Why do you believe it is important to evaluate the correctness of hybrid MPI + OpenMP applications?
  - What specific challenges did you face when assessing the correctness of hybrid MPI + OpenMP applications?
  - After conducting the correctness check, what were the observed repercussions of obtaining inaccurate results?
  - Did you encounter any other issues apart from those mentioned?
  - Looking back, is there anything you would have done differently in the execution of the correctness check?
  - Overall, how satisfied are you with the correctness check?
  - Based on your experience with this correctness check, are there any recommendations you would make for future assessments?

- **Energy-Efficiency study**

- Do you think that engaging in energy-efficiency studies was beneficial for your organization?
- What challenges did you encounter when conducting energy-efficiency studies?
- What benefits did you want to achieve by improving the energy efficiency?
- How do you plan to implement any recommendations or findings from the energy-efficiency study into your organization's practices or processes?
- Overall, how satisfied are you with the energy-efficiency study? If not satisfied, could you explain why?
- Are there any additional insights or lessons learned from the energy-efficiency study that you would like to share?

- **Advisory study**
  - What objectives did you have in mind when you asked for the advisory study?
  - How would you evaluate the advisory study?
  - What benefits did you gain from the advisory study?
  - What guidance did you seek to ensure the success of your implementations?
  - Overall, how satisfied are you with the advisory study?

2.3.3 Questions regarding the Return on Investment

- **Code Refactoring Efforts:**
  - Could you provide additional details on the efforts invested in code refactoring?
  - What were the primary objectives behind the code refactoring process?
  - Were there any challenges encountered during the code refactoring phase?

- **Measurement of Gains and Value Addition:**
  - How are the various types of gains or benefit measured or quantified?
  - Did you use specific metrics or benchmarks used to evaluate the effectiveness of the improvements?
  - Can you describe the criteria used to evaluate the impact of the changes made?

- **Accuracy of Reported Gains:**
  - In your opinion, do you believe that the reported gains accurately reflect the reality of the situation?
  - Have there been any instances where the reported gains were significantly different from the actual outcomes?
  - What measures were taken to ensure the accuracy and reliability of the reported gains?

- **Feasibility of Return on Investment (ROI):**
  - From your perspective, does the Return on Investment (ROI) seem reasonable to your management team?
  - Are there any factors or considerations taken into account when assessing the ROI?
  - How confident are you in the accuracy of the ROI calculations and projections?

- **Willingness to Pay for Assessing Other Applications:**
  - Would you be interested in assessing other applications, and if so, to what extent?
  - Are there specific criteria or conditions under which you would consider paying for the assessment of additional applications?
  - What factors would influence your decision-making process regarding the assessment of other applications?

A compilation of the minutes of the interviews will be systematically disseminated to POP experts. This will enable them to dynamically adjust and refine the service to meet evolving needs.

3. Conclusion

To summarize, the Customer Feedback Methodology is essential for ensuring the quality and efficiency of POP services. User feedback helps quantify the real impact and benefits of these services, offering a better understanding of customer needs and guiding future improvements.

Acronyms and Abbreviations

HPC: High-Performance computing
IPC: Inter-Process Communication
KPI: Key Performance Indicators
MP: Multi-Processing
MPI: Message Passing Interface
POP: Performance Optimisation and Productivity
ROI: Return on Investment
WP: Work Package

Annex: Customer Satisfaction Surveys

This Annex provides comprehensive details on our three questionnaires: Performance Assessment, Second Level Service, and ROI (Return on Investment).

The questionnaires, facilitated through the EU Survey tool, consist of a structured set of numbered questions. Additionally, some questions trigger complementary inquiries within the EU Survey interface, appearing only after specific responses are selected.

When using EU Survey, it is beneficial to adhere to best practices to optimise data collection and respondent engagement. This encompasses:

1. *Clarity and Simplicity:* Ensure questions are clear, concise, and easy to understand to minimise confusion for respondents.

2. *Logical Flow:* Organise questions in a logical sequence to guide respondents through the survey smoothly, enhancing completion rates.

3. *Use of Conditional Logic:* Employ conditional logic features, such as the complementary questions mentioned earlier, to tailor the survey experience based on respondents' previous answers. This helps gather more relevant and detailed insights.

4. *Accessibility and Compatibility:* Design surveys that are accessible across various devices and platforms, considering factors like mobile responsiveness and compatibility with different web browsers.

5. *Testing and Feedback:* Prior to deployment, thoroughly test the survey to identify any issues with question logic, formatting, or functionality. Solicit feedback from a small group of users to refine the survey design and user experience.

The only drawback is that the invitation is sent directly to users by the platform, and the user can understand that it is spam.

This is why the T2.4 task team sends an email to users before the invitation is sent by EuSurvey, informing them of the arrival of such an invitation.

By adhering to these guidelines, organisations can fully use the capabilities of the EU Survey platform to gather high-quality data in an effective and efficient manner. However, in the accompanying PDF files outlining the questionnaires, all questions are visible. Nonetheless, it is generally straightforward to anticipate which answers prompt complementary questions. To test these questionnaires, you will need an EU Login and the relevant privileges. You can access them by visiting the following links:

- Performance Assessment
- Second Level Service
- Return On Investment - ROI

Note: If you lack the necessary privileges, please send an email to saber.zribi@teratec.eu

References

[i] https://pop-coe.eu/request-service-form
[ii] https://pop-coe.eu/sites/default/files/public/popw1/POP_Terms_and_Conditions.pdf
[iii] https://pop-coe.eu/form-on-user-needs

D2.1 Customer Feedback Methodology Annex Version 1.0

Document Information

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Important! - Invitation to answer the POP Performance Assessment PA Evaluation (survey)

Fields marked with * are mandatory.

About the Survey

POP Performance Assessment Evaluation

Fields marked with * are mandatory.

Welcome and thank you in advance for answering this survey,

it will only take out a few minutes of your time to complete this short survey.

It's very important for the POP team to appreciate the quality of the performance assessment carried out by POP experts to help you optimise your application.
Thank you for your participation!

As stated in the 'Terms and Conditions', if you become a POP user you agree to give us feedback on the quality of the service you obtain from POP, and grant us permission to publish statistical information on the percentage of potential performance improvement, the potential savings and other equivalent metrics that measure the results and impact of the POP service. Your response is completely confidential, so don't hesitate to answer honestly; POP undertakes that all such data will be anonymized before publication, and that we will not publish any other information concerning the service that we provided to you without your explicit permission. For more details, please see our full 'Data Privacy Policy'.

Your feedback is very important to us as it directly contributes to the improvement of the quality and efficiency of the POP services that we provide.

The Survey

* 1. Report Reference Identifier

POP3_AR_nnn (Indicated on the front page of the Performance Assessment Report)

* 2. Application name

* 3. Who collected the performance analysis data?

- Yourselves
- You did it with the help of a POP performance analysis expert
- A POP performance analysis expert

* 4. How has this performance assessment been carried out?

- Very efficiently
- Fairly efficient (no major problems)
- Rather difficult (e.g. undue delay, unexpected constraints, ...)
- Poorly managed

* 5. How did you find the Performance Assessment Report?

- Easy to understand and clear
- Somewhat difficult to understand
- Not clear at all

* 6. Did the recommendations simply confirm what you already knew from a previous analysis or from your own experience?

- Yes
- No, because I didn't suspect some of the problems revealed by this assessment
- No, because I was unaware of possible problems

* 7. How much effort was required from you to complete this Performance Assessment? (rough estimate of person days/months)

- A few person days
- A few person weeks
- A few person months
- I don't know

* 8. Did this performance analysis meet your expectations?

- Entirely
- Partly
- Not enough
- Not at all

* 9. Overall, are you satisfied with this assessment?
- Very satisfied
- Satisfied
- Partly satisfied
- Not Satisfied

* 10. Would you like POP to publish the performance assessment results?

Note: You will be able to review any article before it is published.
- Yes
- Yes, under certain conditions
- No

* 11. Would you be interested in receiving any training on performance assessment?
- Yes
- No

* 12. Are you interested in a Second Level service? (To get a better understanding of how your application can be refactored to address some of the issues that were found in the Performance Assessment)
- Yes
- No, I have got enough information

* 13. Are you interested in an analysis and potential improvement of the energy-efficiency of your application?
- Yes
- No, not at this stage

* 14. Do you have a plan to modify your code (considering the proposed recommendations)?
- Yes
- Not yet
- No, we don't plan to modify our code

* 15. Do you have any other applications for which it would be useful to have a performance assessment?
- Yes
- No

* 16. Based on this experience, would your organisation be willing to pay for a Performance Assessment service in the future? (After the end of the European Commission funded POP project.)
- Yes
- Not sure
- No

* 17. Would you recommend the POP service to your colleagues or partner?
- Yes
- Possibly
- No

The end

Thank you very much.

Contact

saber.zribi@teratec.eu

Draft ID: 51f42152-25ad-4aad-ae54-1d5de0d7e9c0
Date: 17/06/2024 12:57:57

Important! - Invitation to answer the POP Second Level Services Evaluation (survey).

Fields marked with * are mandatory.

About the Survey

POP Second Level Service Evaluation

Fields marked with * are mandatory.

Welcome and thank you in advance for answering this survey,

it will only take out a few minutes of your time to complete this short survey.

This survey is designed to evaluate the efficacy of the Second Level service delivered by POP experts in aiding you to optimize your application.

The Second Level Service covers the following areas based on the service you have received:

- **Proof-of-Concept:** Applying proposed optimizations to specific application areas.
- **Correctness-Check:** Evaluating hybrid MPI + OpenMP application correctness.
- **Energy-Efficiency Study:** Investigating energy consumption and efficiency improvements.
- **Advisory Study:** Offering ongoing consultancy for self-implementation of optimizations.

Thank you for your participation!

As stated in the 'Terms and Conditions', if you become a POP user you agree to give us feedback on the quality of the service you obtain from POP, and grant us permission to publish statistical information on the percentage of potential performance improvement, the potential savings and other equivalent metrics that measure the results and impact of the POP service. Your response is completely confidential, so don't hesitate to answer honestly; POP undertakes that all such data will be anonymized before publication, and that we will not publish any other information concerning the service that we are providing to you without

your explicit permission. For more details please see our full Data Privacy Policy.

Your feedback is extremely valuable for us to understand your needs and how we can improve the quality and efficiency of the POP services.

The Survey

General Aspects of Second Level Services

* 1. What type of Second Level Service Study have you benefited from ?
  - [x] Proof-of-Concept
  - [x] Correctness-Check
  - [x] Energy-Efficiency Study
  - [x] Advisory Study

2. Report Reference Identifier

* Proof-of-Concept Report Reference Identifier

POP3_PoC_nnn (Indicated on the front page of the Proof-of-Concept)

* Correctness-Check Report Reference Identifier

POP3_CC_nnn (Indicated on the front page of the Correctness-Check)

* Energy-Efficiency Study Report Reference Identifier

POP3_EE_nnn (Indicated on the front page of the Energy-Efficiency Study)

* Advisory-Study Report Reference Identifier

POP3_AS_nnn (Indicated on the front page of the Advisory Study)

* 3. Application name

* 4. How much effort was required from you to complete this Second Level Service (rough estimate of person days/months)?
  - ( ) A few person days
  - ( ) A few person weeks
  - ( ) A few person months

- I don't know

Could you specify the effort you spent more precisely (e.g. 1 person month, 2 person weeks or 4 person days)?

Proof-of-concept:

Correctness-check:

Energy-efficiency study:

Advisory study:

* 5. Did POP fulfil your expectations?
  - Entirely
  - Partly
  - Not enough
  - Not at all

* 6. Are you happy for POP to publish the results of this Second Level Service report?
  - Yes
  - Yes, under certain conditions
  - No

* 7. Would you be interested in receiving any training?
  - Yes
  - No

* 8. Do you have other applications for which a Performance Assessment or a Second Level Service would be useful?
  - Yes
  - No

* 9. Do you have a plan to modify your code (considering the recommendations that have been proposed)?
  - Yes
  - Not yet
  - No, we don't plan to modify our code

* 10. Based on this experience, would your organisation be prepared to pay for a Second Level Service in the future (After the end of the European Commission funded POP project.)?

- ○ Yes
- ○ Not sure
- ○ No

About how much could you or would you be willing to pay for this service?

Taking as reference the sum your organisation is used to paying for other expert services

* 11. Would you recommend the POP service to your colleagues?

- ○ Yes
- ○ Possibly
- ○ No

Proof-of-Concept

* 1. How was this Proof-of-Concept carried out?

- ○ Very efficiently
- ○ Rather efficiently (no major problem)
- ○ Rather difficult (e.g. unreasonable delay, unexpected constraints, ...)
- ○ Poorly conducted

Could you say why?

* 2. How did you find the Proof-of-Concept Report?

- ○ Clear and easy to understand
- ○ Somewhat difficult to understand
- ○ Not at all clear

Could you say why?

* 3. What were the objectives of the Proof-of-Concept?

You can tick several boxes

- ☐ Assessing scalability and performance
- ☐ Evaluating hardware and software
- ☐ Validating numerical simulations
- ☐ Exploring innovative solutions for complex computational problems
- ☐ Other

Could you specify?

* 4. Overall, are you satisfied with this Proof-of Concept?

- ○ Very satisfied
- ○ Satisfied
- ○ Partly satisfied
- ○ Not Satisfied

Could you say why?

Correctness check

* 1. How would you assess the correctness check?

- ○ Very efficiently
- ○ Rather efficiently (no major problem)
- ○ Rather difficult (e.g. unreasonable delay, unexpected constraints, ...)
- ○ Poorly conducted

Could you say why?

* 2. How did you find the Correctness Check Report?

- ○ Clear and easy to understand
- ○ Somewhat difficult to understand
- ○ Not at all clear

Could you say why?

* 3. Is it important to evaluate the correctness of hybrid MPI + OpenMP applications?

- ○ Yes
- ○ No

* 4. What specific challenges did you encounter when assessing the correctness of hybrid MPI + OpenMP applications?

You can tick several boxes

- ☐ Managing MPI process and OpenMP thread interaction
- ☐ Ensuring data consistency across memory domains
- ☐ Addressing race conditions and deadlocks
- ☐ Optimizing performance of MPI and OpenMP components

- [ ] Other

Could you specify?

* 5. After conducting the correctness study, what were the observed repercussions of obtaining inaccurate results?

You can tick several boxes

- [ ] Performance loss
- [ ] System instability
- [ ] Application unreliability

Did you encounter any other issues?

* 6. Overall, are you satisfied with this Correctness check?

- ( ) Very satisfied
- ( ) Satisfied
- ( ) Partly satisfied
- ( ) Not Satisfied

Could you say why?

Energy-Efficiency study

* 1. How was this Energy-Efficiency study carried out?

- ( ) Very efficiently
- ( ) Rather efficiently (no major problem)
- ( ) Rather difficult (e.g. unreasonable delay, unexpected constraints, ...)
- ( ) Poorly conducted

Could you say why?

* 2. How did you find the Energy-Efficiency study Report?

- ( ) Clear and easy to understand
- ( ) Somewhat difficult to understand
- ( ) Not at all clear

Could you say why?

* 3.Was it beneficial to engage in energy-efficiency studies?

- ( ) Yes
- ( ) No

Which aspects were advantageous?

- [ ] Optimizing resource utilization
- [ ] Reducing execution times
- [ ] Minimizing unnecessary computations
- [ ] Power-awareness
- [ ] Other

4. What are the estimated cost savings resulting from the energy-efficiency study (in k€)?

* 5. What challenges did you encounter when conducting energy-efficiency studies?

You can tick several boxes

- [ ] Complexity
- [ ] Measurement Accuracy
- [ ] Balancing Performance and Efficiency
- [ ] Scalability
- [ ] Other
- [ ] Administrators' Support
- [ ] Other

Could you specify?

* 6. What benefits are you seeking to achieve by enhancing energy efficiency?

You can tick several boxes

- [ ] Cost Savings
- [ ] Environmental Impact
- [ ] Enhanced Sustainability
- [ ] Improved System Reliability

Are there any additional benefits?

* 7. Overall, are you satisfied with this Energy-Efficiency study?

- ( ) Very satisfied
- ( ) Satisfied

- Partly satisfied
- Not Satisfied

Could you say why?

Advisory study

* 1. How was this Advisory study carried out?
  - Very efficiently
  - Rather efficiently (no major problem)
  - Rather difficult (e.g. unreasonable delay, unexpected constraints, ...)
  - Poorly conducted

Could you say why?

* 2. How did you find the Advisory study Report?
  - Clear and easy to understand
  - Somewhat difficult to understand
  - Not at all clear

Could you say why?

* 3. How would you evaluate the advisory study?
  - Clear and easy to understand
  - Clear but somewhat difficult to understand
  - Completely unclear

Which aspect was difficult to understand?
- Assessment
- Recommendations
- Implementation plan
- Ongoing support
- Other

Could you specify ?

* 4. What benefits did you gain from the advisory study?

You can tick several boxes

- [ ] Expert Guidance
- [ ] Cost Efficiency
- [ ] Flexibility
- [ ] Enhanced Competitiveness
- [ ] Skill Development
- [ ] Other

Could you specify?

* 5. What guidance did you seek to ensure the success of your implementations?

You can tick several boxes

- [ ] Following the Implementation Plan
- [ ] Making full use of ongoing consultancy for guidance and troubleshooting
- [ ] Investing in training to build necessary skills
- [ ] Consistently monitoring system performance and making necessary adjustments as required
- [ ] Providing feedback iteratively refining the implementation process
- [ ] Other

Could you specify?

* 6. Overall, are you satisfied with this Advisory study?

- ( ) Very satisfied
- ( ) Satisfied
- ( ) Partly satisfied
- ( ) Not Satisfied

Could you say why?

The end

Thank you very much.

Contact

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Important! - Invitation to answer the POP3 Performance Improvement ROI Evaluation (survey)

Fields marked with * are mandatory.

About the Survey

POP Performance Improvement ROI Evaluation

Fields marked with * are mandatory.

Welcome and thank you in advance for answering this survey,

it will only take out a few minutes of your time to complete this short survey.

It's very important for POP team and for the EC to have an idea about the impact of the services delivered for you by POP1 or POP2 projects and on the quantified and not quantified benefits (all types of benefits) realised by your team after implementing POP expert's recommendations.
This survey aims to explore the benefits of performance analysis in optimising resource utilisation, enhancing application scalability, and maximising return on investment in parallel computing. Your input is crucial for understanding the real-world impact and guiding future investments in parallel computing methodologies. Thank you for your participation!
In this context, this survey aims to gather data for assessing:

- The overall effort expended in evaluating application performance, identifying areas for improvement, and implementing recommended changes.
- The resultant overall improvement achieved from these optimisations.

The impact of these improvements can then be measured.

As stated in the 'Terms and Conditions', if you become a POP user you agree to give us feedback on the quality of the service you obtain from POP, and grant us permission to publish statistical information on the percentage of potential performance improvement, the potential savings and other equivalent metrics that

measure the results and impact of the POP service. Your response is completely confidential, so don't hesitate to answer honestly; POP undertakes that all such data will be anonymized before publication, and that we will not publish any other information concerning the service that we are providing to you without your explicit permission. For more details please see our full Data Privacy Policy.

Your comments are extremely important to us in assessing the performance of your investment and helping us to continue to serve you.

The Survey

* 1. Report Reference Identifier

POP3_AR_nnn (Indicated on the front page of the Performance Assessment Report)

* 2. Application name

* 3. Did you implement all the modifications that were recommended by POP experts?

- Yes, all of them,
- Only a part of them
- No

* 4. Did you also add new features or evolve some of the algorithms while refactoring the code of your application?

- Yes
- No

5. How much effort was necessary to refactor your application? (i.e. implement the modifications that were recommended by POP experts)

- A few person days
- A few person weeks
- A few person months
- I don't know

6. What is approximately the total cost of this effort (in K€)?

* 7. What improvements have you benefited from due to POP?

You can tick several boxes

- Better scalability
- Ability to add more complexity or extra features
- Ability to run larger problems
- Improved workflow by reducing runtime

- [ ] Reduced hardware costs
- [ ] More knowledge and awareness of performance profiling
- [ ] POP report was used as supplementary material in application for compute resources
- [ ] Based on the POP report an allocation on a bigger system (e.g., PRACE) was granted
- [ ] Other

Could you specify other improvements POP brought to your organization?

* 8. What reduction in runtime did you obtain from the refactoring of your application?
  - ( ) <10%
  - ( ) 10%-25%
  - ( ) 25%-50%
  - ( ) >50%
  - ( ) I don’t know

* 9. Do you know the cost of the computing power your application uses and who pays for it?
  - ( ) Yes I know the cost and our department pays for it.
  - ( ) Yes I know the cost and it is included in our computing center costs.
  - ( ) No, I don't know.
  - ( ) Other

* 10. How does your organization benefit from the performance improvement of your application?

  You can tick several boxes
  - [ ] We use this application for our own business (e.g. to develop/enhance our products, our processes, and/or services)
  - [ ] We use this application to provide modelling/simulation services to our customers
  - [ ] We, as a software vendor, sell application software licenses
  - [ ] Other

* 11. Do you have other applications you would like to submit to the POP experts?
  - ( ) Yes
  - ( ) No

* 12. Are you interested in the analysis and optimisation of the energy performance of your code?
  - ( ) Yes
  - ( ) No

Could you give an estimate of the financial gain obtained by your organization per budget line-item? (by using your improved application for your own business)

	Financial gain over one year (in K€)
Money saved using less energy (computing power), reduced cost of cloud services, etc.	
Benefits from faster time-to-solution (e.g. enhanced productivity)	
Benefits from exploiting the improved application (e.g. able to deal with more detailed,more complex, or larger models) to develop better products that generate higher earnings.	
Other benefits	

Could you give an estimate of the financial gain obtained by your organization per budget line-item? (by selling your improved application as a software vendor)

	Financial gains over one year (in K€)
Benefits from selling a better solution (selling your improved software license at a higher price and/or extending your market)	
Other benefits	

The end

Thank you very much.

Contact

saber.zribi@teratec.eu