Performance Optimisation and Productivity

Interested in …

… an independent performance assessment of your application?

… an estimate of potential performance gains and identification of the techniques to get them?

… guidance/help on how to implement those techniques?

The EU POP Centre of Excellence provides 2 levels of free services

Parallel Application Performance Assessment

This is our primary service:

- Initial analysis measuring a range of performance metrics to assess quality of performance and identify the issues affecting performance (at customer site)
- If needed, undertakes further performance evaluations to identify the root causes of the issues found and qualify and quantify approaches to address them (recommendations)

Second Level Services

Second level services may follow after conclusion of an initial performance assessment. Currently, we offer 4 different second level services:

- **Proof-of-concept:** explore the potential benefit of proposed optimisations by applying them to selected regions of the applications
- **Correctness-check:** evaluate the correctness of hybrid MPI + OpenMP applications
- **Energy-efficiency study:** investigate potential improvements of energy consumption or efficiency
- **Advisory study:** ongoing consultancy for customers that choose to implement proposed optimisations on their own

Target customers

Code developers

- Assessment of detailed actual behaviour
- Suggestion of most productive directions to refactor code

Users

- Assessment of achieved performance in specific production conditions
- Possible improvements modifying environment setup
- Evidence to interact with code provider

Infrastructure operators

- Assessment of achieved performance in production conditions
- Possible improvements from modifying environment setup
- Information for computer time allocation processes
- Training of support staff

Vendors

- Benchmarking
- Customer support
- System dimensioning / design

A team with

- Excellence in performance tools and tuning
- Excellence in programming models and practices
- Research and development background
- Proven commitment in application to real academic and industrial use cases