

# **Performance Optimisation** and Productivity

A Centre of Excellence in HPC









## POP Newsletter 28 – Issue June 2025

Welcome to the 28th newsletter from the EU POP Centre of Excellence.

In this edition, we give you an overview of recent and upcoming POP webinars and events, as well as a short Tool Time article about IT4I Tools for the Energy Efficiency Analysis and Optimization of Parallel Applications.

If you would like to contribute technical content for this newsletter on the topic of parallel performance profiling, please contact us at pop@bsc.es.

This issue includes:

- **POP Webinars** 
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- **POP Events** 
  - o Recent Events
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- The POP Helpdesk

For past editions of the newsletter, see the POP newsletter web page.

## **POP Webinars**

#### **Upcoming Webinars**

### 35<sup>th</sup> POP Webinar – PyOMP: Writing HPC code in Python

Join us on the 7th of July at 4 pm

In this webinar Tim Mutton will present PyOMP, which uses the Numba just intime compiler to embed the most popular parallel programming language (OpenMP) into Python. PyOMP works for both CPUs and GPUs and supports true heterogeneous programming.

To learn more and sign up for this webinar go to the POP website here.

#### **Recent Webinars**

# Benchmarking of I/O Activities in HPC Applications with STrace Inspector

On the 2<sup>nd</sup> of June Aravind Sankaran presented a methodology which is implemented in the STrace Inspector tool, to synthesize large amounts of system call traces for benchmarking and comparison of I/O activities in HPC applications.

The recording and the slides can be found here.

Browse the full list and catch up on all our previous webinars here.

#### **POP Events**

#### **Recent Events**

#### **POP @ ISC 2025**

From the 10<sup>th</sup> to the 13<sup>th</sup> of June HPC experts from across Europe attended the annual ISC conference in Hamburg and of course several of our POP experts were in attendance as well. POP was represented at the booths for BSC, IT4I and by JSC and HLRS at the Gauss Supercomputing Centres booth.

Moreover, on the 13<sup>th</sup> of June Marta García-Gasulla (BSC), Brian Wylie (JSC) and Sandra Mendez (BSC) hosted their ISC tutorial "Determining Parallel Application Execution Efficiency and Scaling using the POP Methodology". Marta and Brian also organised the 2nd edition of the ISC workshop "Readiness of HPC Extreme-scale Applications" on the 13<sup>th</sup> of June as well. Finally, Bernd Mohr (JSC) and Hugo Bolloré (UVSQ) presented at ISC workshops.

Please find the full article about POP at the ISC conference here.

#### POP @ 47th VI-HPS Tuning Workshop

At the 47<sup>th</sup> VI-HPS Tuning workshop on the 2<sup>nd</sup>-5<sup>th</sup> of June hosted by the University of Duisburg-Essen in Essen (Germany) and co-organised by HPC.NRW POP experts gave an overview of the VI-HPS programming tools suite, explain the functionality of individual tools, and how to use them effectively, and offer hands-on experience and expert assistance using the tools.

For the full article about this workshop click here.

### POP3 3<sup>rd</sup> Plenary Meeting 2025

At the 3<sup>rd</sup> plenary meeting in sunny Lisbon at POP partner Inesc-ID's offices participants had the opportunity to review the current status of the POP project and work together to ensure its future progress. The main agenda item was the preparation for the first project review, which is scheduled to take place in July.

To read more about the meeting click here.

#### **POP @ Computing Frontiers 2025**

During the last week of May, POP participated in the 22nd ACM International Conference on Computing Frontiers (CF' 25) in Cagliari, Sardinia, Italy. As part of a special session on Collaborative Projects, we presented our paper titled "POP3: Advancing HPC Performance and Productivity" to a broad research audience.

To read more about the CF25 conference click here.

#### POP @ TeraTec Forum 2025

On the 21-22<sup>nd</sup> of May France's premier digital experts met at the TeraTec Forum in Paris. A slideshow about POP was shown at the TeraTec booth and our experts were there to answer any questions regarding the project and the services we provide.

To read more about the forum click here.

#### **Tool Time**

# IT4I Tools for the Energy Efficiency Analysis and Optimization of Parallel Applications

This article gives an overview of the MERIC and RADAR visualizer tools developed by POP experts at IT4I in Ostrava (Czech Republic). Both tools help developers and users understand and optimise the energy usage of their parallel applications and are in regular use on production systems such as MACC's Deucalio and IT4I's machines.

To read the complete article click <u>here</u>.

## **Apply For Free Help with Code Optimisation**

We offer a range of <u>free services</u> designed to help EU organisations improve the performance of parallel software. If you are not getting the performance you need from parallel software or would like to review the performance of a parallel code, please apply for help via the short <u>Service</u> <u>Request Form</u>, or <u>email us</u> to discuss the service further and how it can be beneficial.

These services are funded by the EuroHPC research and innovation programme so there is no direct cost to our users.

## The POP Helpdesk

Past and present POP users are eligible to use our <u>email helpdesk</u>. Please contact our team of experts for help analysing code changes, to discuss your next steps and to ask questions about your parallel performance optimisation.



## https://pop-coe.eu













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