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Stepwise Decommission of JUQUEEN

In March 2018, the installation of the JUWELS Cluster entered into the next phase with the physical delivery of the first Bull Sequana cells (i.e. racks) to the data centre at JSC. As the number and size of the JUWELS components in Jülich increase, the end of the operational time span of the Blue Gene/Q JUQUEEN is unfortunately also approaching. Due to facility limitations, specifically the capacity of the cooling infrastructure, it is not possible to operate JUWELS and its predecessor JUQUEEN simultaneously.

JSC intends to keep JUQUEEN, which remains highly popular even in its advanced age, operational for as long as possible and to minimize the duration in which no GCS computing resources are offered. To this end, only parts of JUQUEEN will be shut down so as to reduce overall power and cooling load, and to enable the power-on of further JUWELS equipment. As far as possible, the setup of JUWELS will be scheduled so that a maximum percentage of JUQUEEN remains operational.

It is currently anticipated that the first JUQUEEN racks will be shut down in mid-April. The final JUQUEEN shutdown is expected to take place in mid-May. As the JUWELS setup continues and the reliability of the time scale increases, JSC will inform all JUQUEEN users about the updated time schedule. As a result of JUQUEEN support contracts ending in March, the system is operated without hardware service and a reduced availability level must therefore be expected. All JUQUEEN users have been informed via email regarding the modalities of the computing time allocations on JUQUEEN and JUWELS.
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Tier-0/1 Resources for Earth System Sciences

The cluster module of JUWELS, the upcoming Tier-0/1 modular supercomputer at Forschungszentrum Jülich, is currently being installed in the machine room of JSC and will become generally available in late June 2018. While the system is to a large extent dedicated to national and European users from various research communities, a successfully acquired strategic Helmholtz investment has allowed for an extension, aimed at researchers working in the field of Earth system modelling (ESM). The aim of this partition, which is already integrated in the cluster and comprises 500 of the 2,500 nodes overall, is to enable frontier simulations in this field of crucial societal relevance as well as the initialization, tuning, and coupling of models. The allocation of CPU time from the additional partition is overseen by the Helmholtz ESM community and aligned with the standard GCS/NIC grant procedure. It is also foreseen that the JUWELS booster module, which is planned for early 2020, will be extended with an ESM partition.
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POP Project Ends but Impact Continues

In October 2015, the European Commission funded the POP project (*https://pop-coe.eu*) with the aim of establishing a parallel performance analysis Centre of Excellence (CoE). The project has now been brought to a close, having completed more than 125 assessments of application performance studies and proof-of-concept demonstrations on how to achieve higher application performance.

POP has refined and promoted a high-level analysis and modelling methodology. A high-level model quantifies factors such as load balance, serialization, and computational efficiencies, providing fundamental insight into how application performance scales and recommendations were made on the most appropriate directions to refactor the code and thus improve performance.

Service orientation has been a cornerstone of CoE activities, which customers from different scientific domains having benefited from. Around 25 % of the studies were for small- and medium-sized enterprises in an attempt to promote performance analysis in non-traditional sectors.

A culture change is required to improve awareness of the importance of understanding application performance and promote programming best practices. POP has made a significant contribution in this respect. Many of the insights and suggestions provided have been well-received by customers. In many cases, performance gains of between 10 % and up to ten times – or even twenty times – have been achieved by the proof-of-concept service or through code optimizations by the developers themselves.

The POP CoE will continue to pursue its activities during the next few months with limited resources. The POP partners expect to continue these activities in the future, supporting the improvement of productivity and efficiency with respect to how research and industry sustainably use available HPC resources. Whilst the project has come to a close, its impact will continue in various dimensions.
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HBP Successfully Enters Third Phase

The Human Brain Project (HBP) is one of the first two projects funded by the European Union's Future and Emerging Technologies flagship initiative. HBP is building a European research infrastructure (RI) for the neuroscience community with over one hundred partner institutions from more than 20 countries. It was launched in October 2013 and successfully entered its third project phase in April 2018.

The HBP RI is organized into six information and communication technology (ICT) platforms, which were first released in March 2016. They were significantly advanced in the second project phase, which successfully came to a close in March this year. The High Performance Analytics and Computing (HPAC) Platform plays a crucial role in the HBP RI by providing the basic data and computing infrastructure that enable scientists to store their data, integrate it into models and use it in simulations as well as analyse and visualize it. The HPAC Platform is being jointly built by BSC, Cineca, CSCS, JSC, and – starting with the third HBP phase – the TGCC at CEA as well as ten university partners under the coordination of JSC and CSCS. The five centres are also working closely together to develop the federated Fenix infrastructure, which receives funding through the recently started ICEI project.

The focus in the third project phase will be to unite the six ICT platforms together in a single platform, the HBP Joint Platform, and to establish the HBP High-Level Support Team. This will strengthen the HBP approach to supporting the development of complex, interactive workflows including modelling, simulation, and data analysis, which require the combined use of several of the individual platforms and their seamless integration to provide a user experience that allows a focus on problem solving rather than technical details. The HBP Joint Platform will build on the base infrastructure provided by Fenix and the community-specific interfaces developed by the HPAC Platform.
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European HPC Summit Week 2018 and PRACEdays18

The European HPC Summit Week 2018 in Ljubljana will gather the main HPC stakeholders in Europe from 28 May to 1 June 2018. Similar to previous years, this edition will also offer a wide variety of workshops covering a number of application areas in which supercomputers are key as well as HPC technologies and infrastructures. The European HPC Summit Week offers a great opportunity to network with all relevant European HPC stakeholders, from technology suppliers and HPC infrastructures to scientific and industrial HPC users in Europe. For more information, please visit the European HPC Summit Week event page at: *https://exdci.eu/events/european-hpc-summit-week-2018*.

PRACEdays18 is the central event of the European HPC Summit Week and is hosted by PRACE's Slovenian member the University of Ljubljana, Faculty of Mechanical Engineering (ULFME). The conference will bring together experts from academia and industry who will present their advancements in HPC-supported science and engineering. Further information can be found at: *https://events.prace-ri.eu/event/622/*.

Registration for both events is now open. The deadline to register is 7 May 2018.

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