

Czech supercomputers ready to combat coronavirus

IT4Innovations National Supercomputing Center at VSB – Technical University of Ostrava has offered its users from academic institutions priority access to its computational resources to solve problems regarding COVID-19 disease research.

IT4Innovations provides the most powerful supercomputers in the Czech Republic, which are primarily dedicated to academic institutions. These computational resources are provided free of charge within Open Access Calls. IT4Innovations is currently operating four supercomputers, the most powerful being Salomon, with a theoretical peak performance of 2 PFlop/s. This is the equivalent to the total performance of thousands of desktop computer.

“Today, we have called on our users to apply for our computational resources provided that they are currently involved in research addressing the COVID-19 disease. They can do so by submitting the application, which will be immediately approved and given priority access to our computational resources. These have been preferentially offered to the Institute of Organic Chemistry and Biochemistry of the CAS and CEITEC. Others can apply as well. Projects to be supported do not necessarily need to be focused only on drug design but could include development of nanomaterials or pandemic spread modelling among others”, says Vit Vondrak, IT4Innovations’ Managing Director.

Supercomputer calculations to solve the situation in the Czech Republic regarding the spread of coronavirus have already been running. In cooperation with T-Mobile Czech Republic a. s., population mobility data is being continuously mined so that the Office of the Government of the Czech Republic can evaluate the impacts of the adopted pandemic mitigation measures on population mobility. The supercomputer operated in Ostrava is currently processing aggregated anonymized records from the mobile network, and provides population mobility data at the most granular territorial level. *“Under the instructions of T-Mobile Czech Republic, we are creating access to the mobility portal where various sets can be generated based on the roles assigned. All has been running autonomously and smoothly so far despite our constant intervention and customized adjustment of data views”,* explains Miroslav Voznak, who is responsible for this project at IT4Innovations.

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Note for editors

IT4Innovations National Supercomputing Center provides Czech and foreign research teams, from both academia and industry, with state-of-the-art HPC and data analysis technologies and services. IT4Innovations currently operates four supercomputers - Anselm (launched in summer 2013, 94 TFlop/s), Salomon (launched in summer 2015, 2 PFlop/s), Barbora (launched in 2019, 826 TFlop/s), and DGX-2, a specialized system for artificial intelligence calculations, (launched in 2019, 94 TFlop/s up to 2 PFlop/s). In 2020, a petascale system entitled EURO_IT4I is to be launched within the

EuroHPC project. IT4Innovations is also a research centre with strong international links. The key research areas of IT4Innovations include big data processing and analysis, machine learning, development of parallel scalable algorithms, solution of large engineering problems, and modelling for nanotechnologies. IT4Innovations is part of VSB – Technical University of Ostrava. For more information, see www.it4i.cz