

Sano Computational Medicine Seminars

Monday, 26 October 2020, 14:00-15:30 (CEST)

Join us via Zoom: <https://seminar.sano.science/>

Piotr Nowakowski and Marek Kasztelnik

Sano Centre for Computational Medicine and ACC Cyfronet AGH, Krakow, Poland

<http://dice.cyfronet.pl/>; <https://sano.science/people/>

Composing applications in the Model Execution Environment

Abstract

The goal of our presentation is to familiarize attendees with the Model Execution Environment – a tool developed by the Cyfronet DiCE team and currently being deployed at Sano – which provides a comprehensive way to carry out, manage and reproduce scientific studies which process anonymized medical data (especially patient cohorts) with the use of high performance computing infrastructures and data storage resources made available to Sano researchers. MEE enables its users to define computational pipelines consisting of an arbitrary number of steps, to execute them in the context of selected patient cases, to visualize their output and to compare results representing individual cases in order to spot key differences. The environment provides convenient graphical user interfaces for domain scientists and also implements a set of RESTful APIs facilitating integration with other computational platforms and tools. All data and computations are protected by a uniform security infrastructure which is fully integrated with the PL-Grid authentication and user management mechanisms. In addition, MEE also enables compartmentalization of research activities by providing support for distinct organizations, each with its own set of computational and storage resources.

References:

1. Bubak M, Czechowicz K, Gubała T, Hose DR, Kasztelnik M, Malawski M, Meizner M, Nowakowski P, Wood S, *The EurValve Model Execution Environment*, Royal Society Interface Focus, accepted for publication, 2020
2. Nowakowski P, Bubak M, Bartyński T, Gubała T, Haręźlak D, Kasztelnik M, Malawski M, Meizner J, *Cloud computing infrastructure for the VPH community*, Journal of Computational Science 24, 169-179, 2018
3. Martí-Bonmatí L et al.: *PRIMAGE project: predictive in silico multiscale analytics to support childhood cancer personalised evaluation empowered by imaging biomarkers*, European Radiology Experimental 4:22, <https://doi.org/10.1186/s41747-020-00150-9>, 2020

