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yProv: a Cloud-enabled Service for Multi-level Provenance Management And Exploration in Climate Workflows

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Open Science plays an important role to fully support the whole research process, which also includes addressing provenance and reproducibility of scientific experiments. Indeed, handling provenance at different levels of granularity and during the entire analytics workflow lifecycle is key for managing lineage information related to large-scale experiments in a flexible way as well as enabling reproducibility scenarios, which in turn foster re-usability, one of the FAIR guiding data principles.

This contribution focuses on a multi-level approach applied to climate analytics experiments as a way to manage provenance information in a more structured and multi-faced fashion, thus allowing scientists to explore the provenance space across multiple dimensions and get coarse- or fine-grained information according to their needs. More specifically, the talk introduces the yProv multi-level provenance service, a new core component within an Open Science-enabled research data lifecycle, along with its design, main features and graph-based data model.

The service can be deployed on several platforms, including cloud infrastructures: indeed, thanks to the recent integration in the Infrastructure Manager Dashboard (https://im.egi.eu/im-dashboard), non advanced users can easily launch the deployment of a yProv service instance on top of a wide range of cloud providers.

Topic

EOSC Developments and Open Science: Reproducible Open Science

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