



Contribution ID: 383 Contribution code: WED 33

Type: Poster

## Scientific NREC Cluster - a fast and flexible solution for virtual computing clusters on OpenStack

Wednesday 23 October 2024 16:00 (15 minutes)

Research groups at scientific institutions have an increasing demand for computing and storage resources. The national High-Performance Computing (HPC) systems usually have a high threshold to come in and cloud solutions could be challenging and demand a high learning curve.

Here we introduce the Scientific NREC Cluster (SNC), which leverages the Norwegian Research and Education Cloud (NREC). NREC operates on an Infrastructure-as-a-Service (IaaS) model, offering users full control over host administration, installation, and upgrade options for provided virtual instances. The SNC project aims to bridge the gap between the foundational NREC infrastructure and user requirements, providing easy access to flexible cluster resources and storage while maintaining elevated levels of security and flexibility. Nevertheless, the solution is built from the data-centric point of view, where it gives easy access to the campus storage.

SNC offers a SLURM queuing system with the following functionalities: access to the central, shared and secure storage solution; centralized user authentication from the campus Active Directory; provisioning based on NREC's Infrastructure-as-a-Service policy; monitoring solution with the Prometheus/Grafana ecosystem, including both metrics and log messages of the actual user jobs; access to the scientific software stack EESSI - European Environment for Scientific Software Installations.

As an initial release, SNC has been launched as a compact solution tailored for research groups at the University of Bergen. Examples of user stories, usability, and scaling studies will be highlighted in the presentation.

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**Session Classification:** Poster session

**Track Classification:** Track 7 - Computing Infrastructure