



VISA@ESRF

16th September 2022



Jean-François Perrin (ESRF – PaNOSC)

These projects have received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreements No 857641 and No 823852.

Setting the scene

- Work done under the umbrella of PaNOSC (WP4 and WP6)
- Initial setup ready in Jan 2022:
 - Openstack (latest production release, HA – 2 DataCenters, KOLLA-ANSIBLE)
 - Currently 2 VISA (OS) compute nodes (2TB, 64 Cores, 2 pGPUs NVIDIA A40)/Node
 - Access to 6 HPC nodes with 4 additional A40
 - Keycloak as SSO
 - NFSv4 on dedicated storage network (25Gb/s)
 - Ubuntu 20.04 (migration to 22.04 this fall)
 - VISA app in containers as delivered by ILL
- Since then, adaptation to BL/Instruments/users needs for preparing the general rollout.



GPUs

- Clear user needs
- Currently exploratory work
 - Is this the right model?
 - SLURM nodes vs VMs?
- 1 GPU = 1 VM (no partitioning)
- Manage through CYBORG (OS component)

```
$ openstack flavor set --property 'accel:device_profile=gpu_a40' esrf.gpu.a40.xlarge
```



New compute instance

Please fill in the details below to create a new compute instance. For information about VISA please checkout the [documentation](#).

Experiments

Select the experiments you wish to associate with your compute resource.

☒ Instance not associated to any specific experiments

Computing Environment

Choose an environment

 Desktop staging	 Desktop	 Bliss
---------------------	-------------	-----------

Choose hardware requirements

4 Cores 4GB memory esrf.medium	8 Cores 16GB memory esrf.large	16 Cores 32GB memory esrf.gpu.a40	32 Cores 128GB memory esrf.gpu.a40.xlarge
--------------------------------------	--------------------------------------	---	---



These projects have received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreements No 857641 and No 823852.



HPC - SLURM

- Required by some processing workflows and Software
- Setup of a SLURM cluster dedicated to VISA (Separation from the BL processing)
- VISA VM in configless mode (i.e. configuration sent by the SLURM controller)
- 6 Compute nodes at the moment



These projects have received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreements No 857641 and No 823852.



NEXT

- Open to all BLs'users at the end of Sept
- Foster the use of Singularity amongst the developer community
- 100+ Software to move to Singularity
- Provide clear documentation on <https://visa.readthedocs.io/en/latest/index.html>
- Windows Software solution?
- Refine the way we distribute BL scripts.
- Open to non ESRF BL users, i.e. Open VISA to people interested by the Open Datasets ?
- Listen to our user community needs.

