



# 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)

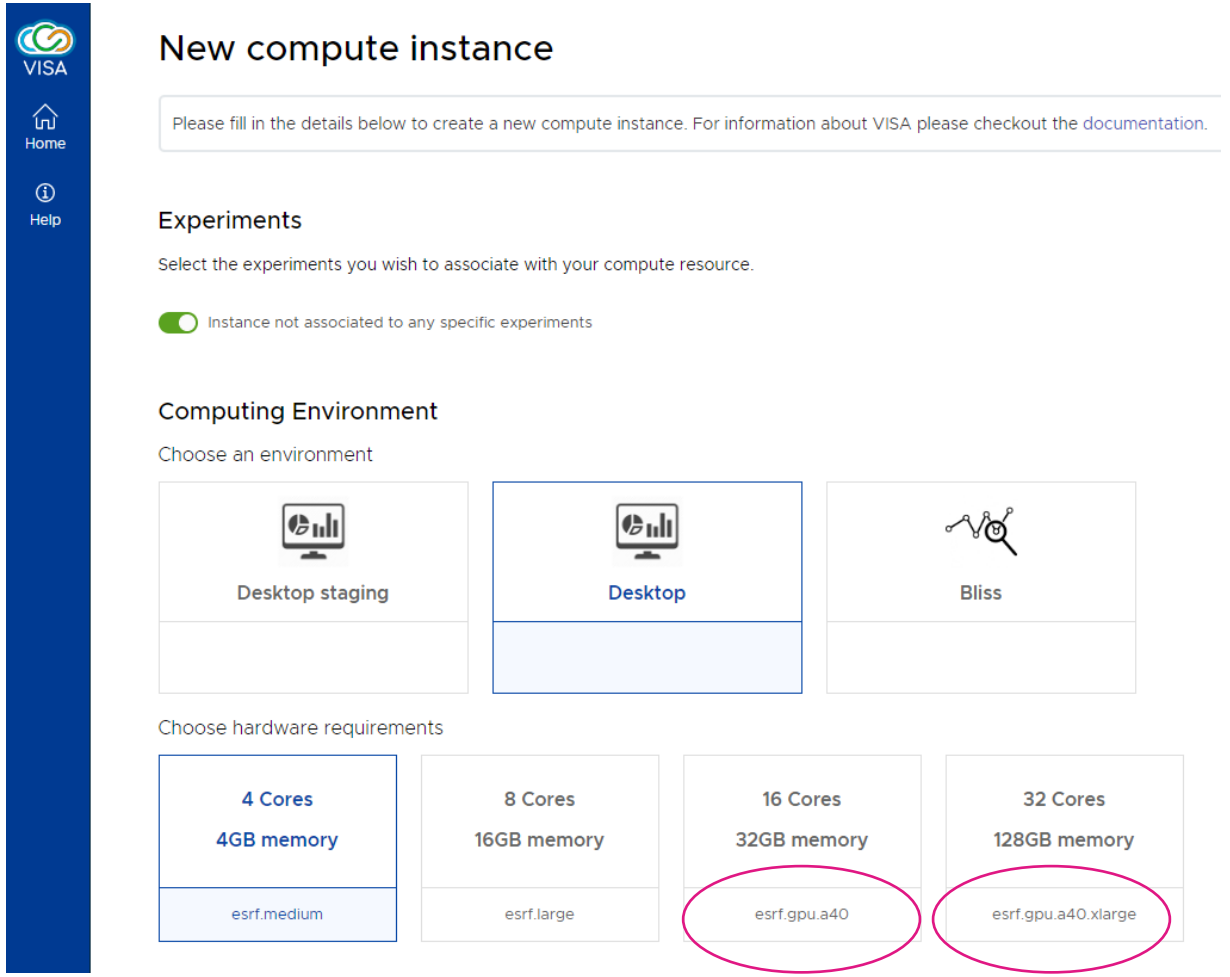
- Initial setup ready in Jan 2022:
  - Openstack (latest production release, HA – 2 DataCenters, KOLLA-ANSIBLE)
  - Currently 2 VISA (OS) compute nodes (2TB, 64 Cores, 2 pGPUs NIVIDIA A40)/Node
  - Access to 6 HPC nodes with 4 additional A40
  - Keycloak as SSO
  - NFSv4 on dedicated storage network (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.

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

# 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
```

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.

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