Centre de Calcul
de l'Institut National de Physique Nucléaire
et de Physique des Particules

GPU Status at CC-IN2P3

March 2021

Outline

- Hardware
- Software
- Farm & Neighbourhood

Workers Architecture

K80

- **10 workers**:

  - 2 Intel(R) Xeon(R) CPU E5-2640 (8 cores)

  - 128GB RAM

  - SSD disk

  - 2 Nvidia Tesla K80 cards
  (4 GPU Nvidia GK210, 12 Go DDR5 each)

- **40 GPU (total)**

- **Network**

  - Infiniband interconnection

- OUT OF WARRANTY IN JUNE

V100

- **12 workers**:

  - 2 Intel(R) Xeon(R) Silver 4114 (10 cores)
  - 2 Intel(R) Xeon(R) Silver 4214R (12 cores)

  - 192GB RAM

  - SSD M2 disk

  - 4 Nvidia **Tesla V100** 32GB PCIe cards

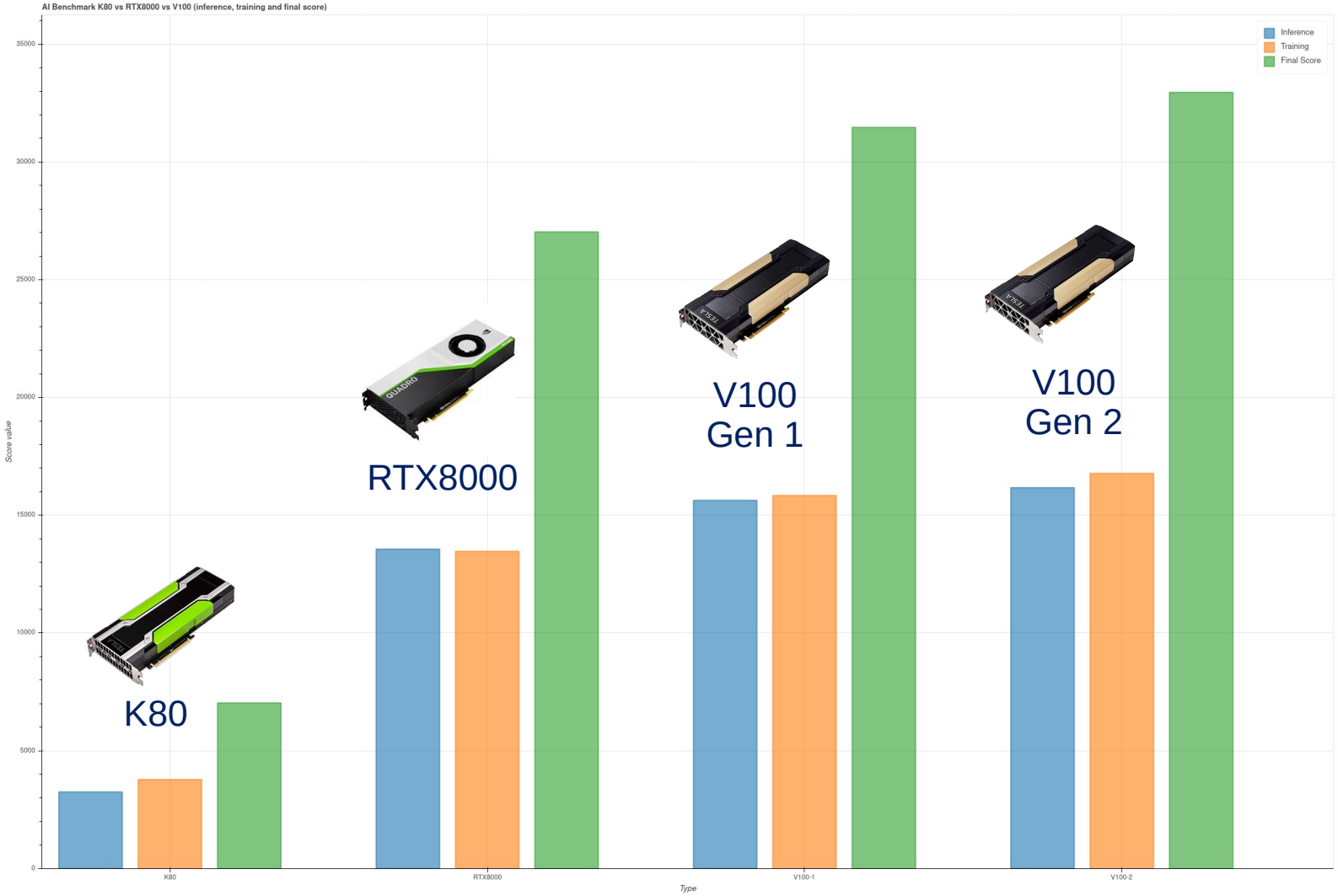
- **48 GPU (total)**

- **Network**

  - NO Infiniband interconnection!

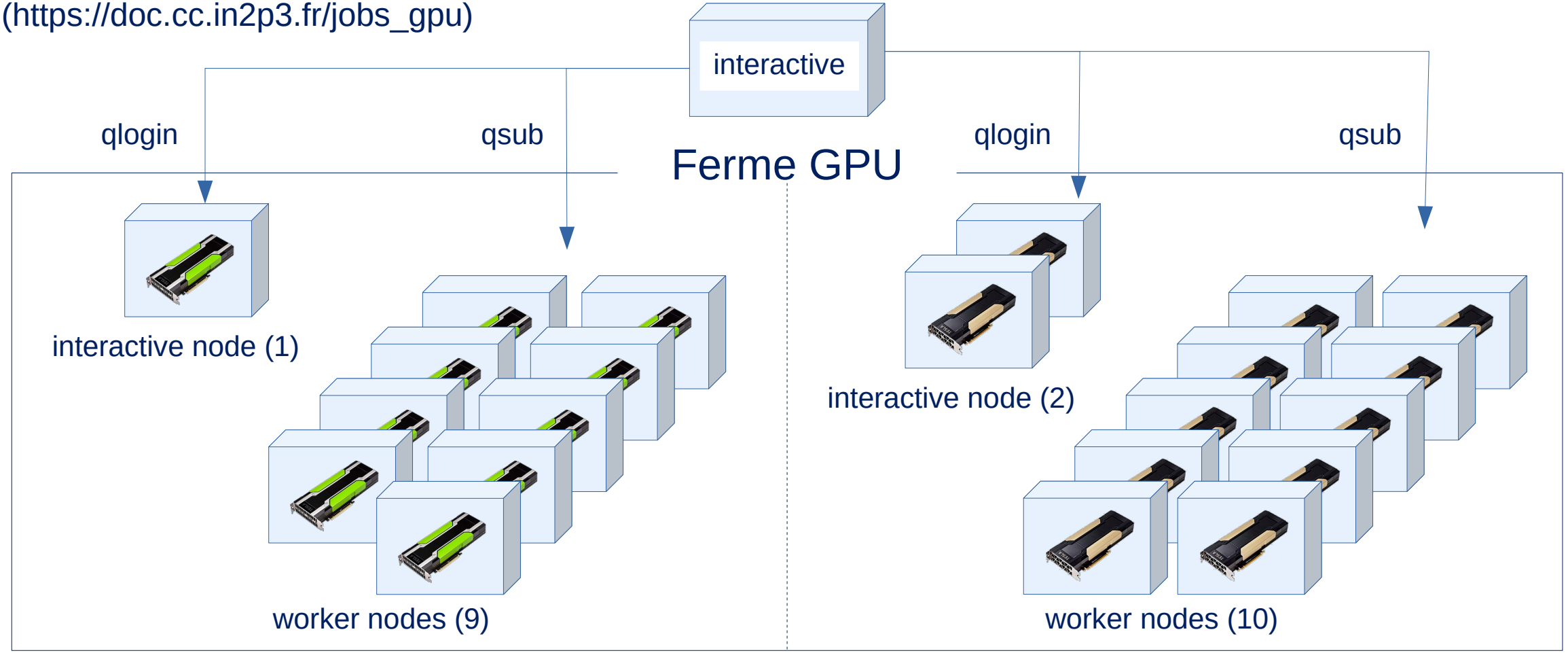
K80 vs V100

- AI Benchmark (https://pypi.org/project/ai-benchmark/#modal-close



Access

- First, request an account (authorization required)
- Classical submission on Grid Engine (https://doc.cc.in2p3.fr/jobs_gpu)



Software provided

Current gpu driver version

440.64

Available libraries

Customized software

Provided by Singularity containers

GPU Farm Status

Current utilization

```
$ gpu_info
     K80         worker : used/total/queued = 1/36/0
     K80    interactive : used/total/queued = 1/4/0
    V100         worker : used/total/queued = 23/40/0
    V100    interactive : used/total/queued = 6/8/0
```

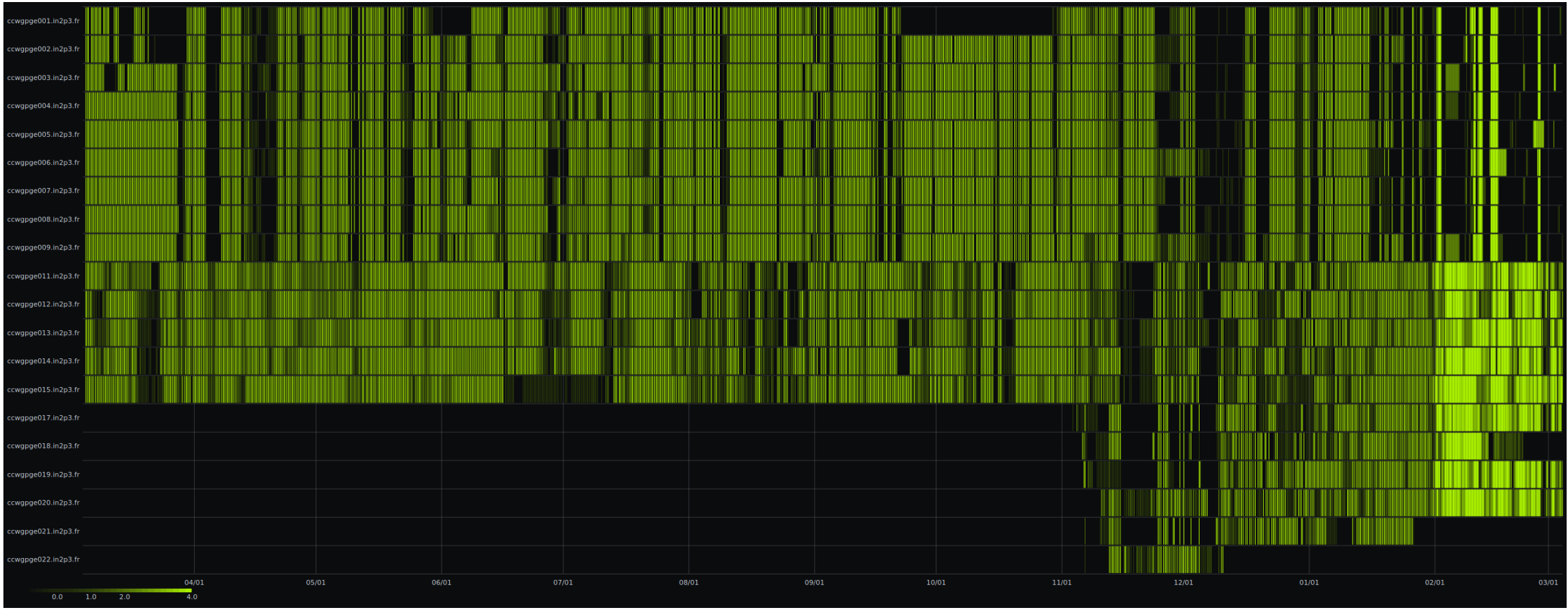
Useful CLI command from Interactive machine (cca.in2p3.fr)

GPU Farm Status

K80

V100-1

V100-2



Mars 2020 Nov 2020 March 2021

- Significant global slowdown in utilization since end of 2020
- Clear K80 desertion

Specific Hardware and R&D

RTX8000

- Providing RTX8000 with 48GB memory for answering to a special use case driven by L2IT Atlas Team

CC-IN2P3 is able to study specific needs. Just let us know!

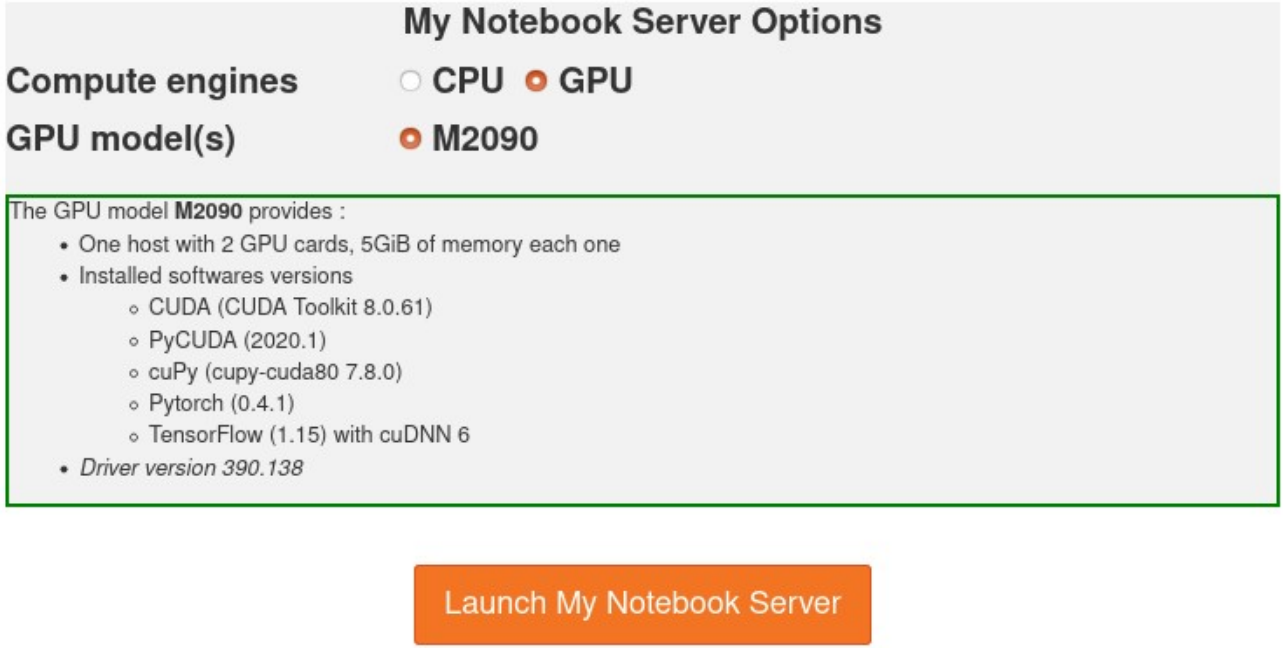
Jupyter Notebook Platform

JNP (Jupyter Notebook Platform)

- CC-IN2P3 service
- Considering the possibility to propose K80 servers to the JNP
- Planning tests

Want to try it? Just let us know!

CC-IN2P3 is able to study specific needs.
Just let us know!



Questions?

bertrand.rigaud@cc.in2p3.fr

More questions?

https://cc-usersupport.in2p3.fr

Thanks for your attention.