

NSF/IUCRC CAC PROJECT

MONITORING, VISUALIZING, AND PREDICTING HEALTH STATUS OF HPC CENTERS

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Slurm-web:

- ▶ Web application that serves as web frontend to **Slurm** workload manager
- ▶ A backend **REST API**
 - ▶ Developed in Python
 - ▶ serve raw runtime data about a system running Slurm
 - ▶ All data are delivered in JSON format
- ▶ A dashboard **web GUI**
 - ▶ Show to users/administrators runtime data in a graphical way
 - ▶ Develop in HTML and JavaScript

JOB VIEW

HPC

Slurm HPC Dashboard

Jobs

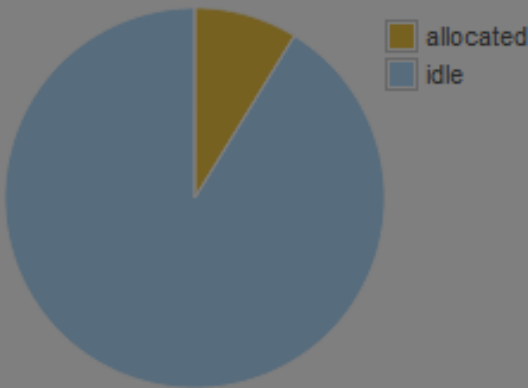
Racks

job 8874

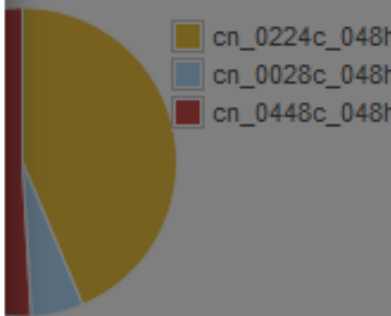
x

- user: [REDACTED]
- state: RUNNING
- reason: -
- nodes: pocn[050-052] (3)
- cores: 84
- account: rdusers
- QOS: cn_0224c_048h
- partition: cn
- exclusive: no
- command: [REDACTED]
- start time: Mon Apr 13 2015 11:16:44 GMT+0200
- eligible time: Mon Apr 13 2015 11:16:43 GMT+0200
- end time: Wed Apr 15 2015 11:16:44 GMT+0200
- time limit: 2880 mins

Close



Allocated cores



Nodes/QOS

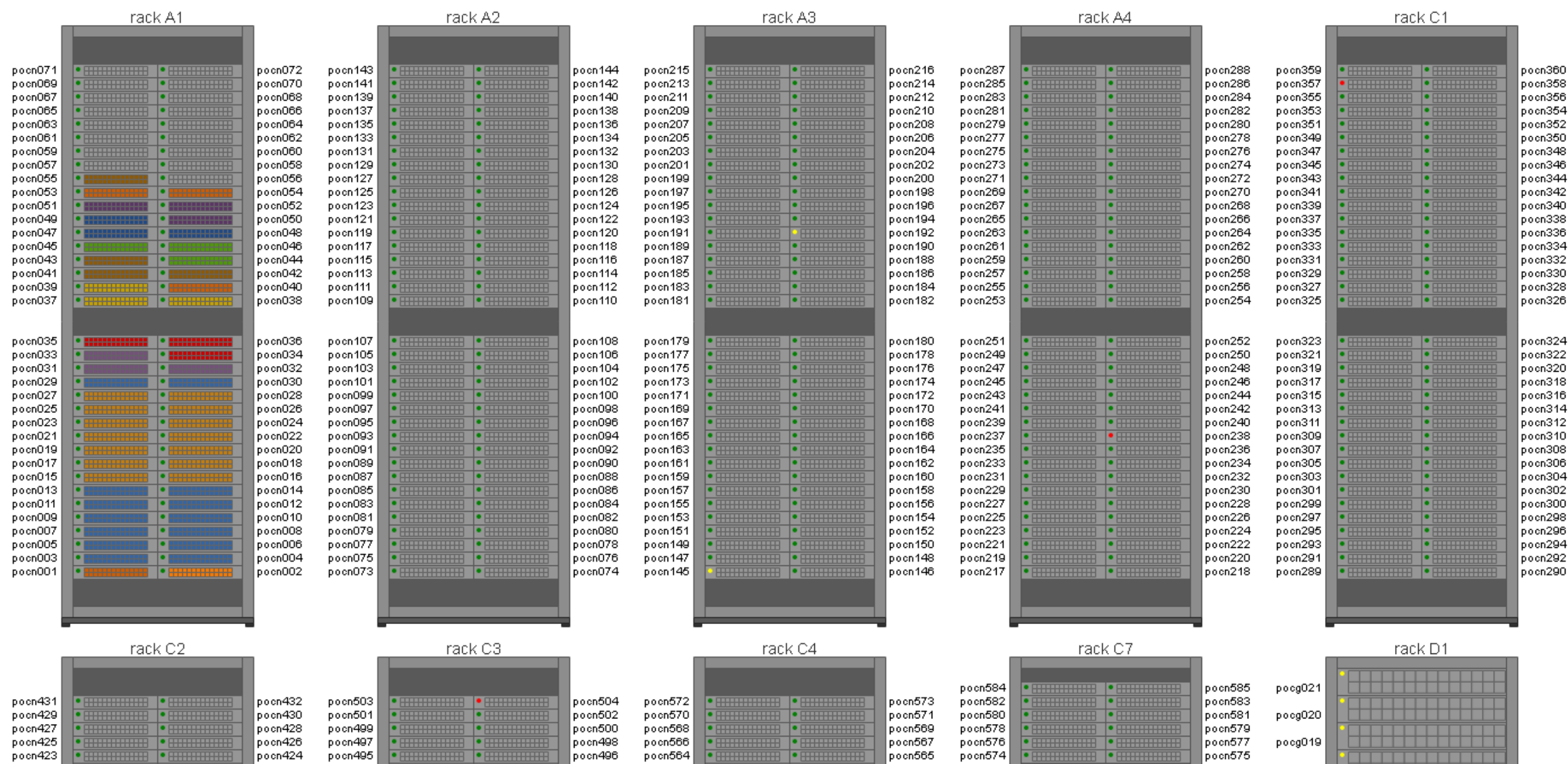
User

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

pocn[047-049]	RUNNING	-	-	cn_0224c_048h
pocn[050-052]	RUNNING	-	-	cn_0224c_048h
pocn001	RUNNING	-	-	cn_0028c_048h
pocn002	RUNNING	-	-	cn_0028c_048h

cn_0224c_048h
cn_0224c_048h
cn_0224c_048h
cn_0028c_048h
cn_0028c_048h

```
node state:
  ● available
  ● drained
  ● down
```



GANTT VIEW

Gantt

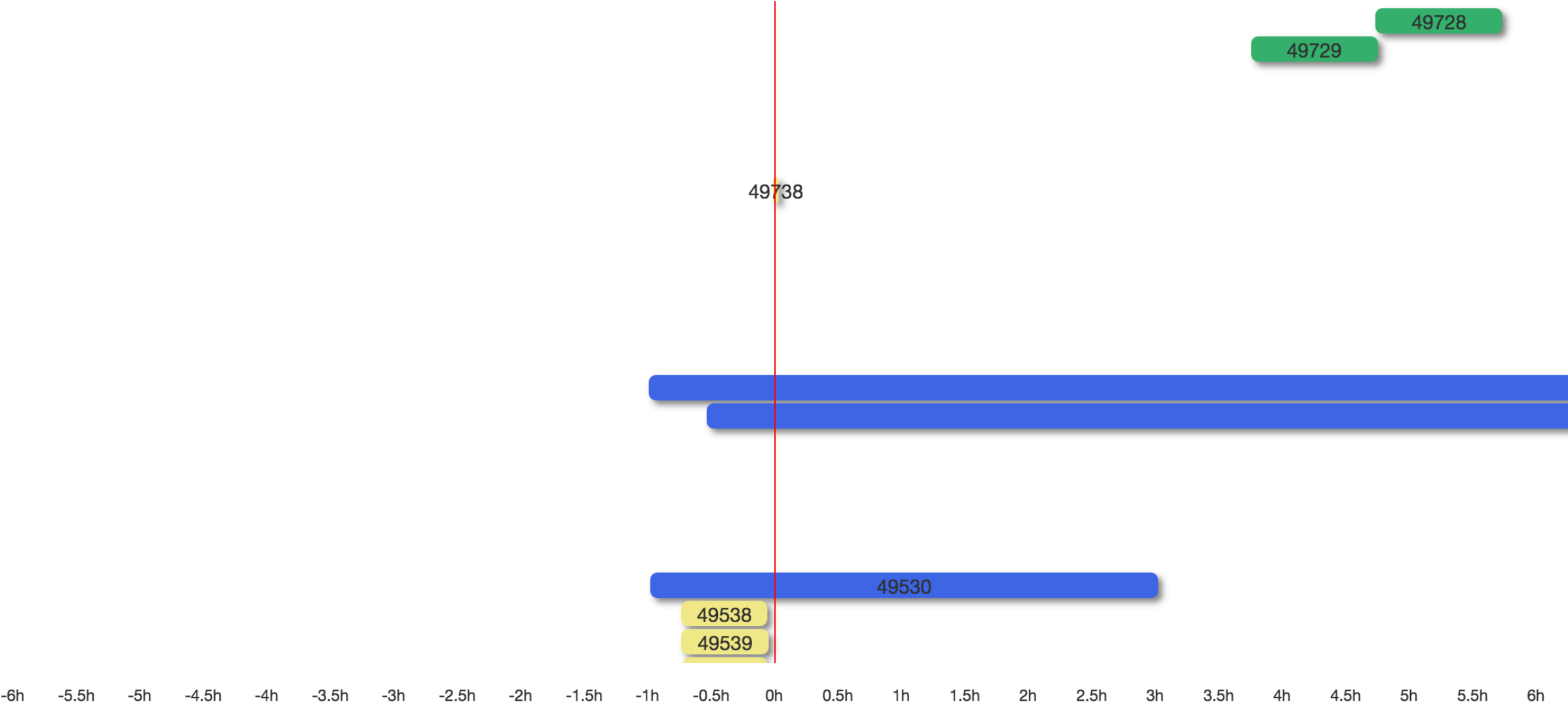
Nodes

QoS

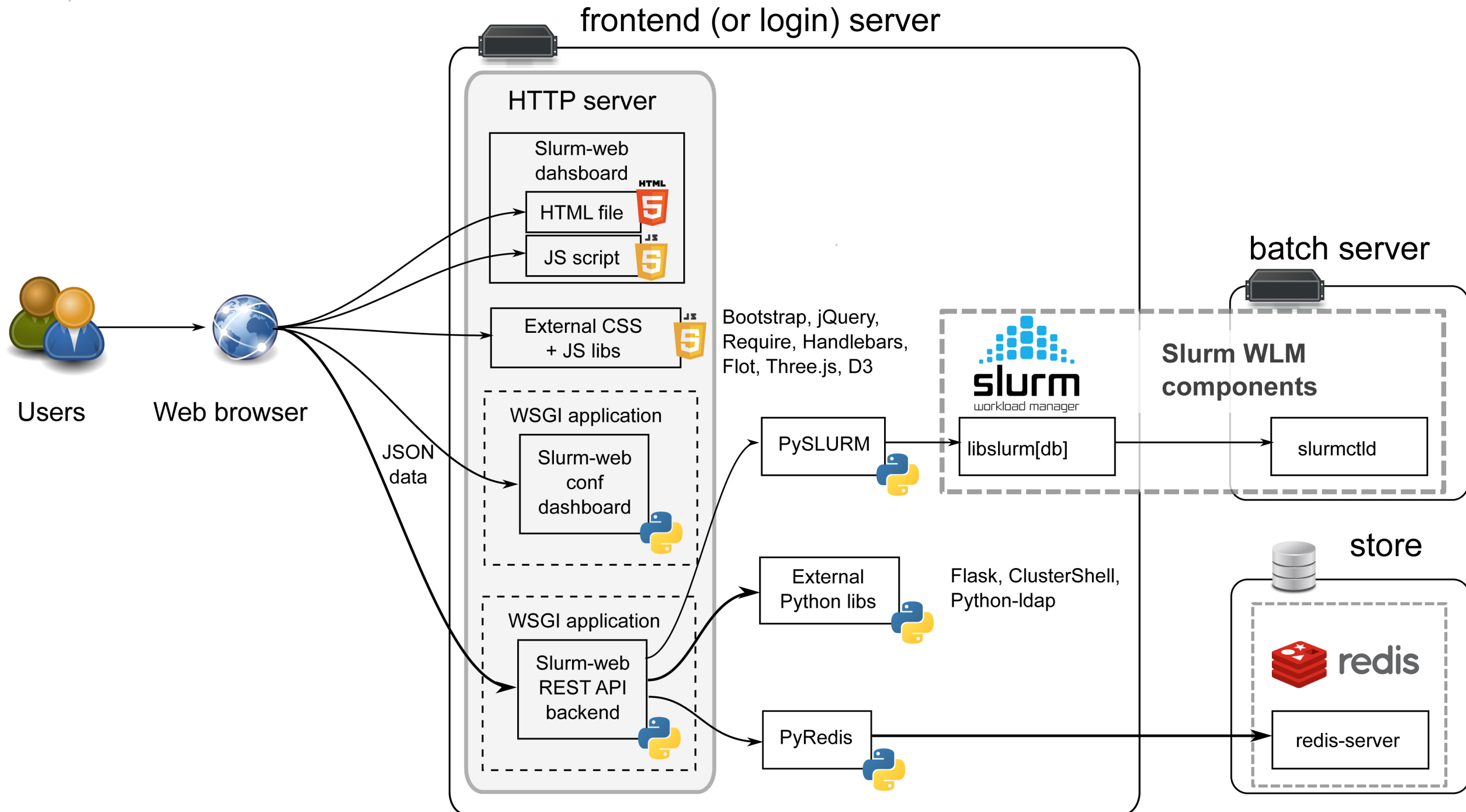
normal

dsp-ap-hpcstats
mix_0240c_072h
comp_1152cores_
bmem0256g_024c
t3dfuku
comp_0096cores_

cg_0448c_024h
bmem0512g_024c
comp_0768cores_
comp_1152cores_
comp_0768cores_
bmem0512g_024c



ARCHITECTURE



PROGRESS

- ▶ Only Debian Packages are available
- ▶ Tried to install on RHEL/Centos, need time to trouble shooting
- ▶ Exploit the REST API of Slurm-web and apply it in our project



QUESTIONS?/COMMENTS?