



General Interest Webinar:

Quick tips for getting the most out of SHARCNet

James Desjardins

April 13th, 2016

Agenda:

- 1- Backfilling the SHARCNet scheduler
- 2- Estimating job wait times in the queue (“the art of...”)
- 3- Interactive folder/file management with sshfs and Meld
- 4- Flexible folder/file archiving with DAR

Backfilling the Scheduler at SHARCNet

Node

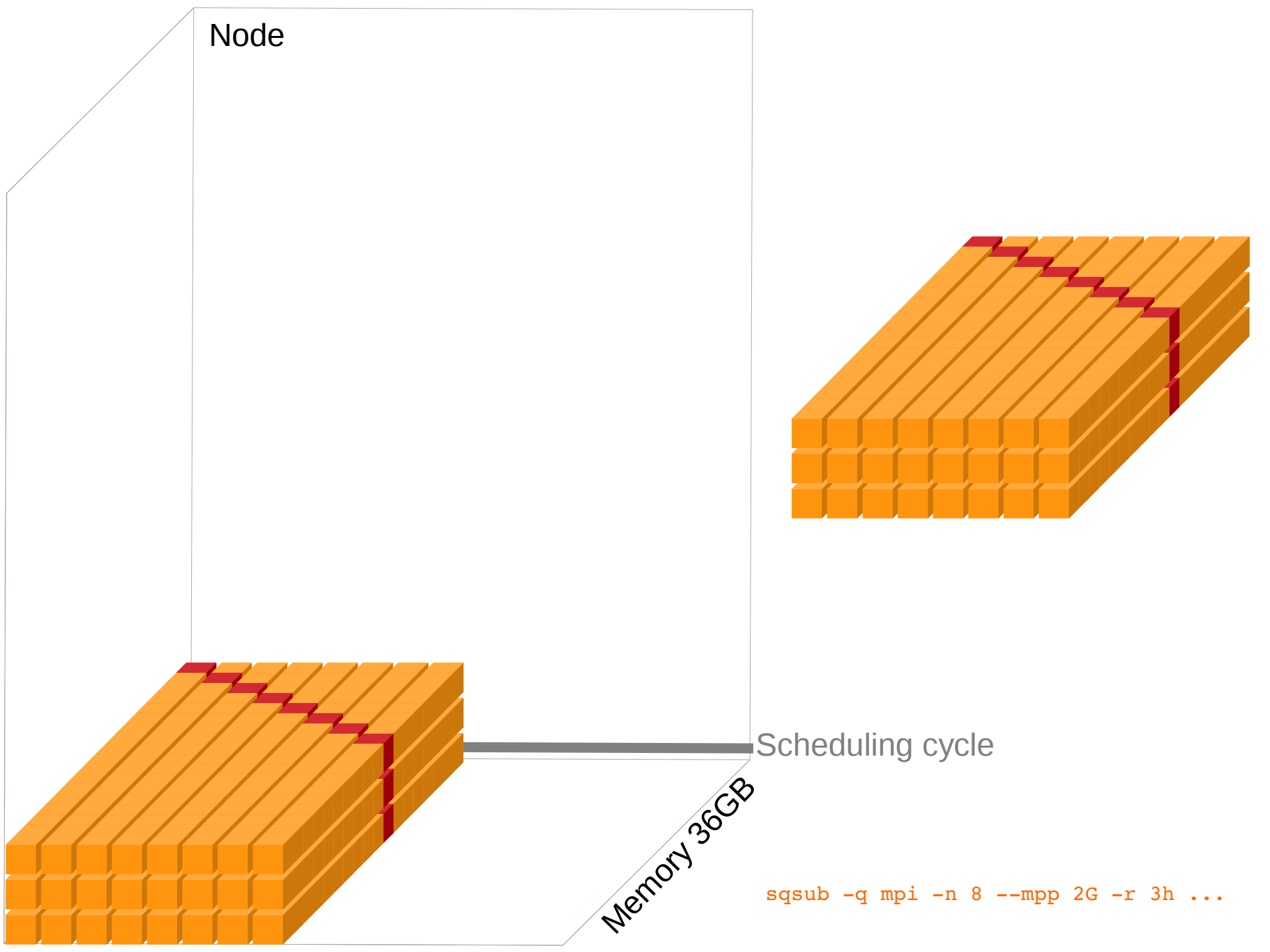
Time hours

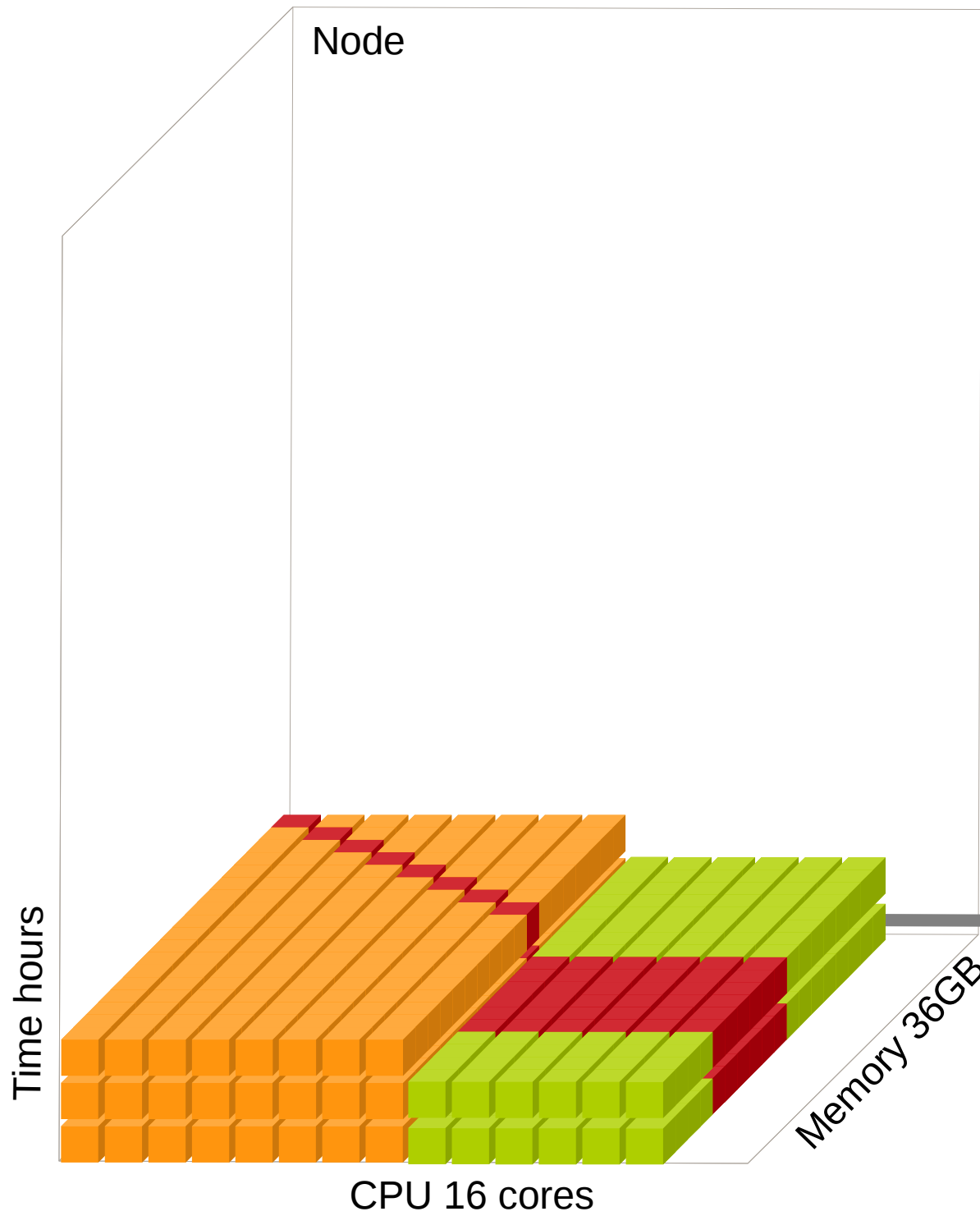
CPU 16 cores

Memory 36GB

Scheduling cycle

```
sqsub -q mpi -n 8 --mpp 2G -r 3h ...
```



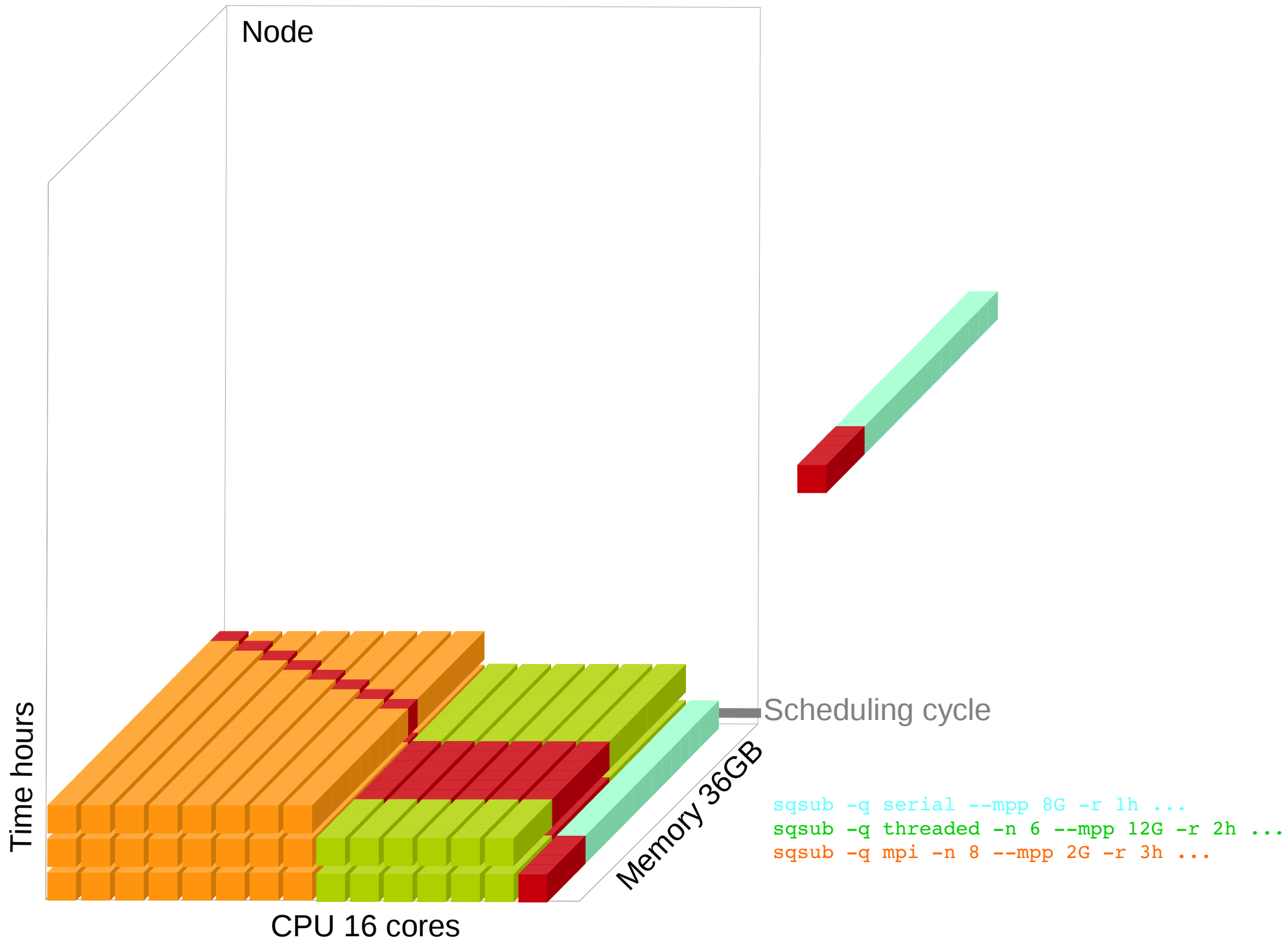


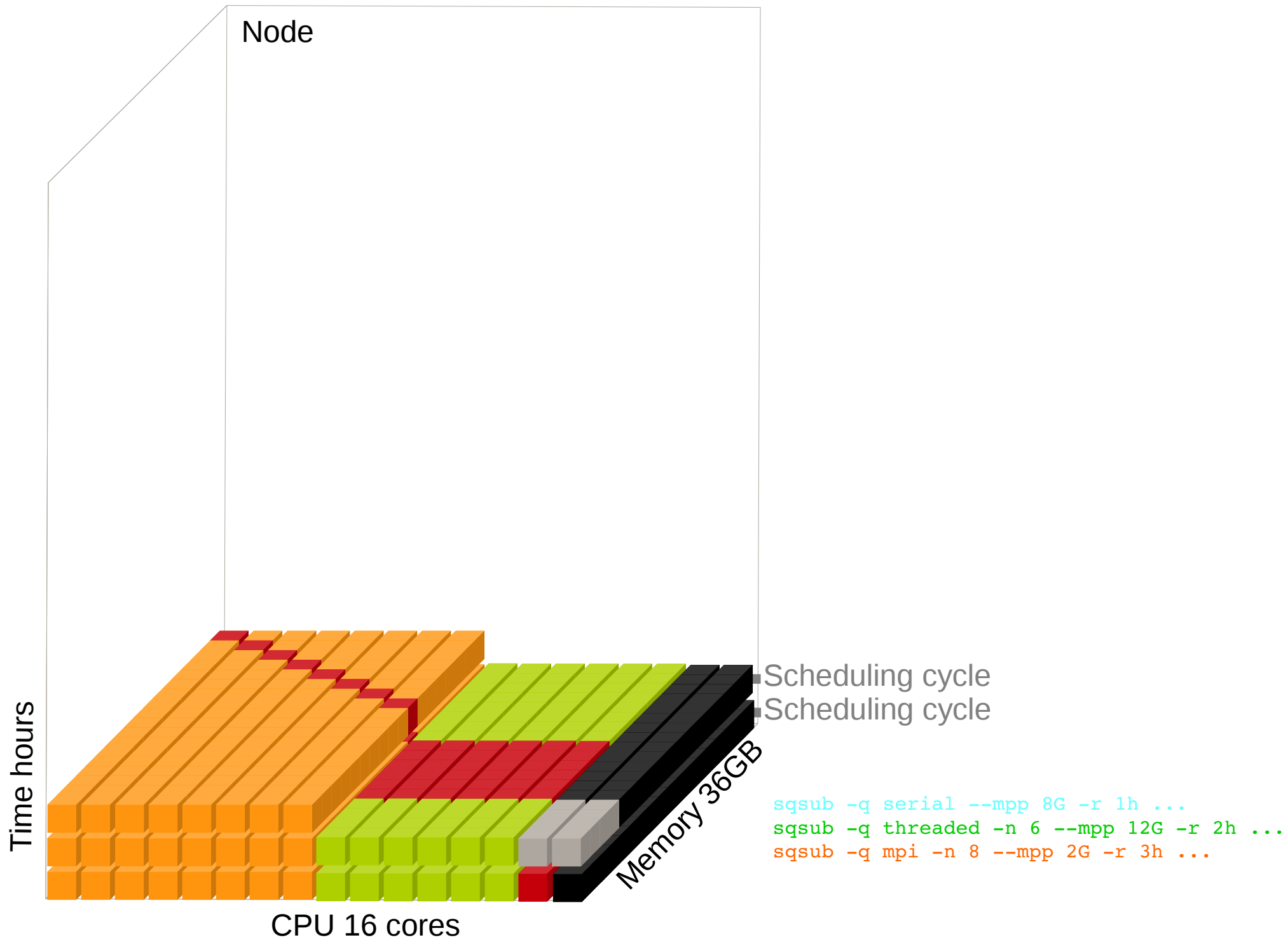
Scheduling cycle

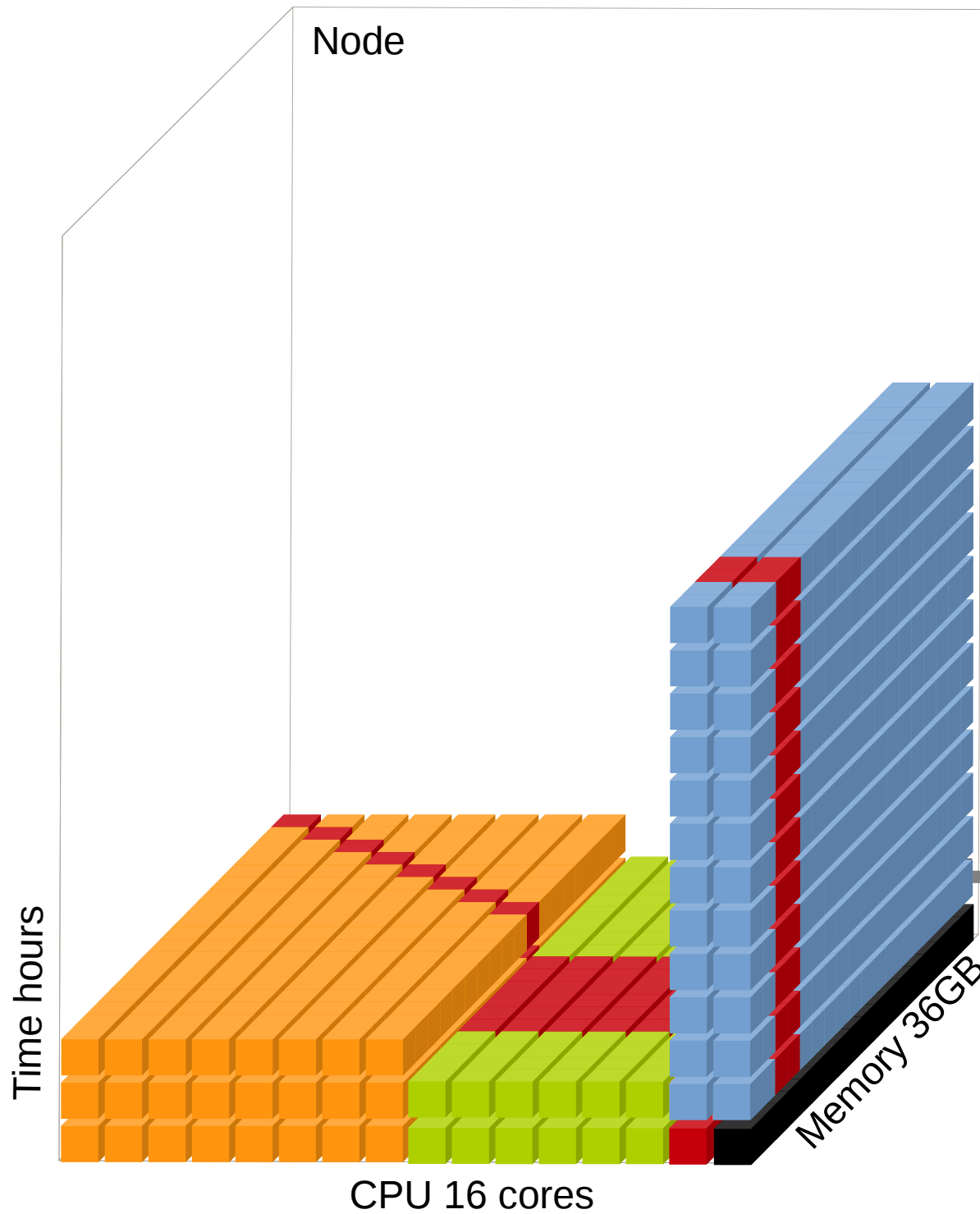
```

sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

```





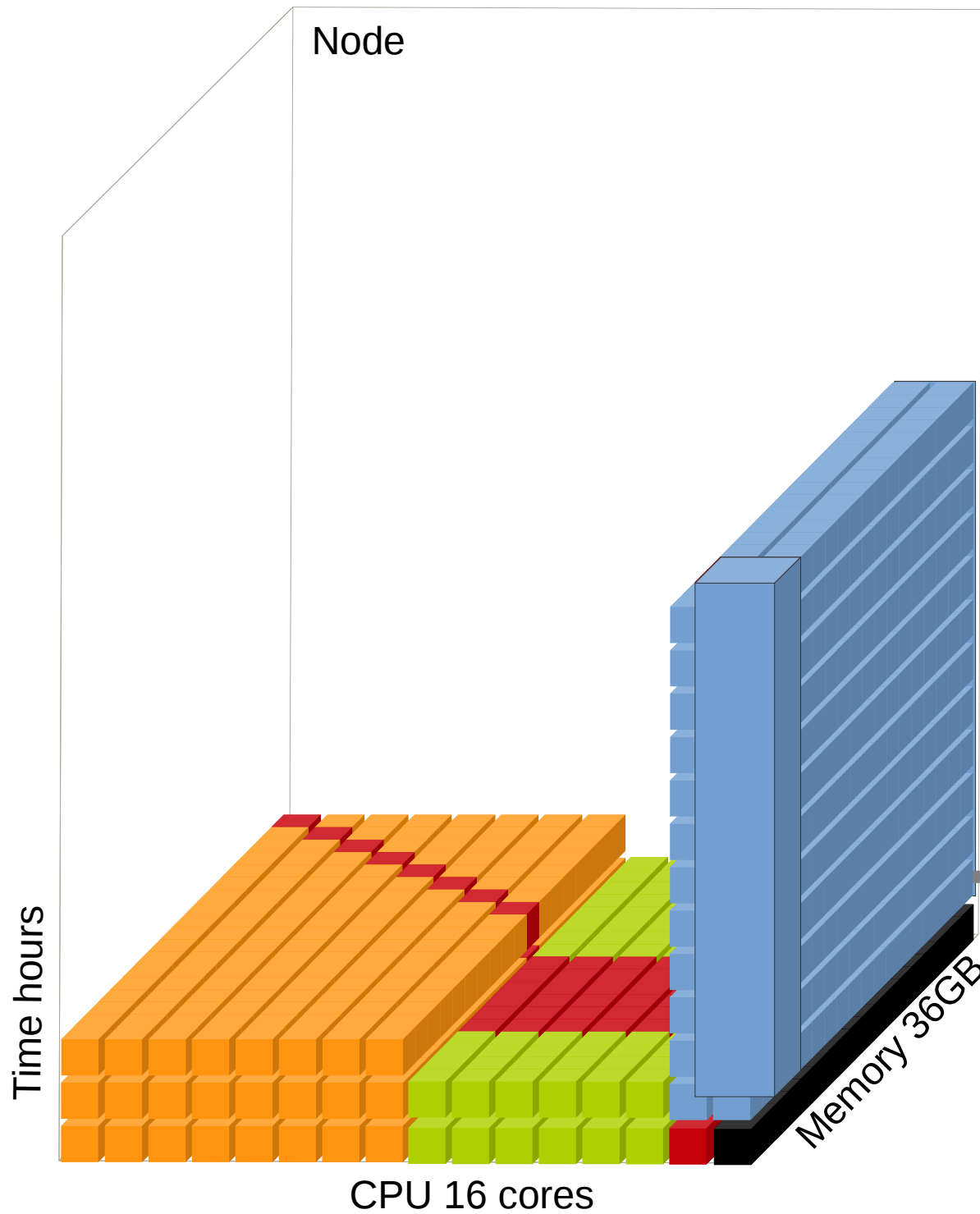


Scheduling cycle

```

sqsub -q threaded -n 2 --mpp 4G -r 12h ...
sqsub -q serial --mpp 8G -r 1h ...
sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

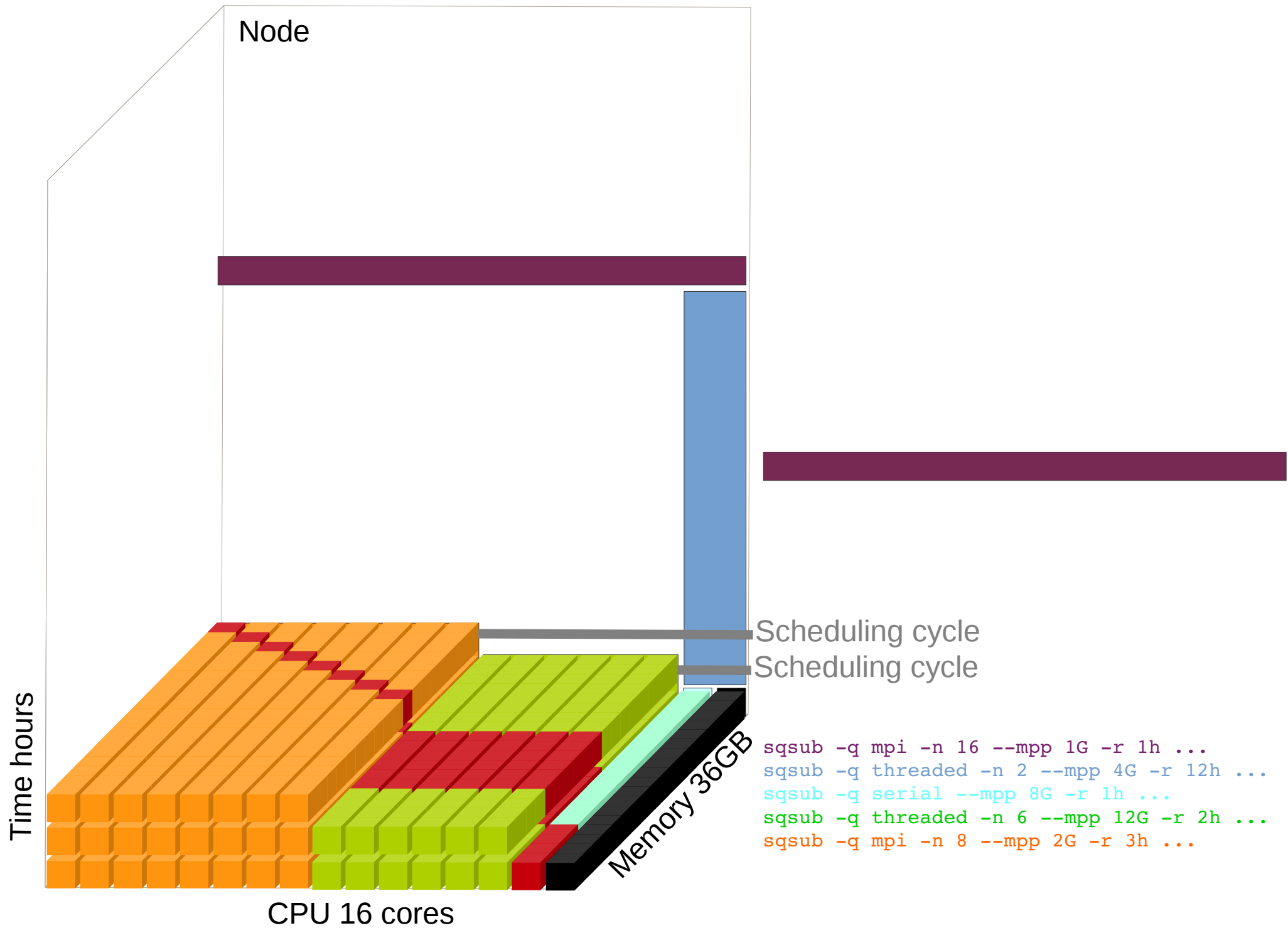
```

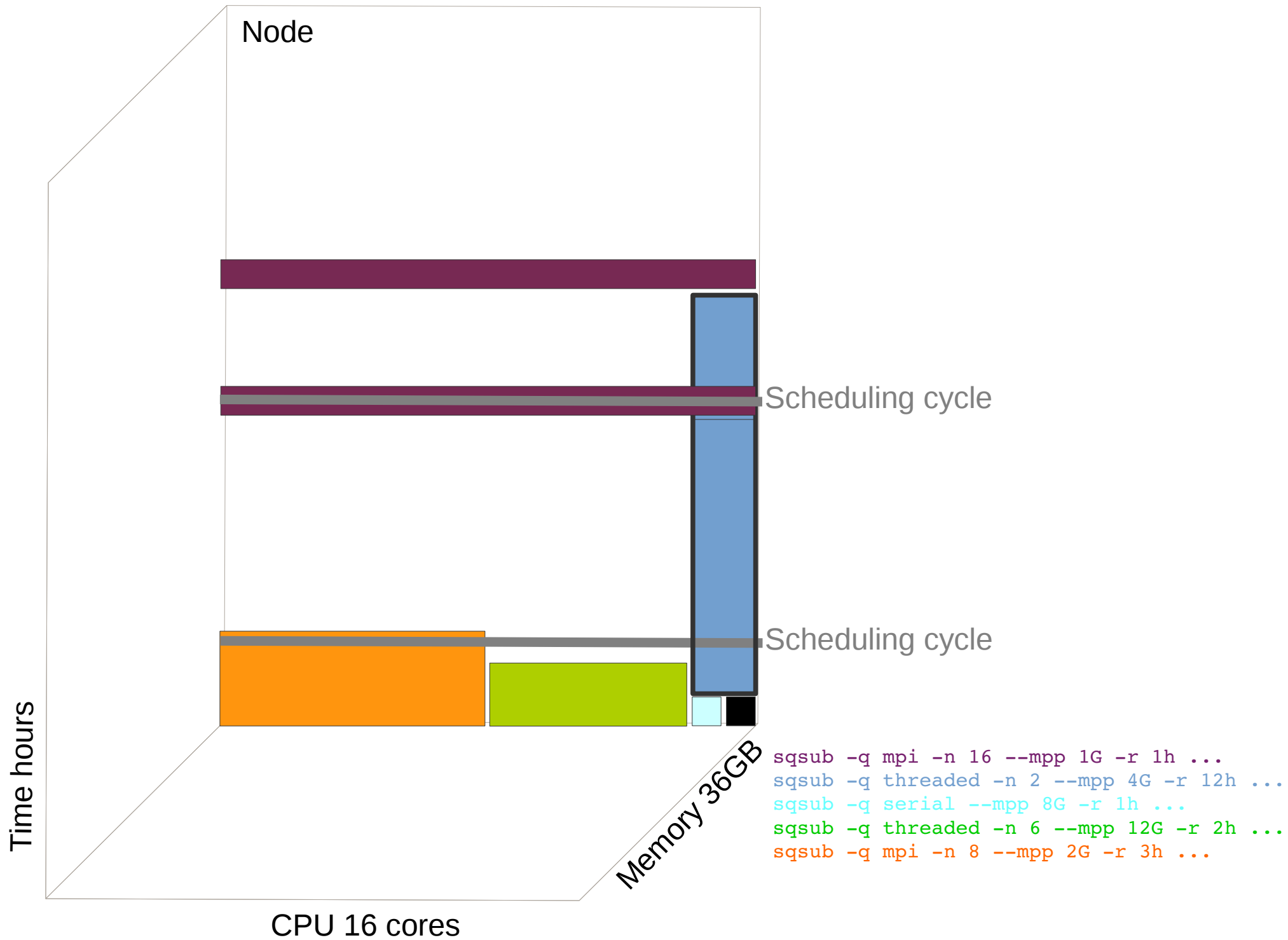



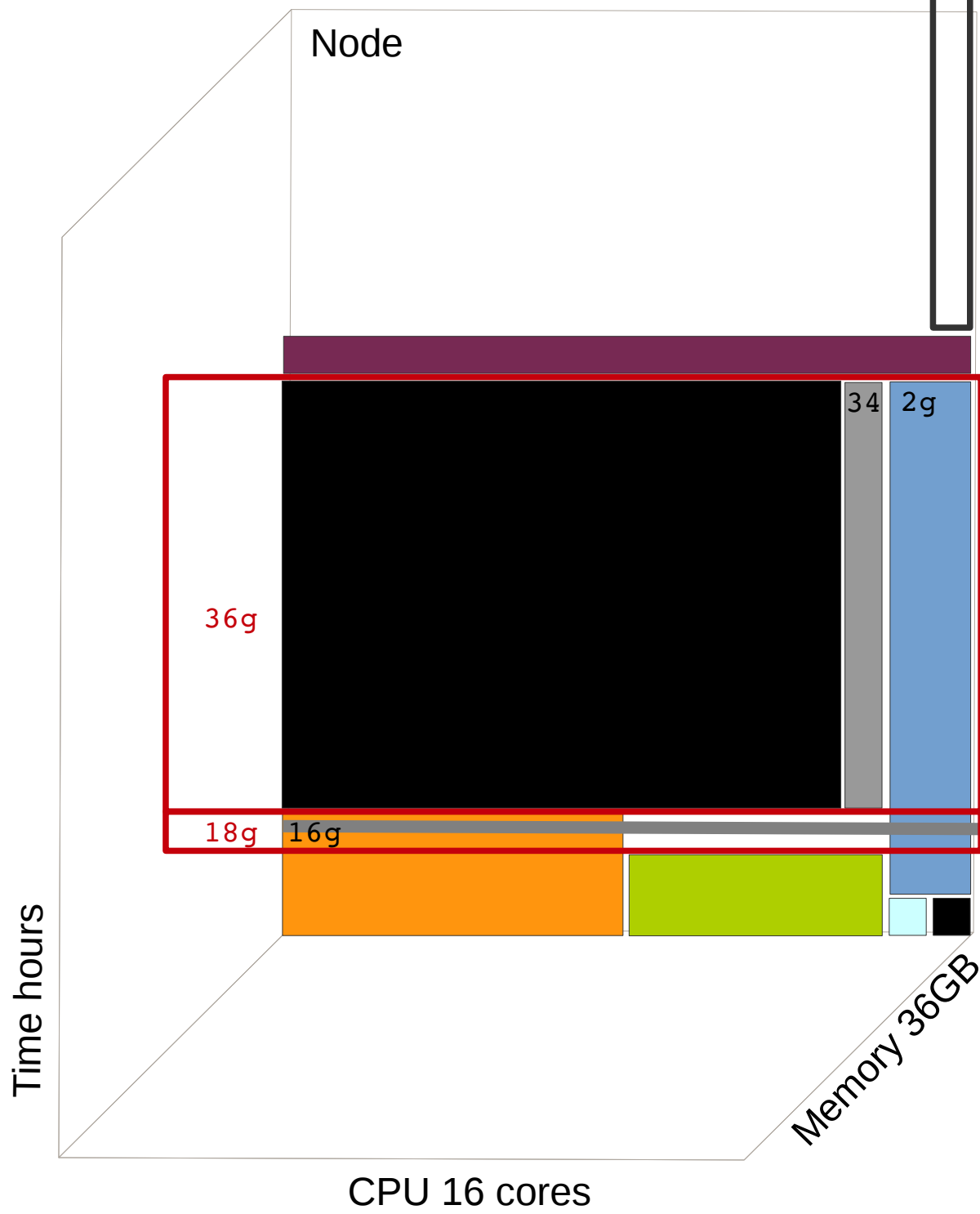
```

sqsub -q threaded -n 2 --mpp 4G -r 12h ...
sqsub -q serial --mpp 8G -r 1h ...
sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

```



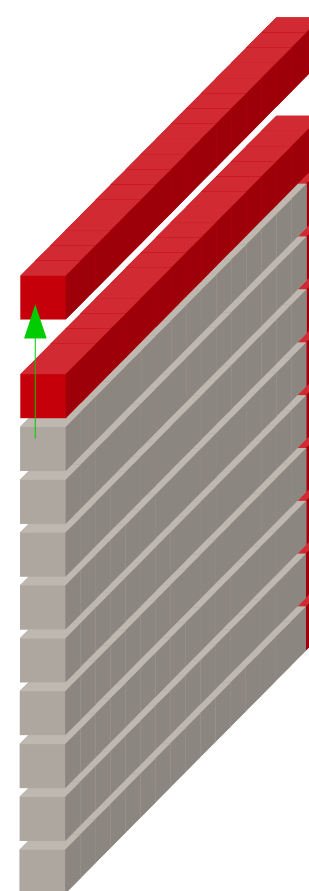
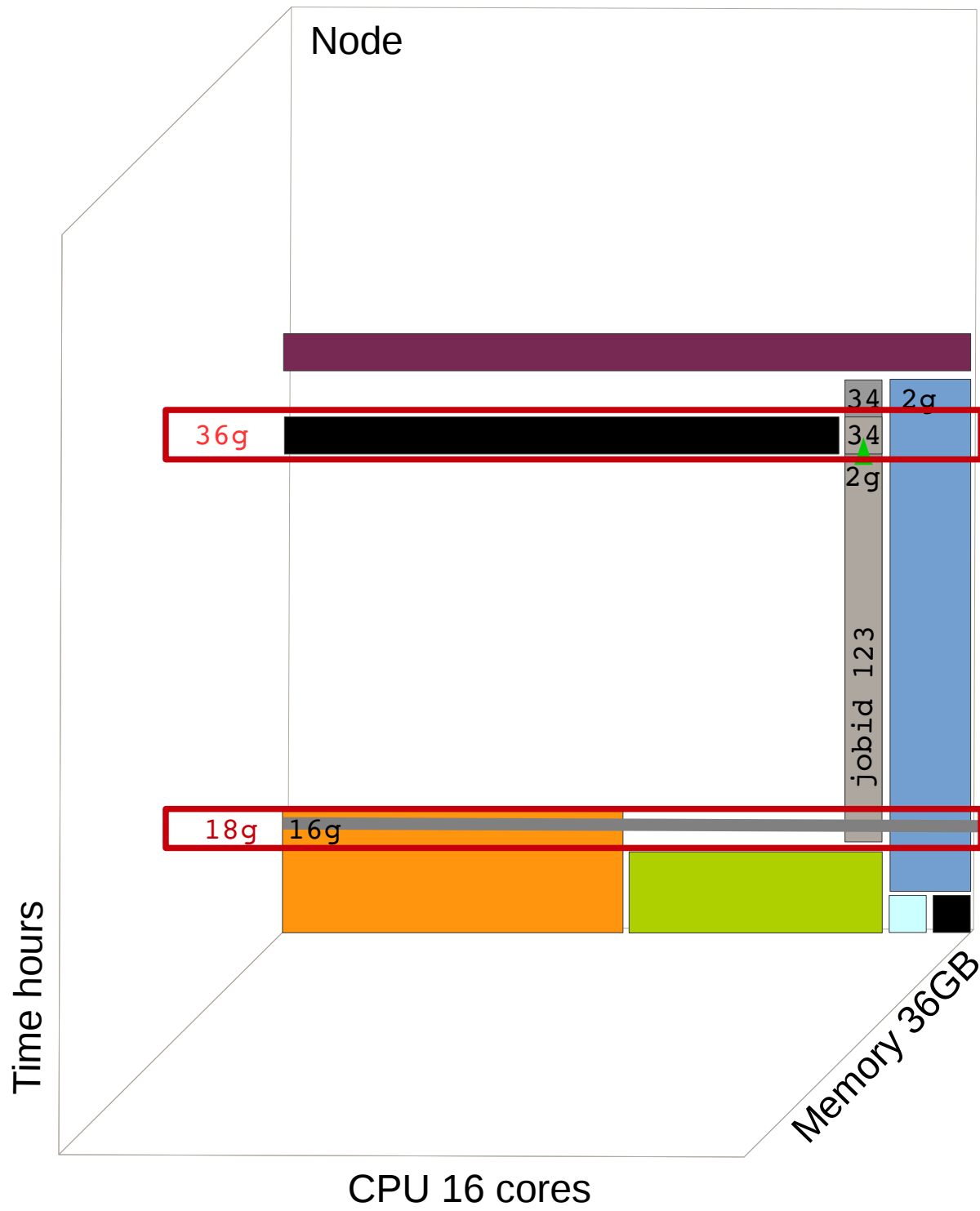




`sqsub -q serial --mpp 34G -r 10h`

Scheduling cycle

- `sqsub -q mpi -n 16 --mpp 1G -r 1h ...`
- `sqsub -q threaded -n 2 --mpp 4G -r 12h ...`
- `sqsub -q serial --mpp 8G -r 1h ...`
- `sqsub -q threaded -n 6 --mpp 12G -r 2h ...`
- `sqsub -q mpi -n 8 --mpp 2G -r 3h ...`



```

sqsub -q serial --mpp 34G -r 1h -w 123 ...
sqsub -q serial --mpp 2G -r 9h ...
sqsub -q serial --mpp 34G -r 10h

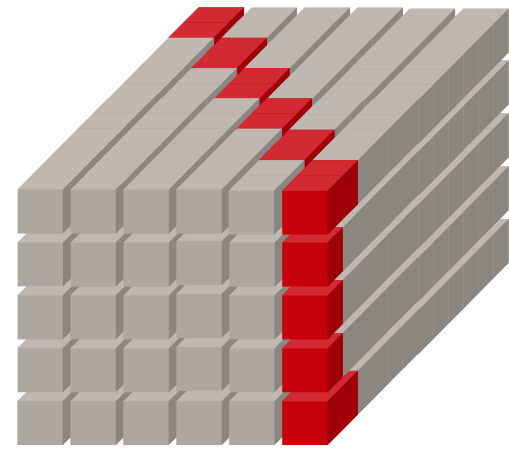
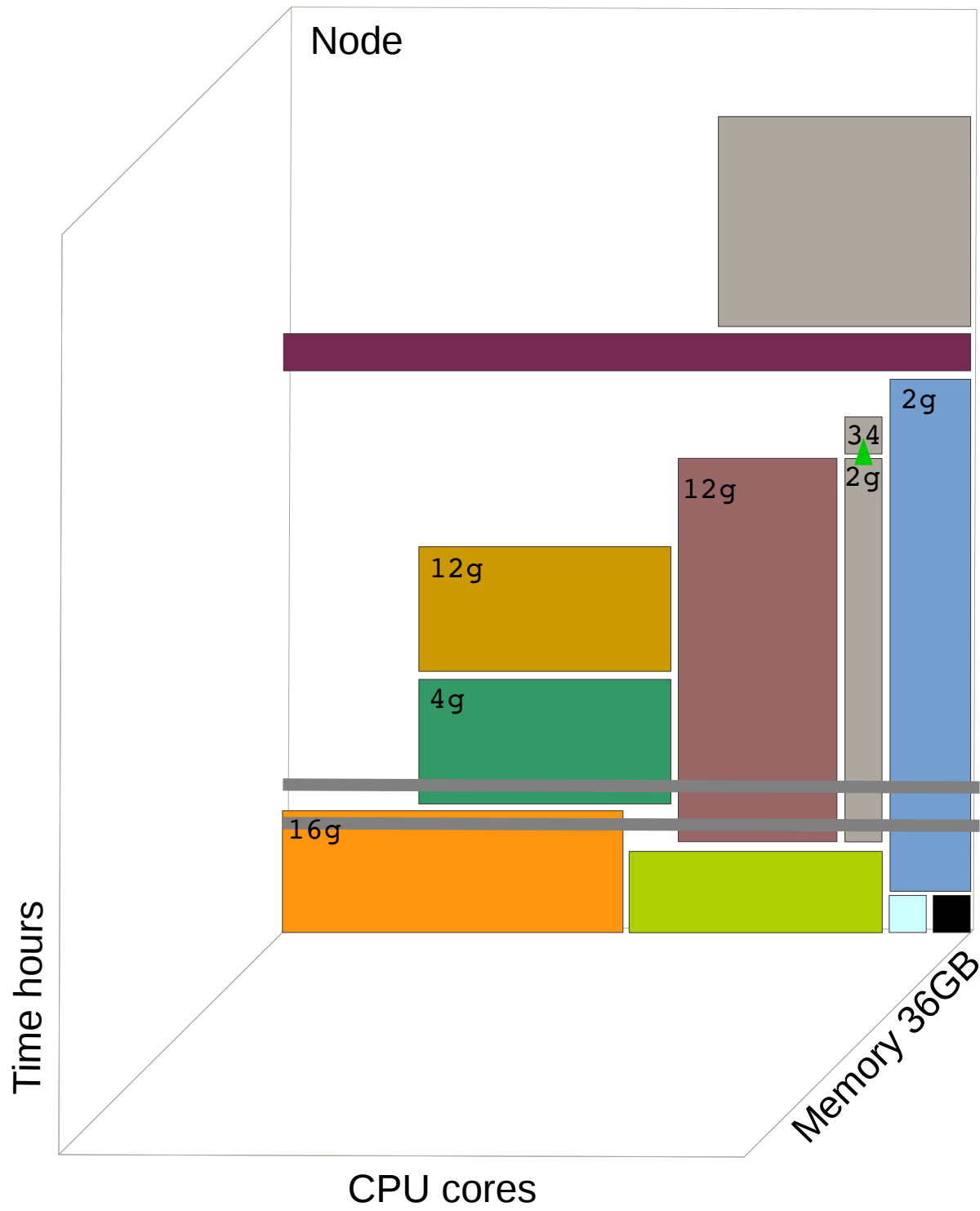
```

Scheduling cycle

```

sqsub -q mpi -n 16 --mpp 1G -r 1h ...
sqsub -q threaded -n 2 --mpp 4G -r 12h ...
sqsub -q serial --mpp 8G -r 1h ...
sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

```

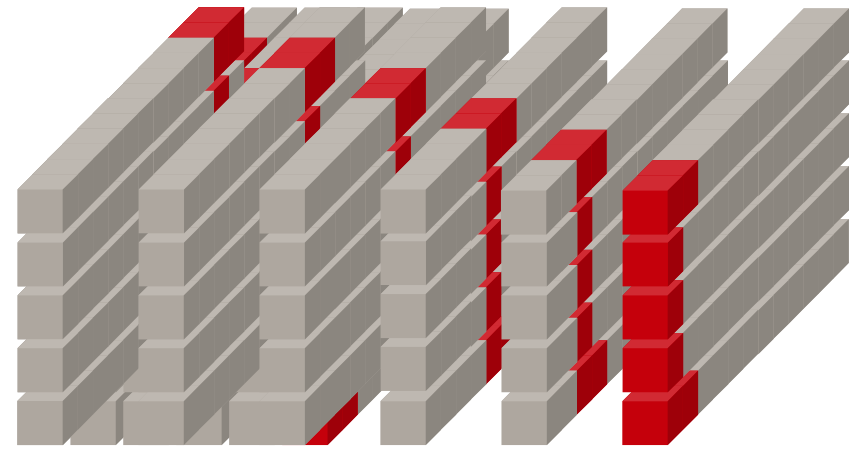
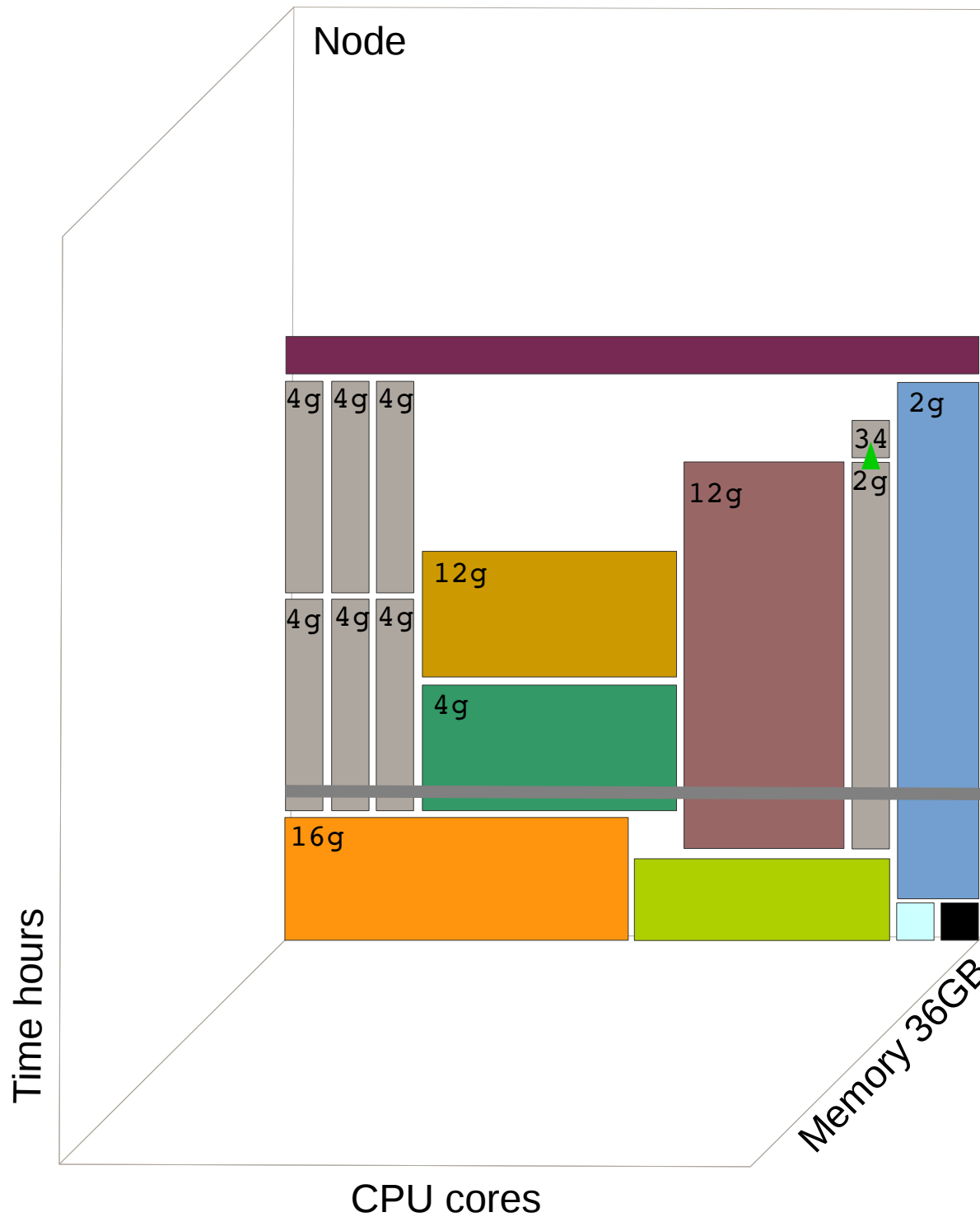


Scheduling cycle

```

sqsub -q mpi -n 6 --mpp 4G -r 5h ...
sqsub -q threaded -n 6 --mpp 12G -r 3h ...
sqsub -q threaded -n 6 --mpp 4G -r 3h ...
sqsub -q mpi -n 4 --mpp 3G -r 9h ...
sqsub -q serial --mpp 34G -r 1h -w 123 ...
sqsub -q serial --mpp 2G -r 9h ...
sqsub -q mpi -n 16 --mpp 1G -r 1h ...
sqsub -q threaded -n 2 --mpp 4G -r 12h ...
sqsub -q serial --mpp 8G -r 1h ...
sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

```



```

sqsub -q serial --mpp 4G -r 5h ...
sqsub -q serial --mpp 4G -r 5h ...
sqsub -q serial --mpp 4G -r 5h ...
sqsub -q serial --mpp 4G -r 5h ...
sqsub -q serial --mpp 4G -r 5h ...
sqsub -q serial --mpp 4G -r 5h ...
sqsub -q mpi -n 6 --mpp 4G -r 5h ...

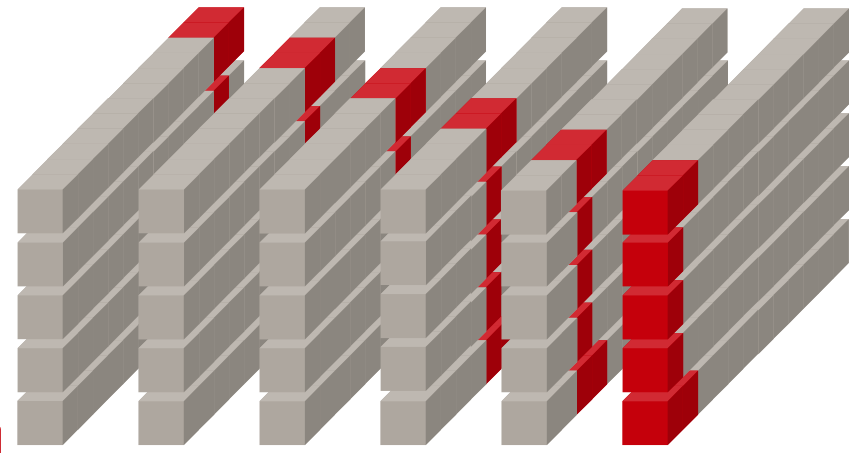
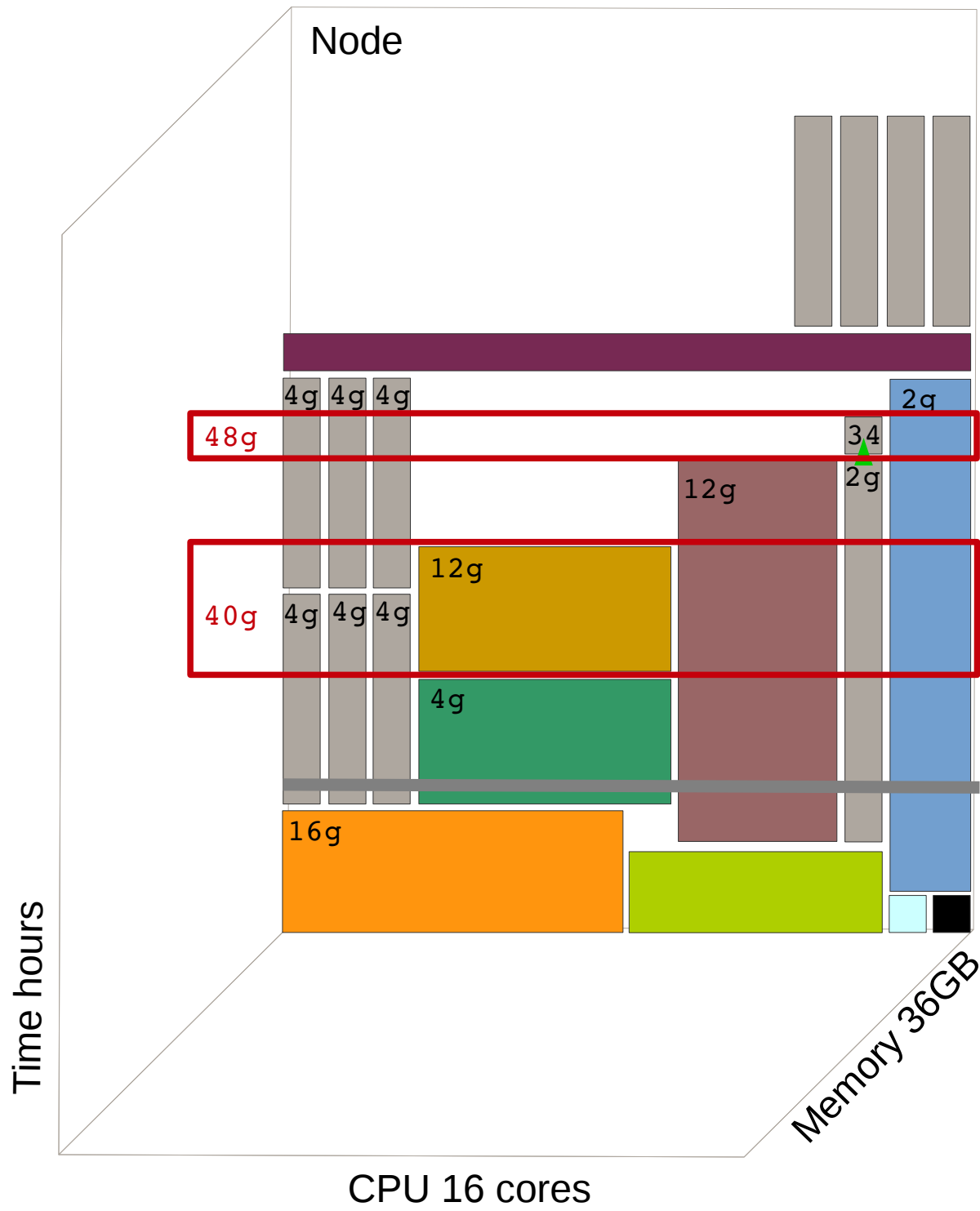
```

Scheduling cycle

```

sqsub -q threaded -n 6 --mpp 12G -r 3h ...
sqsub -q threaded -n 6 --mpp 4G -r 3h ...
sqsub -q mpi -n 4 --mpp 3G -r 9h ...
sqsub -q serial --mpp 34G -r 1h -w 123 ...
sqsub -q serial --mpp 2G -r 9h ...
sqsub -q mpi -n 16 --mpp 1G -r 1h ...
sqsub -q threaded -n 2 --mpp 4G -r 12h ...
sqsub -q serial --mpp 8G -r 1h ...
sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

```



```

sqs sub -q serial --mpp 4G -r 5h ...
sqs sub -q serial --mpp 4G -r 5h ...
sqs sub -q serial --mpp 4G -r 5h ...
sqs sub -q serial --mpp 4G -r 5h ...
sqs sub -q serial --mpp 4G -r 5h ...
sqs sub -q serial --mpp 4G -r 5h ...
sqs sub -q mpi -n 6 --mpp 4G -r 5h ...

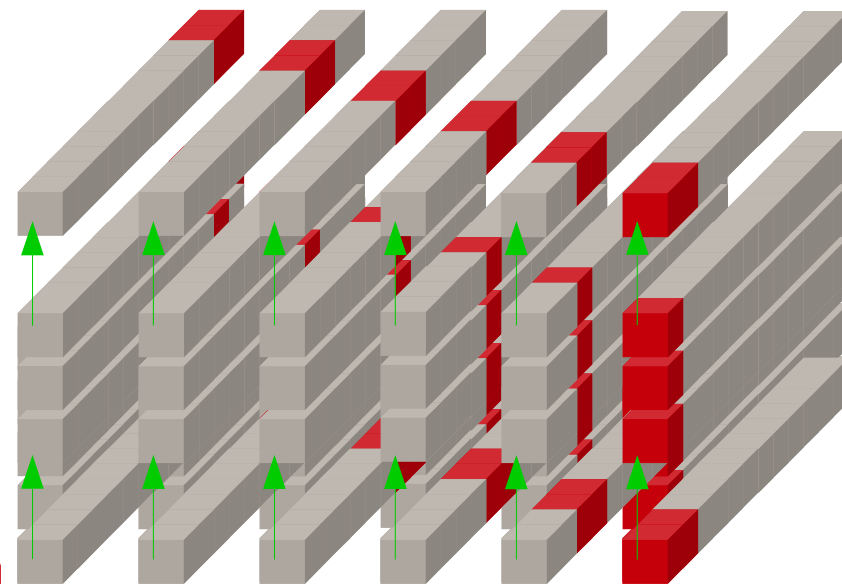
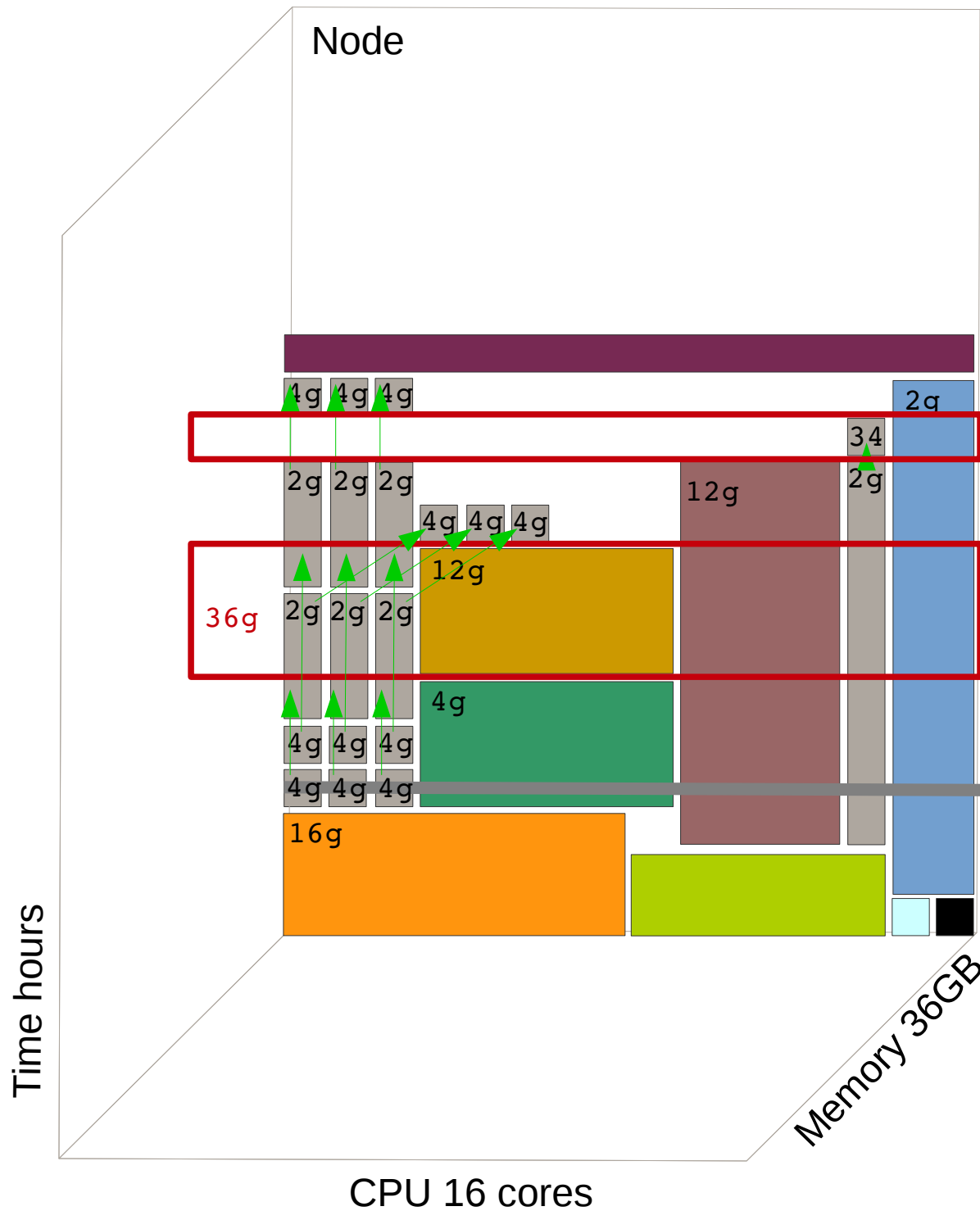
```

Scheduling cycle

```

sqs sub -q threaded -n 6 --mpp 12G -r 3h ...
sqs sub -q threaded -n 6 --mpp 4G -r 3h ...
sqs sub -q mpi -n 4 --mpp 3G -r 9h ...
sqs sub -q serial --mpp 34G -r 1h -w 123 ...
sqs sub -q serial --mpp 2G -r 9h ...
sqs sub -q mpi -n 16 --mpp 1G -r 1h ...
sqs sub -q threaded -n 2 --mpp 4G -r 12h ...
sqs sub -q serial --mpp 8G -r 1h ...
sqs sub -q threaded -n 6 --mpp 12G -r 2h ...
sqs sub -q mpi -n 8 --mpp 2G -r 3h ...

```

```

... x6
sqsub -q serial --mpp 4G -r 1h -w ...
... x6
sqsub -q serial --mpp 2G -r 3h -w ...
... x6
sqsub -q serial --mpp 4G -r 1h ...

```

Scheduling cycle

```

sqsub -q threaded -n 6 --mpp 12G -r 3h ...
sqsub -q threaded -n 6 --mpp 4G -r 3h ...
sqsub -q mpi -n 4 --mpp 3G -r 9h ...
sqsub -q serial --mpp 34G -r 1h -w 123 ...
sqsub -q serial --mpp 2G -r 9h ...
sqsub -q mpi -n 16 --mpp 1G -r 1h ...
sqsub -q threaded -n 2 --mpp 4G -r 12h ...
sqsub -q serial --mpp 8G -r 1h ...
sqsub -q threaded -n 6 --mpp 12G -r 2h ...
sqsub -q mpi -n 8 --mpp 2G -r 3h ...

```