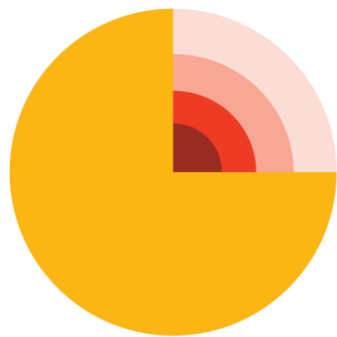




ChEESE

Partner: BSC - CNS



**Barcelona
Supercomputing
Center**
Centro Nacional de Supercomputación

Marta García
Victor López



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Task 2.4 Status Update (BSC)

- TALP Pages for Continuous Benchmarking
- GPU support for TALP



<https://pm.bsc.es/dlb>

TALP metrics report

- Pure MPI

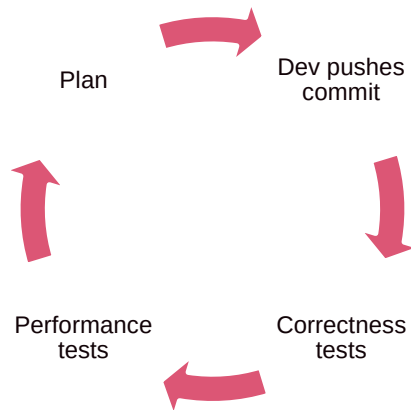
```
DLB[...]: ##### Monitoring Region POP Metrics #####
DLB[...]: ### Name:                               MPI Execution
DLB[...]: ### Elapsed Time :                       12 s
DLB[...]: ### Parallel efficiency :                 0.66
DLB[...]: ###   - Communication eff. :              0.90
DLB[...]: ###   - Load Balance :                   0.73
DLB[...]: ###     - LB_in :                         0.73
DLB[...]: ###     - LB_out :                        1.00
```

- Hybrid MPI + OpenMP

```
DLB[...]: ##### Monitoring Region POP Metrics #####
DLB[...]: ### Name:                               Application
DLB[...]: ### Elapsed Time:                       5 s
DLB[...]: ### Parallel efficiency:                 0.30
DLB[...]: ###   - MPI Parallel efficiency:          0.75
DLB[...]: ###     - MPI Communication efficiency:    0.88
DLB[...]: ###     - MPI Load Balance:                0.86
DLB[...]: ###       - MPI Load Balance in:           0.86
DLB[...]: ###       - MPI Load Balance out:          1.00
DLB[...]: ###   - OpenMP Parallel efficiency:        0.40
DLB[...]: ###     - OpenMP Load Balance:             0.70
DLB[...]: ###     - OpenMP Scheduling efficiency:    1.00
DLB[...]: ###     - OpenMP Serialization efficiency: 0.57
```

TALP Pages (for continuous benchmarking)

- Similar CI/CD cycle:



- Monthly “big” tests to see if bigger runs see any improvement
- On Code Merge, test if performance is affected
- POP-Metrics give user hints on scalability bugs and provide a per-region metric to spot regions where optimization efforts have a larger impact

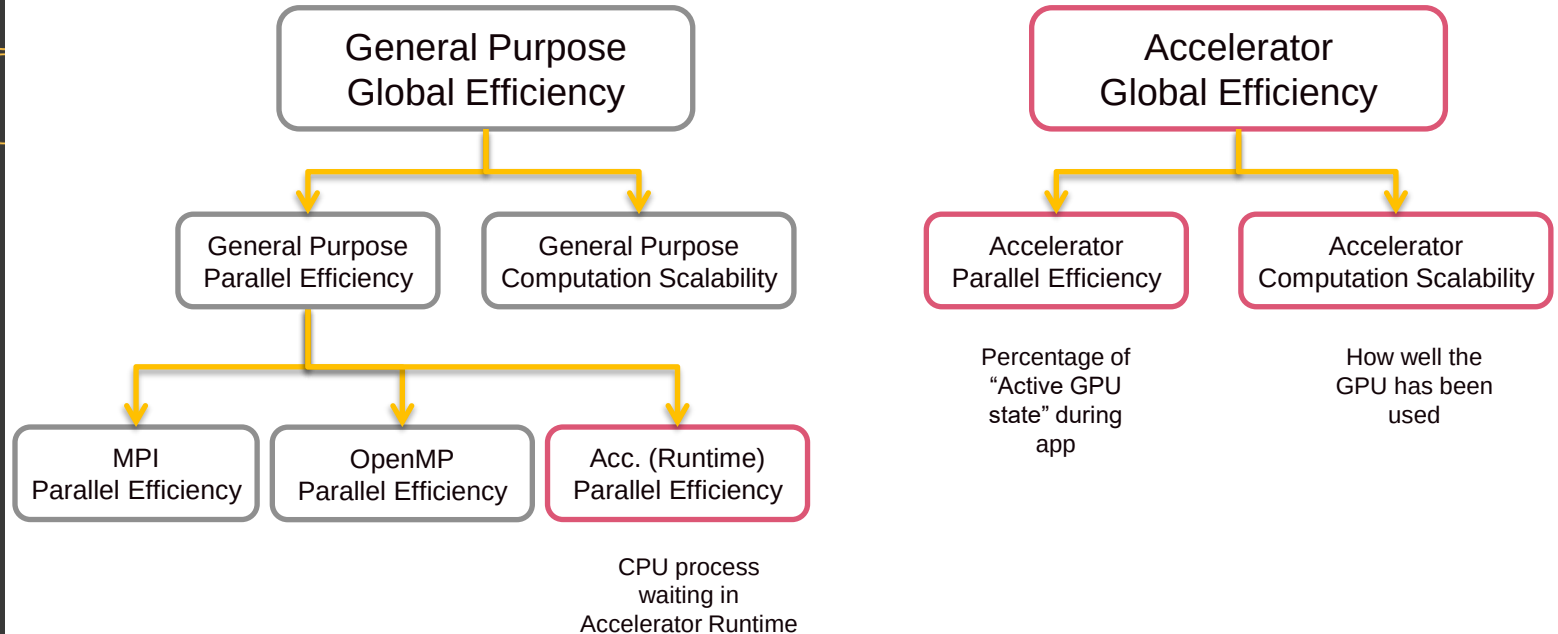
TALP Pages demo

- <https://gitlab.pm.bsc.es/dlb/talp-pages-example>
- <https://pages.pm.bsc.es/dlb/talp-pages-example/talp>
- Please, send questions or comments to dlb@bsc.es

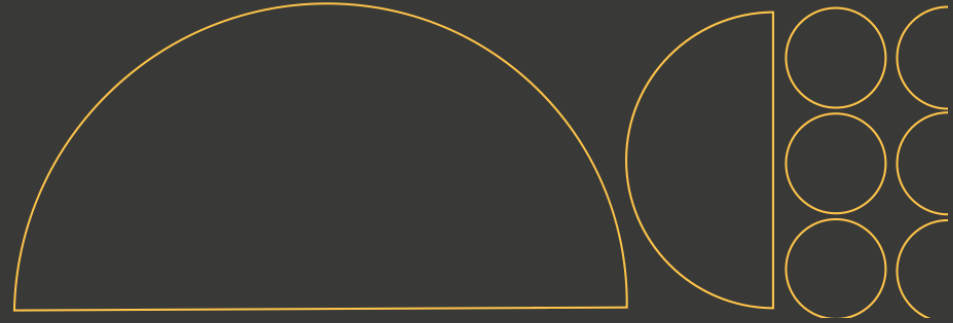


<https://pm.bsc.es/dlb>

GPU Support for TALP



Thank you!



@cheese-coe



<http://cheese2.eu>



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