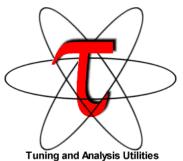


TAU Performance System® Hands-On



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TAU: Quickstart Guide

Profiling:

MPI: % mpirun -np 16 tau_exec -ebs ./a.out

- Pthread: % mpirun -np 16 tau_exec -T mpi,pthread -ebs ./a.out
- CUDA: % mpirun -np 16 tau_exec -T cupti,mpi -cupti -ebs ./a.out
- Score-P: % mpirun -np 16 tau_exec -T scorep,mpi ./a.out

Analysis: % pprof -a -m | more; % paraprof (GUI)

Tracing:

- Vampir: MPI: % export TAU_TRACE=1; export TAU_TRACE_FORMAT=otf2
 % mpirun -np 16 tau exec ./a.out; vampir traces.otf2 &
- Chrome/Jumpshot: % export TAU_TRACE=1; mpirun -np 64 tau_exec ./a.out
 % tau_treemerge.pl;

Chrome: % tau_trace2json tau.trc tau.edf -chrome -ignoreatomic -o app.json Chrome browser: chrome://tracing (Load -> app.json) or Perfetto.dev

• Jumpshot: tau2slog2 tau.trc tau.edf -o app.slog2; jumpshot app.slog2

TAU Hands-On

Hands-On Exercises on Turpan

```
source /tmpdir/vi-hps/opt/setup.sh
tar zxf /tmpdir/vi-hps/material/handsons/workshop-tau.tgz
cd workshop-tau
cat README
module load tau
```

Exercise 1: CoMD

43RD VI-HPS TUNING WORKSHOP (CALMIP, TOULOUSE, 29 JANUARY-01 FEBRUARY 2024)

Hands-On Exercises: Using TAU with an un-instrumented MPI app

```
workshop-tau; cd CoMD; cat README
cd src-mpi; ./compile.sh; cd ../bin
sbatch run.sbatch
cat slurm*
sbatch tau.sbatch
pprof -a | more
paraprof &
```

Exercise 2: CoMD with TAU and Score-P

Using PDT to instrument source code with TAU and Score-P

```
cd ../src-mpi
./compile.scorep.sh
cd ../bin
sbatch run.sbatch
cd scorep*;
paraprof profile.cubex &
paraprof --dump profile.cubex; cd MULTI___Time
pprof -a | more
```

More Score-P examples: http://tau.uoregon.edu/cubex ex.tgz

Exercise 3: CUDA with TAU without MPI



Hands-On Exercises

cd workshop-tau/cuda cat README

Exercise 4: CUDA with TAU and MPI



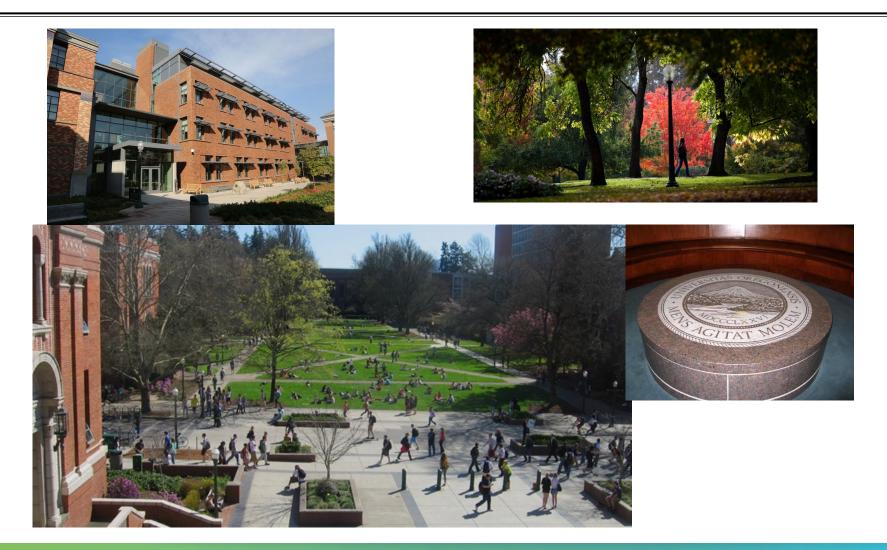
Hands-On Exercises

```
cd workshop-tau/TeaLeaf_CUDA
cat README
./compile.sh
cd bin; sbatch ./run.sbatch
sbatch ./tau.sbatch
paraprof &
pprof -a | more
```

ParaProf: TeaLeaf_CUDA

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Support Acknowledgments





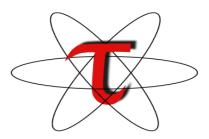
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