

Exemplo de Utilização mpiP

```
[amp@search6 MPI]$ mpicc -L /share/apps/mpiP-3.4.1 -o cpi-mpiP cpi.c -lmpiP -lm -lbfd  
-liberty -lunwind
```

```
[amp@search6 PCP]$ less cpi-mpiP.pbs
```

```
#!/bin/bash  
#PBS -l walltime=03:00  
#PBS -j oe  
#PBS -N cpi  
#PBS -l nodes=4:ppn=2
```

```
cat $PBS_NODEFILE  
cd ~/PCP  
mpirun -np 8 -machinefile $PBS_NODEFILE -mca btl ^openib ./cpi-mpiP  
cpi-mpiP.pbs (END)
```

```
[amp@search6 PCP]$ qsub -V -lwalltime=00:01:00 cpi-mpiP.pbs
```

```
[amp@search6 PCP]$ less cpi-mpiP.8.19938.1.mpiP
```

```
@ mpiP  
@ Command : ./cpi-mpiP  
@ Version : 3.4.1  
@ MPIP Build date : Jun 5 2014, 13:01:50  
@ Start time : 2014 10 31 09:48:56  
@ Stop time : 2014 10 31 09:48:56  
@ Timer Used : PMPI_Wtime  
@ MPIP env var : [null]  
@ Collector Rank : 0  
@ Collector PID : 9022  
@ Final Output Dir : .  
@ Report generation : Single collector task  
@ MPI Task Assignment : 0 compute-541-29.local  
@ MPI Task Assignment : 1 compute-541-29.local  
@ MPI Task Assignment : 2 compute-541-28.local  
@ MPI Task Assignment : 3 compute-541-28.local  
@ MPI Task Assignment : 4 compute-541-27.local  
@ MPI Task Assignment : 5 compute-541-27.local  
@ MPI Task Assignment : 6 compute-541-26.local  
@ MPI Task Assignment : 7 compute-541-26.local
```

```
@--- MPI Time (seconds) ---
```

Task	AppTime	MPITime	MPI%
0	0.00214	0.00211	98.55
1	0.00217	0.00213	98.29
2	0.00089	0.000868	97.53
3	0.00089	0.000864	97.08
4	0.00185	0.00182	98.70
5	0.00185	0.00183	98.76
6	0.00186	0.00184	98.82
7	0.00187	0.00184	98.61
*	0.0135	0.0133	98.44

```
@--- Callsites: 2 ---
```

ID	Lev	File/Address	Line	Parent_Funct	MPI_Call
1	0	0x406bbb		main	Bcast
2	0	0x406c89		main	Reduce

```
@--- Aggregate Time (top twenty, descending, milliseconds) ---
```

Call	Site	Time	App%	MPI%	COV
Bcast	1	10.7	79.09	80.34	0.46
Reduce	2	2.62	19.35	19.66	1.61

```
@--- Aggregate Sent Message Size (top twenty, descending, bytes) ---
```

Call	Site	Count	Total	Avrg	Sent%
Reduce	2	8	64	8	50.00
Bcast	1	16	64	4	50.00

```

-----
@--- Callsite Time statistics (all, milliseconds): 16 -----
-----
Name           Site Rank  Count    Max     Mean     Min     App%   MPI%
Bcast          1     0     2     1.48   0.746   0.014  69.64  70.66
Bcast          1     1     2     1.53   1.05    0.559  96.36  98.03
Bcast          1     2     2     0.448  0.4     0.352  89.89  92.17
Bcast          1     3     2     0.457  0.419  0.381  94.16  96.99
Bcast          1     4     2     0.194  0.149  0.104  16.13  16.34
Bcast          1     5     2     1.61   0.901  0.193  97.25  98.47
Bcast          1     6     2     1.4    0.781  0.164  83.85  84.85
Bcast          1     7     2     1.45   0.906  0.359  97.05  98.42
Bcast          1     *    16     1.61   0.668  0.014  79.09  80.34

Reduce         2     0     1     0.619  0.619  0.619  28.91  29.34
Reduce         2     1     1     0.042  0.042  0.042  1.94   1.97
Reduce         2     2     1     0.068  0.068  0.068  7.64   7.83
Reduce         2     3     1     0.026  0.026  0.026  2.92   3.01
Reduce         2     4     1     1.53   1.53   1.53   82.58  83.66
Reduce         2     5     1     0.028  0.028  0.028  1.51   1.53
Reduce         2     6     1     0.279  0.279  0.279  14.97  15.15
Reduce         2     7     1     0.029  0.029  0.029  1.55   1.58
Reduce         2     *     8     1.53   0.327  0.026  19.35  19.66

-----
@--- Callsite Message Sent statistics (all, sent bytes) -----
-----
Name           Site Rank  Count    Max     Mean     Min     Sum
Bcast          1     0     2     4       4       4       8
Bcast          1     1     2     4       4       4       8
Bcast          1     2     2     4       4       4       8
Bcast          1     3     2     4       4       4       8
Bcast          1     4     2     4       4       4       8
Bcast          1     5     2     4       4       4       8
Bcast          1     6     2     4       4       4       8
Bcast          1     7     2     4       4       4       8
Bcast          1     *    16     4       4       4       64

Reduce         2     0     1     8       8       8       8
Reduce         2     1     1     8       8       8       8
Reduce         2     2     1     8       8       8       8
Reduce         2     3     1     8       8       8       8
Reduce         2     4     1     8       8       8       8
Reduce         2     5     1     8       8       8       8
Reduce         2     6     1     8       8       8       8
Reduce         2     7     1     8       8       8       8
Reduce         2     *     8     8       8       8       64

-----
@--- End of Report -----

```

Opções Avançadas

```

[amp@search6 PCP]$ export MPIP='-c -o -k 4'

[amp@search6 PCP]$ qsub -V -lwalltime=00:01:00 cpi-mpiP.pbs

[amp@search6 PCP]$ less cpi-mpiP.8.9022.1.mpiP

@ mpiP
@ Command : ./cpi-mpiP
@ Version : 3.4.1
@ MPIP Build date : Jun 5 2014, 13:01:50
@ Start time : 2014 11 04 11:58:28
@ Stop time : 2014 11 04 11:58:28
@ Timer Used : PMPI_Wtime
@ MPIP env var : -c -o -k 4
@ Collector Rank : 0
@ Collector PID : 20005
@ Final Output Dir : .
@ Report generation : Single collector task

```

```

-----
@--- Task Time Statistics (seconds) -----
-----
AppTime           MPITime  MPI%   App Task  MPI Task

```

Max	0.001709	0.001653	1	1
Mean	0.001504	0.001438		
Min	0.001364	0.001292	4	4
Stddev	0.000118	0.000122		
Aggregate	0.012029	0.011506	95.65	

@--- Aggregate Time (top twenty, descending, milliseconds) -----

Call	Site	Time	App%	MPI%	COV
Bcast	1	9.19	76.40	79.87	0.31
Reduce	2	2.32	19.25	20.13	1.15

@--- Aggregate Sent Message Size (top twenty, descending, bytes) -----

Call	Site	Count	Total	Avrg	Sent%
Reduce	2	8	64	8	50.00
Bcast	1	16	64	4	50.00

@--- Callsites: 2 -----

ID	Lev	File/Address	Line	Parent	Funct	MPI_Call
1	0	0x406bbb		main		Bcast
2	0	0x406c89		main		Reduce

@--- Callsite Time statistics (all callsites, milliseconds): 2 -----

Name	Site	Tasks	Max	Mean	Min	MaxRnk	MinRnk
Bcast	1	8	1.617	1.149	0.544	1	4
Reduce	2	8	0.858	0.2895	0.036	0	1

@--- Callsite Message Sent statistics (all callsites, sent bytes): 2 -----

Name	Site	Tasks	Max	Mean	Min	MaxRnk	MinRnk
Bcast	1	8	8	8	8	0	0
Reduce	2	8	8	8	8	0	0

@--- End of Report -----
