

Platform MPI Performance report for file dynampitrace.txt on Fri Jul 12 12:02:04 2019

July 12, 2019

Summary

- Size of dynampitrace.txt is 2530218 bytes.
- MPI Processes used: 96
- User time: 67.40%
- MPI time: 32.60% [Overhead: 32.60%, Blocking: 0.00%]

Comment: LS-DYNA on vulcan.

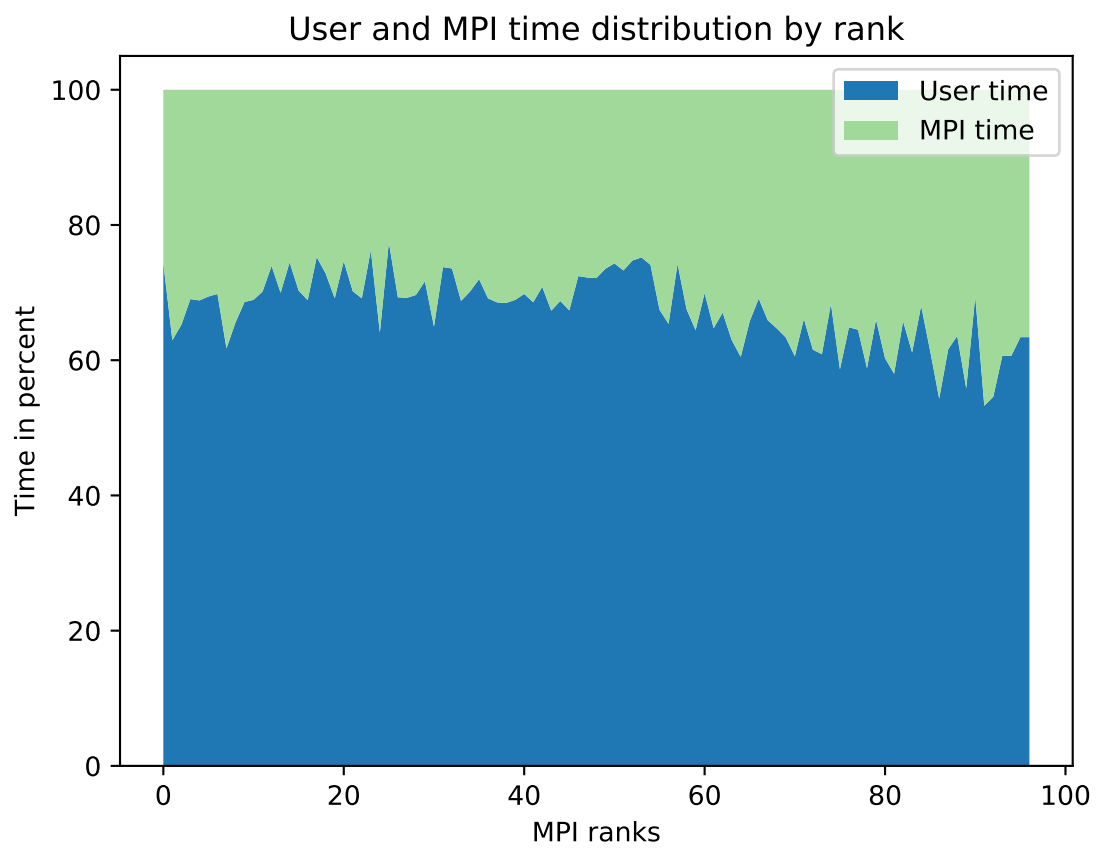
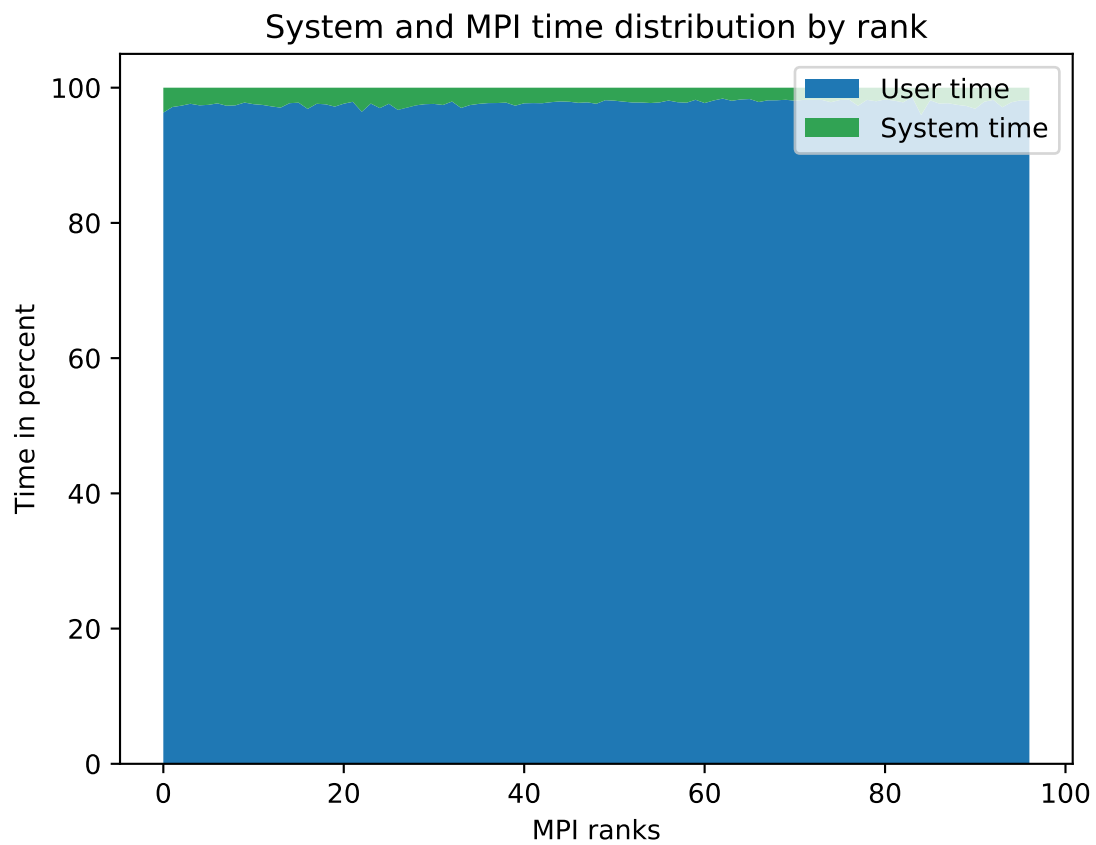
First part: Application Summary by Rank

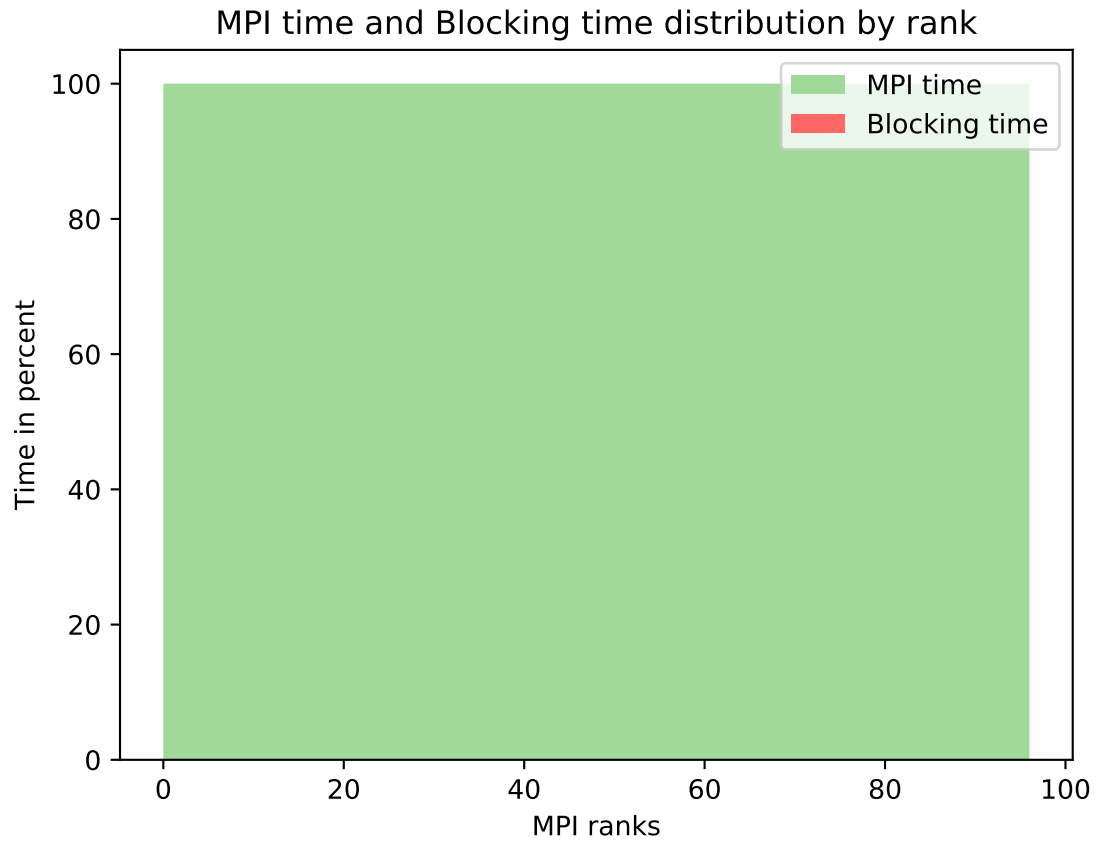
The following data is depicted in percent.

	min	max	mean
user time	95.96	98.61	97.69
system time	1.39	4.04	2.31

	min	max	mean
user time	53.26	77.43	67.35
MPI time	22.57	46.74	32.65

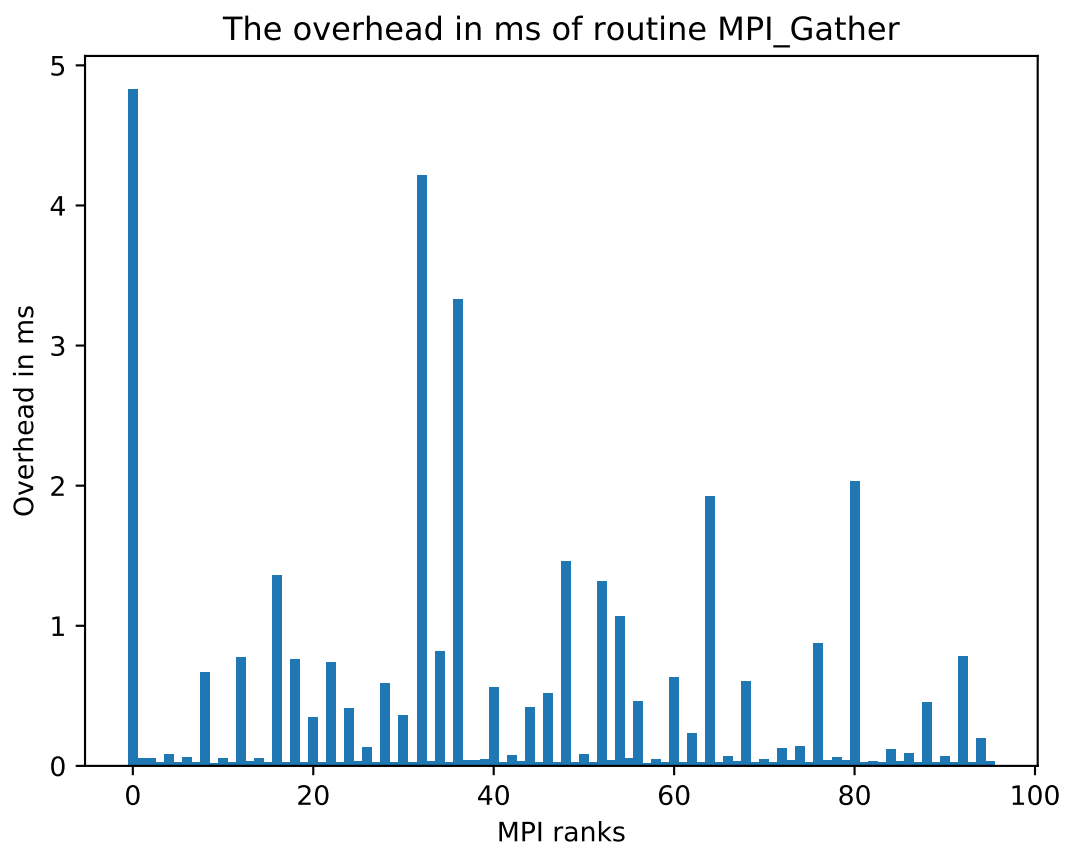
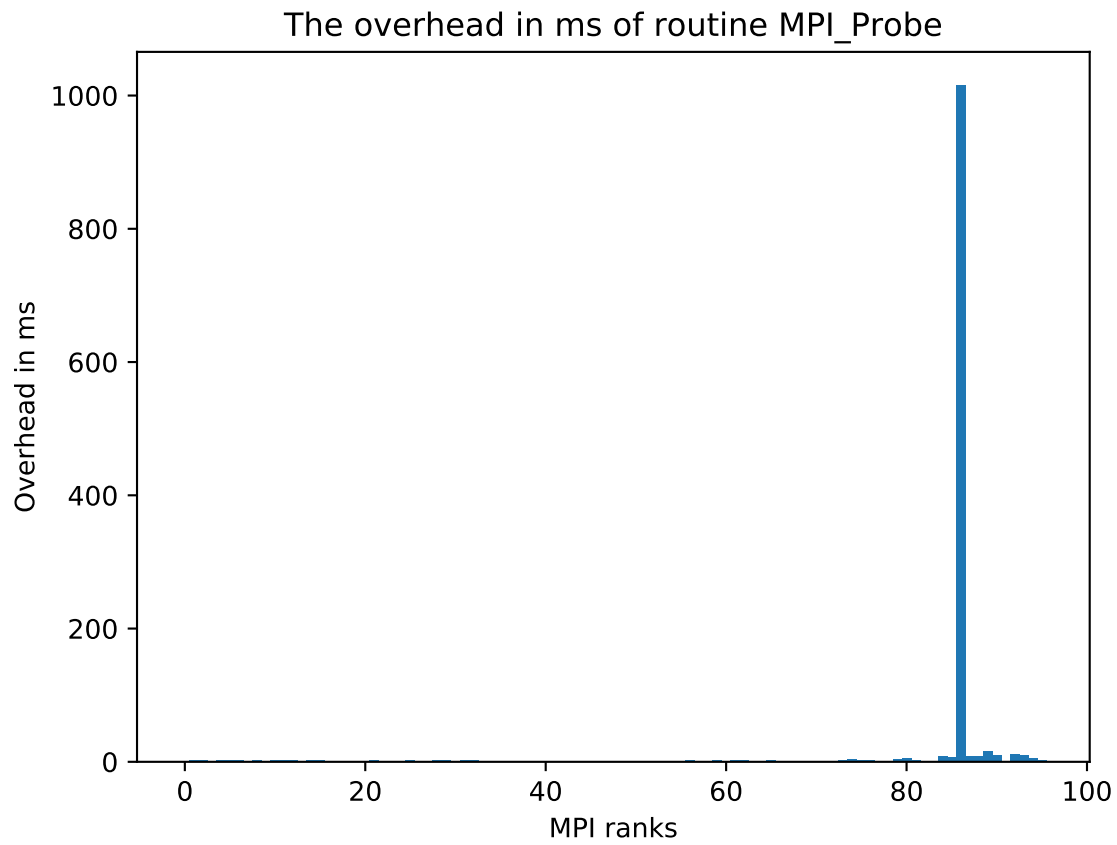
	min	max	mean
MPI time	100.0	100.0	100.0
Blocking time	0.0	0.0	0.0

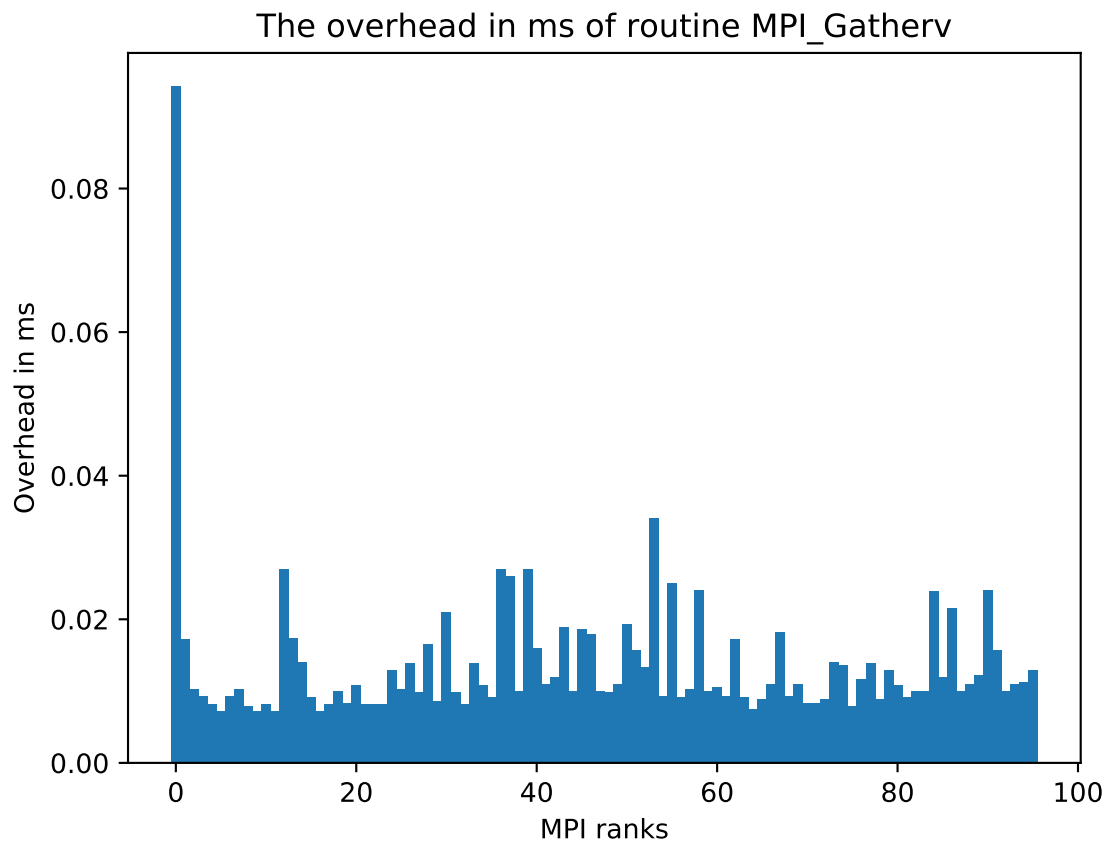
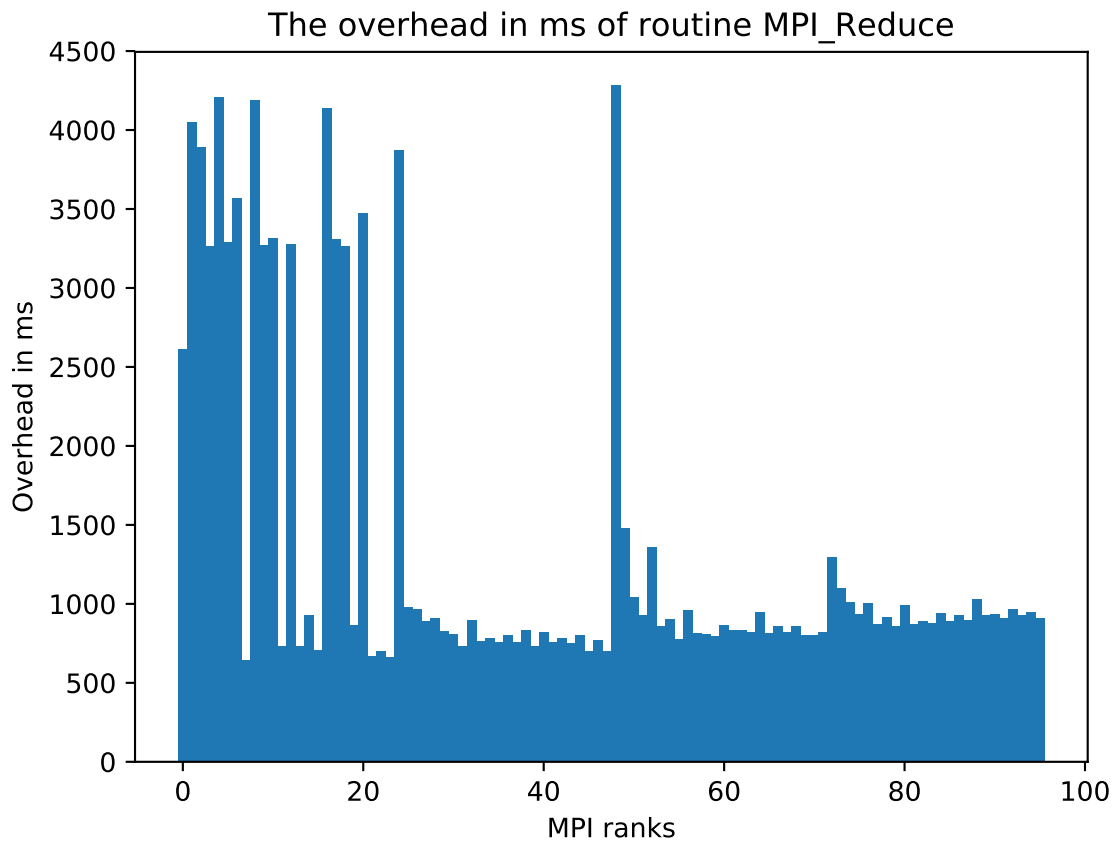


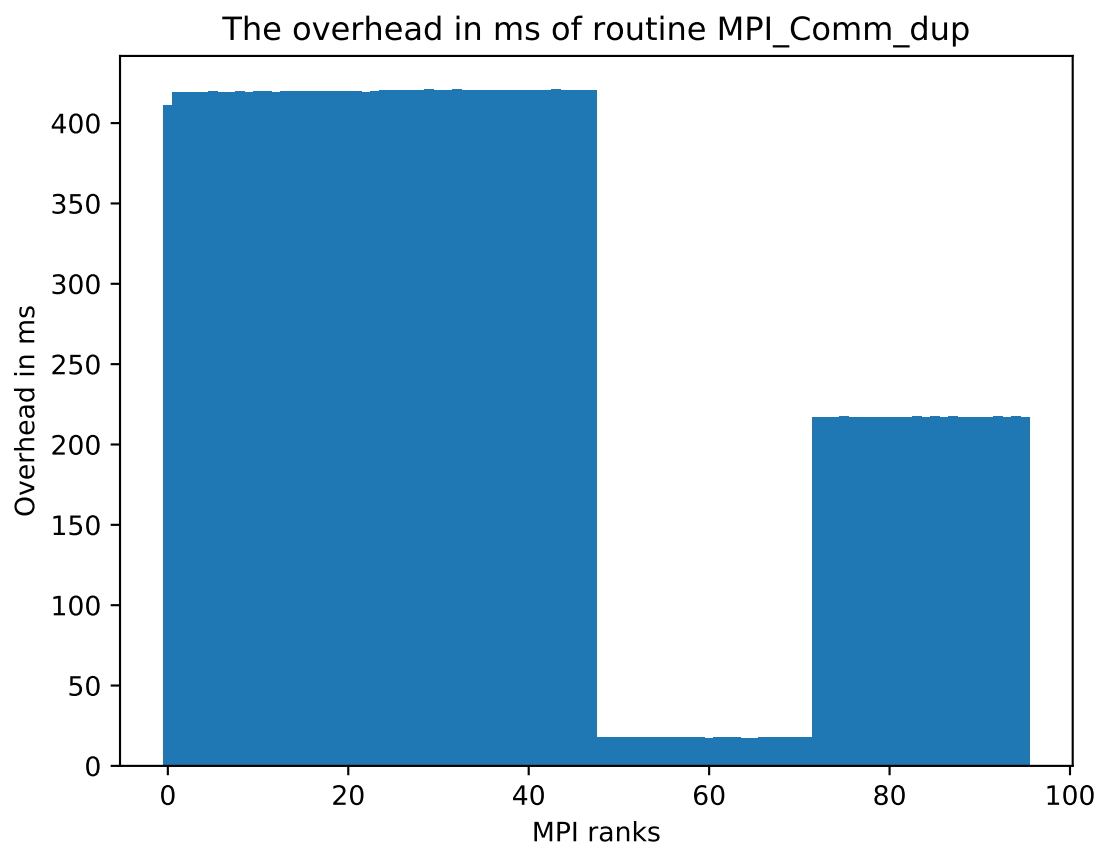
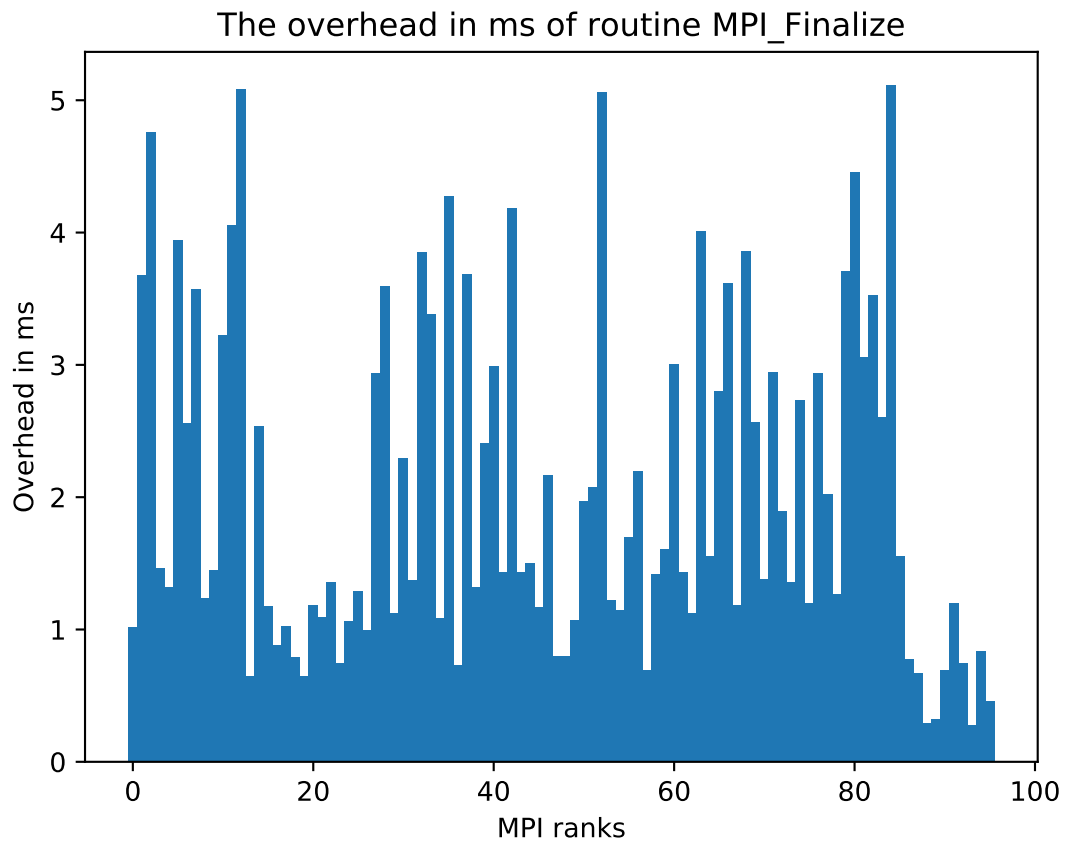


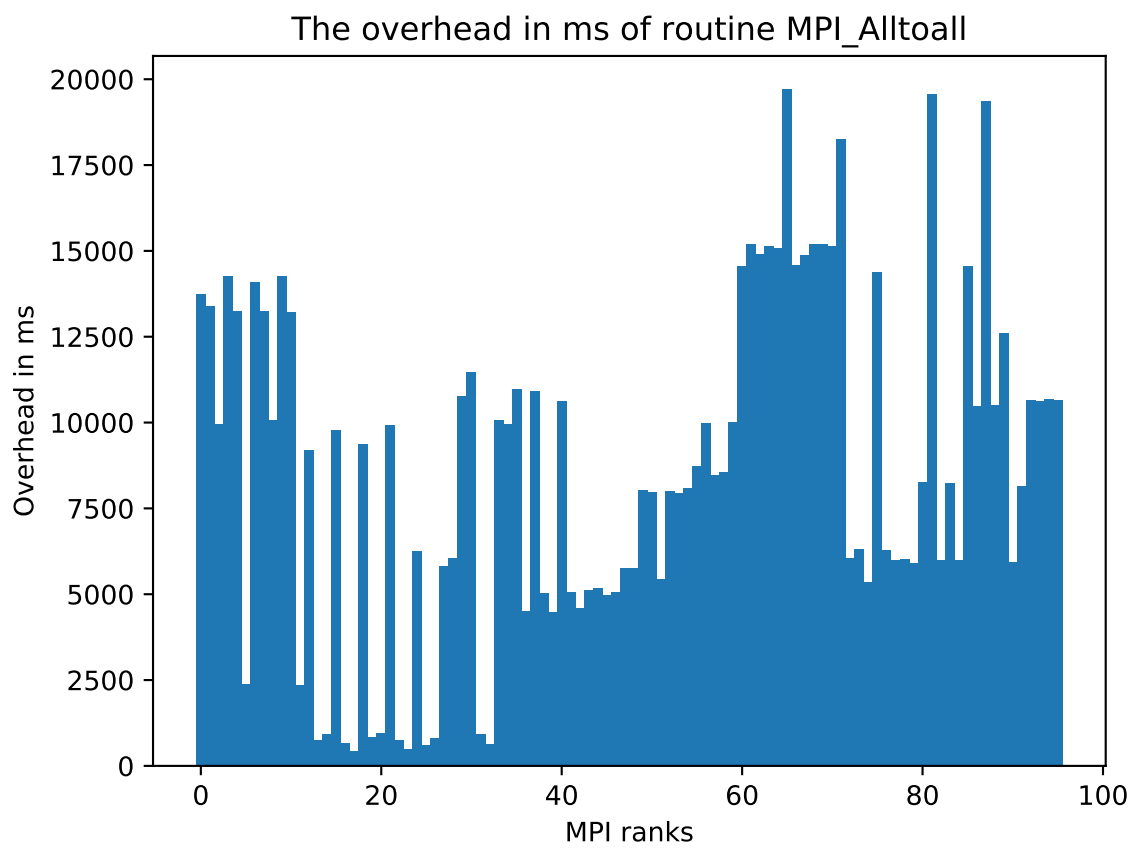
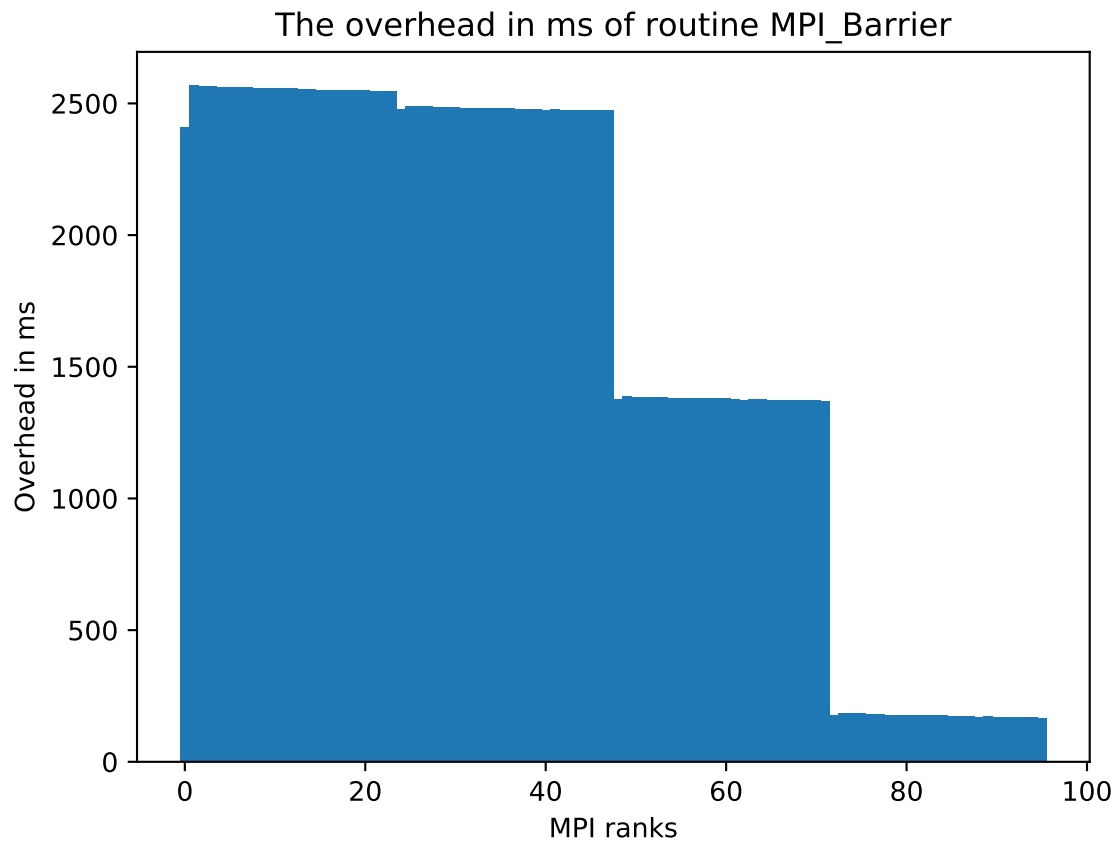
Second part: Routine Summary by Rank

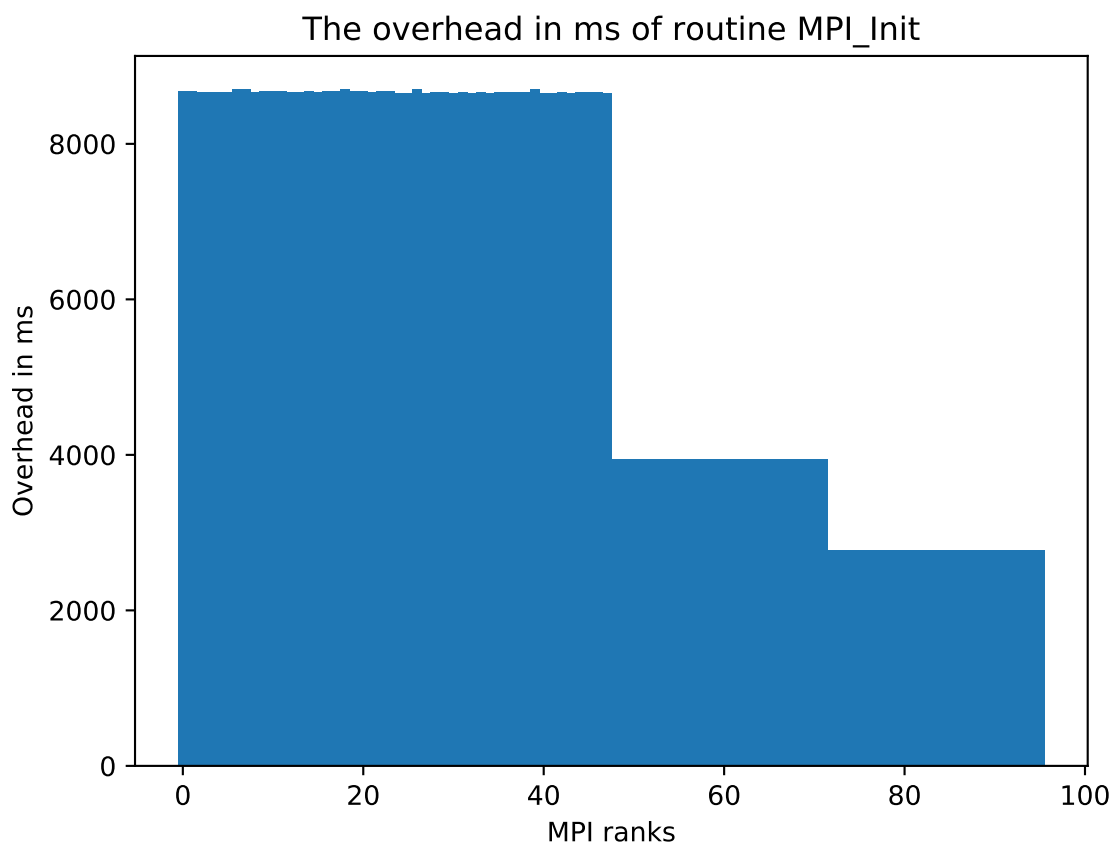
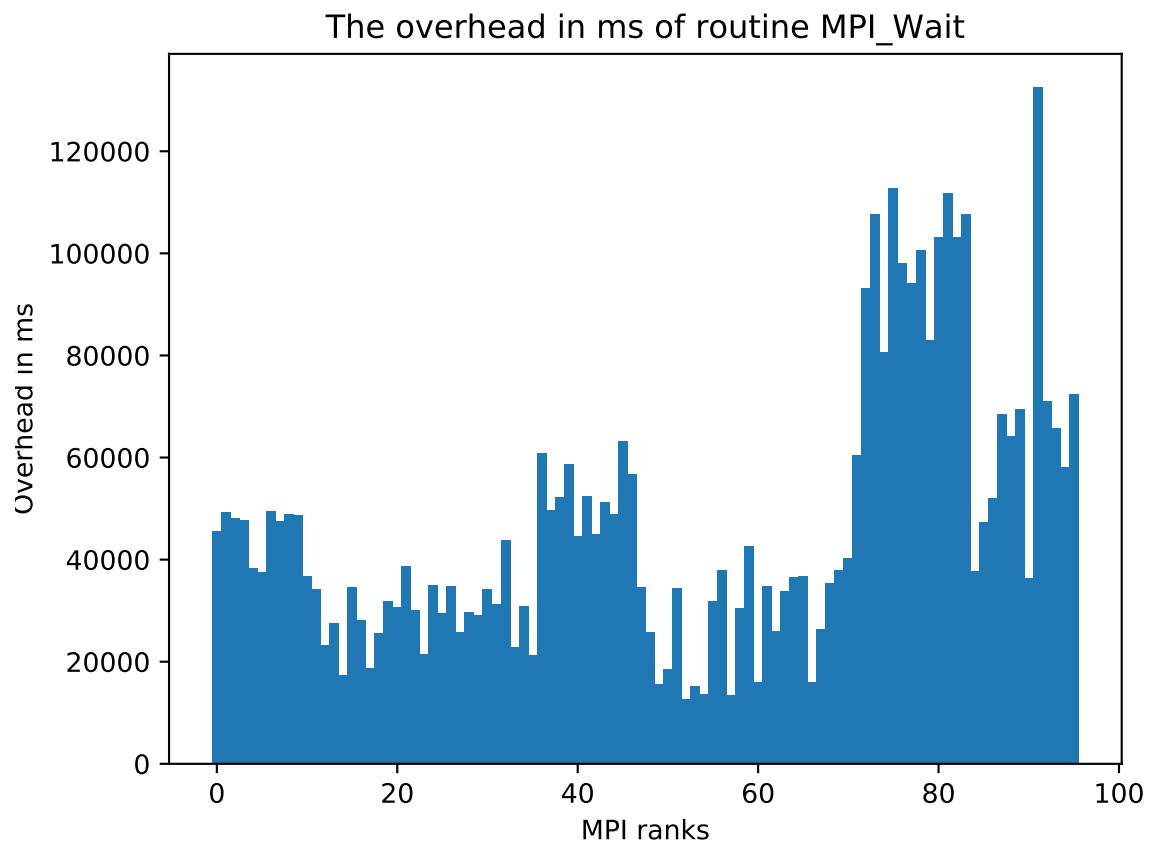
The values depicted in the following plots are the overhead of the specific routine calls in ms on the y-axis and the MPI ranks on the x-axis.











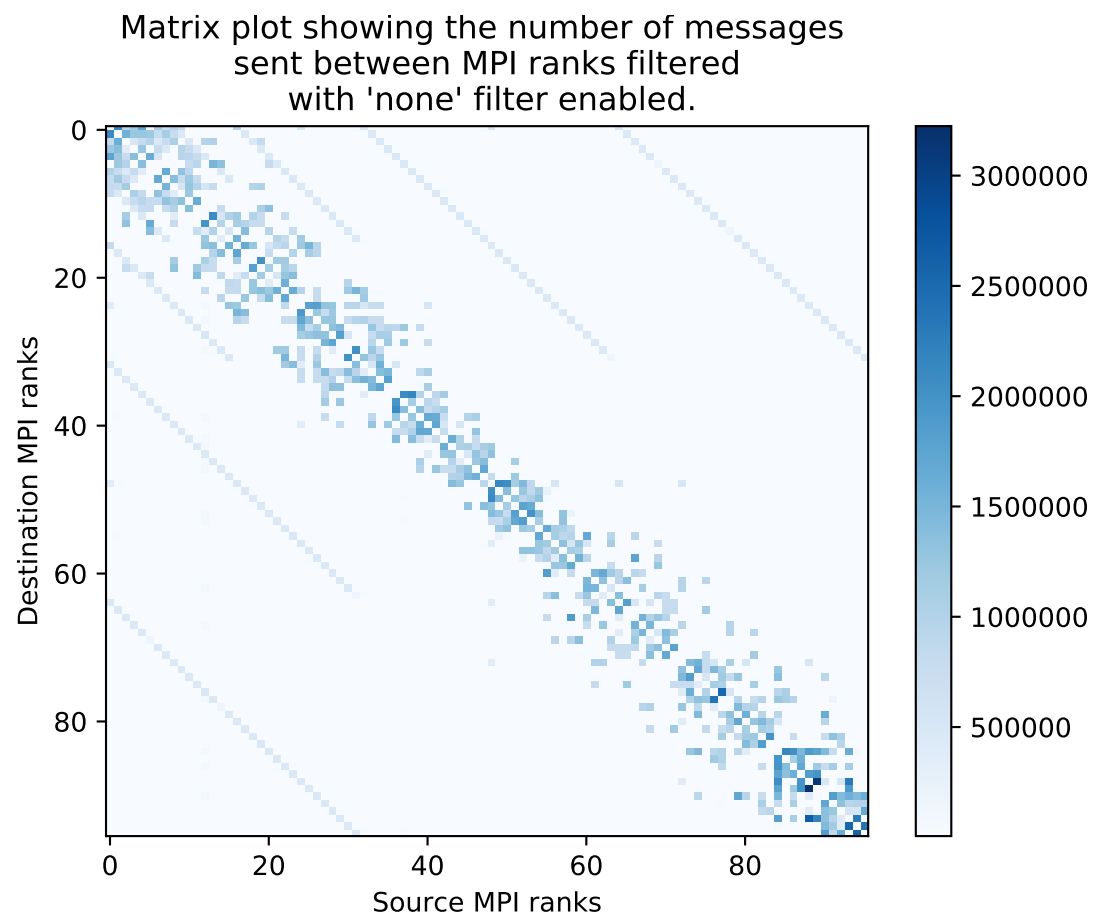
The following table is sorted by cov.

The values are the overhead of the specific routine calls in ms.

	Routine Name	Coefficient of Variance	Mean	Median	Range	Minimal value	Maximal value
0	MPI_Probe	8.11	12.68	1.41	1014.45	0.33	1014.79
1	MPI_Gather	2.15	0.37	0.04	4.81	0.02	4.83
2	MPI_Reduce	0.79	1354.62	890.44	3637.08	643.63	4280.71
3	MPI_Gatherv	0.73	0.01	0.01	0.09	0.01	0.09
4	MPI_Finalize	0.63	2.03	1.44	4.83	0.28	5.11
5	MPI_Comm_dup	0.62	268.61	314.28	403.42	17.33	420.75
6	MPI_Barrier	0.59	1645.45	1898.57	2400.69	166.64	2567.33
7	MPI_Alltoall	0.56	8714.08	8506.80	19272.34	421.05	19693.39
8	MPI_Wait	0.56	46966.34	37922.71	119886.82	12567.71	132454.53
9	MPI_Init	0.45	6011.40	6294.12	5919.86	2775.96	8695.83
10	MPI_Recv	0.30	148993.16	138883.54	218068.10	58187.23	276255.33
11	MPI_Isend	0.28	6588.43	6120.50	11595.20	4083.66	15678.86
12	MPI_Send	0.26	9687.96	9014.03	12789.24	5466.50	18255.73
13	MPI_Irecv	0.26	4956.77	4808.18	6400.49	2727.48	9127.96
14	MPI_Allreduce	0.21	99562.83	98844.95	133129.50	36414.64	169544.15
15	MPI_Bcast	0.21	59586.28	58170.79	72802.66	17795.88	90598.54
16	MPI_Allgather	0.21	977.68	1000.24	950.89	365.79	1316.68
17	MPI_Waitall	0.20	694.53	688.38	1202.17	473.84	1676.01
18	MPI_Comm_free	0.19	3.69	3.72	2.77	2.67	5.44
19	MPI_Comm_create	0.09	1.96	1.94	0.69	1.74	2.43
20	MPI_Alltoallv	0.06	1.61	1.64	0.38	1.40	1.78
21	MPI_Allgatherv	0.02	124.88	124.76	10.90	119.90	130.80
22	MPI_Test	0.00	3068.31	3068.31	0.00	3068.31	3068.31

Table 1: Showing the overhead of the specific routine calls in ms sorted by cov

Third part: Message Summary by Rank Pair



Scatter plot showing the number
of messages sent between MPI ranks (Threshold = 5660)

