Assignment1

- run.sh is main job script. So, running only run.sh file will end up creating data.txt and all 4 plots.
- Node Allocator is used to generate hostfile (named hosts) on-the-fly for every P(no. of processes).
- data.txt contains time taken by all three methods for every P(no. of processes), for every N(data points per process).
- plot.py is plot script called from run.sh
- plot.py creates boxplots for each P(no. of processes) from the data.txt .
- plot16.png, plot36.png, plot49.png, plot64.png are the required boxplots.

Experimental setup

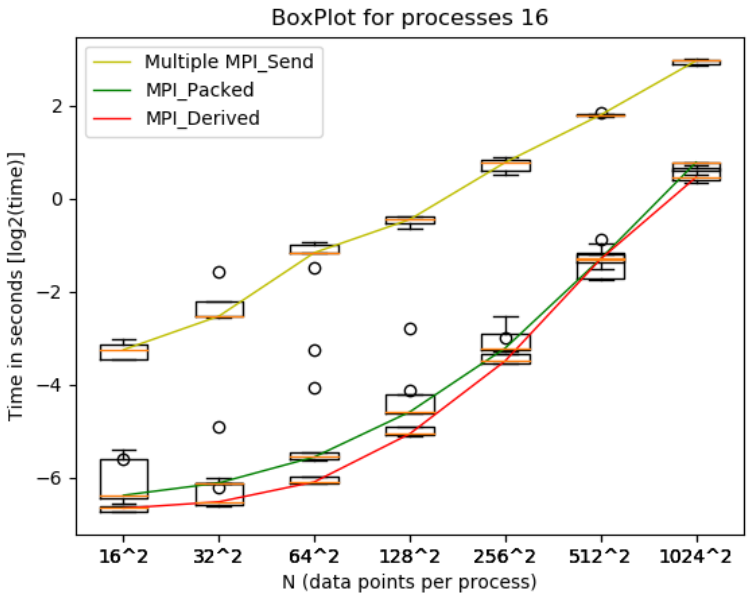
- To generate hostfile using Node Allocator, we changed the nodes in hosts.txt file in ./eagle directory.
- We mentioned only the nodes with 12 cores. So, if nodes with less cores is used, then time may vary.

Observation

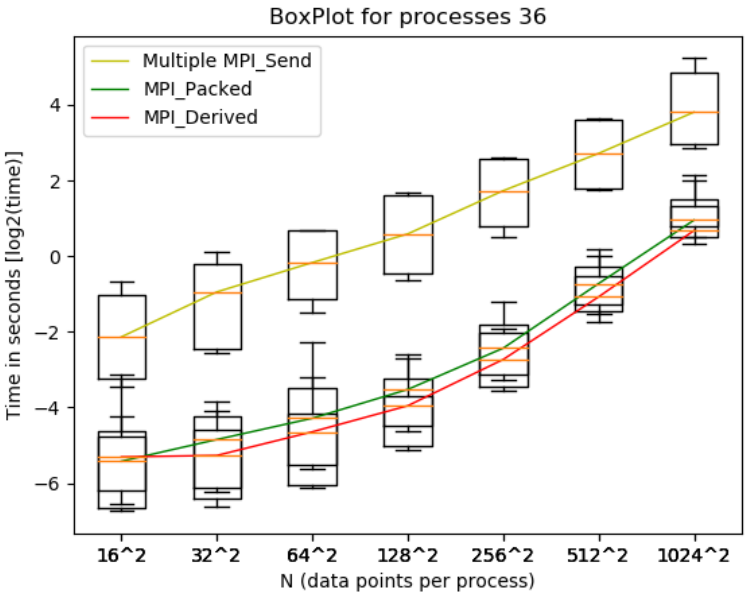
- Multiple MPISends and MPIReceives are taking more time than rest of two methods i.e. MPI-Packed and MPIDerived.
- With increase in N(data points per process), time is also increasing.
- MPIDerived perform quite better then MPIPacked as later takes time in packing and unpacking.

Plots

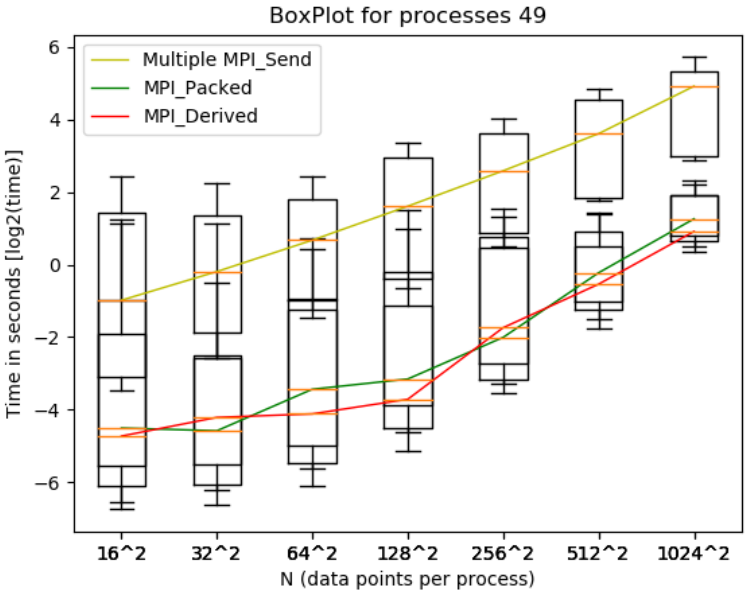
For 16 number of processes



For 36 number of processes



For 49 number of processes



For 64 number of processes