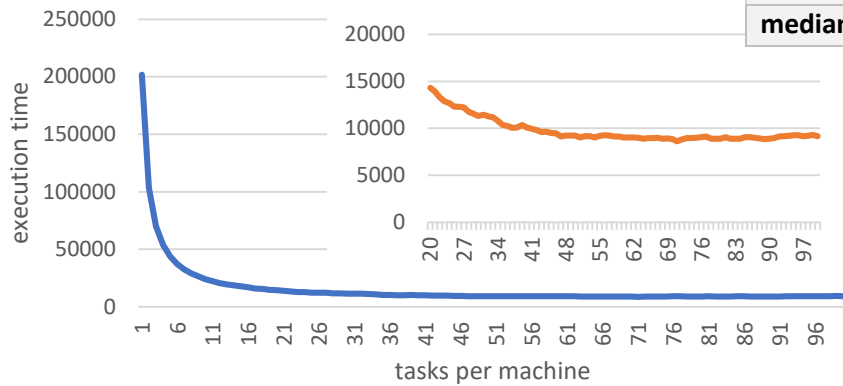


CloudComputing

default

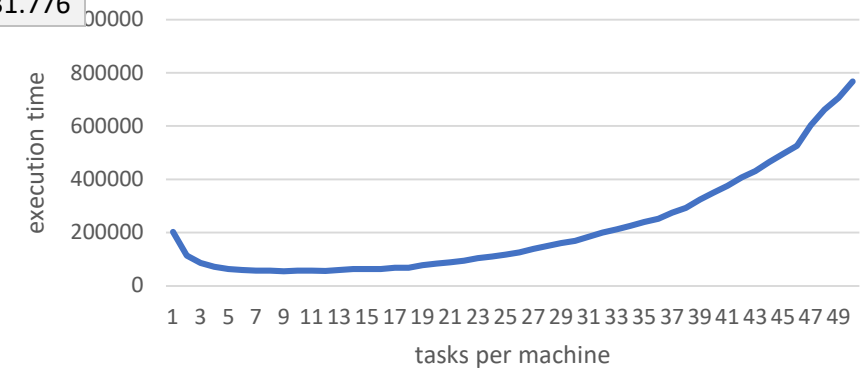


minimum	8.644
mean	15.738
median	9.238

minimum	54.556
mean	214.421
median	131.776

Cloud Computing

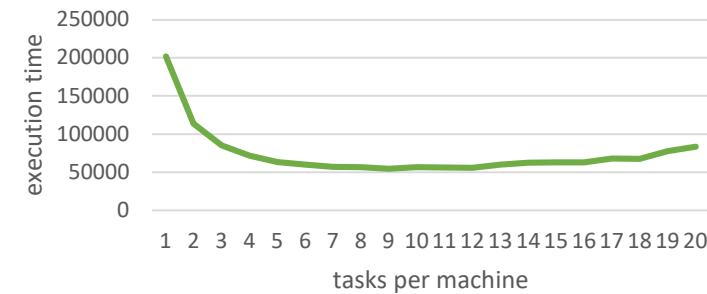
failRate = 0.1



minimum	54.556
mean	73.826
median	62.747

Cloud Computing

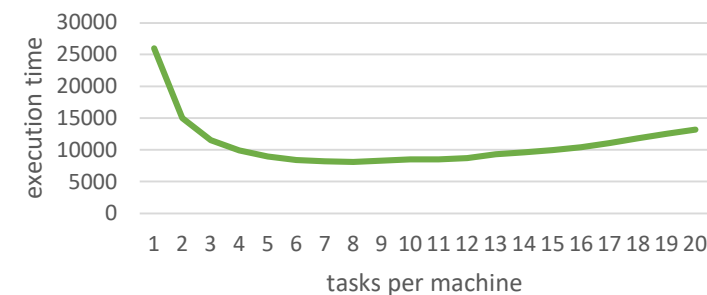
failRate = 0.1



minimum	8.103
mean	10.890
median	9.748

CloudComputing

failRate = 0.1 | machines = 20 | communication = -25



Result:

As expected will the total execution time decreases significantly if the number of machines in the cluster is increased or the communication overhead is reduced. (cf. images left)

By increasing the fail rate the total execution time grows with the submitted tasks per machine. (cf. images right)

KPIs:

minimum: Best (minimal) total execution time. Required optimal choice of the amount of tasks per machine.

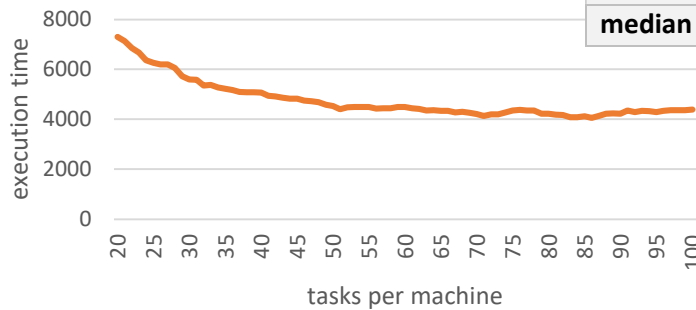
mean: Expected total execution time if the amount of tasks would be uniformly distributed. This is the case, if you have no influence on the choice of the amount of tasks.

median: Expected total execution time if you use $(n/2)$ tasks per machine.

As we see in this sheet, the difference between minimum and mean isn't that big. So it is much easier to take the mean than to calculate the minimum for the best setup.

CloudComputing

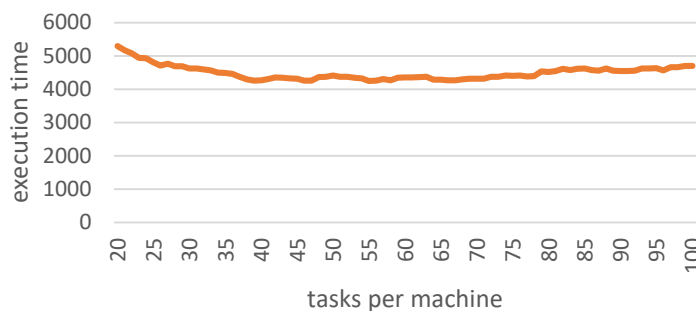
machines = 20



minimum	4.068
mean	4.764
median	4.434

CloudComputing

communication = -25



minimum	4.251
mean	4.492
median	4.406