

### **Inferences from the Results**

For the Euclidean TSP, we can see that the time taken is less than a second when all the enhancement features are enabled. The improvement in performance when compared to the last assignment can be attributed to the implementation of a lower bound that is stronger than just the cost of the partial tour. The lower bound uses the 2 shortest edges incident on each city.

From the experimental results, we can see that the enhancement features help in greatly reducing the communication latency. Making the composition tasks space-runnable saves a lot of time. From the results, we can prove that the composition tasks' encapsulated computation is little less complex than reading its inputs and it is faster for the Space to execute the task itself than to send it to a Computer for execution. This is because the time to marshal and unmarshal the input plus the time to marshal and unmarshal the result is more than the time to simply compute the result.

As seen, the parallel efficiency is on the lower side for all the applications. Although the number of workers across all the Computers increases, the Space may not be able to process the deluge of processed tasks that are sent back from the Workers. The workers start sending the processed results back at a pace that is beyond the processing capacity of the Space. This can be obviated by having a network of Spaces as in the JICOS architecture.