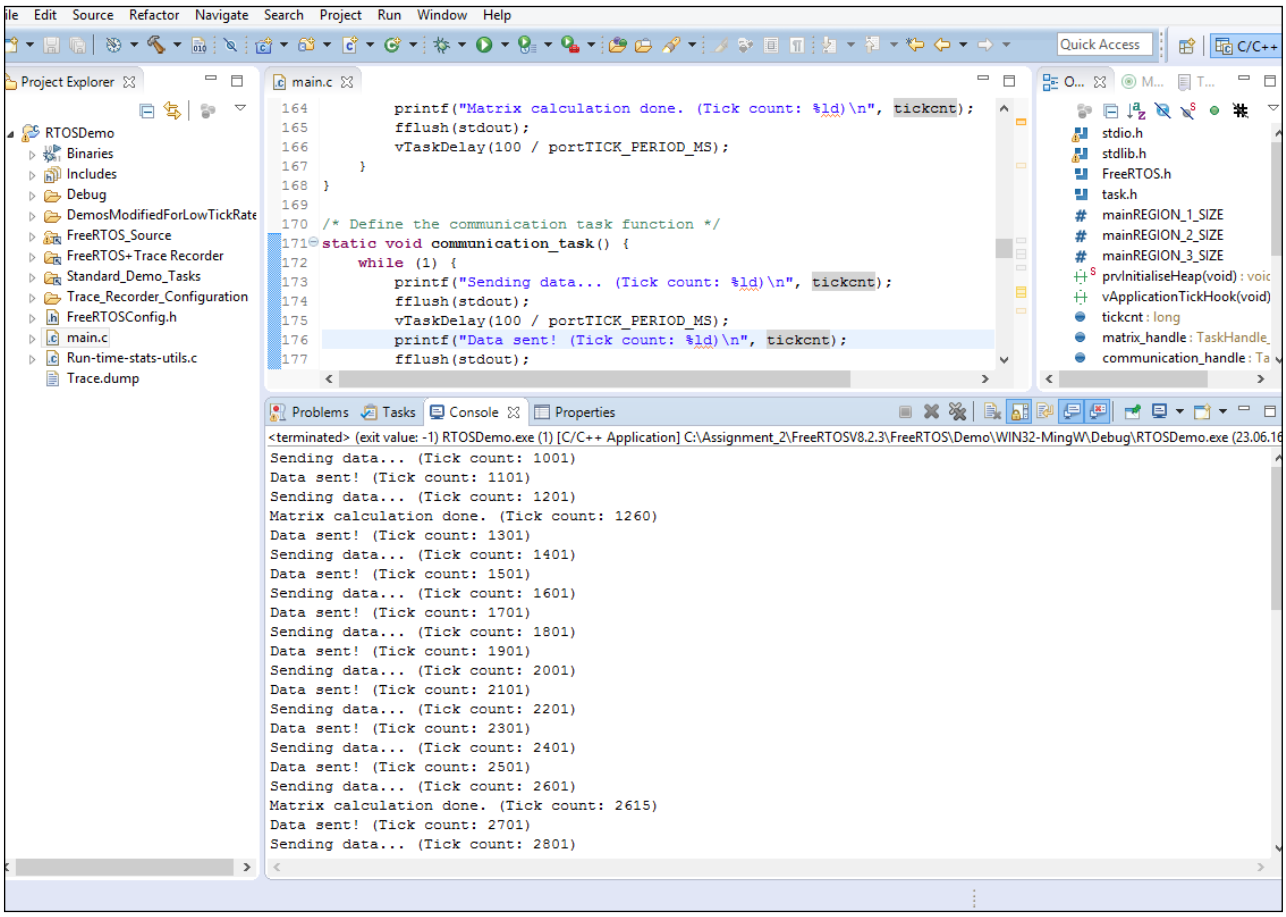
Development of Real-Time Systems

Assignment 2

Elyasin Shaladi - 23 June 2016



Assignment 2 Report

Why is *matrix_task* using most of the CPU utilisation?

matrix_task used most of the CPU utilisation because it had a higher priority than *communication_task*. *matrix_task* was created with priority 3. *communication_task* was created with priority 1.

Also *matrix_task* is very computation intensive. On the other hand *communication_task* merely prints out "Sending data" and "Data sent" and does not do intense computing.

Why must the priority of *communication_task* increase in order for it to work properly?

communication_task's priority must increase in order to be scheduled accordingly. Otherwise *communication_task* would only get scheduled after the *matrix_task* is blocked for 100ms by a delay, i.e. when the *matrix_task* is done.

What happens to the completion time of *matrix_task* when the priority of *communication_task* is increased?

The completion time of the *matrix_task* is later because, due to the increase of the priority of *communication_task*, the scheduler now assigns CPU time to the *communication_task*.

However, since *communication_task* is not computation intensive, the difference in completion time is actually small.

How many seconds is the period of *matrix_task*? (Hint: look at vApplicationTickHook() to measure it)

The period of matrix_task is approximately 1.3 seconds on my machine.