

Performance Comparison of MRTOS and VxWorks in MultiBench Benchmark Suite

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Abstract— Recently, multiple core systems are widely used in various area. To meet the needs of mission-critical applications running on multicore systems, a realtime operating system (RTOS) and verification testing for multicore are absolutely necessary. We have developed the multicore RTOS (MRTOS) for supporting the symmetric multiprocessing. It includes multicore system BSP, multicore kernel, middleware, and IDE. To evaluate the developed RTOS, in this paper, we have compared the performance of the VxWorks and the developed RTOS by using the embedded MultiBench algorithms. We observed that the developed RTOS is able to achieve more than 90% of the performance of VxWorks on average.

Keyword— Multicore, RTOS, SMP, symmetric multiprocessing, VxWorks, benchmark, MultiBench



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