The Experimental Physics and Industrial Control System (EPICS) software is used in Synchrotron Radiation facilities around the world. An obstacle blocking small research groups such as beamline developers from using, or at least evaluating, EPICS has been the need to purchase the commercial operating system used by the EPICS base software. The goal of recent EPICS development has been to remove this requirement by allowing EPICS to run on a much wider range of operating systems.

This paper presents the results of this development for one particular operating system, the freely-available, open-source, Real-Time Executive for Multiprocessor Systems (RTEMS). The capabilities of RTEMS are described and shown to provide an adequate basis for supporting EPICS. Performance comparisons between previous versions of EPICS and the RTEMS implementation are presented. Ongoing efforts to add support for more hardware are described.

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