

LINUX AND RT-LINUX FOR ACCELERATOR CONTROL - PROS AND CONS, APPLICATION AND POSITIVE EXPERIENCE.

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Since 1995 we actively search a possibility to apply the Linux operating system in particle accelerators control systems. Linux is Unix-like operating system freely distributed on GNU license, which development was begun in 1991 by the several independent developers-enthusiasts. On the present time Linux is the stable operating system with a plenty of possibilities, which popularity grows fast. To support man-machine interface we have used this operating system at top level in control systems for several projects of small electron linacs. From the point of view of development convenience it would be desirable to use this operating system at a front-end real-time level too. So we look for possibility of creating applications under RT-Linux (real time expansion for Linux). Software package for CAN bus have been developed and includes Linux driver for CAN interface card and software modules for Device Net high level CAN protocol. Distributed application with different Object Request Brokers under Linux is in our field of interest too.