

EVALUATION OF NEW PLATFORMS AND OPERATING SYSTEMS FOR THE VME CONTROLLER IN SPRING-8

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It is unavoidable that any supply of VME CPU boards and I/O boards will be not available in future sooner or later, that is, all products have limited lifetime. It is true for SPring-8 control equipment as well. In SPring-8 control system, VMEbus systems are controlled by CPU boards HP9000/743rt with operating system HP-RT. Currently about 90 CPUs are used for control of the storage ring, booster synchrotron and beamlines. It is announced that the production of the 743rt will be stopped and no more available after year 2000. The product information triggered us to decide migration of the present system to other platforms and operating systems. Considering that the PCs are growing in computer market and becoming more powerful rapidly, it is natural to introduce a VME board computer based on the PC architecture with Intel or its compatible CPU as a new platform. There are some candidates as a new operating system such as Solaris, Linux and so on. We report the evaluation of some platforms and operating systems focusing the aspect of the device driver for PCI-VME bridge chip, porting of the HP-RT device drivers and applications with performance measurement.