

THE HERA-B SLOW AND RUN CONTROL SYSTEM

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The Hera-B Slow and Run Control is a highly distributed system and will finally consist of about 2300 processes running on 1800 different computing nodes running different operating systems such as IRIX, Solaris, Linux, LynxOS. The main fraction of the nodes (in the final system approx. 1200 processors) belongs to the SHARC DSPs (Digital Signal Processors) cluster which is one important part of the HERA-B computing power. To ensure synchronization during the data taking most of the processes employ a state machine. All processes are put to a hierarchical tree structure in which the lowest control level consists of either DAQ or Slow Control processes. Hardware access is only provided by these controllers. Graphical interfaces allow user interventions at each control level. Higher level control processes infer their state from the dependent daughter processes. The Run Control System stops data processing if the Slow Control system detects a problem. Start-up and survey of all applications belonging to the process tree is done by a process manager according to a configuration database with high flexibility.