

NEW ORBIT MEASUREMENT AND CONTROL SYSTEM FOR THE SPS.

S. Baratange, CERN; C. Boccard, CERN; T. Bogey, CERN; D. Coussemaeker, CERN; M. Dach, CERN; J.J. Gras, CERN; H. Hiller, CERN; S. Jackson, CERN; K. Rybalchenko, CERN; J. De Vries, CERN; J. Brazier, BSC

The 240 channel SPS Orbit acquisition system is implemented on PowerPC under the LynxOS operating system, making use of multi threaded real-time capabilities. The acquired data is transferred efficiently by DMA on the PCI bus into the main memory. System configuration aspects were implemented in a Broker architecture, where individual threads communicate with an Oracle database and with the acquisition systems. This Broker hides the implementation details of the front-end systems. A versatile configuration client is provided in Java, to provide both local graphical user interfaces and remote WWW access using a dedicated gateway to the SLEquipment layer. The timing diagnostics of the acquisition systems are provided in a LabView application, integrating oscilloscope and channel multiplexer control. This paper describes in detail the technical solutions implemented and reports on the arguments which have led to that particular choice.