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Status and Performance of the DØ Level 3 Trigger/DAQ System

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DØ, one of two collider experiments at Fermilab's Tevatron, upgraded its DAQ system for the start of Run II. The run started in March 2001, and the DAQ system was fully operational shortly afterwards. The DAQ system is a fully networked system based on Single Board Computers (SBCs) located in VME readout crates which forward their data to a 250 node farm of commodity processors for trigger selection under the control of a routing node interfaced to DØ's lower level hardware triggers. After a slow start, the Tevatron has made a great deal of progress towards its luminosity goals and, recently, has been breaking records almost every month. The Level 3 Trigger/DAQ system has survived the increased demands placed on it by the high luminosity running, but not without some modification and improvements. The basic design, performance, and improvements will be discussed in this report, highlighting the problems, scalability and configuration issues, and solutions we've encountered with the high luminosity running.

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