

JOB MANAGEMENT SYSTEM EXTENSION TO SUPPORT SLAAC-1V RECONFIGURABLE HARDWARE

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Reconfigurable Hardware resources or FPGA's can accelerate and improve the performance of a lot of applications, but these resources are very expensive. Job management systems (JMS) are used in resource management and job scheduling. They allow users to execute jobs on a non-dedicated cluster of workstations with a minimum impact on owners of these workstations. By using JMS we can increase utilization of costly resources, and create a Unified interface to all computing resources.

In our experiments we used LSF Job Management System to manage and utilize the SLAAC-1V FPGA boards. In order to extend LSF to support SLAAC-1V FPGA boards, we need to develop an external resource monitor (External Load Information Manager – ELIM).

We developed the external resource monitor (ELIM). This system permits sharing these FPGA boards. The architecture was verified experimentally for the case of LSF and SLAAC-1V FPGA boards. The utilization of the idle boards was demonstrated to reach up to 95% in our experimental setting which include Linux and Windows NT workstations.