Title: A Petri–Net Based Model for PBS System on Linux Enterprise Server

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Abstract: A typical batch queuing system can schedule jobs for execution by using of a set of queue controls; these queuing controls decide the queue from which jobs will be selected. Typically Jobs are selected within each queue in a first–in –first –out order which limits the set of scheduling policies. The use of the Portable Batch System (PBS) is a suitable solution to this limitation. We present a robust and intelligent Portable Batch System (PBS) implemented with petri-net segmentation and firing squad model with the integration of an external scheduling module that employs the Maui Scheduler which has full knowledge of the available queued jobs, running jobs and usable system resource.