Scheduling Stochastic Multi-stage Jobs to Elastic Hybrid Cloud Resources
ABSTRACT

• Three optimization objectives are explored: number, usage time, and utilization of rented VMs.
• An iterated heuristic framework is presented to schedule jobs event by event, which mainly consists of job collecting and event scheduling.
• Two job collecting strategies are proposed, and two timetabling methods are developed.
• The proposed methods are calibrated through detailed designs of experiments and sound statistical techniques.
EXISTING SYSTEM

• We consider a special workflow scheduling problem in a hybrid-cloud-based workflow management system in which tasks are linearly dependent, compute-intensive, stochastic, deadline-constrained and executed on elastic and distributed cloud resources.

• This kind of problems closely resemble many real-time and workflow-based applications.

• With the calibrated components and parameters, the proposed algorithm is compared to existing methods for related problems.
PROPOSED SYSTEM

• JCS periodically collects stochastic jobs and SMS schedules them.

• In the SMS, we developed two timetabling methods for schedule generation and a local search method for schedule improvement.

• STM generates the timetable using a stage-by-stage strategy while TTM adopts a task-by-task strategy.

• When JCS collects some not started tasks for SMS to reschedule, there is a greater probability of DES yielding better solutions.
HARDWARE REQUIREMENTS

• Processor - Intel core i3
• RAM - 2B
• Hard Disk - 20 GB
SOFTWARE REQUIREMENTS

• Operating System : LINUX
• Tool : Network Simulator-2
• Front End : OTCL (Object Oriented Tool Command Language)

