



# Collaborative Research Initiative



## PREDICTING RESOURCE REQUIREMENTS OF A JOB SUBMISSION

Ali Arshad<sup>4</sup>, Anjum Ashiq<sup>4</sup>, Bunn Julian<sup>1</sup>, Cavanaugh Richard<sup>5</sup>, Lingen Frank<sup>1</sup>, McClatchey Richard<sup>3</sup>, Newman Harvey<sup>1</sup>, Steenberg Conrad<sup>1</sup>, Thomas Michael<sup>1</sup>, Willers Ian<sup>2</sup>, Mehmood Muhammad Atif<sup>4</sup>

<sup>1</sup>California Institute of Technology  
Pasadena, CA 91125, USA

<sup>2</sup>CERN

Geneva, Switzerland

<sup>3</sup>University of the West of England  
Bristol, UK

<sup>4</sup>National University of Sciences and Technology  
Rawalpindi, Pakistan

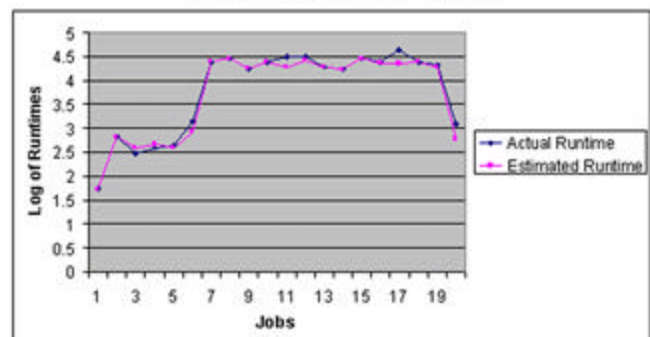
<sup>5</sup>University of South Florida, USA

*A Grid Scheduler Module that facilitates efficient job planning by letting the job planner know in advance Runtime of an input job on available execution sites*

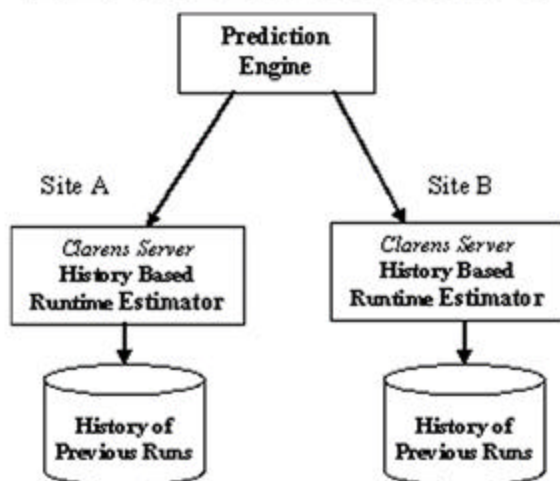
### Salient Features

- 1) Estimates runtime of an input job using history based approach.
- 2) Runtime estimation is done on each individual execution site by Clarens based estimator service.
- 3) Estimates runtime with a mean accuracy of more than 80%.

### Results



### Architecture



### Estimation Algo

