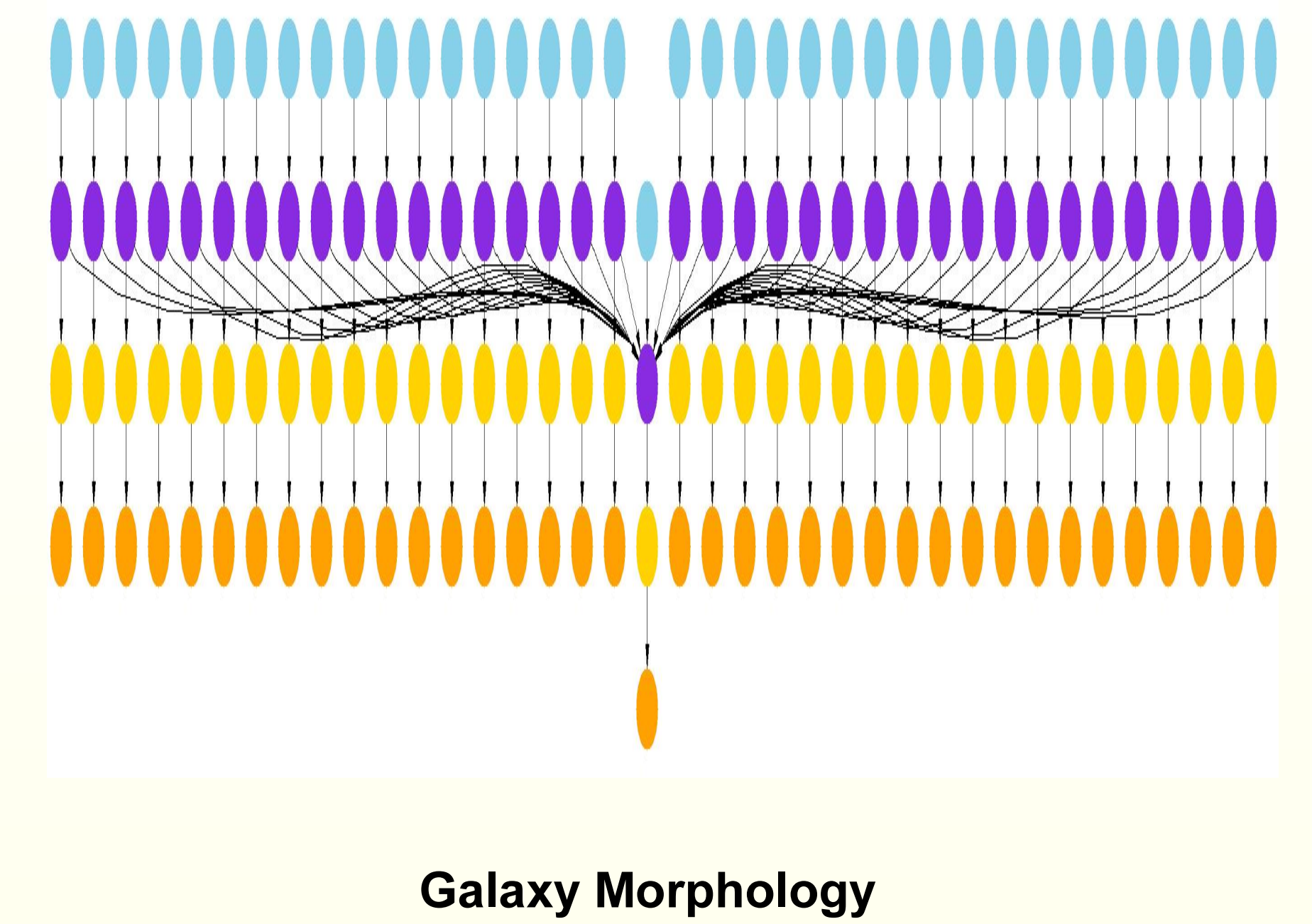
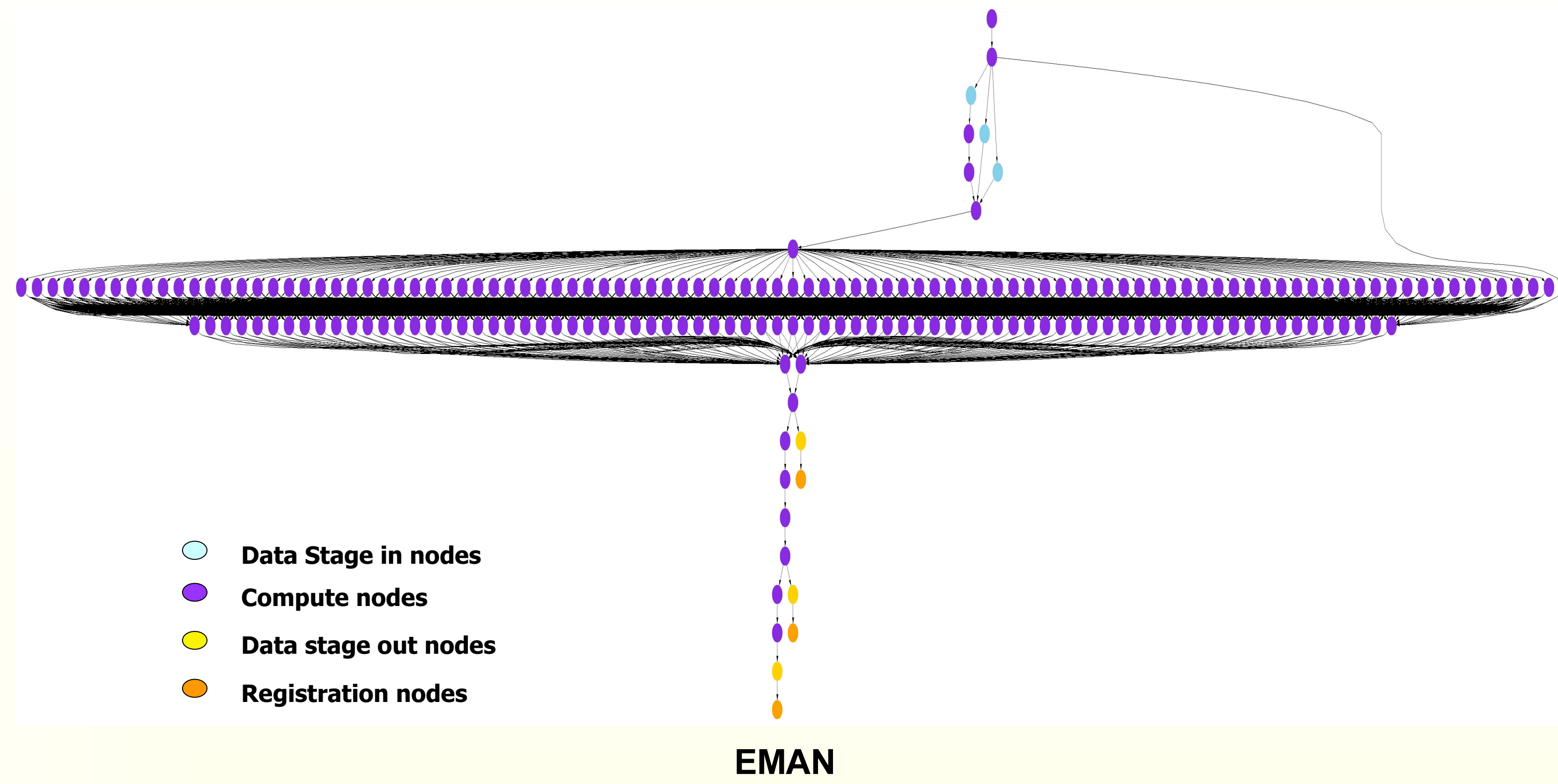
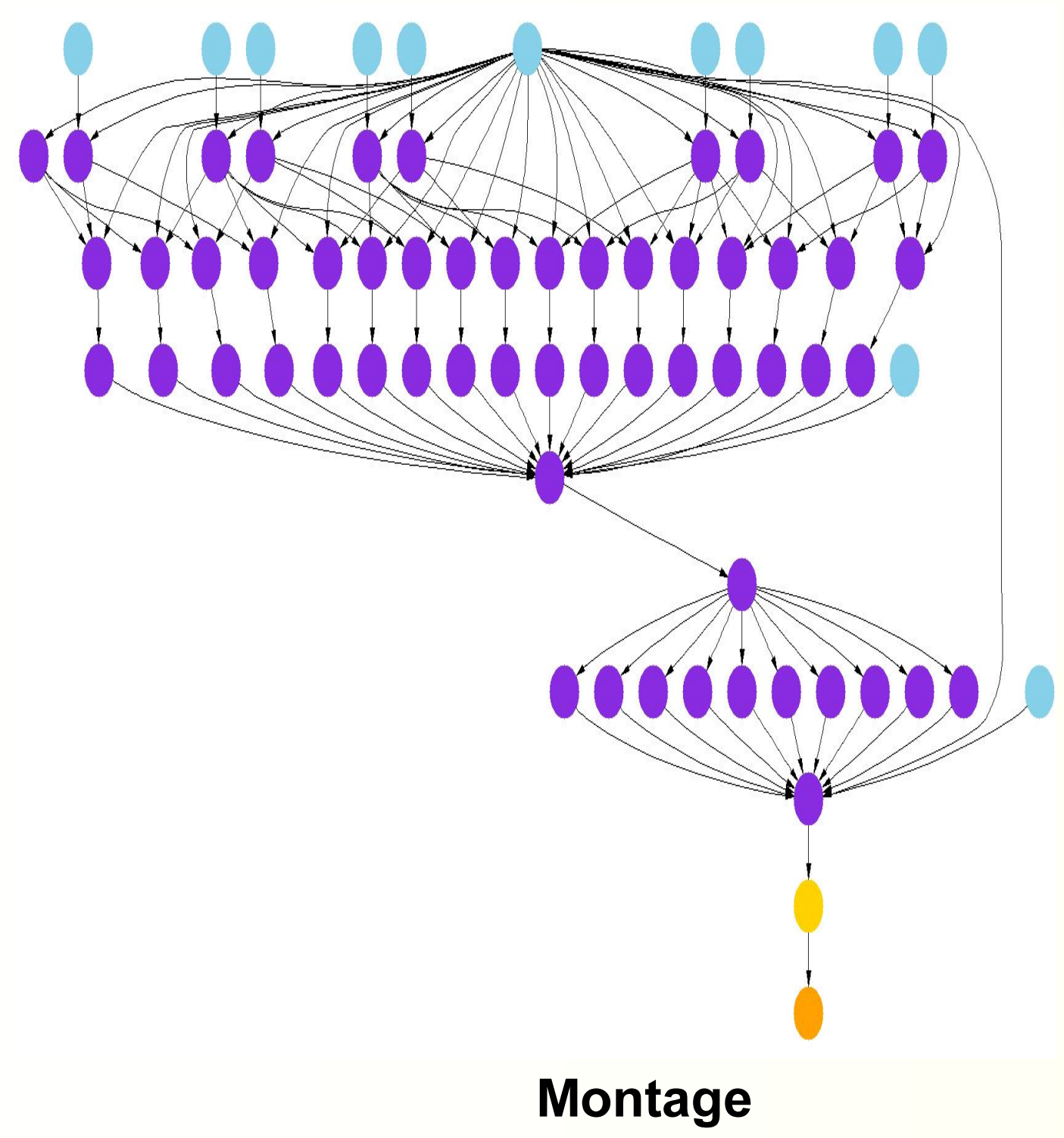


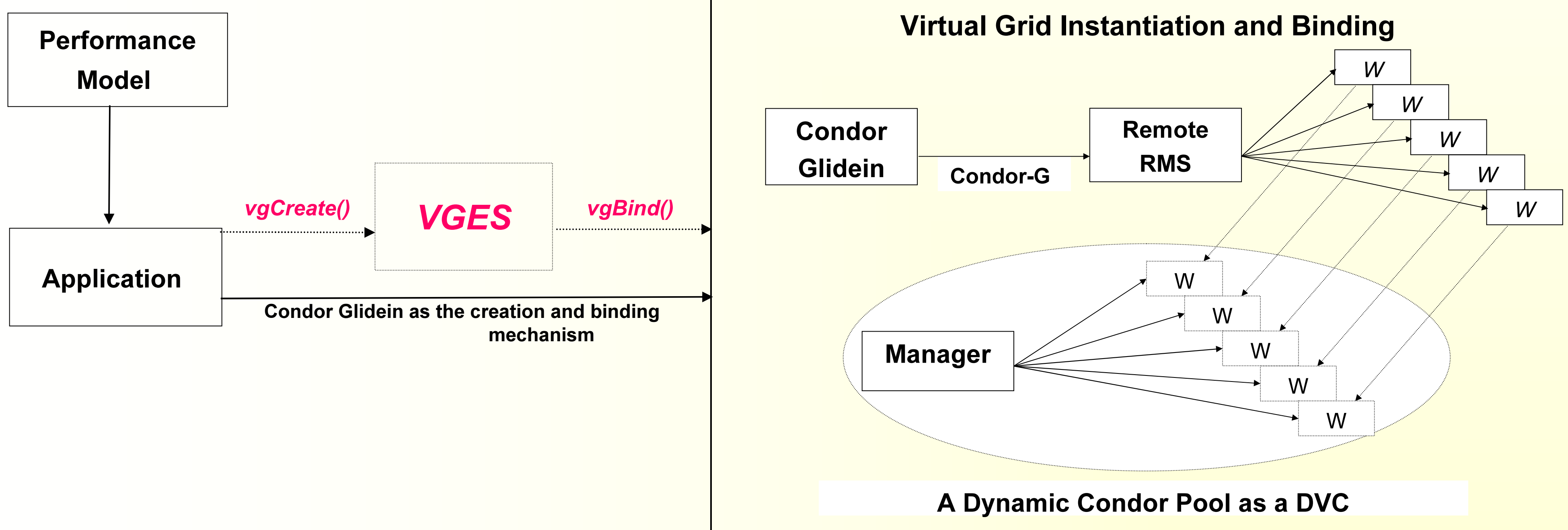
Optimizing Grid-Based Workflow Execution

Gurmeet Singh, Carl Kesselman, Ewa Deelman

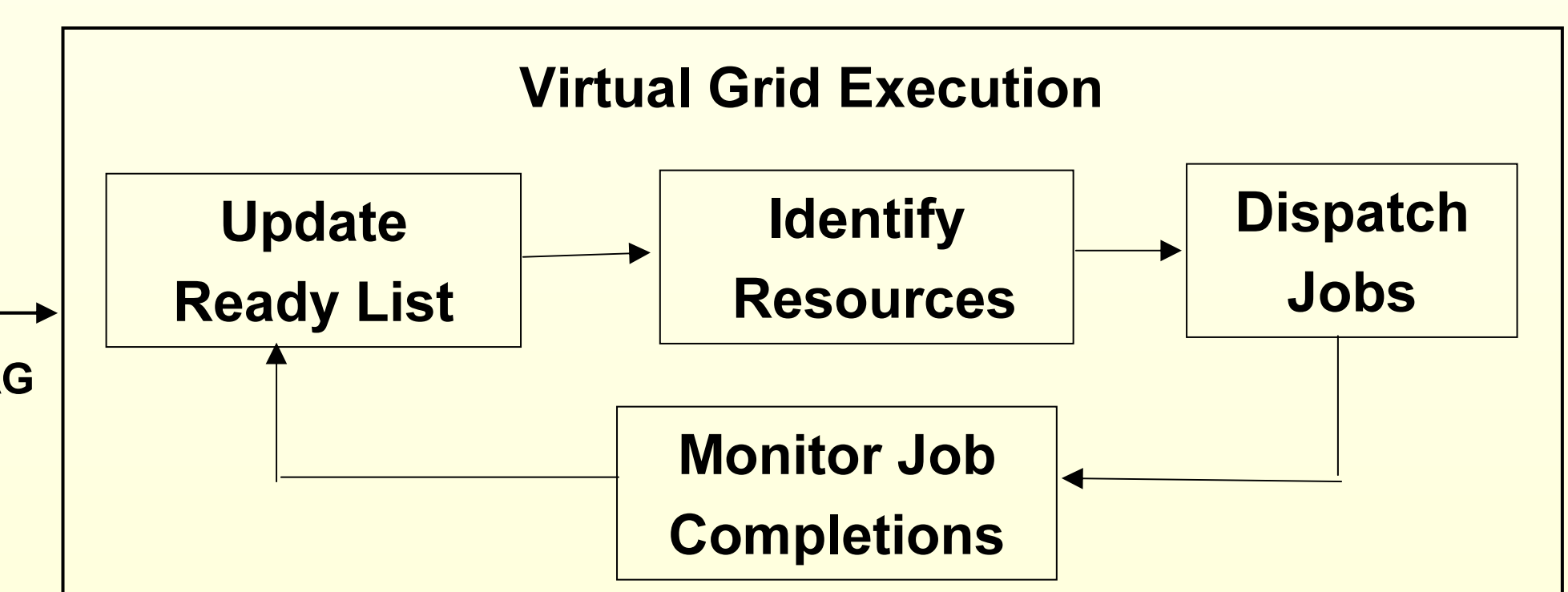
Application Workflows



- Data Stage in nodes
- Compute nodes
- Data stage out nodes
- Registration nodes



Optimizing Workflow Execution



Baseline Condor Performance

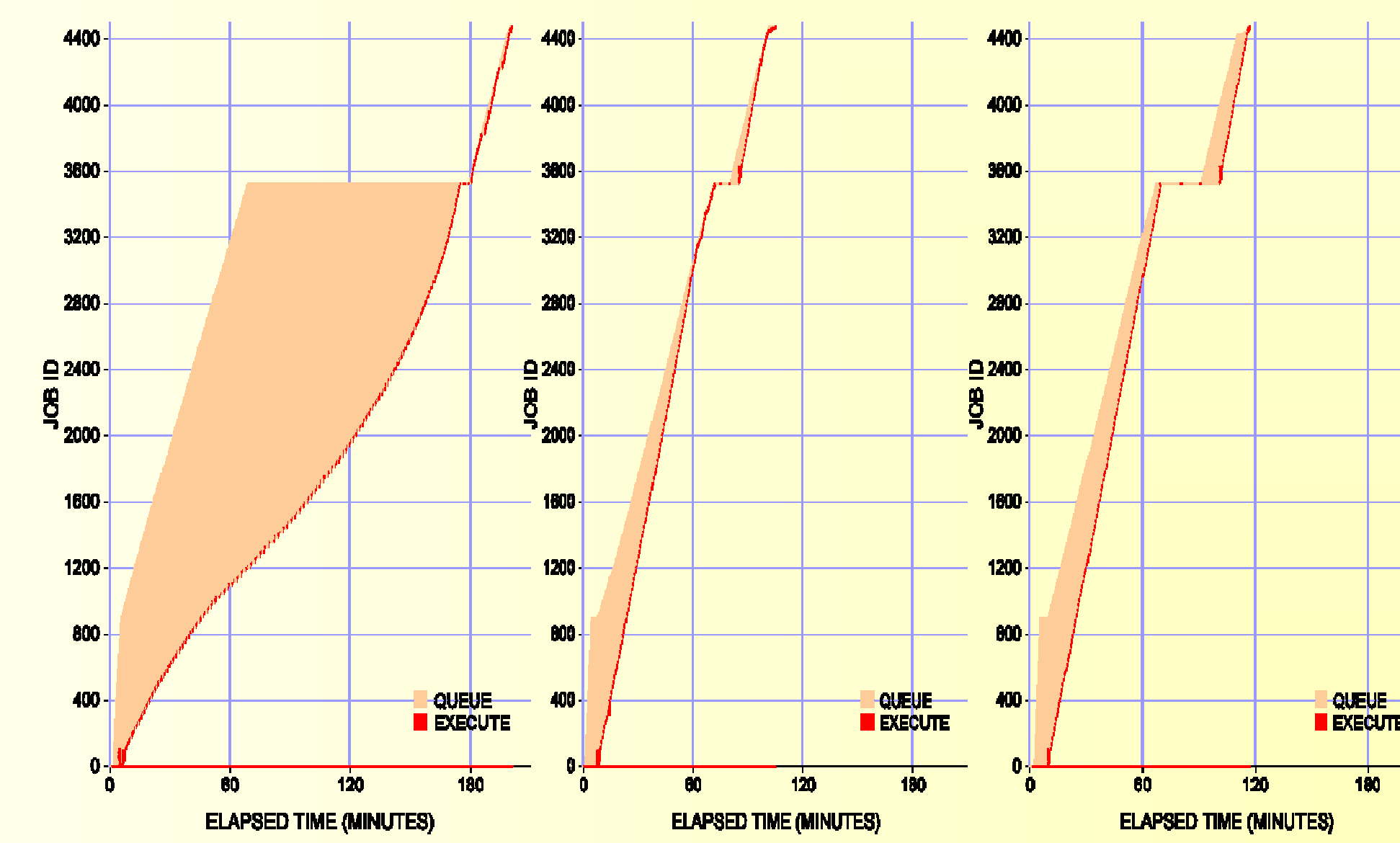
Workflow Execution costs

- Updating the Ready List
- Resource Allocation
- launching jobs on remote resources

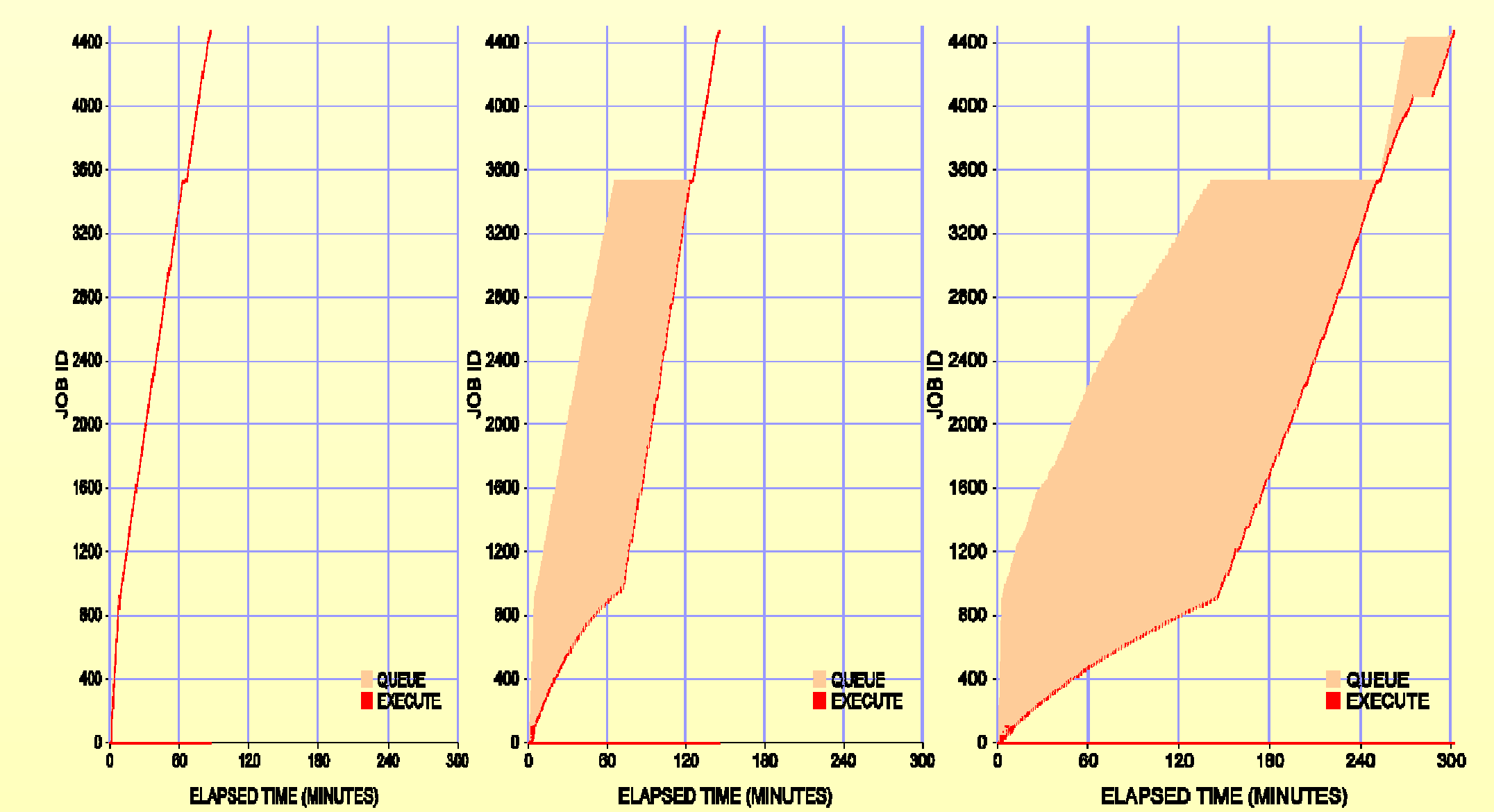
Factors affected for Condor

- Job Submission Rate
- Scheduling interval
- Dispatch rate

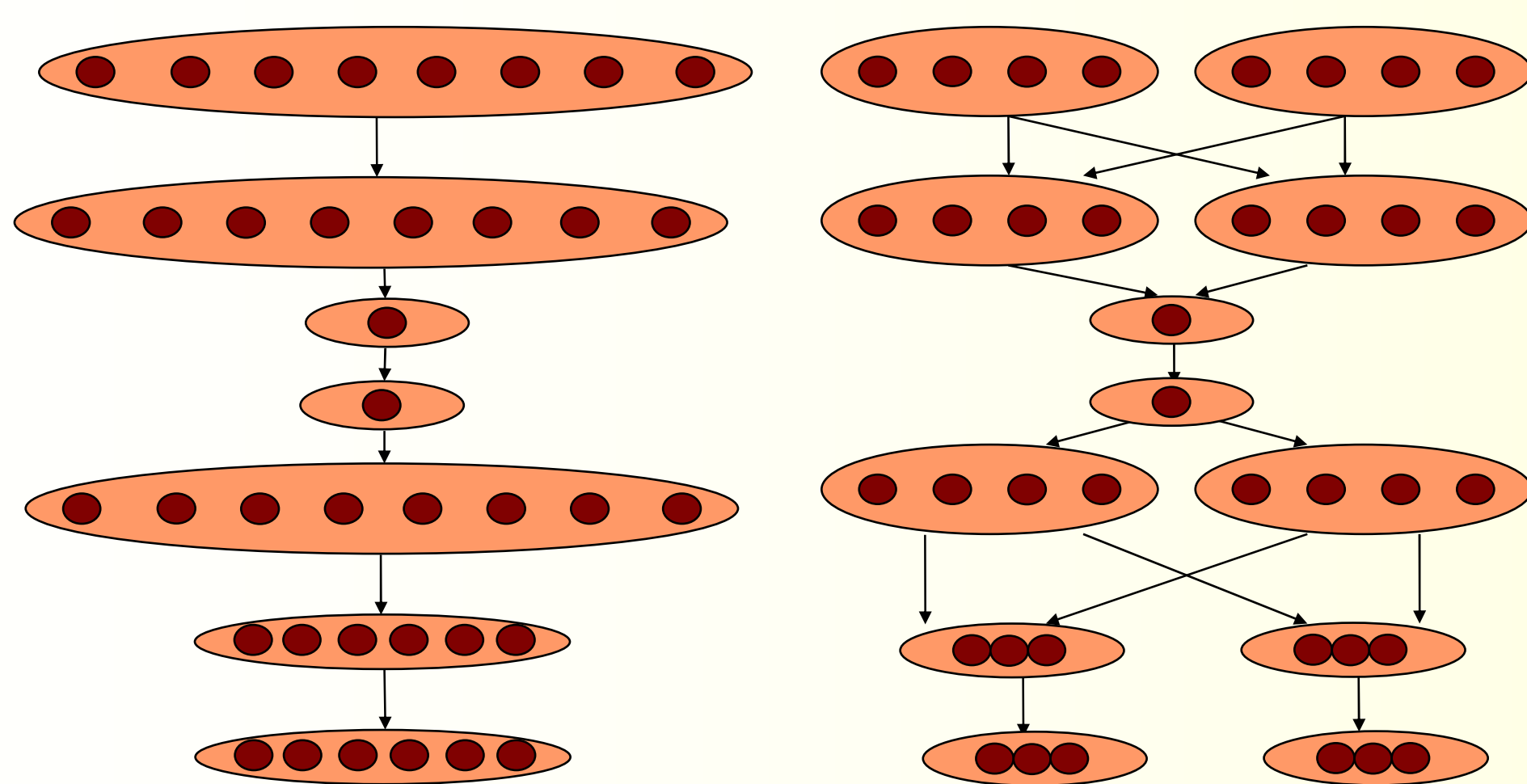
Effect of Scheduling Interval



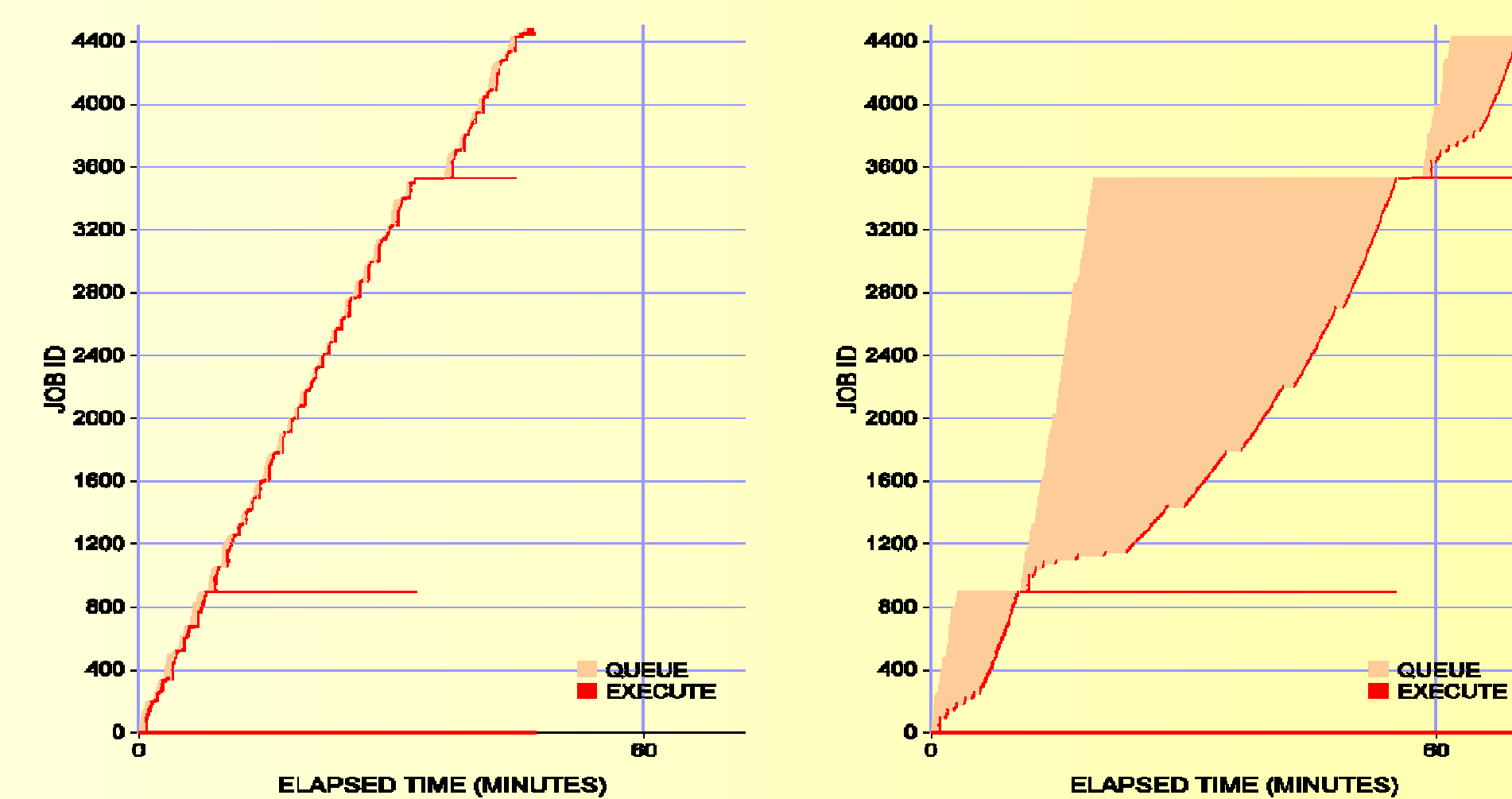
Effect of Dispatch Rate



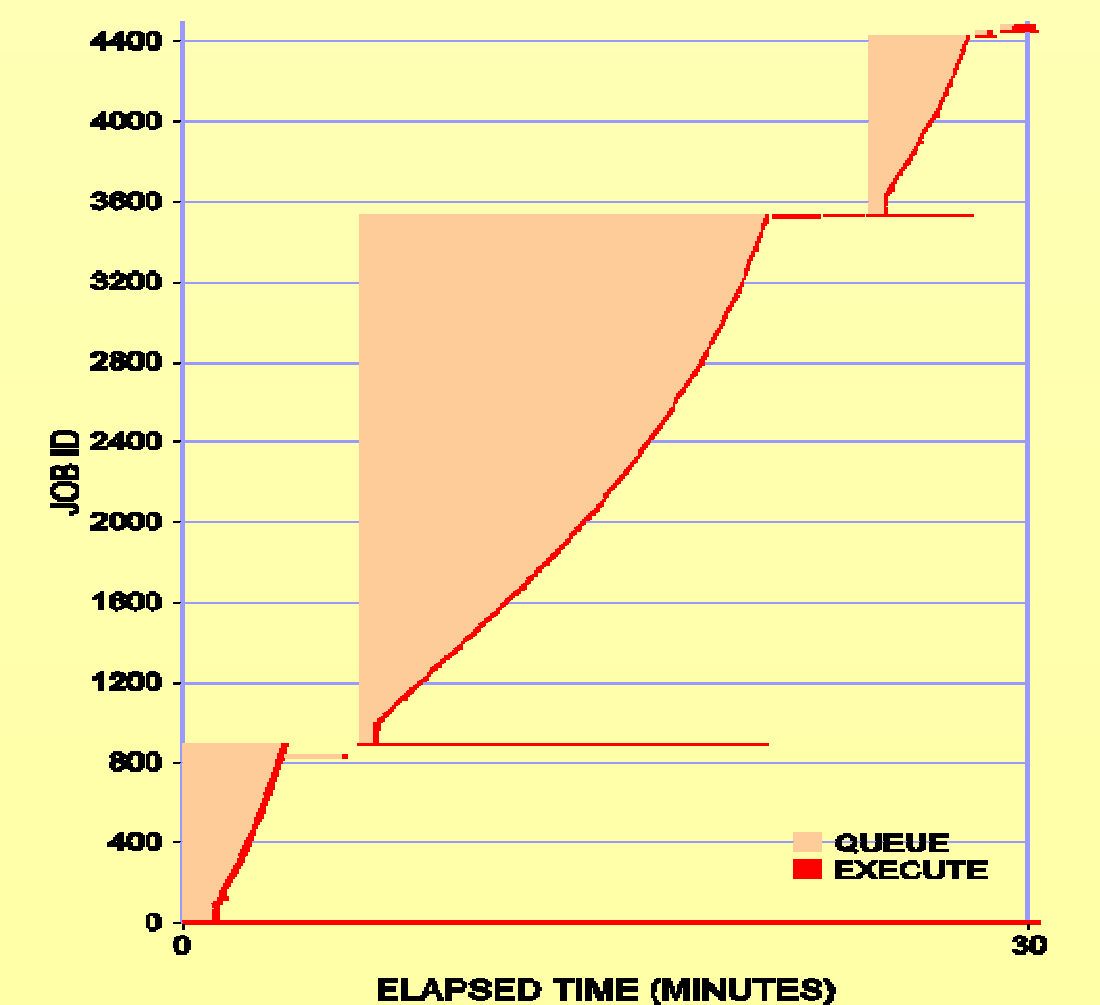
Workflow Restructuring



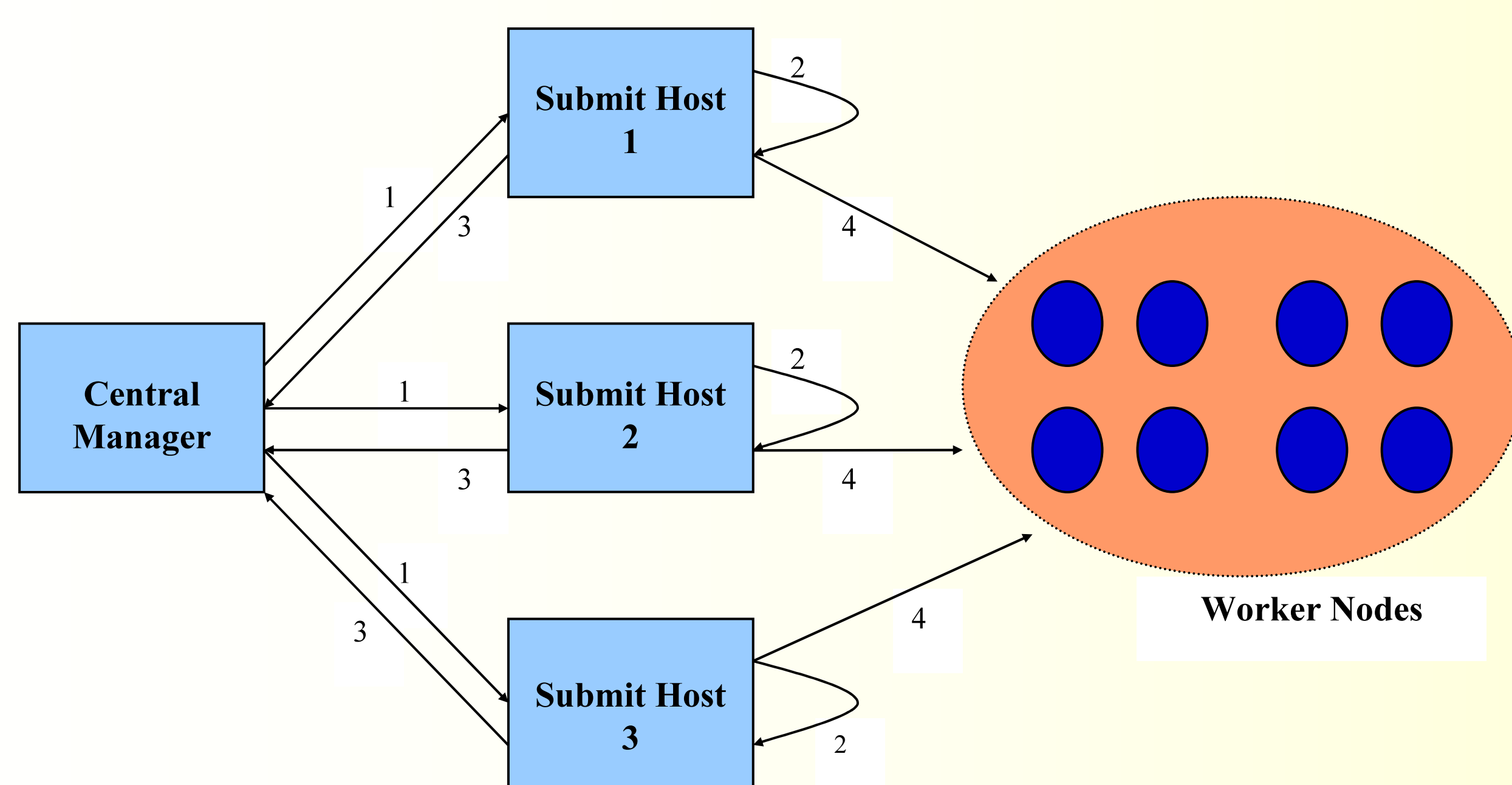
With Dagman



Using Condor clustering



Distributed Job Submission



1 Submit Host, 2 Submit Hosts, 3 Submit Hosts

