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NATIONAL LABORATORY

EST. 1943

Exploring Methods of Queue Visualization for High Performance Compute Systems

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HPC Environments - Workload Management

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- William Jones (Professor and LANL and USRC-affiliated researcher): Coastal Carolina University, coastal.edu.



Background and Abstract



Use of Simulation to Analyze System Performance

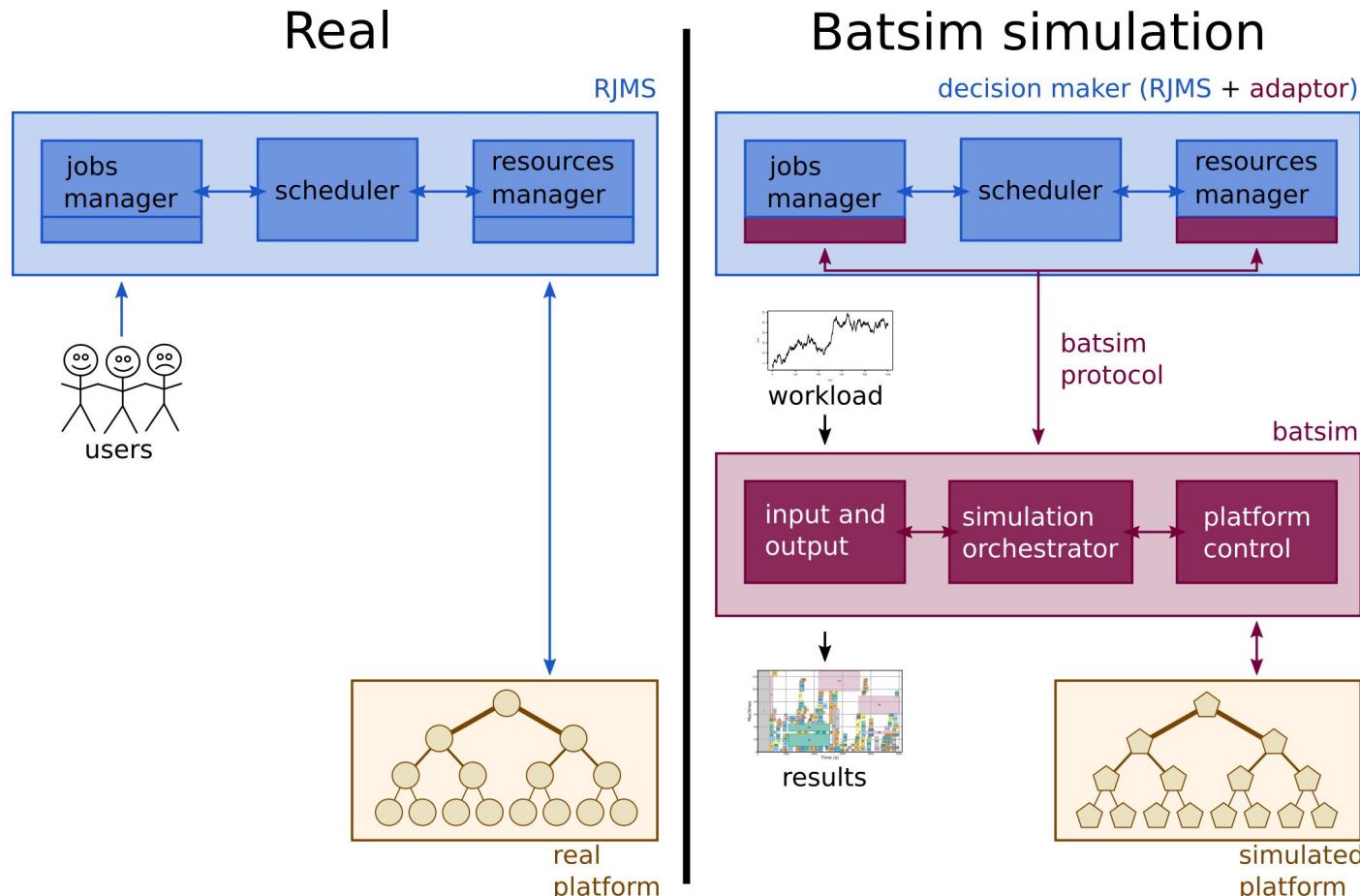


Image source: batsim.readthedocs.io
 BatSim: <https://github.com/oar-team/batsim>
 Evalys: <https://github.com/oar-team/evalys/>
 Simgrid: <https://framagit.org/simgrid/simgrid>



Job Behavior and Dedicated Systems Time



Complicated data – complicated visualizations (at first)

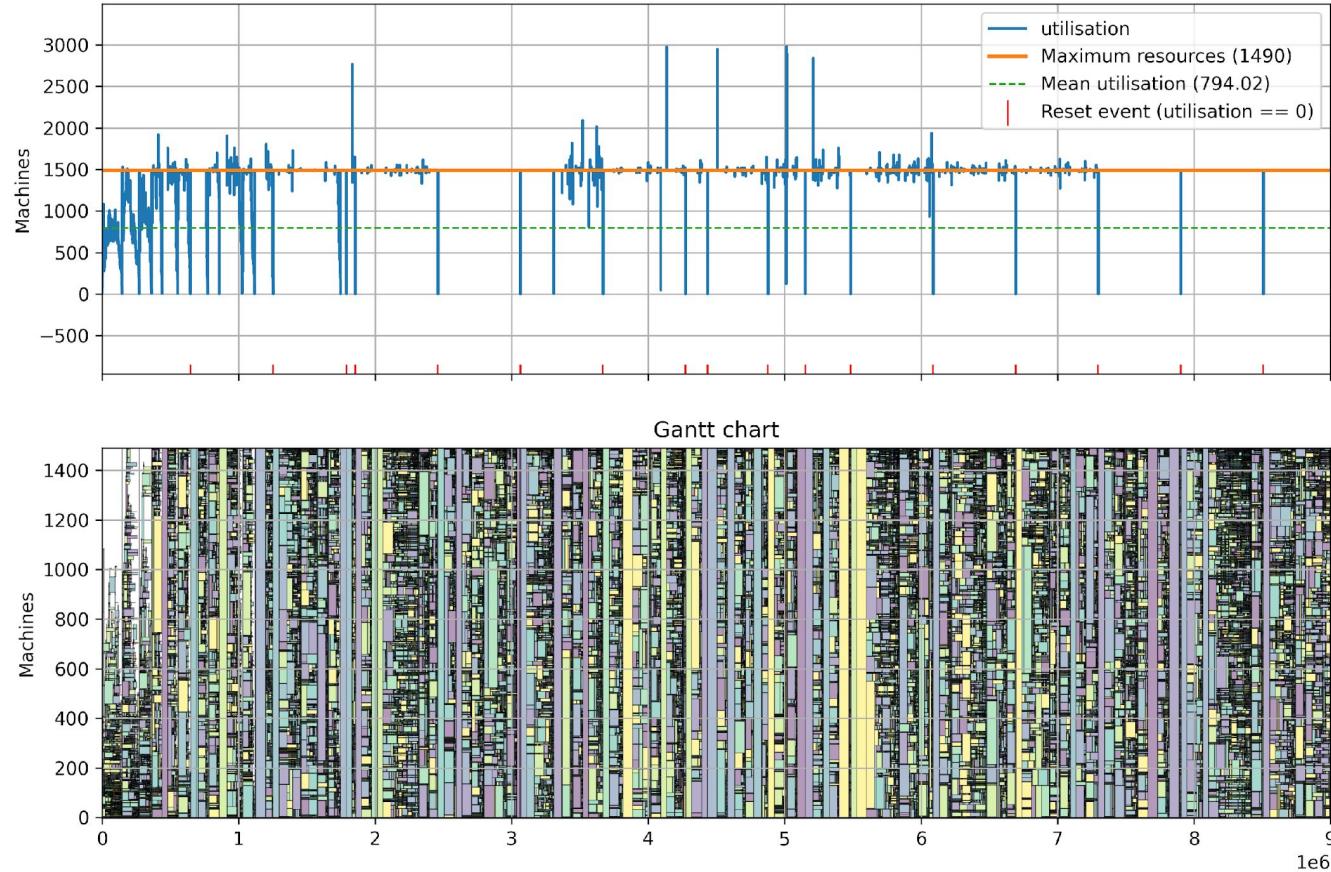


Chart type 1 – Zooming in on DSTs

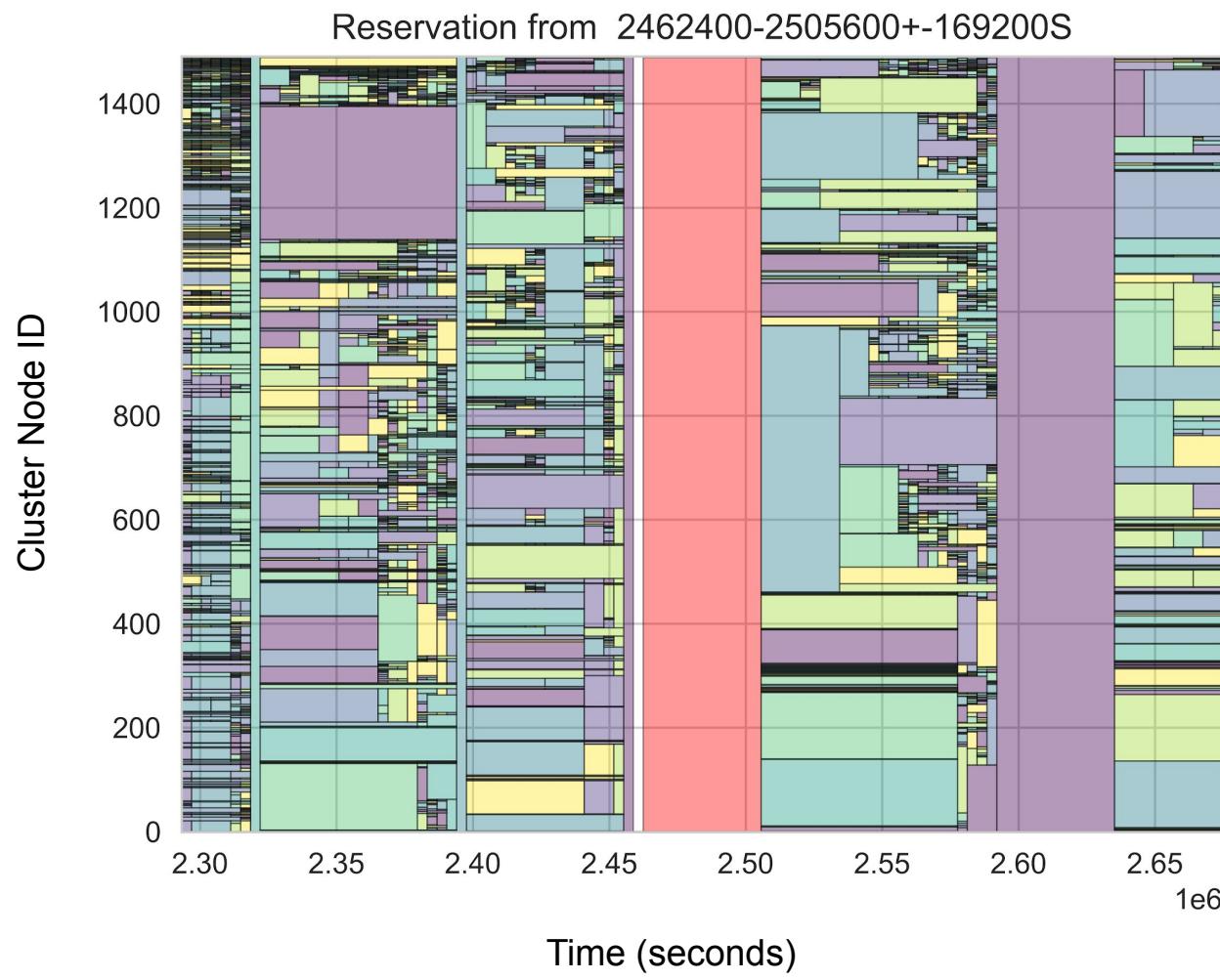


Chart type 2 – Binning by Job Characteristics

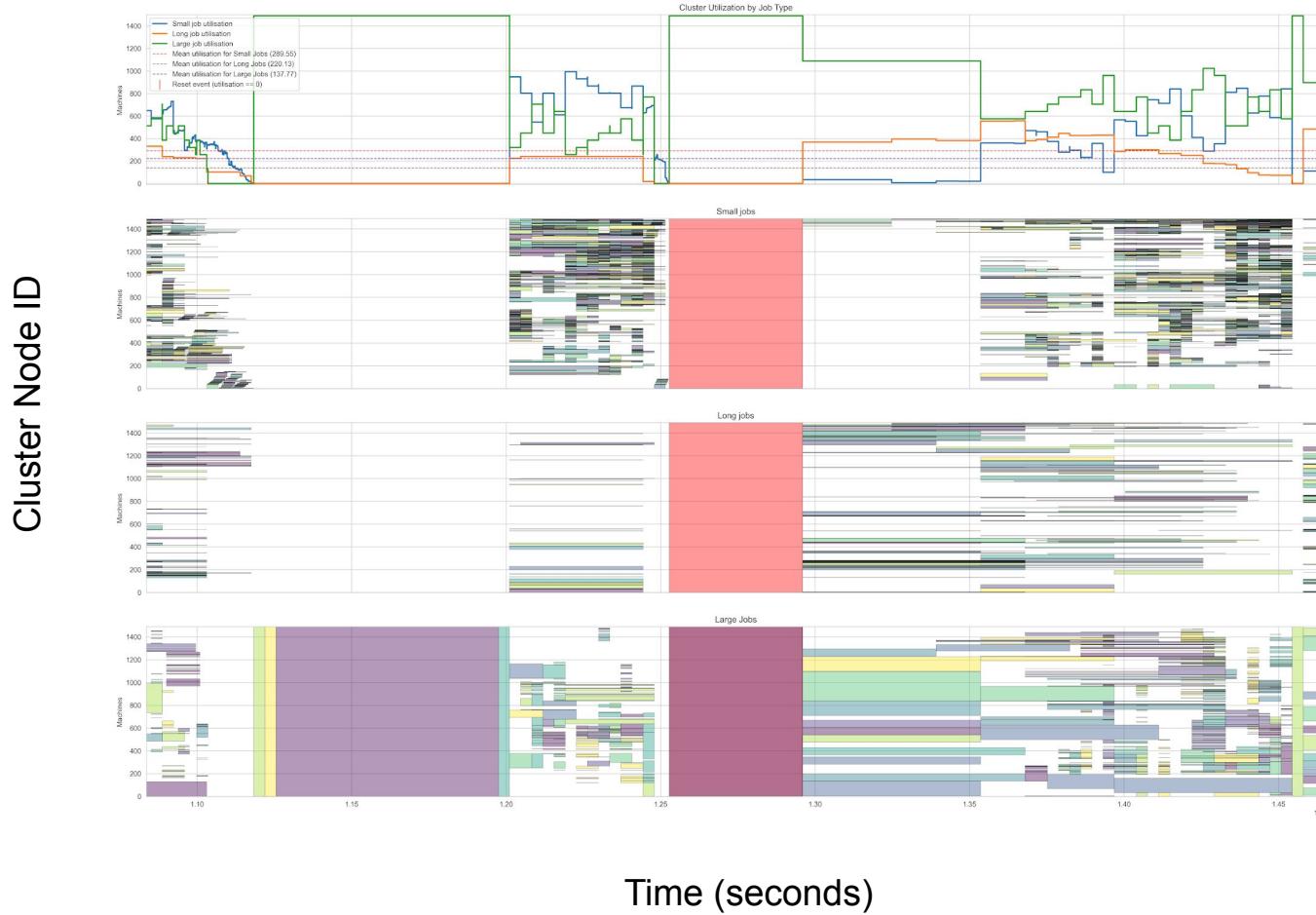


Chart 2 detail a – Utilization Plot

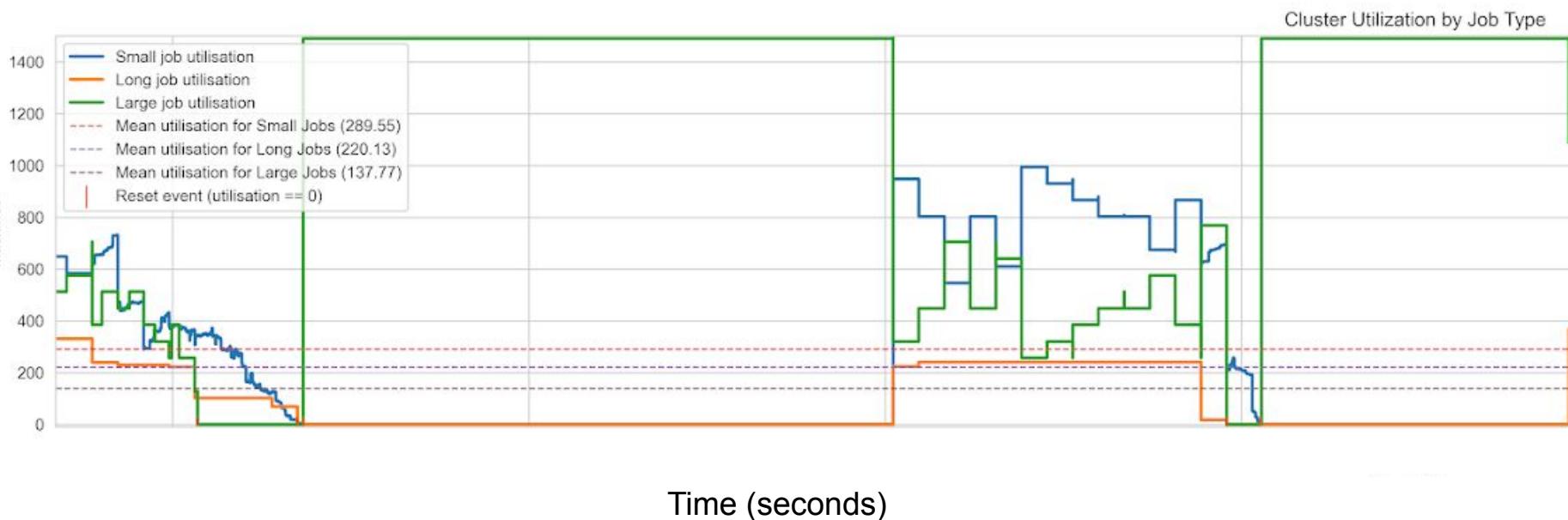


Chart 2 detail b – Gantt Detail



Chart 3 – Bubble Plot

Reservation from 2462400-2505600+-169200S

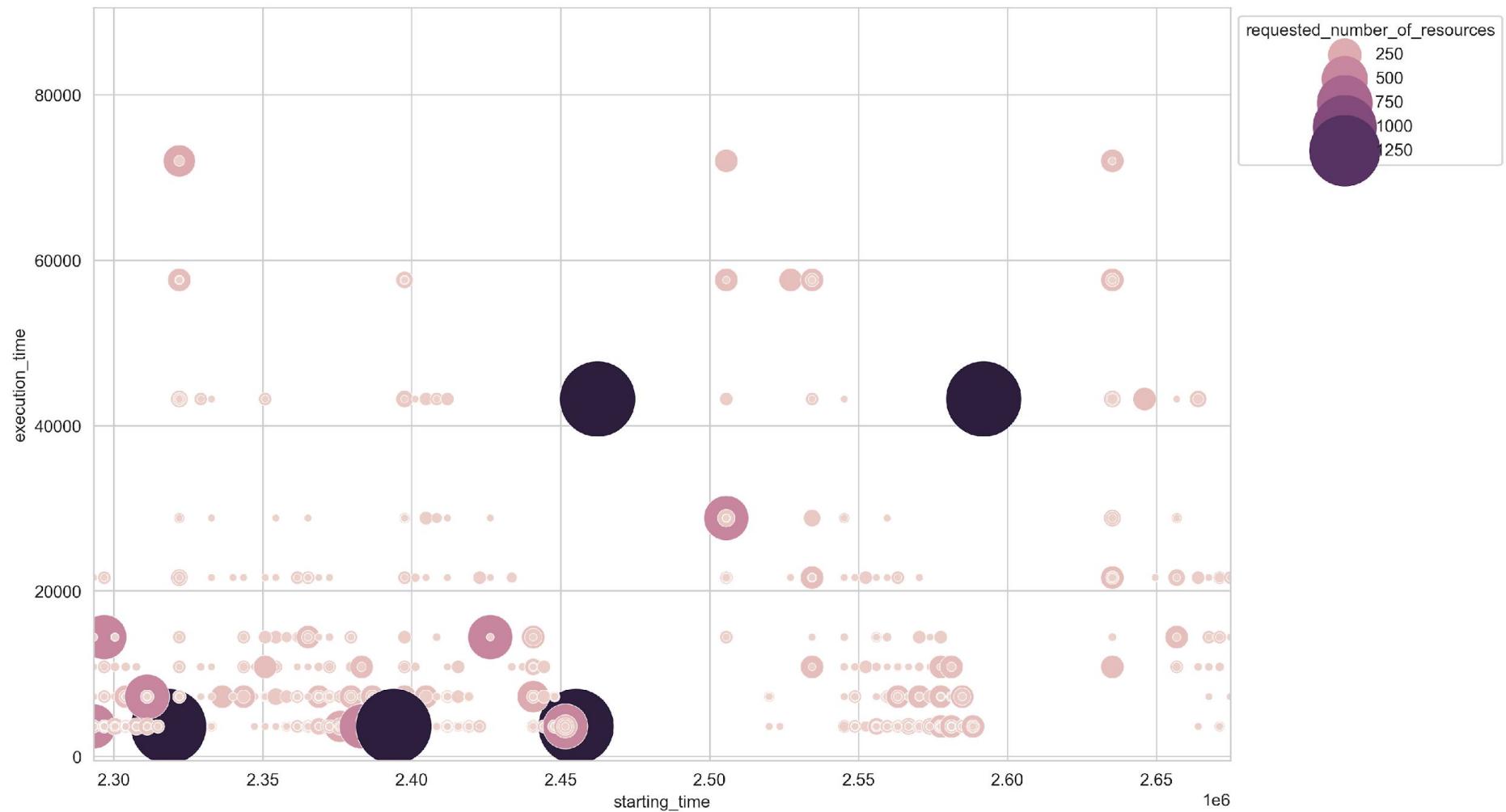


Chart 4 – Window Gantt

Window from 3067200.0-4924800.0+-169200S

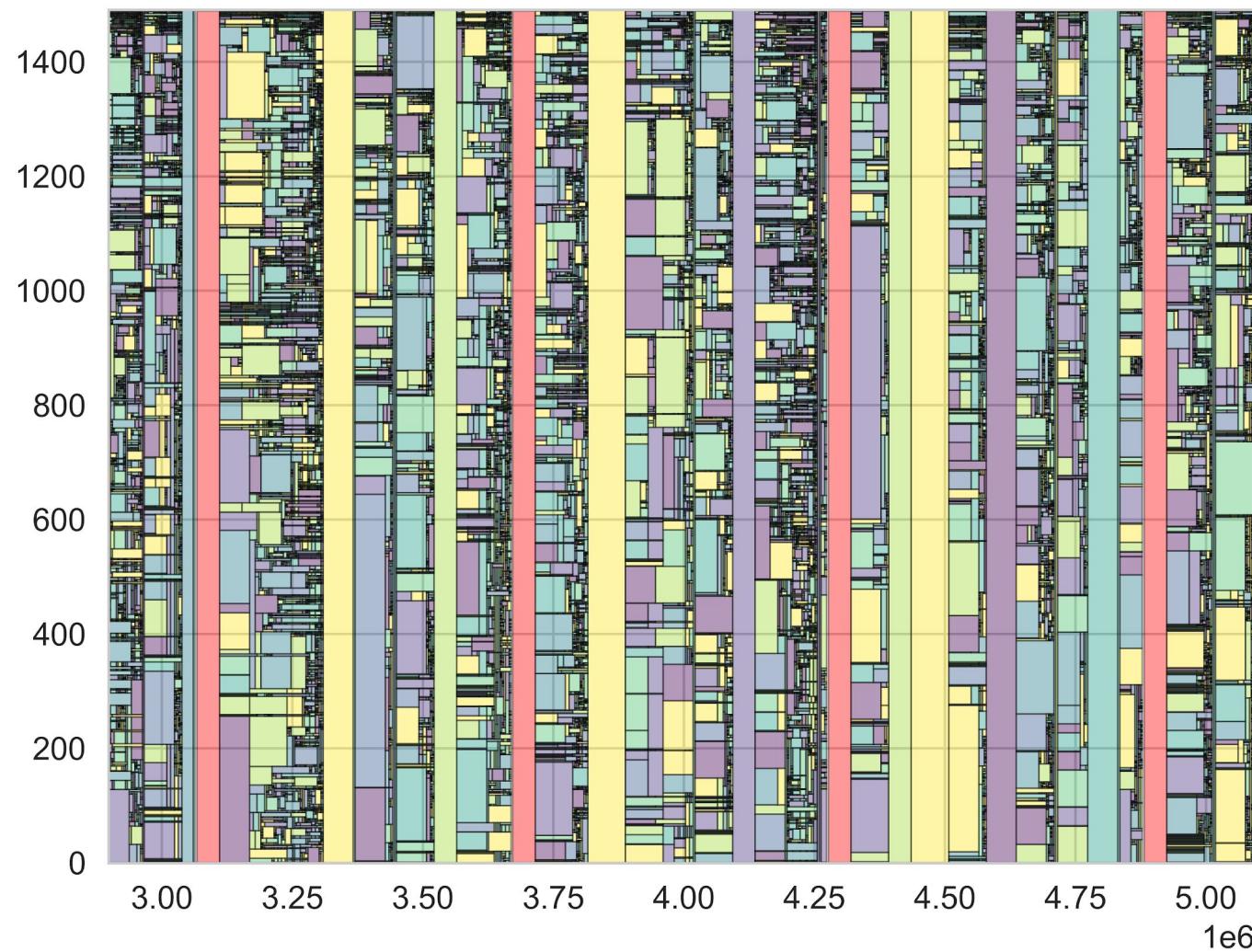
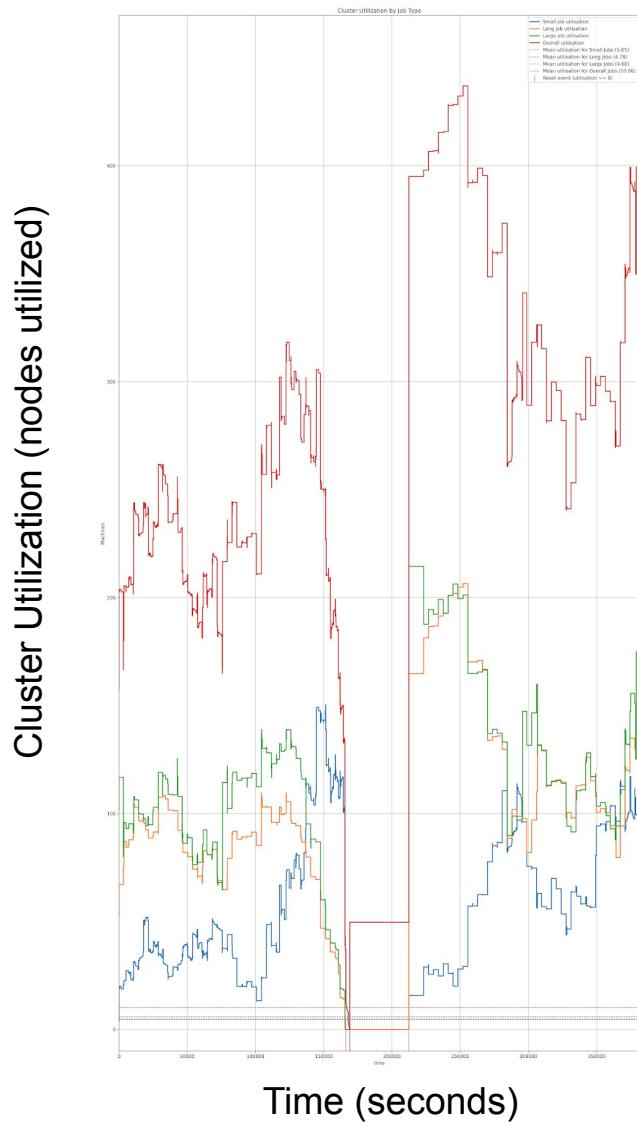


Chart 5 – Aggregate Cluster Utilization



Thank you for attending!



Questions?



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