

Paper Title:

Towards Evaluating Stream Processing Autoscalers

Paper Link:

<https://ieeexplore.ieee.org/document/10148161>

1. Summary**1.1 Motivation**

The study examines how stream processing engines adjust their resources. It aims to address the lack of thorough evaluations in the database research community and emphasizes the need for better evaluation methods.

1.2 Contribution

The paper evaluates stream processing autoscaling methods using specific workloads. It highlights shortcomings in these methods when managing sudden changes in workload or system resources.

1.3 Methodology

By using a dynamic workload resembling a cosinus curve, the study tests different autoscaling techniques. It identifies issues in handling sudden workload changes efficiently.

1.4 Conclusion

Existing methods struggle with sudden changes in workload or resource allocation. Surprisingly, simpler solutions based on CPU usage perform better than advanced methods.

2. Limitations**2.1 First Limitation/Critique**

The study focuses on a limited set of autoscalers, excluding some due to compatibility issues. This restriction limits the evaluation's comprehensiveness.

2.2 Second Limitation/Critique

Specific constraints in the experimental setup, like limitations in Flink's monitoring tools, may limit the broader applicability of the findings.

3. Synthesis

The assessment of autoscaling techniques sheds light on their limitations but requires a more inclusive approach. The study's constraints highlight the need for broader evaluations to guide practical applications effectively.