

Paper Title: Leveraging Fog Computing for Geographically Distributed Smart Cities.

Paper Link: <https://ieeexplore.ieee.org/document/9914276>

Summary

1.1 Motivation/purpose/aims/hypothesis

The paper aims to investigate the impact of fog computing on the efficient utilization and management of resources in highly distributed systems, particularly in the context of smart cities.

The hypothesis is that fog computing can reduce costs in terms of time and resource utilization.

1.2 Contribution

The contribution of the paper lies in its comprehensive investigation and comparison of the performance of cloud computing against fog-cloud computing in the context of highly distributed systems, particularly smart cities. This research presents a unique way to overcome the difficulties of processing geographically scattered data: it proposes a proposed smart framework and uses intelligent agents to handle imaging data autonomously.

The study offers empirical support for its conclusions by executing experiments using Amazon Web Service (AWS) in many US and European areas. A practical dimension to the research is added when comparing cloud computing with fog computing, particularly when some functions are moved to fogs and data is filtered before being sent to its destination.

1.3 Methodology

The process entails running tests on Amazon Web Service (AWS) in many US and European areas. By shifting some functions to fogs and filtering data before sending it to its destination, it tests the performance of cloud computing versus fog computing.

1.4 Conclusion

Fog computing lowers costs associated with time and resource use, boosts productivity, and improves smart city services, according to the paper's conclusion. Several cities spread across several nations and continents are also effectively connected by it.

Limitations

2.1 First Limitation/Critique

The study ignores the privacy and security issues that might arise from fog computing in smart cities, which are important factors to take into account before implementing in the real world.

2.2 Second Limitation/Critique

The studies may not fully represent the range of performance differences across various cloud and fog computing platforms since they are restricted to a single cloud provider (AWS).

Synthesis

The ideas discussed in this paper will have a big impact on distributed computing platforms and smart cities in the future. Fog computing integration done right may result in more economical and efficient smart city services, which can enhance resource management and urban life.