Paper title:
Fog Computing with Distributed Database

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1 Summary:

1.1 Motivation/purpose/aims/hypothesis:

In this paper the author, Tsukasa Kudo proposed a data model on fog Computing, which is a layer of cloud computing. In his proposed model, he used a distributed database. This distributed database has three levels. The level two and level three of the database are in the cloud server. This proposed data model with the distributed database basically works like the original sensor data in the fog however, which is mainly in the cloud server. The purpose behind this research paper is the solution of network bandwidth issues and delay in feedback control of sensors in cloud computing. So the author proposes Fog computing with a data model with a distributed database which offers easy data transfer in Fog nodes.

1.2 Contribution:

The contribution of this research paper is that the author proposed the three levels of distributed database of a data model and this model refers to the original sensor data from the cloud server.

1.3 Methodology:

The author implemented this reference by using MongoDB, a NoSQL database. Here, there are two ways for referencing the fog node. One is server-side reference and another one is node-side reference. And for this experiment two PCs were used which consist of 1 Gbit HUB as the fog node and server.

1.4 Conclusion:

The experiments show that the proposed data model is better than traditional cloud computing methods. By using this data model, the amount of data which has to be transferred in the cloud can be reduced. And this data model is also useful for data transfer and referencing and also solve the problems of network bandwidth issues and delay of sensors.

2 Limitations:

2.1 First Limitation/Critique: First limitation of this research paper is the experiments and the experimental setup took place in theoretical conditions along with high-performance computers and a stable network bandwidth. So this performance can be change in practical world where the resources are very limited.

2.2 Second Limitation/Critique:

Second limitation of this research paper is that they are concerned about the performance and the reference of the proposed methods.However, the data security and backup of the sensitive data was not included.

3 Synthesis:

The data model which is proposed in this research paper can be used in different types of sectors where the work is related with sensor data and this type of data needs to be sent in fog or cloud database. In future this data model can be efficiently used by providing security and backup of sensitive data.