

# Fog Computing: A Succinct Study

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**Abstract**— Fog computing is referred as edge computing. We can say that it is similar to cloud computing. Now a days it has become an essential part of all human beings. It has many different kind of functionality and advantages to everyone. It has made each one's life easier and more advanced. It has improved the local awareness of different activities. For mobility it has provided a better support now a day. In the world of business Fog computing has increased the agility of business in the market. This all necessary requirement is only possible today because of the Internet of Things (IOT). Fog computing forms a kind of architecture in today's world which has the many different characteristic and the advantages. In the world of technology fog computing provide the analytics of data faster and immediately. In this paper we are going to discuss about the advantages, applications, charecteristics, benefits etc about the fog computing. **Index Terms**— Fog computing, Edge computing, cloud computing, Internet of Things.

## I. INTRODUCTION

Fog computing is a kind of cloud computing and it is also known as Edge computing. It is a kind of paradigm which will extend or lower the cloud computing to the lower latency. Fog computing explains the functionality of Internet of things and it provides the different storage, data and different application services to the user provided by Internet of things (IOT). The users get many different kind of benefits and advantages when they are connected to the fog computing as they may get different services when they are connected to network using internet. Regarding security and privacy of data, fog computing also take care of each thing of users. The main purpose of the fog computing is deliver the data from Internet of things to the users when they are connected to the network or the environment. In this one technology we can also have the interaction between the mobile devices with one another. Data communication is also supported by the mobile devices by the help of Internet of Things. So, by this paragraph we can Say that fog computing has provided the platform for the user where they can get anything from Internet of things.

## II. CHARECTERISTIC OF FOG COMPUTING

There are different characteristic of fog computing which provide good services to the users and the fog computing.

1. Heterogeneity: Fog computing has provided a platform for the user where they can easily get the storage, data and different applications sevices from the Internet of things. First the user have to connect to the network then they can easily access data from the internet.

2. Edge location: The location of the fog computing is stored in the network. The fog provides different kind of application to the users.

3. Sensor: The fog computing provides the large scale or the area of the network where the user can monitor and access the data from the environment. Smart grid is an example of the large scale sensor. It is spreaded over a large scale of the region.

4. Geographical distribution: It is spreaded in the large area of the network. The fog computing plays an important role when the data is being delivered to the user in wide range at the same period.

5. Real time interaction: There are also some fog application which are very important to the user's .The communication and the interaction takes place between the mobile services with one another.

6. Mobility: It is one of the important and essential application of the fog computing. It is use to communicate with the mobile devices directly. For this technique the mobility of support is taken for the interaction of the mobile devicec. The LISP protocol is used for the communication purposes of the mobile devices by using the Internet of things.

## III. ADVANTAGES

1. Security: Fog computing keeps the data safe and secure. The Information technology take care of the users and keep the data safe. The information of the data is protected by using the policy of the fog then they are connected to the environment. There are some policy of the user is taken care by the fog computing.

2. Privacy: there are different data which the user use to store them when they connect to the network. The Information technology team not only take care and secure the data of the user but also protect their data and maintain the privacy of the data of the user when they are connected to the network.

3. Cost: The cost of the network of fog computing has decreased now a days and because of this reason this technology is used more the human beings. Now a day's fog computing can save the network. The bandwidth of the network is processed by the selective data which is done by the user.

4. Applications: Fog computing has different applications which controls the environment.It is a cloud based environment network. Smart city is main example of the application of the fog computing.

5. Smart cities: There are many cities which faces the variety of problems in the cities. Such as traffic, transportation, sanitation, municipal services, smart cities and many more things. The solution of this problem is the fog computing which is a cloud based environment connected to Internet of things. There are many problems in the city such as connectivity problem in the network.The network is not get connected to the user. They also have network coverage problem sometime people faces the cellular of the network problem.Therefore the fog computing architecture is used to solve the problem.

#### **IV. FOG COMPUTING AND INTERNET OF THINGS**

As we know that fog computing has become very essential for all human beings. Fog computing is a cloud based environment where the user get connected to the network by using the Internet of things. So internet plays an important role for the advancement of this new technology.

1. The connection of vehicle:There are different kinds of attribute in fog computing which gives a correct platform to the user from where they can access the data from internet.It extends the lower latency of the cloud computing.The smart traffic light is used in this which it interact with the sensors.There are different means of communication of the this traffic signal through which they communicate.through this conversation they use to send the signal to each other in this way they communicate and it also prevents accidents.

2.WSNs:It stands for the original Wireless Sensors node.It was designed for the user for the low battery.It can also extend the battery life and it can make the network more feasible and easy to use.It can easily sense the data and it can process the forward data.

#### **V. CONCLUSION**

As we show that how fog computing is used in our day to day life and how much it is important to us.By using this network we can easily access to data by connecting to the network.It has also reduced the problem of the human being and we can easily get the storage and many more things from the data.It is a new technology which has made the life of human beings easier and simple.We can get different application from this new technology in few cost only.it is cheaper.The security and the privacy of the users data is taken care and secured in the fog computing.We can easily analyze the data of the fog computing.

#### **VI. FUTURE ENHANCEMENT**

There are many different kinds of network which is available to the user .But now the fog computing which is near or closer to the cloud computing has become one of the advanced technology in today's world.The future scope of this technology is that there can be some IP video cameras, and some kind of computer chips which can make the fog computing more advancement if the future.This technology is growing day by day.Fog computing can be applied in the sensors in the building as well as in some kind of projects.

#### **VII. REFERENCES**

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