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Fog Computing for Delay Minimization and Load Balancing

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ABSTRACT

Cloud is used to store and process data at a very high rate. Moreover, nearly everyone in this world is using the cloud. However, the problem arises that the data centers are not positioned well. The data reach the cloud by passing through the various links, due to which more delays occur. So this world is now moving into fog. Fog computing provides us the capability to process data nearer to the IoT devices. During the past decade, IoT devices have been growing rapidly, resulting in the production of a tremendous amount of data every day. For the processing of this ever-growing data, efficient algorithms are required to reduce the load on the cloud and give the results in a faster and more precise manner. The processing should be done on the fog node to handle this issue. In this paper, the authors study load balancing on fog nodes with a novel technique so that they distribute the load among different fog nodes so that none of the fog nodes remains idle while other takes time for processing the data.

KEYWORDS

Cloud Computing, Fog Computing, Internet of Things, Offloading

1. INTRODUCTION

Since everything is connected, IoT produces a large amount of data in this fast-growing world. IoT devices such as smart lanes, vehicles, watches, etc. have become essential in our daily life.Kevin Ashton gave term IoT in 1999. The IoT is the network of objects which are electronics. These objects sense the surroundings and collect data from the surrounding. If we have a look at the smart cities every object collects data in a very large amount. But all these objects are interconnected with each other. The sensors which are embedded in these objects sense the data from the surroundings and that varied data get transferred and processed and then appropriate results will be the output. DNA systems are used for the analysis of firefighters in fields (A. Saeed et.al., 2017). Data collected by IoT devices is transferred via a cloud computing system and finally is used to infer results at user

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