

VPN RECOGNITION AND OPTIMIZATION IN SDN ENABLEDCLOUD ENVIRONMENT

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ABSTRACT

In the past decade, mobile devices and applications have experienced an explosive growth, and users are expecting higher data rates and better quality services every year. In this project, we propose several ideas to increase the functionality and capacity of wireless networks using software-defined networking (SDN) and cloud computing technologies. Connections between users and services in networks typically have to pass through a required set of middle boxes. Where, they send the data files from the users to other services in an efficient way. The sender side is connected to the nearest router as well as in the receiver side. The data files are send through the router where the receiver side router is connected to software-defined network (SDN) to which they get the data files as both packets and file format and which is stored in SDN. In receiver side, we can get the dataset without any duplication. The main advantage of using SDN is higher data rates, there is no missing files or any characters in data, no duplications and it is very easy to download or to view, since they are stored as packets. This SDN , which enables flexible policy-aware routing in the next generation networking. In addition, the high costs of middle boxes and limited capabilities of mobile devices call for revolutionary virtualization technologies enabled by cloud computing. The main objective is to steer traffic flows to minimize the total amount of traffic accepted over time, subject to capacity, budget and quality of service constraints. By using this software-defined network, we can get the dataset in an efficient manner.

INTRODUCTION

Nowadays, many users are expecting higher data rates, increased functionality, better quality and capacity for wireless services. Here we proposeseveral ideas using software defined networking Where, they send the data files from the users to other services in an efficient way. The sender side is connected to the nearest router as well as in the receiver side. The data files are send through the router where the receiver side router is connected to software-defined network (SDN) to which they get the data files as both packets and file format and which is stored in SDN. In receiver side, we can get the dataset without any duplication. This SDN, which enables flexible policy-aware routing in the next generation networking. In addition, the high costs of middle boxes and limited capabilities of mobile devices call for revolutionary virtualization technologies enabled by cloud

computing. The main objective is to steer traffic flows to minimize the total amount of traffic accepted over time, subject to capacity, budget and quality of service constraints.

II. LITERATURE SURVEY

1. Ying-Dar Lin, Po-Ching Lin, Chih-Hung Yeh, Yao-Chun Wang, Yuan-Cheng Lai An extended SDN architecture for network function virtualization with a case study on intrusion prevention. | IEEE, 2015.

Enterprise and Service Provider networks are increasingly making use of Virtualized Network Functions (VNFs) to reap the benefits of reduced Capital expenditures (CAPEX) and Operating expenses (OPEX).. This paper examines how to improve the overall performance of deploying VNFs in a virtualized environment, proposing an appropriate architectural framework to leverage the capabilities of other technologies such as Software Defined Networking (SDN) and Cloud Computing which can be highly complemented with the Network Function Virtualization (NFV) paradigm.

2. Aaron Gember-Jacobson, Raajay Viswanathan, ChaithanPrakash, RobertGrandl, Junaid Khalid, Sourav Das, Aditya Akella OpenNF: Enabling Innovation in Network Function Control. | IEEE, 2014.

Many network function virtualization management and orchestration frameworks have been proposed to offer an agile and automated service deployment with a set of virtual network function (VNF) placement and chaining algorithms. In order to guarantee the performance of services, this article designs and presents a service function chain performance estimation framework, which can be used to complement the network function virtualization orchestrators by providing performance estimation and optimization for the already deployed services

III. EXISTING SYSTEM

In Existing System, reuse any existing constrained shortest path algorithm as is, and plug it into the generic framework as a subroutine of our online routing algorithm. Traffic flow can be split into multiple paths, and the constraints are only satisfied by the average values of these paths. It differs from traditional networking in three critical ways:

1. Logically centralized SDN controller to manage virtual and physical network.
2. New abstraction for virtual network and network virtualization.
3. New routing algorithm and eliminate ethernet routing and allow newer network topology.

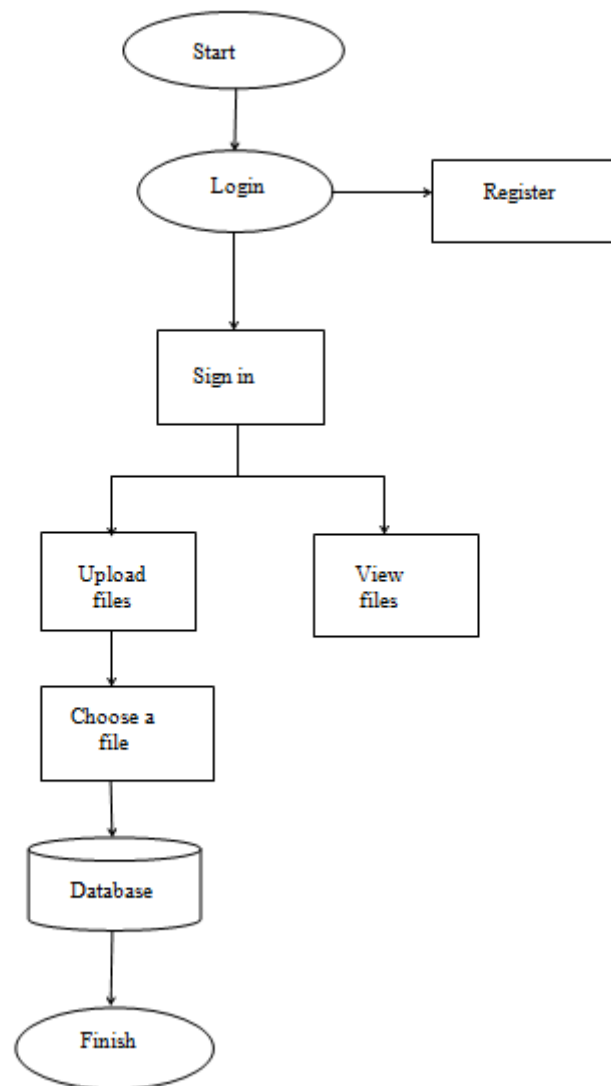
IV. PROPOSED SYSTEM

In proposed system there is no need to use any shortest path algorithm where SDN controller is connected to the receiver side router. In SDN which holds the data set files as both packets and file format in which it has higher data rates. Our objective is to minimize the end-to-end path under network latency constraints. SDN allows a high level abstract specification of network connectivity. Services to be automatically and dynamically mapped to a set of underlying network resources.

4.1 ADVANTAGES

- User friendly
- Higher data rates
- No duplication
- Compatible

V.FIGURE



VI. MODULE DESCRIPTION

6.1 LOGIN MODULE

In this module which provides the login page for the admin who access and control the network that is provided by the cloud service provider. Where, it contain the user name (admin) and the password, so that the admin can

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login and manage it in the cloud service provider. This login page is used to sign in for the users who registered already if not they can register and then login to the SDN to upload files. Where the login page has the name and password to sign in.

6.2 UPLOADING FILE MODULE

In this module the files are uploaded only after login to the SDN and the files are uploaded by choosing the required file from the documents or any other folder and also which shows the file details. In file details, it contains the details like file type, size of the file, user name and the file name .

Below that it shows the content of the file which are chosen earlier. Then send button is clicked to send the file to the receiver router. Once the file uploaded these dataset are stored in the server which is to be send through the network to the receiver sector where the dataset should be collected and other information are done.

6.3 SPLITTING FILES MODULE

Where the uploaded files are splitted here as a packet. It splits the file according to the size of the file. Those splitted packets are checked here and send to the router. The splitted files are merged and then received by the SDN controller. In which it stores even the missing packets and those packets can be merged while sending to the router.

6.4 RECEIVER ROUTER MODULE

In this module, in which it receives the file or dataset by clicking on the button receive. So, we can get the file content along with the file name in the receiver router.

A wireless network takes considerably less time to install than a wired network, but it is not necessarily simpler. The location of a wireless router and its receiving devices can have a major impact on network performance.

A wireless router needs to be placed in a location where it can communicate with networked devices without signal degradation caused by interference, distance, or signal-impeding materials. There are three main considerations to keep in mind when selecting a location for your wireless router.

6.5 VIEWING FILES MODULE

The stored files are viewed here as a data set and the files are merged as a whole data set. After viewing the file which should be checked once again to check whether the packet has been lost.

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VII.UPSHOTS



Fig 7.1 User login

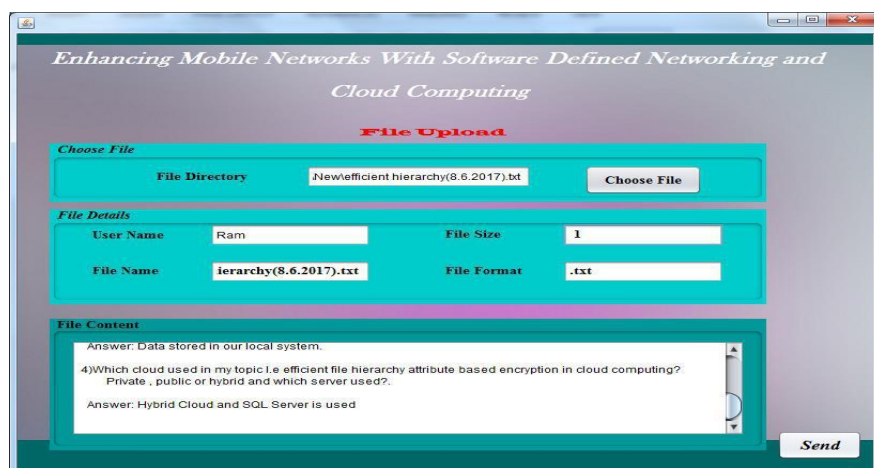


Fig 7.2 Uploading file module



Fig 7.3 Splitting files



Fig 7.4 Viewing files

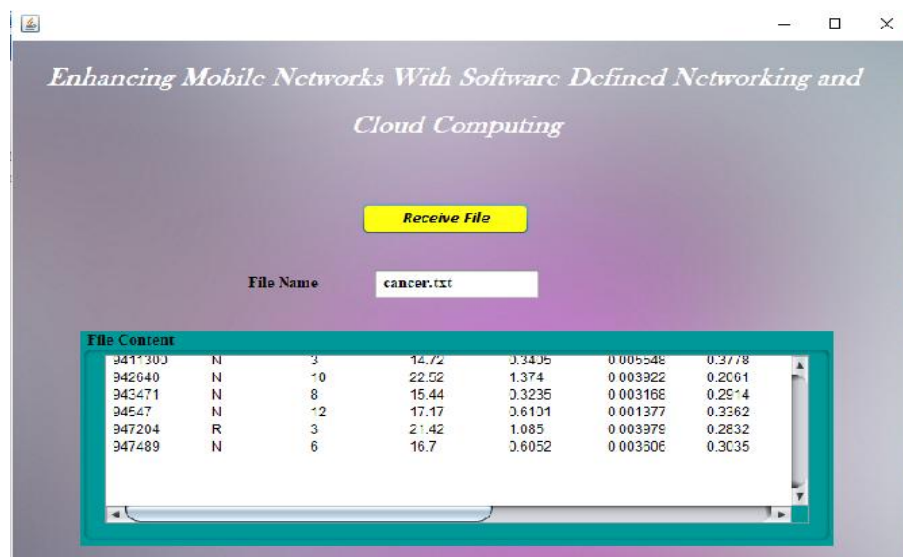


Fig 7.5 Receiving files

VIII.CONCLUSION

Unlike the existing system, this system does not have risk of letting its data getting traced or missing of data are reduced. The system remains secured as they having the software-defined network connection with it. It also has the higher data rate when compared to the existing one. Here the user should register for uploading files. Where files are uploaded and also received by the controller.

The main objective is to steer traffic flows to maximize the total amount of traffic accepted over time, subject to capacity, budget and quality of service constraints.

IX.FUTURE WORK

The system uses only the uploading and the registration process. In future, these dataset files are splitted into packets and the viewing process in server side will be done and generated. So by which they get the data files as both packets and file format and which is stored in SDN. There is no collaboration and missing of files or any duplicates are eliminated. After uploading which can be viewed later.

REFERENCE

- [1] B. He , M. Lu , K.Yang , R.Fang , N.K. Govindaraju , Q. Luyo, P.V.Sandeer, "Realational query co-processing on graphics processor", ACM trans.Database system , Volume 34 , No.4 , PP.21: 1-21:39 , December 2009.
- [2] L.Wang , E.Gelenve , "Adaptive dispatching of task in the cloud",IEEE Transactions on cloud computing . Springer science and business media , 2011
- [3] A.Tavakoli , M.Casido , T.Koponen and S.Shankar , "Applying nox to the data center ", In proc. of workshops on Hot topics in network,2009.
- [4] S. Fortunato, "Community detection in graphs", Physics reports volume 486, N0.3C5,PP.75-174,2010
- [5] R.L.Krutz and R.D.vines, cloud security : A comprehensive guide to secure cloud computing. Wiley publishing,2010.
- [6] Bolodurina I. P., Parfenov D. I. A model of cloud application assignments in software-de_ned storages // Journal of Physics: Conference Series | Vol. 803.
- [7] Bolodurina I. P., Parfenov D. I. Development and Research of Models of Organization Distributed Cloud Computing Based on the Software-de_ned Infrastructure //Procedia Computer Science | Vol. 103 | P. 569{576.
- [8] Yong Li, Min Chen Software-De_ned Network Function Virtualization: A Survey.|IEEE, 2015.
- [9] Ruozhou Yu, GuoliangXue, Vishnu TejaKilari, Xiang Zhang Network function virtualization in the multi-tenant cloud. | IEEE, 2015.
- [10] Aaron Gember-Jacobson, Raajay Viswanathan, Chaithan Prakash, Robert Grandl, Junaid Khalid, Sourav Das, Aditya AkellaOpenNF: Enabling Innovation in Network Function Control. | IEEE, 2014.