عنوان مقاله:

Improving Traffic Classification Method with Self-Organizing Feature Map (SOFM) Clustering in Software Defined (Networks (SDNs

نویسندگان:

Atefeh Sabetikhah Masouleh - *M.Sc. Student, Department of Computer Engineering, Pardis Branch, Islamic Azad University Pardis, Iran*

Sattar Mirza Kuchaki - *Associate Professor Department of Electrical Engineering, Iran University of Science and Technology, Tehran, Iran*

Soulmaz Geisari - *Assistant Professor Department of Computer Engineering, Pardis Branch, Islamic Azad University Pardis, Iran*

خلاصه مقاله:

Traffic engineering is becoming one of the major applications in the Software Defined Networks (SDNs). Recent works on traffic engineering have found new ways for traffic classification in the networks, especially SDNs. According to the studies conducted in the Software Defined Network's management, Self-Organization Map (SOM) of the features, such as the accuracy, time and efficiency of traffic classification methods, have been taken into consideration. In this study, we propose a traffic classification method to increase the accuracy, reduce the computation time and increase the efficiency of SDNs. Our method is based on Self-Organization Feature Map (SOFM) and Software Defined Networks. We create the flow data which are then clustered by using Self-Organization Feature Map Artificial Neural Network (ANN) for traffic classification. According to the results of simulation and evaluation, the classification accuracy of the proposed algorithm is 98.8% -100% and the elapsed time is decreased 20 times. Experiments and evaluations have been performed to prove that our method is suitable at traffic classification with high detection rates and low overhead.

کلمات کلیدی:

SDN, SOFM, Traffic Classification, Clustering, ANN, SOM

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1116062