Review of New Data Center Network Structure

Weiqiang Xue[1], Zhijie Han[2], Xiaoyu Du[3]

[1]School of Computer and Information Engineering, Henan University, Henan, China

[2]School of Software, Henan University, Henan, China

[3]School of Computer and Information Engineering, Henan University, Henan, China

weiqiang@henu.edu.cn, hanzhijie@126.com, dxy@henu.edu.cn

***Abstract*—Nowadays, people 's lives are increasingly inseparable from big data. The development of big data has a profound impact on human society. At the same time, the generation of massive data has promoted the transformation of data processing methods. In this development trend, cloud computing came into being. Cloud computing is to provide online cloud services to network users by building a large shared platform, so as to achieve on demand allocation of resources. Data centers are the core infrastructure of cloud computing, Therefore, the performance of the data center network determines the quality of service provided by cloud computing. However, traditional data center networks have long been unable to meet the needs of today 's society for large data centers. This paper summarizes the new data center network structure pro-posed in recent years from the aspects of switch-centric, server-centric, wireless data center, wired and wireless combination, introduces its performance, fault tolerant routing efficiency and other advantages, and looks forward to the future development of data center network structure.**

***Keyword*—Cloud computing, Network structure,Data center network(DCN)**

Weiqiang Xue born in 1995, received his master's degree in Computer Application Technology from Henan University, Kaifeng Henan. His main research directions is data center network

Zhijie Han received the M.S. and Ph.D. degrees computer science from Henan University and Soochow University in December, in 2006 and 2009, respectively. He is currently a vice professor in the school of computer and information engineering, Henan University. His research interests include parallel and distributed computing, cloud computing, and big data.

Xiaoyu Du born in 1979, received her master degree in Applied Mathematics from Henan University, Henan Kaifeng, and PhD degree in Information Network from Nanjing University of Post and Telecommunication, Jiangsu, Nanjing. She is currently working as a teacher in the Henan University. Her main research interests are data center network structure, multicast and wireless sensor networks localization and coverage.