Kaiyuan Wen

Gender: Male
Phone: (+86)15996275513
Mail: wenkaiyuan123@gmail.com

EDUCATION	*Master of Science,*	2013.9 - Now

State Key Laboratory for Novel Software Technology
Department of Computer Science and Technology, Nanjing University
Research Interests: Latency optimization and load balancing in datacenter networks
Overall GPA: 3.87/4

Bachelor of Science,   2009.9 - 2013.6
National Elite Student Program
Department of Computer Science and Technology, Nanjing University
Overall GPA: 3.76/4   Rank: 3/176

STANDARD
TEST SCORES   GRE (Verbal+Quantitative+Writing): 154+169+3.5
TOEFL (Reading/Listening/Speaking/Writing): 98 (27/24/22/25)

MAIN
RESEARCH
PROJECT

2015.10 - Now   *Project OmniFlow*
In this project, we design a new transport protocol (OmniFlow) which tightly couples load balancing and flow control to optimize datacenter transmission. *OmniFlow* can fully utilize the bisection bandwidth to increase the throughput for elephant flows and provide bounded end-to-end latency for delay-sensitive flows. We are now simulating *OmniFlow* on NS2 platform. We plan to implement a real system on a small-scale testbed later.

2014.12 - 2014.4   *Project PathVisor*
We design a distributed congestion-aware datacenter load balancer called *PathVisor*. *PathVisor* introduces the basic idea of TCP Westwood to sense path states proactively. It uses the congestion windows as basic scheduling units to adaptively balance traffic while avoiding serious packet reordering. We evaluate *PathVisor* on NS2 platform and compare it with ECMP, MPTCP and CONGA-flow. Our simulation has validated its effectiveness.

2014.7 - 2014.12   *Project Dolphin*
Dolphin is a bare-metal monitor system designed for OpenStack. It provides a flexible way for cloud administrators to pull logs from a large-scale cluster and analyze physical faults in OpenStack. We implement *Dolphin* with the asynchronous IO framework *Twisted* in the back-end. Our experiments on the testbed shows *Dolphin* has quick response times and high scalability. This project won the third prize in the 2015 National Cloud Computing Competition.

2013.10 - 2014.12   *Project QuickPush*
QuickPush is a distributed push-based web server developed by our team and researchers from Huawei Corporation. It is designed to enable servers to concurrently push contents to cloud users through browsers. QuickPush can support three kinds of server-push technologies (web socket, long polling and http streaming) and can be

easily integrated into any cloud system. We evaluate QuickPush in Huawei's testbed. Experiment results show that QuickPush can support large number of concurrent connections and is highly scalable.

PAPERS: Kaiyuan Wen, Zhuzhong Qian et al, "Breaking the Atomicity of Virtual Network Embedding", In IEEE Globecom 2013.
Kaiyuan Wen, Zhuzhong Qian et al, "OmniFlow: Coupling Load Balancing with Flow Control in Datacenter Networks", In ICDCS 2016 (poster).

SELECTED HONORS

2011	Elite Student Scholarship of Nanjing University
2012	National Scholarship
2012	Outstanding Student Title of Nanjing University
2013	Outstanding Graduation Thesis of Jiangsu Province (less than 10 awardees)
2014	Guorui Scholarship
2015	Third Prize of 2015 National Cloud Computing Competition

ACADEMIC ACTIVITY

2011.8	Visiting National University of Singapore and Nanyang Technological University in Singapore for academic communication.
2012.8	Visiting Hong Kong University of Science and Technology and Hong Kong University for academic communication
2014.7	Participating in 2014 MobiCloud workshop held in Nanjing University.