

Colloquia for the Week of February 26 – March 2, 2018

Computer Science Department
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COLLOQUIUM

DATE: February 28, 2018 - Wednesday
TIME: 4:00 – 5:00
PLACES: Stillwater: Room 203W
Mathematics, Statistics, and Computer Science Building
Tulsa: Room 2227
Main Hall
SPEAKER: W. Zhang
Department of Computer Science
The George Washington University
Washington, DC 20052
TITLE: Efficient, Flexible and Scalable Network Platform with
Network Function Virtualization

ABSTRACT:

Network function virtualization (NFV) allows traditional hardware middleboxes such as routers and firewalls to run as software on commodity servers, which enables complex, flexible and customized network services. Unfortunately software is typically slower than hardware. In addition, different network flows may need to be steered into different sequences of network functions (called service chains) with customized needs. Furthermore, as network functions become more complex, we need to bring together advances in OS and networking to build efficient and scalable network functions.

In this talk, I will describe an efficient and flexible data plane platform – openNetVM with zero extra packet copy, which can process packets at line rate. Next, I will show a management controller in data plane, Flurries which can provide flow-level performance management and customized service chain. Then, I will describe a software-based load balancer as an example to show how to build efficient and scalable network functions on top of NFV platform. Finally, I will conclude the talk with a brief discussion of my future research plan.

Everyone is welcome.