Computer Science Colloquium

Scott Diehl

Google Cloud Netinfra Organization

Friday, October 28, 2022
3 p.m. • Rekhi 214

Talk Title: Snap: a Microkernel Approach to Host Networking

Abstract: Diehl's talk presents the design and experience with a microkernel-inspired approach to host networking called Snap. Snap is a userspace networking system that supports Google's rapidly evolving needs with flexible modules that implement a range of network functions, including edge packet switching, virtualization for our cloud platform, traffic shaping policy enforcement, and a high-performance reliable messaging and RDMA-like service. Snap has been running in production for over three years, supporting the extensible communication needs of several large and critical systems.

Speaker Biography: Diehl grew up in Houghton and attended Michigan Tech for the first two years of his computer science education. He graduated with a B.S./M.S. in Computer Science from the University of Michigan, and completed his Ph.D. in Computer Science at the University of Wisconsin-Madison, with a thesis in the area of theoretical computer science. Diehl joined Google Madison in 2010, where he developed the new high-performance distributed storage systems that underpin Google's data analytics systems, improved development velocity for some of Google's largest systems such as BigTable and Google Cloud Storage, and seeded and grown new organizations at the site. He is now a Senior Staff Engineering Manager in Google's Cloud Netinfra organization, leading a team working on high-performance virtualized networking using offloaded hardware.

Read more and find the Zoom link at blogs.mtu.edu/computing.

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