

Computer Science Seminar Series, 2012

National Capital Region

Using Platform Diversity to Improve Performance and Lower Cost in the Cloud

Speaker: Prof. Tim Wood
The George Washington University

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1:00PM- 2:00PM, NVC 325

Abstract

Cloud computing platforms have dramatically simplified the process of deploying large-scale applications. Services such as Amazon's Elastic Compute Cloud allow anybody to rent a server whenever they want for pennies per hour. Despite this convenience, many companies are still reluctant to make exclusive use of cloud services due to performance, security, and reliability concerns. In this talk, I will present my recent and ongoing work into how best to make use of the diverse pool of server resources available across an enterprise's own IT infrastructure and different public cloud platforms. We believe that properly exploiting the heterogeneity of these resources can lead to improved performance and reliability. I will present some of the resource management algorithms and virtualization-layer mechanisms that our group has developed to make efficient use of these resources.



Biography

Timothy Wood is an assistant professor in the Department of Computer Science at The George Washington University. Before joining SEAS, he received a doctoral degree in computer science from the University of Massachusetts Amherst and a bachelor's degree in electrical and computer engineering from Rutgers University. His research studies how cloud computing platforms can be built from massive data centers containing thousands of servers and storage devices. He seeks to improve the performance, reliability, and energy efficiency of these large distributed systems by adding automation and intelligence at the operating system and virtualization layers.