BINGHAMTON UNIVERSITY | Computer Science
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COMPUTER SCIENCE RESEARCH SEMINAR

Virtualization Support for Bare-Metal Cloud Computing

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Friday, February 8, 2019 at noon in room R15, Engineering Building

Abstract: Bare-metal cloud computing, or Hardware as a Service (HaaS), allows customers to rent remote physical servers so as to install their preferred operating system (OS) and make the best of the server's raw hardware capabilities. Common management functions available on virtualized servers offered by cloud platforms, such as live migration and introspection-based application performance management, are difficult to duplicate on HaaS servers, because HaaS providers typically do not install any software on these servers. To address this manageability gap of existing HaaS platforms, we propose a special form of virtualization called the Single Virtual Machine Virtualization (SVMV) that is optimized to run a single VM (or HaaS VM) on a physical server such that the VM's guest OS directly interacts with physical I/O devices and timer hardware, as if it runs on a bare-metal physical server.

Bio: Kevin Cheng is a PhD candidate at Binghamton University advised by Dr. Kartik Gopalan. His research focuses on operating systems and virtualization.

Refreshments will be provided!