Boston University Red Hat Collaboratory

BOSTON UNIVERSITY

Daniel Gruss

Assistant Professor

Graz University of Technology

Wednesday February 20, 2019

10:15 - 11:45 am

This talk is part of the Microarchitecture Workshop, 10:00 am - 3:30 pm - Visit http://www.bu.edu/rhcollab/microarchitecture-workshop/ for more info

Hariri Institute for Computing

111 Cummington Mall, Room 180

Microarchitectural Security

Abstract

Microarchitectural security problems arise from optimizations and implementation decisions that comply with the architectural model functionally. However, (implicit) assumptions on isolation and security are often undermined. In this talk we will illustrate how microarchitectural attacks are similar to physical side-channel and fault attacks. In the second half of the talk we will focus on transient execution attacks as a new category of microarchitectural attacks.

We will discuss Meltdown and Spectre as well as more recent transient execution attacks.

About the Speaker

Daniel Gruss (@lavados) is an Assistant Professor at Graz University of Technology. He finished his PhD with distinction in less than 3 years. He has been involved in teaching operating system undergraduate courses since 2010. Daniel's research focuses on software-based side-channel attacks that exploit timing differences in hardware and operating systems. He implemented the first remote fault attack running in a website, known as Rowhammer.js. He frequently speaks at top international venues, such as Black Hat, Usenix Security, IEEE S&P, ACM CCS, Chaos Communication Congress, and others. His research team was one of the teams that found the Meltdown and Spectre bugs published in early 2018.

About the Collaboratory

A partnership between Red Hat and Boston University, the Red Hat Collaboratory connects BU faculty and students with industry practitioners working in open-source software communities. The Collaboratory aims to advance research focused on emerging technologies in a number of areas including operating systems, cloud computing services, machine learning and automation, and big data platforms.

Red Hat Collaboratory at Boston University
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