WPI

Secure and Resilient Cloud Computing for the Department of Defense using Secure Data Provenance

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Date: Tuesday, January 24, 2017
Place: 320 Fuller Labs
Time: 11:00 am – 1:00pm (discussion followed by pizza)

Abstract

Decision makers need timely and accurate data to make critical decisions. In many cases, that data is presented without evidence that it is trustworthy, leaving decision makers no choice but to blindly trust that the data is good. Modifications to the data can have a negative impact on the decision being made with few techniques to protect both the processing of the data and the data itself. Data provenance is a vital technology that provides decision makers with the evidence they need to make decisions based on good data, by tracking the history of ownership and processing of data as it moves through a system. In this talk, we describe the challenges of building resilient systems that leverage data provenance to protect data. We then detail our experiences with integrating data provenance into two different systems, and discuss lessons-learned.

Dr. Thomas Moyer is a staff member in the Secure Resilient Systems and Technology Group at MIT Lincoln Laboratory. His current research addresses the area of building secure infrastructures for cyber systems through the application of trusted computing technologies and secure data provenance. Dr. Moyer worked as a research assistant at The Pennsylvania State University, looking at problems in cyber security, including secure cloud computing infrastructures, and problems in storage security.
He received a PhD degree in computer science and engineering from Penn State University. His graduate research focused on high-integrity web applications using commodity-trusted hardware.