Cyber-Physical Security: Hacking the “Internet of Things”

Cyber-physical systems involve the study of the intersection between the “cyber” world and the “physical” world. This intersection is growing exponentially as more of our environment becomes cyber-connected because it either offers new features and capabilities to consumers, or it allows companies to operate infrastructure more efficiently and cost effectively. Medical devices are providing health information to doctors via the Internet. Utilities such as power companies are connecting their infrastructure to the Internet to allow seamless management via mobile tablets. Militaries across the world rely tremendously upon the Internet for command and control. Dr. Clancy’s presentation looks at the growth of cloud computing, telematics, and the so-called “Internet of Things,” parallel to the exponential growth of malicious threats on the Internet that seek to undermine system security with the goal of deriving intelligence, stealing information, or supporting military operations. This fundamental shift in social use of and reliance upon cyber infrastructure necessitates an entirely new model for security and privacy.

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