Questions 02-05-2018

Immuno-inspired autonomic system for cyber defense:

I like the metaphor this article uses to analyze cyber security systems and possible approaches to solving cyber security problems. I think in a lot of ways the vulnerabilities and capabilities of a cyber security system do and should reflect with those of a biological immune system. That being said, I would like to use this metaphor to pose a question. We have diseases and illnesses that we still cannot cure as well as ones that are new and have never been seen before. Does a cyber security system that correlates with a biological immune system also struggle from these pitfalls? Are there certain types of attacks that cannot be thwarted (or at least have not been thwarted as of yet)? Will there be new attacks that the system cannot account for in real-time and that will take analysis and specific action after “killing” the host system?

This article talks about improving efficiency of computation by incorporating the use of an ad hoc mobile cloud system. In this system, mobile devices are connected to one another through a network and are utilized as a pool of computational devices to complete a task. As far as security is concerned, the article mentions measures that should be taken in future research to secure these cloud-connected devices. Is this going to be similar to protecting machines that are not cloud-connected or that are not mobile? What differences might there be? The article talks about a few. Are the ones mentioned going to require unique security systems to compensate for? Are these cloud-connected devices more or less secure than their counterparts that are not being utilized as computational devices in a computation pool?