Webinar on Next-Generation IoT
The Seventh Edition

IEEE Communication Society
Technical Committee on Communications Software
Special Interest Group on "NFV and SDN Technologies"

All participants need to pre-register by 5:00 PM February 14, 2024, by filling up the following form: **Registration Link**

IoT DNS Flooding Attacks and Mitigation Methods

Abstract: A domain name system (DNS) is one of the most important infrastructures of Internet communication. It is also a crucial point that is subjected to attacks. The largest distributed denial-of-service (DDoS) attack on October 21, 2016, targeted a major DNS infrastructure named dynDNS. The Internet of Things (IoT) DNS flood attack made more than half of websites in the United States unreachable for a significant amount of time. The first part of the talk focuses on a deep analysis of the reasons behind IoT DNS flood attacks. The second part of the talk introduces some mitigation methods we proposed.

Professor Yang Xiao, IEEE Fellow
Department of Computer Science
The University of Alabama
Tuscaloosa, AL 35487-0290 USA

Security Considerations for Ultrawideband (UWB) Ranging

Abstract: Ultrawideband (UWB) radio technology has seen a renaissance due to its usage in ranging (i.e., determining the relative distance between two endpoints). This is because of UWB's fundamental physical layer properties, which allow for precise ranging measurements. This allows for a variety of different applications where distance measurement between an initiator and a ranging endpoint (reader) can result in security-sensitive authorization. A commercially available example of such an application is smartphone-enabled car door unlock, where the smartphone acting as a UWB initiator is determined to be within proximity of a UWB reader associated with the car door locking mechanism. Therefore, UWB ranging must be secure, and the UWB mode known as scrambled timestamp (STS) defined by the IEEE is used in associated applications. In this talk, several of the security-specific aspects of STS-based UWB ranging are presented which address published "black box" attacks on the UWB waveform. In addition, emerging applications for secure location-based services will also be presented that are enabled by UWB secure ranging.

Dr. Giridhar D. (Giri) Mandyam
Former Chief Security Architect
Qualcomm

Dr. Arijit Roy, IIT Patna, India
Dr. Ayan Mondal, IIT Indore, India
Prof. Sudip Misra, IIT Kharagpur, India

More details can be found **here**
Date: February 15, 2024
Time: 7:30 PM - 9:30 PM, Indian Time (IST)