

# Keynote Talk

## Rethinking Cyber Security

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### Abstract

It is clear that the Internet is transforming the way we live and the recent decades have witnessed dramatic developments in information and communication technologies (ICT). Along with the phenomenal growth in technology enabled information economy has been a growth in computing technology related crimes. Security and privacy issues have become increasingly significant over the years and expected to continue to dominate the technology scene with the increased focus on digital economy and dramatic growth in social networking and the adoption of technologies such as cloud computing by businesses.

In this talk I will begin with a brief look at current trends in the technology scenery and some of the key security issues that are impacting on business and society. In particular, I will describe the notion that I refer to as increasing threat velocity, with more and more attacks and their dynamic nature, an evolving set of bad guys with different motives and sophisticated easy to use tools readily available for ordinary users to conduct severe attacks. Hence there is a need for security professionals and researchers to rethink about cyber threats and how to respond to them. In this regard, we will examine attribution which is one of the key issues when it comes to counteracting security attacks. The unauthenticated nature of the Internet makes attribution difficult and furthermore has implications on accountability. Then the talk will focus on attacks and risks in cloud computing, where issues of security, trust and accountability are particularly significant. Cloud computing with its shared multi-tenancy environment aggravates the traditional security threats. Trust that cloud providers will provide proper security measures to counteract the security threats and ensure availability of services and data stored data become paramount. We will conclude the talk by discussing some key security technologies that are relevant for cloud services.

**Categories and Subject Descriptors:** K.6.5 [Management of Computing and Information Systems] Security and Protection – Unauthorized Access, Invasive Software

**General Terms:** Security

**Keywords:** Cyber Security, Secure Systems, Cloud Computing Security

**Bio:** Vijay Varadharajan holds the Endowed Microsoft Chair Professor in Innovation in Computing. He is also Director of Information and Networked System Security Research at Macquarie University, Australia. Prior to joining Macquarie University, he was Foundation Professor and Chairman of School of Computing and IT at the University of Western Sydney; before this, Vijay was responsible for worldwide Security Research at corporate Hewlett-Packard Labs for over 9 years based in European Headquarters of HP Labs. Before HP, he was Research Manager at British Telecom Research Labs U.K. Professor Varadharajan has published more than 320 papers in international journals and conferences, has co-authored and edited eight books on security, networks and distributed systems and holds three patents. His current areas of research interest include security for large distributed systems and cloud infrastructures, security in mobile and high speed networks, Internet security, trusted computing and systems, secure mobile computing, security and privacy in peer to peer distributed applications and security models and architectures. His website is <http://www.comp.mq.edu.au/research/inss/>.