Infrastructure Protection from Distributed Denial of Service Attacks

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Abstract

With BotNets proliferating around the world exponentially, Internet infrastructure which includes e-commerce infrastructure, financial infrastructure, critical infrastructure, national infrastructure, etc. can be easily overwhelmed by distributed denial of service (DDoS) attacks. Worms of Mass Destruction are used by criminals to spread terror and to destabilize infrastructure. With increasing dependence on Internet infrastructure for banking, e-commerce, telecom, utilities, and national security, it is therefore imperative that system architects understand the new threats and understand the mitigation tools and techniques available. This tutorial will explain the extent of the problem, the tools used by the attackers, and problems with using routers, switches, firewalls and intrusion prevention systems to mitigate DDoS attacks. This will be followed by a survey of specialized DDoS mitigation tools and techniques and their benefits in a vendor neutral manner. Current research in top universities centered on this area will be discussed along with trends in the attack patterns. To conclude, future research directions will be discussed so that the attendees get a complete picture.

About the Speaker

Hemant Jain's 25 years in the industry span network security, product development and business development. At Sunnyvale, CA, USA based IntruGuard, Hemant has spearheaded the technology, strategy and business development. He built the company and the products and works closely with core customers. Prior to co-founding IntruGuard Devices, Hemant was Chief Architect at Starlight Micro, Inc., where he was responsible for conceptualizing network security ASICs. Hemant was a lead architect at Internet Devices (which was acquired by Alcatel for USD 180M in 1999) as well as at Alcatel, where he was responsible for conceptualizing and implementing a range of technologies, including a one-touch VPN client, firewalls and NAT support for multimedia and VOIP protocols. Hemant also led large and highly successful product development teams in Tata Infotech and iFlex Solutions in India. Hemant earned his MSEE from the Indian Institute of Technology, Bombay, India. He has five pending patents in network security space.