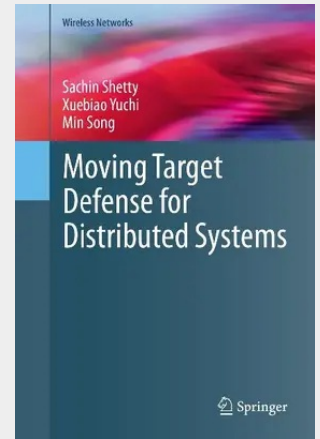


Moving Target Defense for Distributed Systems

This book provides an overview of Moving Target Defense (MTD) and the importance of developing novel MTD schemes to protect distributed systems. It presents MTD-based research efforts to protect cloud data centers, along with network and security risk-aware approaches to place Virtual Machines (VM) in cloud data centers. These approaches include MTD-based network diversity models that enable an evaluation of the robustness of cloud data centers against potential zero-day attacks. Since these models can be used as a security metric the authors include different network configurations and policies, consider the similarity and dissimilarity of network resources, and account for minimum impact to maximum impact attacks. Also offered is a framework for determining the cost of MTD-based VM migration on cloud data centers. Designed for researchers and practitioners, Moving Target Defense for Distributed Systems enables readers to understand the potential of MTD capabilities. It enables defenders to change system or network behaviors, policies, and configurations automatically to keep potential attack surfaces protected. Advanced level students in computer science, especially those interested in networks and security, will benefit from this book.

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