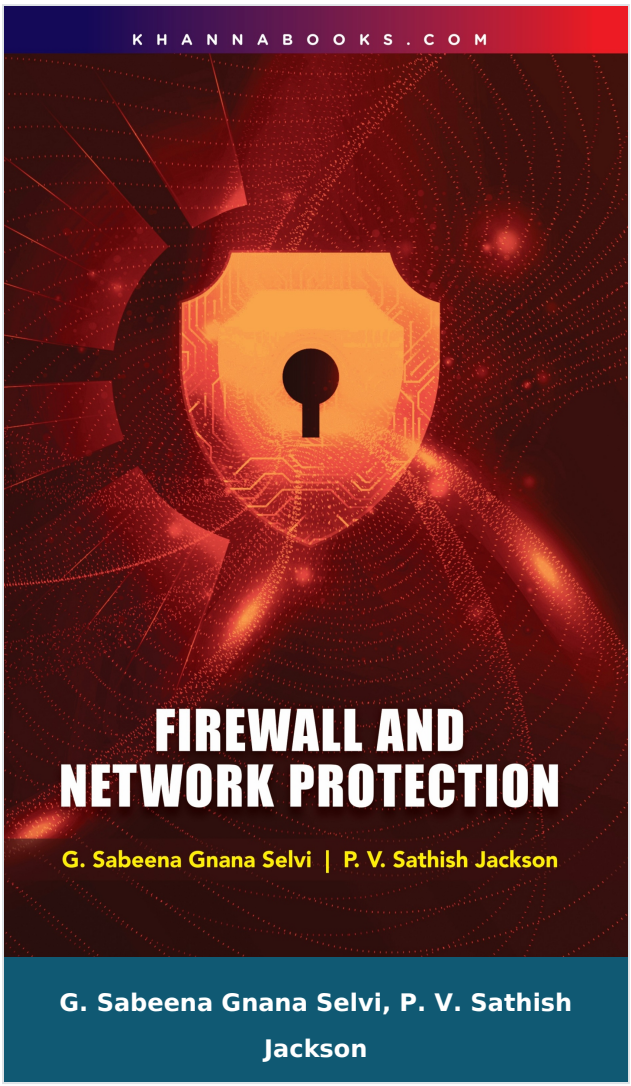


G. Sabeena Gnana Selvi, P. V. Sathish Jackson

Firewall And Network Protection

Author :	G. Sabeena Gnana Selvi, P. V. Sathish Jackson
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Product Description

Firewall And Network Protection

This book offers a comprehensive exploration of modern network security, establishing a robust foundation for protecting digital assets in today’s threat landscape. It begins by grounding readers in the essential security principles—Confidentiality, Integrity, and Availability (CIA Triad)—and outlines the current spectrum of complex threats, including ransomware and zero-day attacks, preparing readers to understand the adversary.

The content moves seamlessly from foundational theory to practical implementation. It dedicates significant coverage to the mathematics of cryptography, analyzing both symmetric ciphers like AES and asymmetric systems like RSA and Diffie-Hellman, alongside practical case studies in cryptographic solutions. Crucially, the text provides an in-depth look at implementing layered defense controls, including Intrusion Detection Systems (IDS) and the core role of Firewalls as network access controls. It details various firewall types (Packet Filtering, Stateful Inspection, and Proxy) and best practices for rule management and network segmentation. Furthermore, the book addresses securing emerging technologies such as Cloud, IoT, and Web Applications.

This resource is an invaluable guide for students in Computer Science and Cybersecurity, as well as IT and security professionals who need to design, implement, and maintain resilient security architectures in an evolving digital world.

Salient Features

- **Foundational Security Principles**: Clearly covers the core security model, the CIA Triad (Confidentiality, Integrity, Availability), and expands on essential concepts like Accountability and Non-repudiation.
- **Symmetric/Asymmetric Crypto**: Provides detailed instruction on modern cryptographic algorithms, contrasting the performance of AES with the security

offered by RSA for practical data protection.

- **Firewall Deep Dive**: Explores the characteristics and necessity of effective firewalls, detailing different types—Packet Filtering, Stateful Inspection, and Proxy—for robust perimeter defense.
- **Practical Network Defense**: Focuses on implementing layered security controls, covering the deployment and management of Intrusion Detection Systems (NIDS/HIDS) and VPNs for secure remote access.
- **Malware and Attack Taxonomy**: Categorizes and explains major network threats like DDoS, Phishing, IP Spoofing, and sophisticated malware (Ransomware), providing context for effective defense strategies.
- **Emerging Tech Security**: Addresses the unique security challenges in contemporary environments, dedicating chapters to securing Cloud infrastructure, IoT devices, and Web Applications (WAF, HSTS).
- **Cryptographic Case Studies**: Includes analysis of both successful and failed cryptographic solutions, offering essential lessons learned and promoting the use of modern, strong cryptographic protocols.

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