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Information Security and Cryptography

Paul C. van Oorschot

Computer Security and the Internet

Tools and Jewels from Malware to Bitcoin, *Second Edition*

Building on the core strengths of the inaugural book, this **second edition** of a uniquely accessible textbook provides a concise, yet comprehensive overview of computer and Internet security. It builds on the design principles to address security-related error patterns that have plagued software and system designs for more than 50 years.

Computer Security and the Internet is "elementary" in that it assumes no background in security, but unlike "soft" high-level texts it does not avoid low-level details. The book reinforces fundamental academic concepts with examples and also relates these concepts to practical challenges and real-world incidents. Its overriding focus is brevity, without sacrificing breadth of core topics or technical detail within them; it designates selected content as optional to help readers prioritize topics. While knowledge of elementary operating-system and networking concepts is helpful, review sections summarize the essential background.

Topics and features:

- Delivers comprehensive, technically sound explanations without burdening readers with mathematical proofs or lengthy source-code examples
- *(NEW)* adds chapter on wireless LAN security (Wi-Fi and 802.11)
- *(NEW)* adds chapter on Bitcoin and Ethereum, blockchains and cryptocurrencies
- Integrates inline exercises and supplemental per-chapter references and endnotes, bridging to further topics and serving as a springboard to research literature
- Dives selectively into fine points for exemplary topics to concretely illustrate concepts and principles
- Provides pointers to key surveys and relevant standards, including from the Internet Engineering Task Force and the U.S. National Institute of Standards and Technology

Ideal for a one- or two-term introductory course for junior/senior undergraduate or first-year graduate students, this textbook/reference is also suitable for self-study by anyone seeking a solid footing in security, including software developers and computing professionals, technical managers, and government staff.

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van Oorschot

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2nd Ed.

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