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Nota di contenuto	virtual private networking; contents; Preface; Acknowledgements; Chapter 1 Introduction to Virtual Private Networking; 1.1 THE VPN CONCEPT; 1.1.1 DEFINITION; 1.1.2 TYPES OF VPNS; 1.1.3 CATEGORIES OF VPNS; 1.1.4 INFRASTRUCTURE; 1.1.5 BENEFITS OF USE; 1.1.6 DISADVANTAGES OF VPNS; 1.1.7 VPN PROTOCOLS; 1.1.8 SUMMARY; 1.1.9 ALTERNATIVES TO VPNS; 1.1.10 ECONOMIC ISSUES; 1.1.11 OTHER ALTERNATIVES; 1.2 BOOK PREVIEW; 1.2.1 UNDERSTANDING AUTHENTICATION AND CRYPTOLOGY; 1.2.2 UNDERSTANDING THE TCP/IP PROTOCOL SUITE; 1.2.3 LAYER 2 VPN TECHNIQUES; 1.2.4 HIGHER LAYER VPNS; 1.2.5 VPN HARDWARE AND SOFTWARE 1.2.6 SERVICE PROVIDER-BASED VPNSChapter 2 Understanding Authentication and Encryption; 2.1 AUTHENTICATION; 2.1.1 PASSWORD AUTHENTICATION PROTOCOL; 2.1.2 CHALLENGE-HANDSHAKE AUTHENTICATION PROTOCOL; 2.1.3 EXTENSIBLE AUTHENTICATION PROTOCOL - TRANSPORT LEVEL SECURITY; 2.1.4 TOKEN AUTHENTICATION; 2.2 ENCRYPTION; 2.2.1 GENERAL METHOD OF

OPERATION; 2.2.2 PRIVATE VERSUS PUBLIC KEY SYSTEMS; 2.2.3 PUBLIC KEY ENCRYPTION; 2.2.4 THE RSA ALGORITHM; 2.2.5 DIGITAL CERTIFICATES; 2.2.6 HASHING AND DIGITAL SIGNATURES; Chapter 3 Understanding the TCP/IP Protocol Suite; 3.1 FRAME FORMATION 3.1.1 HEADER SEQUENCING 3.1.2 SEGMENTS AND DATAGRAMS; 3.1.3 ICMP MESSAGES; 3.1.4 ON THE LAN; 3.1.5 DATAFLOW CONTROL FIELDS; 3.2 THE NETWORK LAYER; 3.2.1 THE IPV4 HEADER; 3.2.2 SUBNETTING; 3.2.3 THE SUBNET MASK; 3.2.4 THE WILDCARD MASK; 3.2.5 ICMP; 3.3 THE TRANSPORT LAYER; 3.3.1 TRANSPORT LAYER PROTOCOLS; 3.3.2 THE TCP HEADER; 3.3.3 THE UDP HEADER; 3.3.4 SOURCE AND DESTINATION PORT FIELDS; 3.4 PROXY SERVICES AND NETWORK ADDRESS TRANSLATION; 3.4.1 PROXY SERVICE; 3.4.2 NETWORK ADDRESS TRANSLATION; 3.4.3 TYPES OF ADDRESS TRANSLATION; 3.4.4 VPN CONSIDERATIONS; Chapter 4 Layer 2 Operations 4.1 THE POINT-TO-POINT PROTOCOL 4.1.1 COMPONENTS; 4.1.2 PPP ENCAPSULATION; 4.1.3 LINK CONTROL PROTOCOL OPERATIONS; 4.1.4 MULTILINK PPP; 4.2 POINT-TO-POINT TUNNELING PROTOCOL; 4.2.1 IMPLEMENTATION MODELS; 4.2.2 NETWORKING FUNCTIONS; 4.2.3 ESTABLISHING THE PPTP TUNNEL; 4.2.4 PPTP ENCAPSULATED PACKETS; 4.2.5 THE PPTP CONTROL CONNECTION PACKET; 4.2.6 CONTROL CONNECTION PROTOCOL OPERATION; 4.2.7 PPTP DATA TUNNELING; 4.3 LAYER TWO FORWARDING; 4.3.1 EVOLUTION; 4.3.2 OPERATION; 4.3.3 THE L2F PACKET FORMAT; 4.3.4 TUNNEL OPERATIONS; 4.3.5 MANAGEMENT MESSAGES; 4.4 LAYER TWO TUNNELING PROTOCOL 4.4.1 OVERVIEW 4.4.2 ARCHITECTURAL MODELS; 4.4.3 THE L2TP PACKET FORMAT; 4.4.4 CONTROL MESSAGES; 4.4.5 PROTOCOL OPERATIONS; Chapter 5 Higher Layer VPNs; 5.1 UNDERSTANDING IPSEC; 5.1.1 OVERVIEW; 5.1.2 TOPOLOGIES SUPPORTED; 5.1.3 SPECIFYING SESSION PARAMETERS; 5.1.4 THE SPI; 5.1.5 PROTOCOLS; 5.1.6 AUTHENTICATION HEADER; 5.1.7 ENCAPSULATING SECURITY PAYLOAD; 5.1.8 OPERATIONS; 5.1.9 KEY MANAGEMENT; 5.2 WORKING WITH IPSEC; 5.2.1 CONFIGURING IPSEC POLICIES; 5.2.2 ADDING THE IPSEC SNAP-IN; 5.2.3 CREATING AN IPSEC POLICY; 5.2.4 WORKING WITH IPSEC FILTERS; 5.3 SSL AND TLS; 5.3.1 RATIONALE FOR SSL 5.3.2 OVERVIEW OF SSL

## Sommario/riassunto

This book provides network managers, LAN administrators and small business operators with all they need to know to "interconnect" multiple locations or travelling employees that need to access a single location. The operation and utilization of virtual private networks is discussed both in theory and practicality, covering the technical aspects associated with encryption and digital certificates as well as the manner by which readers can create VPNs using readily available products from Microsoft, Cisco, Checkpoint and possibly other vendors. The author was among the first to write ab