Security and Privacy in Computer Systems

LANCE J. HOFFMAN

Department of Electrical Engineering and Computer Sciences University of California, Berkeley

	Technische Hochschule Darmstadt FACHBEREICH INFORMATIK							
	BIBLIOTHEK							
	Inventor-Nr.: 1568							
Sachgebiete:								
	Standort:							



CONTENTS

INTRODUCTION	1
Section I CIVIL LIBERTIES THREATS	7
Surveillance of Citizens Stirs Debate BEN A. FRANKLIN	9
Resolution Governing Access to Police Department Records BERKELEY, CALIFORNIA CITY COUNCIL	16
The National Data Center and Personal Privacy ARTHUR R. MILLER	21
Summary of the National Academy of Sciences Databank Report ALAN F. WESTIN	31
The Threat to Privacy NEW YORK TIMES EDITORIAL	40
Section II A CRAM COURSE IN THREATS AND COUNTERMEASURES	43
Is Your Computer Insecure? CHARLES W. BEARDSLEY	45
Security Considerations for Operations Management IBM	73

System Implications of Information Privacy H. E. PETERSEN and R. TURN	76
Section III PRIVACY TRANSFORMATIONS	97
On Distributed Communications: IX. Security, Secrecy, and Tamper-Free Considerations PAUL BARAN	99
A Consideration of the Application of Cryptographic Techniques to Data Processing R. O. SKATRUD	124
Fast "Infinite-Key" Privacy Transformation for Resource-Sharing Systems J. M. CARROLL and P. M. McLELLAN	139
Section IV MODELS FOR SECURE SYSTEMS	157
The Authorization Problem in Shared Files T. D. FRIEDMAN	159
The Formulary Model for Flexible Privacy and Access Controls LANCE J. HOFFMAN	186
Security Controls in the ADEPT-50 Time-Sharing System c. Weissman	216
On the Implementation of Security Measures in Information Systems R. W. CONWAY, W. L. MAXWELL, and H. D. MORGAN	244
Privacy and Security in Databank Systems: Measures of Effectiveness, Costs, and Protector-Intruder Interactions REIN TURN and NORMAN Z. SHAPIRO	267

CO	N	T	F	N	Tς
-	ıv			w	1.3

ix

Section V "STATISTICAL" DATA BANKS	287
Getting a Personal Dossier from a Statistical Data Bank LANCE J. HOFFMAN and W. F. MILLER	289
A "Link" System for Assuring Confidentiality of Research Data in Longitudinal Studies ALEXANDER W. ASTIN and ROBERT F. BORUCH	294
Section VI IS THERE HOPE IN HARDWARE?	305
Protection in an Information Processing Utility ROBERT M. GRAHAM	307
A Hardware Architecture for Implementing Protection Rings MICHAEL D. SCHROEDER and JEROME H. SALTZER	318
Hardware Aspects of Secure Computing LEE M. MOLHO	351
Section VII SECURITY IN EXISTING SYSTEMS	367
Taxonomy of Security and Integrity PETER S. BROWNE	_, 369
IBM's Resource Security System (RSS) LANCE J. HOFFMAN	379
REFERENCES	403
BIOGRAPHICAL SKETCHES	405
INDEX	415