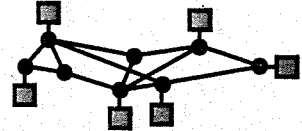


# PROCEEDINGS

Internet Society



## Symposium on Network and Distributed System Security

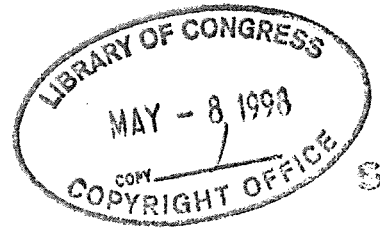
1996

February 22-23, 1996

San Diego, California



*Proceedings of the*



# **Symposium on Network and Distributed System Security**

*Proceedings of the*

# **Symposium on Network and Distributed System Security**

February 22 – 23, 1996

San Diego, California

*Sponsored by*  
The Internet Society



Los Alamitos, California

Washington

•

Brussels

•

Tokyo

---

15

TK 5105  
.59  
S952  
1996  
COPY 2



IEEE Computer Society Press  
10662 Los Vaqueros Circle  
P.O. Box 3014  
Los Alamitos, CA 90720-1264

Copyright © 1996 by The Institute of Electrical and Electronics Engineers, Inc.  
All rights reserved.

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries may photocopy beyond the limits of US copyright law, for private use of patrons, those articles in this volume that carry a code at the bottom of the first page, provided that the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

Other copying, reprint, or republication requests should be addressed to: IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331.

*The papers in this book comprise the proceedings of the meeting mentioned on the cover and title page. They reflect the authors' opinions and, in the interests of timely dissemination, are published as presented and without change. Their inclusion in this publication does not necessarily constitute endorsement by the editors, the IEEE Computer Society Press, or the Institute of Electrical and Electronics Engineers, Inc.*

IEEE Computer Society Press Order Number PR07222  
Library of Congress Number 95-82021  
ISBN 0-8186-7222-6

*Additional copies may be ordered from:*

IEEE Computer Society Press  
Customer Service Center  
10662 Los Vaqueros Circle  
P.O. Box 3014  
Los Alamitos, CA 90720-1264  
Tel: +1-714-821-8380  
Fax: +1-714-821-4641  
Email: cs.books@computer.org

IEEE Computer Society  
13, Avenue de l'Aquilon  
B-1200 Brussels  
BELGIUM  
Tel: +32-2-770-2198  
Fax: +32-2-770-8505  
euro.ofc@computer.org

IEEE Computer Society  
Ooshima Building  
2-19-1 Minami-Aoyama  
Minato-ku, Tokyo 107  
JAPAN  
Tel: +81-3-3408-3118  
Fax: +81-3-3408-3553  
tokyo.ofc@computer.org

Editorial production by Mary E. Kavanaugh  
Cover design by Danny M. Nessett  
Cover production by Joseph Daigle  
Printed in the United States of America by KNI, Inc.



The Institute of Electrical and Electronics Engineers, Inc.

## Table of Contents

<i>General Chair's Message</i> .....	vii
<i>Program Chairs' Message</i> .....	viii
<i>Organizing Committee</i> .....	ix
<i>Program Committee</i> .....	x
<i>Privacy and Security Research Group</i> .....	xi

### Session 1: Electronic Mail Security

**Chair:** Stephen T. Kent — *BBN Corporation*

Mixing E-mail with BABEL .....	2
<i>C. Gülcü and G. Tsudik</i>	
An Integration of PGP and MIME .....	17
<i>K. Yamamoto</i>	

### Session 2: Distributed Object Systems

**Chair:** Danny M. Nessellet — *Sun Microsystems*

A Security Framework Supporting Domain-Based Access Control in Distributed Systems .....	26
<i>N. Yialelis and M. Sloman</i>	
Panel — Scalability of Security in Distributed Object Systems .....	40
<i>Moderator: Danny M. Nessellet — Sun Microsystems</i>	
<i>Panelists: Bret Hartman — Odyssey Research Associates</i>	
<i>Danny M. Nessellet — Sun Microsystems</i>	
<i>Nicholas Yialelis — Imperial College, London</i>	

### Session 3: Distributed System Security

**Chair:** Michael Roe — *University of Cambridge*

A Flexible Distributed Authorization Protocol .....	43
<i>J.T. Trostle and B.C. Neuman</i>	
Preserving Integrity in Remote File Location and Retrieval .....	53
<i>T. Jaeger and A.D. Rubin</i>	
C-HTTP — The Development of a Secure, Closed HTTP-Based Network on the Internet .....	64
<i>T. Kiuchi and S. Kaihara</i>	

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.