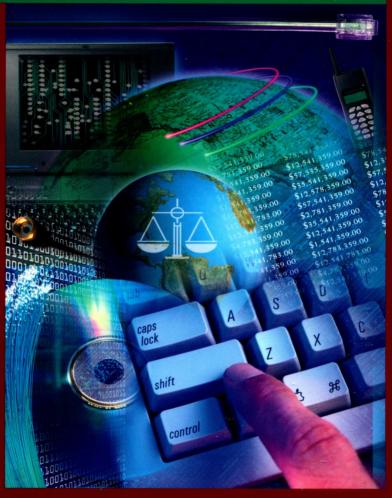
ESI HANDBOOK 2011 EDITION

SOURCES, TECHNOLOGY, AND PROCESS



ADAM I. COHEN • G. EDWARD KALBAUGH

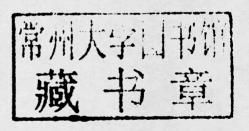


ASPEN PUBLISHERS

ESI HANDBOOK Sources, Technology and Process

2011 Edition

Adam I. Cohen G. Edward Kalbaugh





This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional services. If legal advice or other professional assistance is required, the services of a competent professional person should be sought.

—From a Declaration of Principles jointly adopted by a Committee of the American Bar Association and a Committee of Publishers and Associations

© 2011 Aspen Publishers. All Rights Reserved.

Cover Photo: Guy Crittenden, Getty Images

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher. Requests for permission to reproduce content should be directed to the Aspen Publishers website at www.aspenpublishers.com, or a letter of intent should be faxed to the permissions department at 212-771-0803.

Printed in the United States of America

1234567890

Library of Congress Cataloging-in-Publication Data

Cohen, Adam I., 1968-

ESI handbook: sources, technology, and process / Adam I. Cohen, G. Edward Kalbaugh.

p. cm.—(Law & business)

Includes bibliographical references and index.

ISBN 978-0-7355-9301-5 (alk. paper)

1. Electronic discovery (Law)—United States. 2. Electronic records. 3. Electronic data processing. I. Kalbaugh, G. Edward. II. Title.

KF8902.E42C65 2008 347.73'72—dc22

2008042041

ASPEN PUBLISHERS

ESI HANDBOOK:

Sources, Technology and Process

by Adam I. Cohen and G. Edward Kalbaugh

ESI Handbook: Sources, Technology and Process, is a unique resource that focuses on information technology, especially as it relates to electronic discovery of electronically stored information under the amendments to the Federal Rules of Civil Procedure adopted in December of 2006. It is designed to provide non-technical litigators, judges, other practitioners, and corporate e-Discovery teams with a practical guide to the information systems infrastructure and the various technology components that support electronic discovery as sources of ESI.

Highlights of the 2011 Edition

The 2011 Edition of *ESI Handbook: Sources, Technology and Process*, clarifies and updates various chapters in line with new and emerging technology expands the scope of the treatise to provide essential new information, including:

- Several new cases and protocols have been added to the section on Computer Inspection Protocols (Appendix 8).
- A new section has been added to the appendices that examines and outlines several Discovery Protocols from actual cases (Appendix 9).

12/10

For questions concerning this shipment, billing, or other customer service matters, call our Customer Service department at 1-800-234-1660.

For toll-free ordering, please call 1-800-638-8437.

© 2011 Aspen Publishers. All Rights Reserved.



About Wolters Kluwer Law & Business

Wolters Kluwer Law & Business is a leading provider of research information and workflow solutions in key specialty areas. The strengths of the individual brands of Aspen Publishers, CCH, Kluwer Law International and Loislaw are aligned within Wolters Kluwer Law & Business to provide comprehensive, in-depth solutions and expert-authored content for the legal, professional and education markets.

CCH was founded in 1913 and has served more than four generations of business professionals and their clients. The CCH products in the Wolters Kluwer Law & Business group are highly regarded electronic and print resources for legal, securities, antitrust and trade regulation, government contracting, banking, pension, payroll, employment and labor, and healthcare reimbursement and compliance professionals.

Aspen Publishers is a leading information provider for attorneys, business professionals and law students. Written by preeminent authorities, Aspen products offer analytical and practical information in a range of specialty practice areas from securities law and intellectual property to mergers and acquisitions and pension/benefits. Aspen's trusted legal education resources provide professors and students with high-quality, up-to-date and effective resources for successful instruction and study in all areas of the law.

Kluwer Law International supplies the global business community with comprehensive English-language international legal information. Legal practitioners, corporate counsel and business executives around the world rely on the Kluwer Law International journals, loose-leafs, books and electronic products for authoritative information in many areas of international legal practice.

Loislaw is a premier provider of digitized legal content to small law firm practitioners of various specializations. Loislaw provides attorneys with the ability to quickly and efficiently find the necessary legal information they need, when and where they need it, by facilitating access to primary law as well as state-specific law, records, forms and treatises.

Wolters Kluwer Law & Business, a unit of Wolters Kluwer, is headquartered in New York and Riverwoods, Illinois. Wolters Kluwer is a leading multinational publisher and information services company.

ASPEN PUBLISHERS SUBSCRIPTION NOTICE

This Aspen Publishers product is updated on a periodic basis with supplements to reflect important changes in the subject matter. If you purchased this product directly from Aspen Publishers, we have already recorded your subscription for the update service.

If, however, you purchased this product from a bookstore and wish to receive future updates and revised or related volumes billed separately with a 30-day examination review, please contact our Customer Service Department at 1-800-234-1660 or send your name, company name (if applicable), address, and the title of the product to:

ASPEN PUBLISHERS 7201 McKinney Circle Frederick, MD 21704

Important Aspen Publishers Contact Information

- To order any Aspen Publishers title, go to www.aspenpublishers.com or call 1-800-638-8437.
- To reinstate your manual update service, call 1-800-638-8437.
- To contact Customer Care, e-mail *customer.care@aspenpublishers.com*, call 1-800-234-1660, fax 1-800-901-9075, or mail correspondence to Order Department, Aspen Publishers, PO Box 990, Frederick, MD 21705.
- To review your account history or pay an invoice online, visit www.aspenpublishers.com/ payinvoices.



ABOUT THE AUTHORS

Adam I. Cohen

Adam I. Cohen is a senior managing director in the New York office of FTI's Technology Consulting practice. Mr. Cohen is a nationally recognized expert in electronic discovery and electronic information management policy issues. Mr. Cohen advises on planning and implementation issues associated with every phase of electronic discovery in litigations and investigations as well as electronic information management policies and practices, including, for example, proactive litigation readiness and regulatory compliance, complying with electronic preservation obligations and avoiding spoliation sanctions, crafting and responding to discovery requests targeting electronic information, and cost containment strategies.

Prior to joining FTI, Mr. Cohen was a litigation partner at Weil, Gotshal & Manges, LLP, where he represented major corporate clients in complex litigation involving computer and Internet-related issues. He is co-author (with Weil partner David J. Lender) of the treatise Electronic Discovery: Law and Practice (Aspen Publishers), which already has been cited as authority in several landmark electronic discovery opinions by federal courts.

Mr. Cohen is co-chair of the Electronic Discovery committee of the New York State Bar Association's Federal and Commercial Litigation Section, a member of the Advisory Board of the Georgetown Law Center E-Discovery Institute, and a member of the board of Volunteer Lawyers for the Arts. He is admitted to practice in the courts of the State of New York, as well as the United States District Courts for the Southern and Eastern Districts of New York. He holds a B.A. from Wesleyan University and a J.D. from Duke University School of Law.

G. Edward Kalbaugh

G. Edward Kalbaugh is President & CEO of Allegent Consulting Group, a consultancy that advises companies on strategies and application of information technology to achieve business objectives, including governance, risk management, and compliance programs.

Mr. Kalbaugh has led and participated in numerous major national and international engagements involving assessments, strategies, policies and implementation procedures dealing with regulatory compliance, corporate governance, information systems migrations, and enterprise risk management.

Prior to Allegent, Mr. Kalbaugh held senior management positions in banking, where his responsibilities included operations and information systems and membership on the regulatory and risk management steering committees. Mr. Kalbaugh began his career with the Space Division of Rockwell International, where he completed the company's six-year management development program and was director of engineering extended space operations.

Trained as an industrial engineer, Mr. Kalbaugh has been a frequent writer and speaker on business transformation through leverage of information systems. He has formed and sold three technology companies.

ACKNOWLEDGMENTS

We would like to thank the professionals and staff at FTI Consulting, Inc., in particular the members of the Technology segment and especially David Remnitz, Stephen O'Malley and Adil Dharssi. Without their experience, expertise, dedication and support the consulting practice in electronic discovery compliance that inspired this book would never have taken flight.

We would also like to thank Adam's former partners at the law firm Weil, Gotshal & Manges LLP for supporting Adam's journey down the path of eDiscovery enlightenment, and in particular David Lender, the leader of the firm's electronic discovery practice and Adam's co-author on the legal treatise Electronic Discovery: Law and Practice, for his continued professional collaboration and friendship.

Adam would especially like to thank his family—his parents for instilling academic discipline, intellectual curiosity and a love of books, and his wife, Lori, and children, Zachary, Charlotte and Logan, for their continued love and support for his professional pursuits.

Edward would especially like to thank his wife Christine for her continuous support and encouragement, and Richard Hershman, Senior Managing Director of FTI's Global Insurance Practice for his professional insights, counsel and friendship.

FOREWORD

In 2004, Adam Cohen and David Lender co-authored the book, *Electronic Discovery: Law and Practice*, as a guide for litigators involved in e-discovery.

The book focused on the details of case law to illustrate the practical application of real-world e-discovery, primarily under U.S. federal law.

The book has been cited in several major decisions and federal court opinions. It has had several major supplements and remains without peer as an authoritative case law treatise on the subject.

This new book, *ESI Handbook: Sources, Technology and Process*, expands on chapter 9 of the original by focusing on information technology, especially as it relates to electronic discovery of electronically stored information under the amendments to the Federal Rules of Civil Procedure adopted in December 2006.

This book is intended to provide non-technical litigators, judges, other practitioners, and corporate e-Discovery teams with a practical guide to the information systems infrastructure and the various technology components that support electronic discovery as sources of ESI.

DISCLAIMER

This book is intended to provide a broad range of information to inform and educate, and is not intended to offer legal advice. Information in this book is derived from multiple published and unpublished sources, including the authors' personal files, reference books, articles, vendor literature, and Web sites. Accordingly, while the authors believe the statements contained herein are based on accurate and reliable information, they cannot warrant that each topic is complete, up to date, or error free. References to specific vendors are for informational purposes only, and do not imply endorsement by the authors. Any brands, products, or service names are, or may be, trademarks or service marks and are used solely to identify products or services of their respective owners.

INTRODUCTION AND OVERVIEW

TABLE OF CONTENTS

ABOUT THE AUTHORS ACKNOWLEDGEMENTS FOREWORD DISCLAIMER

PART I INTRODUCTION AND OVERVIEW

Chapter 1 INTRODUCTION

Chapter 2

OVERVIEW OF THE ELECTRONIC DISCOVERY PROCESS

§ 2.01	Introduction
§ 2.02	Forms of ESI
§ 2.03	Electronic Discovery Process Lifecycle
§ 2.04	Issues and Concerns
§ 2.05	Recommendations

Chapter 3

OVERVIEW OF THE INFORMATION TECHNOLOGY INFRASTRUCTURE

§ 3.01	Introduction
§ 3.02	Networks and Components
§ 3.03	Types of Networks
§ 3.04	Cloud Computing
§ 3.05	Functional Systems
§ 3.06	Information Technology Organization
§ 3.07	Issues and Concerns
\$ 3.08	Recommendations

PART II

SOURCES OF ELECTRONICALLY STORED INFORMATION

Chapter 4 INTRODUCTION TO SOURCES OF ESI

Chapter 5 OVERVIEW OF FILE AND STORAGE SYSTEMS

§ 5.01	File Systems
§ 5.02	Storage Systems
§ 5.03	Server and Storage Virtualization
8 5 04	Issues and Concerns

§ 5.05 Recommendations

Chapter 6

NATIVE FILES AND METADATA

- § 6.01 Native Files § 6.02 Metadata
- § 6.03 Issues and Concerns
- § 6.04 Recommendations
- § 6.05 More Information

Chapter 7

EMAIL AND COLLABORATION SYSTEMS

- § 7.01 Standard Email Systems
- § 7.02 Microsoft Exchange Server
- § 7.03 Lotus Notes
- § 7.04 Instant Messaging
- § 7.05 Microsoft SharePoint
- § 7.06 Social Networking
- § 7.07 Issues and Concerns
- § 7.08 Recommendations

Chapter 8

DATABASES

- § 8.01 Flat Database
- § 8.02 Hierarchical Database
- § 8.03 Network Database
- § 8.04 Object Database
- § 8.05 Dimensional Database
- § 8.06 Data Warehouse
- § 8.07 Relational Databases
- § 8.08 Issues and Concerns
- § 8.09 Recommendations

Chapter 9

FILE SERVERS

- § 9.01 Description
- § 9.02 Issues and Concerns
- § 9.03 Recommendations

Chapter 10

ENTERPRISE STORAGE SYSTEMS

- § 10.01 Introduction and Background
- § 10.02 Strategic Issues
- § 10.03 Storage Convergence
- § 10.04 Open Source Storage Products
- § 10.05 Hybrid and Bridging Systems
- § 10.06 Deduplication
- § 10.07 Storage Virtualization
- § 10.08 Grid Computing

CONTENT	S MALY MOTERATE DESCRIPTION MARKET
§ 10.09	Application Fabrics
§ 10.10	Web-Based Storage (Cloud Storage)
§ 10.11	Tape-Based Storage
§ 10.12	Issues and Concerns
§ 10.13	Recommendations
Chapter 1 DESKTO	11 P AND PORTABLE COMPUTERS
§ 11.01	Introduction and Background
§ 11.02	Issues and Concerns
§ 11.03	Recommendations
Chapter 1	12 DEVICES
§ 12.01	Introduction Characteristics of Makila Davises
§ 12.02	Characteristics of Mobile Devices Mobile Device ESI
§ 12.03	Issues and Concerns
§ 12.04 § 12.05	Recommendations
8 12.03	Recommendations
Chapter 1 MULTIM	13 IEDIA AND VIDEO
§ 13.01	Multimedia
§ 13.02	Video
§ 13.03	Issues and Concerns
§ 13.04	Recommendations
Chapter 1	14
REMOVA	ABLE STORAGE DEVICES/MEDIA
§ 14.01	Introduction and Background
§ 14.02	Types of Removable Storage Device
§ 14.03	Issues and Concerns
§ 14.04	Recommendations
Chapter	15
VOICE N	MAIL
§ 15.01	Description
§ 15.02	
§ 15.03	Recommendations

PART III

PERFORMING ELECTRONIC DISCOVERY

Chapter 16 INTRODUCTION

§ 16.01	e-Discovery Lifecycle
§ 16.02	FRCP 2006 Amendments
8 16 03	Chanters in Part 3

Chapter 17

MANAGEMENT AND ADMINISTRATION

§ 17.01 Litigation Response Plan (LRP)§ 17.02 e-Discovery Project Management

Chapter 18

STANDARDS AND BEST PRACTICES

\$ 18.01 Auditability Chain-of-Custody \$ 18.02 \$ 18.03 Copying and Fingerprinting Original ESI Custodian and Key Person Interviews \$ 18.04 \$ 18.05 Data Sampling Metrics and Measurement § 18.06 \$ 18.07 **Ouality Control** Coding Manual \$ 18.08 \$ 18.09 Security

Chapter 19

FORENSIC CONSIDERATIONS

§ 19.01 Introduction and Background
§ 19.02 Issues and Concerns
§ 19.03 Recommendations

Chapter 20

SEARCH AND RETRIEVAL CONSIDERATIONS

§ 20.01 Introduction
§ 20.02 Search Techniques
§ 20.03 Issues and Concerns
§ 20.04 Recommendations

Chapter 21

PREPARATION AND PRESERVATION

\$ 21.01 Identification § 21.02 Litigation Hold § 21.03 Preservation Notices and Letters § 21.04 Preservation § 21.05 Meet-and-Confer § 21.06 Discovery Strategy and Project Plan Issues and Concerns § 21.07 § 21.08 Recommendations

Chapter 22

QUICK WALKTHROUGH OF THE e-DISCOVERY PROCESS

Chapter 23

GENERAL ISSUES AND RECOMMENDATIONS

§ 23.01 Management Commitment and Support § 23.02 Cultural Issues

CONTEN	IS AN ASSERBACION HIS RED LOGIC DECORDINAL LES
§ 23.03	Education and Training
§ 23.04	Planning
§ 23.05	Methodologies
§ 23.06	Standardization
§ 23.07	e-Discovery Technology
PART IV e-DISCO	VERY READINESS PLANNING
Chapter :	
§ 24.01	Overview
§ 24.02	"State of Readiness of Corporate IT Infrastructure"
Chapter :	25 CE AND GOVERNANCE
§ 25.01	Introduction
§ 25.01	ILM Steering Committee
§ 25.02 § 25.03	ILM Program Office
§ 25.04	ILM Governance and Implementation Methodology
§ 25.05	Third-Party Involvement
§ 25.06	Issues and Concerns
§ 25.07	Recommendations
Chapter	26
INFORM	IATION LIFECYCLE MANAGEMENT
§ 26.01	Introduction
§ 26.02	Background
§ 26.03	Document Lifecycle Model
§ 26.04	Components of ILM
§ 26.05	Migration to ILM
Chapter	
ESTABL	ISHING THE e-DISCOVERY METHODOLOGY
§ 27.01 § 27.02	Methodology Components Project Plans
Chapter :	28 IENTING AN e-DISCOVERY READINESS PROGRAM
§ 28.01	Introduction
§ 28.02	e-Discovery Readiness Program
Chapter e-DISCO	29 VERY TECHNOLOGY AND TOOLS
§ 29.01	The e-Discovery Marketplace
§ 29.01 § 29.02	Market Consolidation and Implications
0	

§ 29.03

Solution Categories

Chapter 30

CHOOSING VENDORS

§ 30.01 Needs Analysis

§ 30.02 Request for Proposal (RFP)

§ 30.03 Due Diligence

PART V APPENDICES

Appendix 1

Appendix 2

Appendix 3

Appendix 4

Appendix 5

Appendix 6

Appendix 7

Appendix 8

Appendix 9

BIBLIOGRAPHY

GLOSSARY 7

INDEX