

Building A Digital Forensic Laboratory Establishing And Managin

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The need to professionally and successfully conduct computer forensic investigations of incidents and crimes has never been greater. This has caused an increased requirement for information about the creation and management of computer forensic laboratories and the investigations themselves. This includes a great need for information on how to cost-effectively establish and manage a computer forensics laboratory. This book meets that need: a clearly written, non-technical book on the topic of computer forensics with emphasis on the establishment and management of a computer forensics laboratory and its subsequent support to successfully conducting computer-related crime investigations. Provides guidance on creating and managing a computer forensics lab Covers the regulatory and legislative environment in the US and Europe Meets the needs of IT professionals and law enforcement as well as consultants

Forensic Laboratories Syngress

Matching DNA samples from crime scenes and suspects is rapidly becoming a key source of evidence for use in our justice system. DNA Technology in Forensic Science offers recommendations for resolving crucial questions that are emerging as DNA typing becomes more widespread. The volume addresses key issues: Quality and reliability in DNA typing, including the introduction of new technologies, problems of standardization, and approaches to certification. DNA typing in the courtroom, including issues of population genetics, levels of understanding among judges and juries, and admissibility. Societal issues, such as privacy of DNA data, storage of samples and data, and the rights of defendants to quality testing technology. Combining this original volume with the new update--The Evaluation of Forensic DNA Evidence--provides the complete, up-to-date picture of this highly important and visible topic. This volume offers important guidance to anyone working with this emerging law enforcement tool: policymakers, specialists in criminal law, forensic scientists, geneticists, researchers, faculty, and students.

Forensic Medicine No Starch Press

Covering up-to-date mobile platforms, this book focuses on teaching you the most recent tools and techniques for investigating mobile devices.

Readers will delve into a variety of mobile forensics techniques for iOS 11-13, Android 8-10 devices, and Windows 10.

Computer Forensics John Wiley & Sons

Updated with the latest advances from the field, GUIDE TO COMPUTER FORENSICS AND INVESTIGATIONS, Fifth Edition combines all-encompassing topic coverage and authoritative information from seasoned experts to deliver the most comprehensive forensics resource available. This proven author team's wide ranging areas of expertise mirror the breadth of coverage provided in the book, which focuses on techniques and practices for gathering and analyzing evidence used to solve crimes involving computers. Providing clear instruction on the tools and techniques of the trade, it introduces readers to every step of the computer forensics investigation-from lab set-up to testifying in court. It also details step-by-step guidance on how to use current forensics software. Appropriate for learners new to the field, it is also an excellent refresher and technology update for professionals in law enforcement, investigations, or computer security. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Strengthening Forensic Science in the United States Syngress

Linux Forensics is the most comprehensive and up-to-date resource for those wishing to quickly and efficiently perform forensics on Linux systems. It is also a great asset for anyone that would like to better understand Linux internals. Linux Forensics will guide you step by step through the process of investigating a computer running Linux. Everything you need to know from the moment you receive the call from someone who thinks they have been attacked until the final report is written is covered in this book. All of the tools discussed in this book are free and most are also open source. Dr. Philip Polstra shows how to leverage numerous tools such as Python, shell scripting, and MySQL to quickly, easily, and accurately analyze Linux systems. While readers will have a strong grasp of Python and shell scripting by the time they complete this book, no prior knowledge of either of these scripting languages is assumed. Linux Forensics begins by showing you how to determine if there was an incident with minimally invasive techniques. Once it appears likely that an incident has occurred, Dr. Polstra shows you how to collect data from a live system before shutting it down for the creation of filesystem images. Linux Forensics contains extensive coverage of Linux ext2, ext3, and ext4 filesystems. A large collection of Python and shell scripts for creating, mounting, and analyzing filesystem images are presented in this book. Dr. Polstra introduces readers to the exciting new field of memory analysis using the Volatility framework. Discussions of advanced attacks and malware analysis round out the book. Book Highlights 370 pages in large, easy-to-read 8.5 x 11 inch format Over 9000 lines of Python scripts with explanations Over 800 lines of shell scripts with explanations A 102 page chapter containing up-to-date information on the ext4 filesystem Two scenarios described in detail with images available from the book website All scripts and other support files are available from the book website Chapter Contents First Steps General Principles Phases of Investigation High-level Process Building a Toolkit Determining If There Was an Incident Opening a Case Talking to Users Documentation Mounting Known-good Binaries Minimizing Disturbance to the Subject Automation With Scripting Live Analysis Getting Metadata Using Spreadsheets Getting Command Histories Getting Logs Using Hashes Dumping RAM Creating Images Shutting Down the System Image Formats DD DCFLDD Write

Blocking Imaging Virtual Machines Imaging Physical Drives Mounting Images Master Boot Record Based Partitions GUID Partition Tables Mounting Partitions In Linux Automating With Python Analyzing Mounted Images Getting Timestamps Using LibreOffice Using MySQL Creating Timelines Extended Filesystems Basics Superblocks Features Using Python Finding Things That Are Out Of Place Inodes Journaling Memory Analysis Volatility Creating Profiles Linux Commands Dealing With More Advanced Attackers Malware Is It Malware? Malware Analysis Tools Static Analysis Dynamic Analysis Obfuscation The Road Ahead Learning More Communities Conferences Certifications

DNA Technology in Forensic Science Fred Cohen & Associates

'This extraordinarily lucid book demonstrates that women from all walks of life get the short end of the stick because of their gender. From welfare mothers to corporate executives, Albelda and Tilly show and why the powers-that-be benefit from scapegoating and marginalizing women.' Professor Mimi Abramowitz, author, *Regulating the Lives of Women*A cogent analysis of the economic and social realities for women in the United States, across class lines. In an age when the right wing manipulates the dialogue around women's issues to separate middle- and upper-class women from their poorer sisters this book's facts, figures, and analysis provide a much needed antidote.

Evidence Collection and Management Knopf

Have you ever wondered whether the forensic science you've seen on TV is anything like the real thing? There's no better way to find out than to roll up your sleeves and do it yourself. This full-color book offers advice for setting up an inexpensive home lab, and includes more than 50 hands-on lab sessions that deal with forensic science experiments in biology, chemistry, and physics. You'll learn the practical skills and fundamental knowledge needed to pursue forensics as a lifelong hobby—or even a career. The forensic science procedures in this book are not merely educational, they're the real deal. Each chapter includes one or more lab sessions devoted to a particular topic. You'll find a complete list of equipment and chemicals you need for each session. Analyze soil, hair, and fibers Match glass and plastic specimens Develop latent fingerprints and reveal blood traces Conduct drug and toxicology tests Analyze gunshot and explosives residues Detect forgeries and fakes Analyze impressions, such as tool marks and footprints Match pollen and diatom samples Extract, isolate, and visualize DNA samples Through their company, The Home Scientist, LLC (thehomescientist.com/forensics), the authors also offer inexpensive custom kits that provide specialized equipment and supplies you'll need to complete the experiments. Add a microscope and some common household items and you're good to go.

Building a Digital Forensic Laboratory Butterworth-Heinemann

Hiding Behind the Keyboard: Uncovering Covert Communication Methods with Forensic Analysis exposes the latest electronic covert communication techniques used by cybercriminals, along with the needed investigative methods for identifying them. The book shows how to use the Internet for legitimate covert communication, while giving investigators the information they need for detecting cybercriminals who attempt to hide their true identity. Intended for practitioners and investigators, the book offers concrete examples on how to communicate securely, serving as an ideal reference for those who truly need protection, as well as those who investigate cybercriminals. Covers high-level strategies, what they can achieve, and how to implement them Shows discovery and mitigation methods using examples, court cases, and more Explores how social media sites and gaming technologies can be used for illicit communications activities Explores the currently in-use technologies such as TAILS and TOR that help with keeping anonymous online

Forensic Laboratory Management Packt Publishing Ltd

The definitive text for students of digital forensics, as well as professionals looking to deepen their understanding of an increasingly critical field Written by faculty members and associates of the world-renowned Norwegian Information Security Laboratory (NisLab) at the Norwegian University of Science and Technology (NTNU), this textbook takes a scientific approach to digital forensics ideally suited for university courses in digital forensics and information security. Each chapter was written by an accomplished expert in his or her field, many of them with extensive experience in law enforcement and industry. The author team comprises experts in digital forensics, cybercrime law, information security and related areas. Digital forensics is a key competency in meeting the growing risks of cybercrime, as well as for criminal investigation generally. Considering the astonishing pace at which new information technology – and new ways of exploiting information technology – is brought on line, researchers and practitioners regularly face new technical challenges, forcing them to continuously upgrade their investigatory skills. Designed to prepare the next generation to rise to those challenges, the material contained in Digital Forensics has been tested and refined by use in both graduate and undergraduate programs and subjected to formal evaluations for more than ten years. Encompasses all aspects of the field, including methodological, scientific, technical and legal matters Based on the latest research, it provides novel insights for students, including an informed look at the future of digital forensics Includes test questions from actual exam sets, multiple choice questions suitable for online use and numerous visuals, illustrations and case example images Features real-word examples and scenarios, including court cases and technical problems, as well as a rich library of academic references and references to online media Digital Forensics is an excellent introductory text for programs in computer science and computer engineering and for master degree programs in military and police education. It is also a valuable reference for legal practitioners, police officers, investigators, and forensic practitioners seeking to gain a deeper understanding of digital forensics and cybercrime.

Digital Forensics Newnes

A resource to help forensic investigators locate, analyze, and understand digital evidence found on modern Linux systems after a crime, security

incident or cyber attack. Practical Linux Forensics dives into the technical details of analyzing postmortem forensic images of Linux systems which have been misused, abused, or the target of malicious attacks. It helps forensic investigators locate and analyze digital evidence found on Linux desktops, servers, and IoT devices. Throughout the book, you learn how to identify digital artifacts which may be of interest to an investigation, draw logical conclusions, and reconstruct past activity from incidents. You'll learn how Linux works from a digital forensics and investigation perspective, and how to interpret evidence from Linux environments. The techniques shown are intended to be independent of the forensic analysis platforms and tools used. Learn how to:

- Extract evidence from storage devices and analyze partition tables, volume managers, popular Linux filesystems (Ext4, Btrfs, and Xfs), and encryption
- Investigate evidence from Linux logs, including traditional syslog, the systemd journal, kernel and audit logs, and logs from daemons and applications
- Reconstruct the Linux startup process, from boot loaders (UEFI and Grub) and kernel initialization, to systemd unit files and targets leading up to a graphical login
- Perform analysis of power, temperature, and the physical environment of a Linux machine, and find evidence of sleep, hibernation, shutdowns, reboots, and crashes
- Examine installed software, including distro installers, package formats, and package management systems from Debian, Fedora, SUSE, Arch, and other distros
- Perform analysis of time and Locale settings, internationalization including language and keyboard settings, and geolocation on a Linux system
- Reconstruct user login sessions (shell, X11 and Wayland), desktops (Gnome, KDE, and others) and analyze keyrings, wallets, trash cans, clipboards, thumbnails, recent files and other desktop artifacts
- Analyze network configuration, including interfaces, addresses, network managers, DNS, wireless artifacts (Wi-Fi, Bluetooth, WWAN), VPNs (including WireGuard), firewalls, and proxy settings
- Identify traces of attached peripheral devices (PCI, USB, Thunderbolt, Bluetooth) including external storage, cameras, and mobiles, and reconstruct printing and scanning activity

Devices, Tools, and Techniques Elsevier

Investigating Corporate Fraud Accounting Irregularities E-discovery Challenges Trade Secret Theft Social Networks Data Breaches The Cloud Hackers "Having worked with Erik on some of the most challenging computer forensic investigations during the early years of this industry's formation as well as having competed with him earnestly in the marketplace...I can truly say that Erik is one of the unique pioneers of computer forensic investigations. He not only can distill complex technical information into easily understandable concepts, but he always retained a long-term global perspective on the relevancy of our work and on the impact of the information revolution on the social and business structures of tomorrow." From the Foreword by James Gordon, Managing Director, Navigant Consulting, Inc. Get the knowledge you need to make informed decisions throughout the computer forensic investigation process Investigative Computer Forensics zeroes in on a real need felt by lawyers, jurists, accountants, administrators, senior managers, and business executives around the globe: to understand the forensic investigation landscape before having an immediate and dire need for the services of a forensic investigator. Author Erik Laykin leader and pioneer of computer forensic investigations presents complex technical information in easily understandable concepts, covering: A primer on computers and networks Computer forensic fundamentals Investigative fundamentals Objectives and challenges in investigative computer forensics E-discovery responsibilities The future of computer forensic investigations Get the knowledge you need to make tough decisions during an internal investigation or while engaging the capabilities of a computer forensic professional with the proven guidance found in Investigative Computer Forensics.

A Comprehensive Handbook IGI Global

In November 1996, the National Institute of Justice (NIJ), the National Institute of Standards and Technology's (NIST) Law Enforcement Standards Office (OLEs), and the American Society of Crime Laboratory Directors held a joint workshop to develop guidelines for planning, designing, constructing, and moving into crime laboratories. The workshop's by-product, Forensic Laboratories: Handbook for Facility Planning, Design, Construction, and Moving, was published in April 1998 and was still in use up to the publication of this update. Over the 15 years since its original publication, however, significant changes have developed within the design and construction industry, specifically in regards to its focus on energy and sustainability. Additionally, dramatic advances in forensic science and research, and the resultant increased demand for forensic services have necessitated this first update to the 1998 handbook.

Forensic Science Laboratories Routledge

A timely, provocative exposé of American political and business leadership's deep ties to China: a network of people who believe they are doing the right thing--at a profound and often hidden cost to U.S. interests. The past few years have seen relations between China and the United States shift, from enthusiastic economic partners, to wary frenemies, to open rivals. Americans have been slow to wake up to the challenges posed by the Chinese Communist Party. Why did this happen? And what can we do about it? In *America Second*, Isaac Stone Fish traces the evolution of the Party's influence in America. He shows how America's leaders initially welcomed China's entry into the U.S. economy, believing that trade and engagement would lead to a more democratic China. And he explains how--although this belief has proved misguided--many of our businesspeople and politicians have become too dependent on China to challenge it. *America Second* exposes a deep network of Beijing's influence in America, built quietly over the years through prominent figures like former secretaries of state Henry Kissinger and Madeleine Albright, Disney chairman Bob Iger, and members of the Bush family. And it shows how to fight that influence--without being paranoid, xenophobic, or racist. This is an authoritative and important story of corruption and good intentions gone wrong, with serious implications not only for the future of the United States, but for the world at large.

Criminalistics Laboratory Manual CreateSpace

Advancing technologies, especially computer technologies, have necessitated the creation of a comprehensive investigation and collection methodology for digital and online evidence. The goal of cyber forensics is to perform a structured investigation while maintaining a documented chain of evidence to find out exactly what happened on a computing device or on a network and who was responsible for it. *Critical Concepts, Standards, and Techniques in Cyber Forensics* is a critical research book that focuses on providing in-depth knowledge about online forensic practices and methods. Highlighting a range of topics such as data mining, digital evidence, and fraud investigation, this book is ideal for security analysts, IT specialists, software engineers, researchers, security professionals, criminal science professionals, policymakers, academicians, and students.

Linux Forensics CRC Press

Given our increasing dependency on computing technology in daily business processes, and the growing opportunity to use engineering technologies

to engage in illegal, unauthorized, and unethical acts aimed at corporate infrastructure, every organization is at risk. *Cyber Forensics: A Field Manual for Collecting, Examining, and Preserving Evidence* o

Windows Forensics Cookbook Pearson Education

Leverage the power of digital forensics for Windows systems About This Book Build your own lab environment to analyze forensic data and practice techniques. This book offers meticulous coverage with an example-driven approach and helps you build the key skills of performing forensics on Windows-based systems using digital artifacts. It uses specific open source and Linux-based tools so you can become proficient at analyzing forensic data and upgrade your existing knowledge. Who This Book Is For This book targets forensic analysts and professionals who would like to develop skills in digital forensic analysis for the Windows platform. You will acquire proficiency, knowledge, and core skills to undertake forensic analysis of digital data. Prior experience of information security and forensic analysis would be helpful. You will gain knowledge and an understanding of performing forensic analysis with tools especially built for the Windows platform. What You Will Learn Perform live analysis on victim or suspect Windows systems locally or remotely Understand the different natures and acquisition techniques of volatile and non-volatile data. Create a timeline of all the system actions to restore the history of an incident. Recover and analyze data from FAT and NTFS file systems. Make use of various tools to perform registry analysis. Track a system user's browser and e-mail activities to prove or refute some hypotheses. Get to know how to dump and analyze computer memory. In Detail Over the last few years, the wave of the cybercrime has risen rapidly. We have witnessed many major attacks on the governmental, military, financial, and media sectors. Tracking all these attacks and crimes requires a deep understanding of operating system operations, how to extract evident data from digital evidence, and the best usage of the digital forensic tools and techniques. Regardless of your level of experience in the field of information security in general, this book will fully introduce you to digital forensics. It will provide you with the knowledge needed to assemble different types of evidence effectively, and walk you through the various stages of the analysis process. We start by discussing the principles of the digital forensics process and move on to show you the approaches that are used to conduct analysis. We will then study various tools to perform live analysis, and go through different techniques to analyze volatile and non-volatile data. Style and approach This is a step-by-step guide that delivers knowledge about different Windows artifacts. Each topic is explained sequentially, including artifact analysis using different tools and techniques. These techniques make use of the evidence extracted from infected machines, and are accompanied by real-life examples.

Meeting the Requirements of ISO 17020, ISO 17025, ISO 27001 and Best Practice Requirements Building a Digital Forensic Laboratory Establishing and Managing a Successful Facility

This is the first digital forensics book that covers the complete lifecycle of digital evidence and the chain of custody. This comprehensive handbook includes international procedures, best practices, compliance, and a companion web site with downloadable forms. Written by world-renowned digital forensics experts, this book is a must for any digital forensics lab. It provides anyone who handles digital evidence with a guide to proper procedure throughout the chain of custody--from incident response through analysis in the lab. A step-by-step guide to designing, building and using a digital forensics lab A comprehensive guide for all roles in a digital forensics laboratory Based on international standards and certifications

Investigation, Analysis, and Mobile Security for Google Android Cengage Learning

Computer Forensics: Evidence Collection and Management examines cyber-crime, E-commerce, and Internet activities that could be used to exploit the Internet, computers, and electronic devices. The book focuses on the numerous vulnerabilities and threats that are inherent on the Internet and networking environments and presents techniques and suggestions for corporate security personnel, investigators, and forensic examiners to successfully identify, retrieve, and protect valuable forensic evidence for litigation and prosecution. The book is divided into two major parts for easy reference. The first part explores various crimes, laws, policies, forensic tools, and the information needed to understand the underlying concepts of computer forensic investigations. The second part presents information relating to crime scene investigations and management, disk and file structure, laboratory construction and functions, and legal testimony. Separate chapters focus on investigations involving computer systems, e-mail, and wireless devices. Presenting information patterned after technical, legal, and managerial classes held by computer forensic professionals from Cyber Crime Summits held at Kennesaw State University in 2005 and 2006, this book is an invaluable resource for those who want to be both efficient and effective when conducting an investigation.

Glass Ceilings and Bottomless Pits Maker Media, Inc.

Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. *Strengthening Forensic Science in the United States: A Path Forward* provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. *Strengthening Forensic Science in the United States* gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

Building a Digital Forensic Laboratory Addison-Wesley Professional

Electronic discovery refers to a process in which electronic data is sought, located, secured, and searched with the intent of using it as evidence in a legal case. Computer forensics is the application of computer investigation and analysis techniques to perform an investigation to find out exactly what happened on a computer and who was responsible. IDC estimates that the U.S. market for computer forensics will be grow from \$252 million in 2004 to \$630 million by 2009. Business is strong outside the United States, as well. By 2011, the estimated international market will be \$1.8 billion dollars. The Techno Forensics Conference has increased in size by almost 50% in its second year; another example of the rapid growth in the market.

This book is the first to combine cybercrime and digital forensic topics to provides law enforcement and IT security professionals with the information needed to manage a digital investigation. Everything needed for analyzing forensic data and recovering digital evidence can be found in one place,

including instructions for building a digital forensics lab. * Digital investigation and forensics is a growing industry * Corporate I.T. departments investigating corporate espionage and criminal activities are learning as they go and need a comprehensive guide to e-discovery * Appeals to law enforcement agencies with limited budgets