

# Appendix W

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### Chapter 1: Introduction to Cybercrime

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## **Chapter 3: Cybercrime: Mobile and Wireless Devices**

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  - This is about FTK 2.0.2 to 2.1 Upgrade Instructions: [http://ftk21.accessdata.com/Upgrade\\_from\\_2-02\\_to\\_2-1.pdf](http://ftk21.accessdata.com/Upgrade_from_2-02_to_2-1.pdf) (21 December 2009).
- [3] Useful links on *Guidance Software's EnCase* can be visited at:
  - <http://www.digitalintelligence.com/software/guidancesoftware/encase/> (21 December 2009). Following link is about news accolade on this tool:
  - <http://investors.guidancesoftware.com/-releasedetail.cfm?ReleaseID=416497> (22 December 2009).

The SC Maganize has announced this tool to be one of the best; a report on that can be

- seen at:
  - <http://www.scmagazineus.com/guidance-software-encase-forensic-v-6/review/159/> (18 December 2009).  
To learn about Guidance Software's EnCase Portable, visit a video demo clip at:
  - <http://vimeo.com/5702414> (10 December 2009).  
To know more about Guidance Software's EnCase® Portable having won Cygnus Law Enforcement Group Award in Forensics Category, visit:
  - <http://finance.yahoo.com/news/Guidance-Softwares-EnCase-bw-4161315896.html?x=0> (25 December 2009).
- [4] Following are some useful links on "*File Carving*" that explains what is "file carving"
  - [http://www.fim.uni-linz.ac.at/Lva/IT\\_Recht\\_Computerforensik/File\\_carving.pdf](http://www.fim.uni-linz.ac.at/Lva/IT_Recht_Computerforensik/File_carving.pdf) (16 December 2009).  
A good presentation on the *Advances and Challenges in File Carving* can be read at:
  - [http://www.korelogic.com/Resources/Projects/dfrws\\_challenge\\_2006/DFRWS\\_2006\\_File\\_Carving\\_Challenge.pdf](http://www.korelogic.com/Resources/Projects/dfrws_challenge_2006/DFRWS_2006_File_Carving_Challenge.pdf) (3 April 2010). This is a highly technical presentation. Visit following links that explains about "file carving":
  - [http://en.wikipedia.org/wiki/File\\_carving](http://en.wikipedia.org/wiki/File_carving) (16 December 2009).  
A useful note on file carving can be read at:
  - <http://www.file-carving.com/> (22 December 2009).  
Read about Foremost's File Carving/Data Carving Tool at:
  - [http://www.secguru.com/link/foremost\\_file\\_recovering\\_data\\_carving\\_tool](http://www.secguru.com/link/foremost_file_recovering_data_carving_tool) (21 December 2009).
  - To know about *Scalpel: A Frugal, High Performance File Carver*, refer to:
  - <http://www.digitalforensicsolutions.com/Scalpel/> (24 December 2009).
- [5] To know more on *Sleuth Kit*, visit:
  - [http://en.wikipedia.org/wiki/The\\_Sleuth\\_Kit](http://en.wikipedia.org/wiki/The_Sleuth_Kit) (23 December 2009).  
An excellent technical document on the Sleuth Kit is worth reading at:
  - <http://www.markosworld.com/forensics/cmarko-tskintro.pdf> (17 December 2009).  
To know more about the Sleuth Kit Informer, visit:
  - <http://phoenix.calpoly.edu/~kvoelker/cis122/Webpage/current/sleuthkit-informer-2.html> (25 December 2009).  
*The Sleuth Kit* (TSK) demonstration can be accessed in a document at:
  - [http://www.denisfrati.it/pdf/TSK\\_v201\\_Demonstration.pdf](http://www.denisfrati.it/pdf/TSK_v201_Demonstration.pdf) (23 and 24 December 2009).
- [6] For open-source forensics tools-related papers, visit:
  - [http://www.digital-evidence.org/papers/opensrc\\_legal.pdf](http://www.digital-evidence.org/papers/opensrc_legal.pdf) (23 December 2009).
  - <http://www.opensourceforensics.org/> (2 April 2010)
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  - [http://en.wikipedia.org/wiki/Wireless\\_forensics](http://en.wikipedia.org/wiki/Wireless_forensics) (25 December 2009).  
For a technical article on *802.11 Network Forensic Analysis*, visit the link at:
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Tools and techniques for network forensics are available at:
  - [http://airccse.org/journal/nsa/0409s\\_2.pdf](http://airccse.org/journal/nsa/0409s_2.pdf) (11 January 2010).  
*Network Forensics Solutions* paper is available at:
  - <http://net-forensics.blogspot.com/> (11 January 2010). A compact article on *Network Forensics* can be found at:
  - <http://www.bitcricket.com/downloads/Network%20Forensics.pdf> (11 January 2010).
- [9] For STD (a Linux-based security tool), visit: <http://s-t-d.org/> (14 January 2010). It is an STD 0.1 security tools distribution.  
For Sleuth Kit, visit:
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- For Portable EnCase Tool, visit:
- <http://www.guidancesoftware.com/encase-portable.htm?> (10 January 2010).
- [10] For *Hard Copy Imaging Techniques*, you can visit the following links:  
To understand what Rimage Corporation does, visit:
- <http://www.intellistor.co.za/Rimage.htm> (12 January 2010)
  - [http://www.cdmediaworld.com/hardware/cdrom/news/0105/rimage\\_cd\\_protection.shtml](http://www.cdmediaworld.com/hardware/cdrom/news/0105/rimage_cd_protection.shtml) (12 January 2010).
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  - <http://www.cds.com/Rapid-Image-7020CS-with-2-x-3-5-Drive-Caddies-p/fgr-0021-000b.htm> (6 September 2010).
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[http://www.tableau.com/pdf/en/Tableau\\_Forensic\\_Disk\\_Perf.pdf](http://www.tableau.com/pdf/en/Tableau_Forensic_Disk_Perf.pdf) (10 January 2010).
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- <http://www.encase.co.za/solutions/accessories/index.shtm> (It shows the two varieties of FastBloc: one for field use and the other for laboratory use).  
The Data Sheet for FastBloc is available at:
  - [http://www.forensics.ie/images/products/guidance\\_fastbloc\\_datasheet.pdf](http://www.forensics.ie/images/products/guidance_fastbloc_datasheet.pdf) (11 January 2010).  
For Guidance Software's FastBloc Field Edition Write-Blocking Device Forensically Validated by NIST, visit:
  - <http://investors.guidancesoftware.com/releasedetail.cfm?ReleaseID=252266> (11 January 2010).  
The User Manual for Guidance Software FastBloc Field Edition is available at:
  - [http://www.agapeinc.in/FastBlocFEmanual\\_RevC.pdf](http://www.agapeinc.in/FastBlocFEmanual_RevC.pdf) (18 Sept 2010).
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- [www.guillermi2.net/stegano/ideas.html](http://www.guillermi2.net/stegano/ideas.html) (29 October 2009).
  - [www.guillermi2.net/stegano/jpegx/index.html](http://www.guillermi2.net/stegano/jpegx/index.html) (29 October 2009).
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  - [www.securityfocus.com/tools/1434](http://www.securityfocus.com/tools/1434) (29 October 2009).
  - [www.guillermi2.net/stegano/imagehide/index.html](http://www.guillermi2.net/stegano/imagehide/index.html) (29 October 2009).
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- [http://www.cs.rice.edu/~dwallach/courses/comp527\\_s99/covert-channels.pdf](http://www.cs.rice.edu/~dwallach/courses/comp527_s99/covert-channels.pdf) (6 September 2009).
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- [http://www.visualwatermark.com/-watermarking\\_faq.htm](http://www.visualwatermark.com/-watermarking_faq.htm) (1 November 2009).
  - <http://www.bluespike.com/technology/-giovanni/faq/> (1 November 2009).
  - <http://www.watermarkingworld.org/faq.html> (1 November 2009).
  - <http://www.digitalwatermarkingalliance.org/faqs.asp> (1 November 2009).
  - [http://dcl.ipc.kuas.edu.tw/digital\\_watermarking.htm](http://dcl.ipc.kuas.edu.tw/digital_watermarking.htm) (1 November 2009).
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[http://www.securityknox.com/Steg\\_project.pdf](http://www.securityknox.com/Steg_project.pdf) (11 January 2010).
- [17] Refer to the excellent 3Com Whitepaper *Understanding IP Networking: Everything You Ever Wanted to Know* (Class A, Class B, Class C and Class D Networks, Subnetting, Classful IP Addressing etc. are all explained) in the following link:
- [http://www.3com.com/other/pdfs/infra/corpinfo/en\\_US/501302.pdf](http://www.3com.com/other/pdfs/infra/corpinfo/en_US/501302.pdf) (14 January 2010).  
To understand TCP/IP addressing and Subnetting Basics, visit the link at:
  - <http://support.microsoft.com/kb/164015> (16 January 2010).

- There is a video clip about A+ Certification: Understanding TCP/IP at the following link:
- <http://www.youtube.com/watch?v=fr WeGyes6Ew> (12 January 2010). Another good technical documentation on Introduction to TCP/IP protocol architecture can be found at the following link:
  - <http://cit.wta.swin.edu.au/cit/subjects/CITP0040/docs/tcpip.htm> (9 January 2010).
- [18] Following link lists the social networking sites:
- [http://en.wikipedia.org/wiki/List\\_of\\_social\\_networking\\_websites](http://en.wikipedia.org/wiki/List_of_social_networking_websites) (22 January 2010).
- [19] The case described by Steinhauer. J. (2008) *Verdict in MySpace Suicide Case* is available at the following link:
- <http://www.nytimes.com/2008/11/27/us/27myspace.html?ref=todayspaper> (12 December 2009).
- [20] For NIST Guidelines on Security Incident Response Handling, readers can visit the following links where these documents are available: The Special Publication 800-61 of NIST *Computer Security Incident Handling Guide* is available at:
- <http://csrc.nist.gov/publications/nistpubs/800-61/sp800-61.pdf> (19 February 2010). The NIST Special Publication 800-86 *Guide to Integrating Forensic Techniques into Incident Response* is available at:
  - [http://www.cirosec.de/fileadmin/pdf/vero-effentlichungen/NIST\\_Booklet.pdf](http://www.cirosec.de/fileadmin/pdf/vero-effentlichungen/NIST_Booklet.pdf) (27 February 2010).
- [21] For *Write Blockers*, visit the following links at:
- <http://www.forensicfocus.com/write-blocker-review-230709> (29 January 2010).
  - <http://forensicfocus.blogspot.com/2009/07/write-blocker-review.html> (29 January 2010).
  - <http://blogs.sans.org/computer-forensics/2008/10/01/three-hard-drive--imaging-tools/> (29 January 2010).
- [22] The Paper *Live Forensic Acquisition as Alternative to Traditional Forensic Processes* by Marthie Lessing from Council for Scientific and Industrial Research Meiring Naudé Road, Scientia, Pretoria, South Africa and Basie von Solms from Academy for Information Technology University of Johannesburg, Auckland Park Kingsway Campus, Johannesburg, South Africa is available at:
- [http://researchspace.csir.co.za/dspace/bitstream/10204/3141/1/Lessing5\\_2008.pdf](http://researchspace.csir.co.za/dspace/bitstream/10204/3141/1/Lessing5_2008.pdf) (1 March 2010).
- [23] For “Daubert Hearing” and “Daubert Test,” refer to the following links:
- <http://www.helium.com/items/1807122-daubert-hearing-on-expert-and-scientific-evidence> (16 February 2011).
  - <http://www.mobar.org/journal/1997/novdec/bebout.htm> (16 February 2011).
  - [http://en.wikipedia.org/wiki/Daubert\\_standard](http://en.wikipedia.org/wiki/Daubert_standard) (16 February 2011).
- [24] The article *Confluence of Digital Evidence and the Law: On the Forensic Soundness of Live-Remote Digital Evidence Collection* by Erin E. Kenneally is available at:
- [http://www.law-techjournal.com/articles/2005/05\\_051201\\_Kenneally.php](http://www.law-techjournal.com/articles/2005/05_051201_Kenneally.php) (1 March 2010). The article *Techno Security Guide to eDiscovery and Digital Evidence* can be found at:
  - <http://www.scribd.com/doc/21581538/Techno-Security-s-Guide-to-E-Discovery-and-Digital-Forensics> (25 February 2010). The Paper *Automatically Creating Realistic Targets for Digital Forensics Investigation* by Frank Adelstein from ATC-NY, Yun Gao and Golden G. Richard III from Department of Computer Science University of New Orleans, USA is available at:
  - <http://www.cs.uno.edu/~golden/Stuff/-falcon2005.pdf> (28 February 2010). The Paper *Bringing Science to Digital Forensics with Standardized Forensic Corpora* by Simson Garfinkel, Paul Farrell, Vassil Roussev and George Dinolt from Graduate School of Operational and Information Sciences, Department of Computer Science, Naval Postgraduate School, Monterey, CA 93943, USA is available at:
  - <http://www.dfrws.org/2009/proceedings/p2--garfinkel.pdf> (22 February 2010).

- The paper *An Open-Source Forensics Platform* by R. Koen and M. S. Olivier is available at:
- <http://mo.co.za/open/reco.pdf> (12 February 2010).
- [25] NIST Special Publication 800-92 *Guide to Computer Security Log Management* is available at:
- <http://csrc.nist.gov/publications/nistpubs/800-92/SP800-92.pdf> (1 March 2010). NIST's Computer Security Incident Handling Guide can be visited at:
  - <http://www.scribd.com/doc/17921434/nist-sp-800061r1-computer-security-incident-handling-guide-200805>
- [26] The Paper *Building Evidence Graphs for Network Forensics Analysis* by Wei Wang, Thomas E. Daniels from Department of Electrical and Computer Engineering, Iowa State University Ames, Iowa can be downloaded from the following link:
- <http://www.acsac.org/2005/papers/125.pdf> (12 January 2010).
- [27] The *Dissertation Supporting the Visualization and Forensic Analysis Of Network Events*, submitted to the Department of Computer Science and the Committee on Graduate Studies of Stanford University in partial fulfillment of the requirements for the degree of Doctor of Philosophy can be downloaded at:
- [http://graphics.stanford.edu/papers/dphan\\_thesis/doantam.phan.thesis.pdf](http://graphics.stanford.edu/papers/dphan_thesis/doantam.phan.thesis.pdf) (1 March 2010).
- Details of the *Workshop on Data Mining for Cyber Threat Analysis* in conjunction with IEEE International Conference on Data Mining 9–12 December 2002, Maebashi TERRSA, Maebashi City, Japan can be found at:
- [http://www-users.cs.umn.edu/~aleks/icdm02w/workshop\\_schedule.pdf](http://www-users.cs.umn.edu/~aleks/icdm02w/workshop_schedule.pdf) (24 February 2010).
- The Thesis, *Exploring And Validating Data Mining Algorithms For Use In Data Ascription* by Daniel P. Huynh in June 2008, submitted at the Naval Postgraduate School can be found at:
- [http://theses.nps.navy.mil/08Jun\\_Huynh.pdf](http://theses.nps.navy.mil/08Jun_Huynh.pdf) (29 March 2010).
- For Abstracts of the Technical Papers (Ontology-Driven Text Mining for Digital Forensics, Apply Data Mining Techniques for Cyber Intrusion Detection, Apply Dynamical Bayesian Network to Query Digital Forensics, Intelligent Environmental Query on Spatial Data, Intelligent Land Planning on Relational Spatial Data), refer to:
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- [32] Lee, W., Stolfo, S.J. and Mok, W. A Data Mining Framework for Building Intrusion Detection Models. Proceedings of 1999 IEEE Symposium on Security and Privacy, 1999, IEEE CS Press, pp. 120–132.
- [33] To understand how “Insider Trading” works, visit:
- <http://money.howstuffworks.com/insider-trading1.htm> (5 April 2010).
  - <http://beginnersinvest.about.com/cs/newinvestors/a/102702a.htm> (5 April 2010).
  - <http://www.mysmp.com/stocks/insider-trading.html> (5 April 2010).
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- <http://pcquest.ciol.com/content/topstories/2010/110020105.asp> (4 April 2010). The write-up based on the topic *Challenges in Mobile Workforce Mgmt* at the IT SummIT 2009 at the Cyber Media event is available at:
  - <http://pcquest.ciol.com/content/techtrends/2010/110010806.asp> (4 April 2010).

- [35] A table showing feature comparison of the antiforensics privacy products mentioned in Section 7.19 (Antiforensics) is available at:
  - <http://www.privacy-software-review.toptenreviews.com/> (2 April 2010).
- [36] The tool “timestomp” is available at: [www.metasploit.com/projects/antiforensics/](http://www.metasploit.com/projects/antiforensics/) (1 April 2010). See the presentation *Metasploit Antiforensic Project* available at:
  - [http://www.metasploit.com/data/antiforensics/ToorCon7-Metasploit\\_AntiForensics.ppt](http://www.metasploit.com/data/antiforensics/ToorCon7-Metasploit_AntiForensics.ppt) (8 April 2010).
- [37] Additional Information about “Slacker” can be accessed at:
  - <http://www.forensickb.com/2007/10/encrypt-to-detect-use-of-slackerexe.html> (9 April 2010). Here it is explained how ‘Encrypt’ detected the use of “slacker.exe”.  
To know more on “slacker.exe,” visit the following site:
  - <http://www.forensicswiki.org/wiki/Slacker> (9 April 2010)

## Further Reading

### Additional Useful Web References

1. On the International Association of Crime Analysts Page in the following link, there is a complete table containing the listing of Crime Analysis Software:  
<http://www.iaca.net/Software.asp> (27 February 2010).
2. To understand the meaning of “end-to-end -digital forensics,” the following sites can be visited:
  - For Digital Forensics Research Workshop, visit: [www.dfrws.org](http://www.dfrws.org) (31 May 2009).
  - For International Journal of Digital Evidence, visit: [www.ijde.org](http://www.ijde.org) (31 May 2009).
3. For *Forensic File Formats*, refer to:  
[http://www.forensicswiki.org/index.php?title=Forensic\\_file\\_formats](http://www.forensicswiki.org/index.php?title=Forensic_file_formats) (6 June 2009).
4. There is a basic article for non-technical readers to understand what “Rootkits” are and how to remove them. To know more on this, visit:
  - <http://www.virus.gr/portal/en/content/rootkits-what-are-they-how-remove-them> (8 April 2010).  
A technical paper on *database rootkits* (2005) by Alexander Kornbrust is available at:
  - [http://www.red-database-security.com/wp/db\\_rootkits\\_us.pdf](http://www.red-database-security.com/wp/db_rootkits_us.pdf) (8 April 2010).  
Oracle Rootkits are discussed in a paper available at:
  - [http://www.red-database-security.com/wp/oracle\\_rootkits\\_2.0.pdf](http://www.red-database-security.com/wp/oracle_rootkits_2.0.pdf) (8 April 2010).  
A technical presentation on “*In Memory Rootkits*” is available at:
  - <http://www.databasesecurity.com/oracle-backdoors.ppt> (8 April 2010).  
To have an overview of *Unix Rootkits Overview and Defense* by Anton Chuvakin, visit:
  - [www.rootsecure.net/content/downloads/pdf/unix\\_rootkits\\_overview.pdf](http://www.rootsecure.net/content/downloads/pdf/unix_rootkits_overview.pdf) (8 April 2010).  
Microsoft BlueHat Security Briefings: Spring 2006 Sessions and Interviews are available at:
  - <http://www.microsoft.com/technet/security/bluehat/sessions/default.mspx> (11 April 2010).
5. Some *free downloadable File Splitting software utilities* can be accessed at readers’ own risk by visiting:  
<http://www.snapfiles.com/Freeware/downloader/fwfilesplit.html> (3 June 2009).
6. The home page of the *Australian Institute of Criminology* can be visited at:  
<http://www.aic.gov.au/> (23 April 2009).
7. Those aspiring to pick up a course in cyberforensics with adequate hands-on content, may visit:  
<http://blogs.thehindu.com/delhi/?p=20694> (23 October 2009).
8. For *Digital Forensic/Computer Forensic/Cyber Forensic Frequently Asked Questions* (FAQs), visit:  
Computer forensics FAQs at:
  - <http://www.evestigate.com/Computer%20Forensics%20FAQ.htm> (24 October 2009).  
Forensics examination FAQs at:
  - <http://www.patctech.com/faq/forensic.shtml> (24 October 2009).  
Digital detective FAQs at:
  - <http://www.digital-detective.co.uk/faq.asp> (24 October 2009).  
Computer forensics FAQs at:
  - [http://www.newyorkcomputerforensics.com/learn/forensics\\_faq.php](http://www.newyorkcomputerforensics.com/learn/forensics_faq.php) (24 October 2009).
  - <http://www.ccl-forensics.com/237/FAQ.html> (24 October 2009).
  - <http://www.evidencetalks.com/faq.html> (24 October 2009).

- Computer forensics basics FAQs at:
  - <http://www.computerforensicsworld.com/modules.php?name=News&file=article&sid=1> (24 October 2009).
  - <http://www.setecinvestigations.com/resources/faqs.php> (24 October 2009).
- Computing hacking forensics FAQs at:
  - <http://www.cfila.com/forensicsfaq.htm> (24 October 2009).
- 9. For those interested in seeking a digital forensics career, the following list of links may be useful:
 

FAQs about digital forensics program, visit the following sites at:

  - <http://forensics.cs.uri.edu/faq.php> (26 October 2009).
  - [http://www.forensiccareers.com/index.php?option=com\\_content&task=view&id=23&Itemid=26](http://www.forensiccareers.com/index.php?option=com_content&task=view&id=23&Itemid=26) (26 October 2009).
  - <http://computerforensics911.com/> (26 October 2009).

FAQs to Digital Forensics Certification Board, visit:

  - <http://www.ncfs.org/dfcb/faqs.html> (26 October 2009).
- 10. For covert channels, visit:
  - [http://en.wikipedia.org/wiki/Covert\\_channels](http://en.wikipedia.org/wiki/Covert_channels) (1 November 2009).

To know more about covert channels and steganography discussion, visit:

  - <http://www.covertchannels.org/> (1 November 2009).
- 11. For *Information Hiding: Steganography & Digital Watermarking*, refer to:
 

<http://www.jjtc.com/Steganography/>(1 November 2009).
- 12. For *Understanding Digital Steganography*, refer to:
  - <http://fanaticmedia.com/infosecurity/archive/Sep09/Digital%20Steganography.htm> (30 October 2009).

All about steganography is explained at:

  - <http://palisade.plynt.com/issues/2005Apr/-steganography/> (1 November 2009).
- 13. For those readers who are highly technical minded can refer to:
 

<http://www.defcon.org/images/defcon-15/dc15-presentations/dc-15-smith.pdf> (13 January 2010). It is about forensics lessons learned by a person working with the Department of Defense.
- 14. For *California SB (Security Breach) 1386*, refer to:
 

For the SB 1386 Compliance Management Toolkit, visit:

  - <http://www.sb-1386.com/> (20 February 2010).

For SB 1386, refer to:

  - [http://en.wikipedia.org/wiki/SB\\_1386](http://en.wikipedia.org/wiki/SB_1386) (20 February 2010).

For SB-1386 Introduction, refer to:

  - <http://www.sb-1386.com/sb-intro.htm> (20 February 2010).
- 15. Some more links to California's new mandatory disclosure law are as follows:
  - [http://searchsecurity.techtarget.com/tip/1,289483,sid14\\_gci901999,00.html](http://searchsecurity.techtarget.com/tip/1,289483,sid14_gci901999,00.html) (19 February 2010).
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## Books

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13. *ibid* – Chapter 4 (Information Security Management in Organizations).
14. *ibid* – Chapter 5 (Building Blocks of Information Security)
15. *ibid* – Chapter 12, Section 12.5 (The OSI Seven-Layer Model) and Section 12.7 (Network Protocols). See p. 210 about Tunneling Protocols.
16. *ibid* – Chapter 13 (Cryptography and Encryption).
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### Articles and Research Papers

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3. Borck, J. (2001) *Leave the cybersleuthing to the experts* – refer to this article in the following URL: <http://www.infoworld.com/articles/tc/xml/01/04/09/010409tccounter.html> (22 December 2005).
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<http://www.cerias.purdue.edu/search/site.php?q=forensics> (2 September 2009).
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 This is an excellent reference for lawyers practicing in cybercrime cases and working with digital forensics experts, here is the link where some excellent technical articles are available. They explain many technical aspects such as – -difference between “clone” and “image” of drive, how do you make a “forensically-sound” duplicate of a drive. How can you prove the duplicate drive is forensically sound. Examining and analyzing E-Mail headers for forensics analysis and how to look for a good forensics expert, etc. is also covered in this set of articles.
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 It is the Research Report for RP1 based on student work by Marc Smeets and Matthijs Koot as part of their work in the course MSc in System and Network Engineering at the University of Amsterdam
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In this article it is explained how antiforensics tools reveal vulnerabilities in computer forensics tools. An argument is made that the rise of antiforensics tools will force computer investigators to change.

Encase and Sleuth Kit vulnerabilities are described in a technical paper at:

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In this 2007 paper titled *Breaking Forensics Software: Weaknesses in Critical Evidence Collection*. Classes of attacks against forensics software are also described in this paper. Pg. 5 of this paper describes sleuth kit weaknesses and Pg. 9 describe EnCase weakness.
30. There is an interesting article *Catch Me if You Can* at the following link: <http://www.blackhat.com/presentations/bh-usa-05/bh-us-05-foster-liu-update.pdf> (8 April 2010).
31. Kessler, G.C. *Anti-Forensics and the Digital Investigator*, Champlain College, Burlington, VT, USA. The paper can be accessed at:  
[http://igneous.scis.ecu.edu.au/proceedings/2007/forensics/01\\_Kessler\\_Anti-Forensics.pdf](http://igneous.scis.ecu.edu.au/proceedings/2007/forensics/01_Kessler_Anti-Forensics.pdf) (10 April 2010).
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34. Read article *Advanced Forensic Format: An Open, Extensible Format for Disk Imaging* by Garnkel, S., Malan, D., Dubec, K., Stevens, C. and Pham, C. at:  
<http://www.cs.harvard.edu/malan/publications/aff.pdf> (16 December 2010).

### Video Clips

Following links present short clips on various topics discussed in this chapter (digital forensics and perils of posting your information on social networking sites, rootkits, etc.)

1. A basic video presentation explaining *What is Computer Forensic* is available at:  
<http://www.youtube.com/watch?v=yfigCH7CcFk&feature=related> (7 April 2010).
2. Video clips on *Disk Encryption and other Forensics aspects* are available at:

- <http://www.privacylover.com/computer-forensics/video-using-eraser-to-delete-files-for-good/> (27 February 2010).  
This is a video for beginners – some introduction on why you should use a secure data wiper to delete files in your computer. In this video clip, a computer user shows you on screen how to use eraser to safely wipe documents and making them vanish for good.
  - <http://www.youtube.com/watch?v=9JoX4uxES7Q&feature=related> (27 February 2010). Here, a forensics expert explains how to seize the evidence.
  - <http://www.youtube.com/watch?v=grjIOaE4-aA&feature=related> (27 February 2010). This clip explains what computer forensics experts can do to uncover data and online activity.
  - <http://www.privacylover.com/computer-forensics/interview-with-a-computer-forensics-expert/> (27 February 2010). This clip is an interview with a computer forensics expert.
  - <http://www.youtube.com/watch?v=hSvswzSy3oA&feature=related> (27 February 2010). This is about computer forensics – this video shows how to trace an E-Mail (Hotmail).
  - <http://www.privacylover.com/encryption/video-crash-course-in-full-disk-encryption/> (27 February 2010).  
This video is a talk held in December 2008 at the 25th Chaos Communication Congress, under the title *Nothing to Hide*. It is a crash course in full-disk encryption concepts, products and implementation aspects. An overview of both commercial and open-source offerings for Windows, Linux and MacOS X is provided. A programmer’s look at the open-source solutions concludes the presentation.
  - <http://www.privacylover.com/encryption/review-full-disk-encryption-diskcryptor-v0-7-435-90/> (27 February 2010). This is review of DiskCryptor based on its testing done.
  - <http://www.privacylover.com/encryption/review-drivecrypt-plus-pack-full-disk-encryption/> (27 February 2010). This clip is review of Drivecrypt Plus Pack v3.95, full-disk encryption.
  - <http://www.privacylover.com/computer-forensics/video-computer-forensic-investigation/> (27 February 2010). At this link, a computer forensics professional explains the basics of computer forensics, how data is recovered from people’s computers and what challenges they face.
  - <http://www.privacylover.com/computer-forensics/metasploit-anti-forensic-investigation-arsenal-mafia/> (27 February 2010). This clip is about Metasploit Anti-Forensic Investigation Arsenal (MAFIA).
  - <http://www.youtube.com/watch?v=0HeVx5fkwSY&feature=related> (27 February 2010). Here, an expert explains how website traffic myths are uncovered.
  - <http://www.youtube.com/watch?v=O4ce74q2zqM&NR=1> (27 February 2010). There is a Demo of EnCase Computer Forensics Tool available in this link.
  - <http://www.youtube.com/watch?v=kK6Wd7HVyVM&feature=related> (27 February 2010).  
This video clip shows basic keyword searching with forensics Tool EnCase.
3. Video clips on *Perils of Social Networking Sites* are available at:
    - <http://www.youtube.com/watch?v=ZmQT3SMxATQ&feature=related> (27 February 2010).  
This clip explains the perils of posting your personal information on social networking sites.
    - <http://www.youtube.com/watch?v=0AtsNyXFg7Y&feature=fvw> (27 February 2010). It explains about dangers of social networking,
    - <http://www.youtube.com/watch?v=azIW1xjSTCo&feature=related> (27 February 2010). This is about how social networks such as Facebook and MySpace impacts private life.
  4. A video clip explaining “BIOS Rootkits” is available at:  
[http://www.youtube.com/watch?v=G26oZtzluAQ&feature=player\\_embedded](http://www.youtube.com/watch?v=G26oZtzluAQ&feature=player_embedded) (10 April 2010).
  5. A video clip on antiforensics can be viewed at: <http://pursuitmag.com/anti-computer-forensics/> (9 April 2010)
  6. Fourth Amendment Project video clip can be accessed at: [http://www.youtube.com/watch?v=mdT\\_k6Yj\\_w8](http://www.youtube.com/watch?v=mdT_k6Yj_w8) (7 September 2010).

## **Chapter 8: Forensics of Hand-Held Devices**

### **References**

- [1] The following links are for hand-held forensics Paraben Product links:

- Paraben forensics device seizure v3.3 – cell phone forensics product information is available at: [http://www.paraben.com/catalog/product\\_info.php?products\\_id=405](http://www.paraben.com/catalog/product_info.php?products_id=405) (17 April 2010).  
 Device Seizure Command Kit – Mobile forensics software and hardware information can be accessed at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=363](http://www.paraben.com/catalog/product_info.php?products_id=363) (17 April 2010).  
 Information about Paraben’s Device Seizure Toolbox is available at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=343](http://www.paraben.com/catalog/product_info.php?products_id=343) (17 April 2010).  
 Information about Device Seizure Field Kit is available at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=501](http://www.paraben.com/catalog/product_info.php?products_id=501) (17 April 2010).  
 The pictures of Paraben forensics products and their associated information is available at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=484](http://www.paraben.com/catalog/product_info.php?products_id=484) (17 April 2010).  
 Training information about hand-held forensics products is available at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=440](http://www.paraben.com/catalog/product_info.php?products_id=440) (17 April 2010).  
 Information about the mobile laboratory kit for hand-held forensics is available at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=490](http://www.paraben.com/catalog/product_info.php?products_id=490) (17 April 2010).  
*DS Lite* is for analysis and reporting on device -seizure and CSI stick case files; information about this product is available at:  
[http://www.paraben.com/catalog/product\\_info.php?products\\_id=482](http://www.paraben.com/catalog/product_info.php?products_id=482) (17 April 2010).
- [2] Refer to the following link for “3G”: <http://en.wikipedia.org/wiki/3G> (21 April 2010).
- [3] Read the document “*Printing to a Xerox Multifunction Device Using Port 9100*” available at: <http://www.xerox.com/downloads/usa/en/d/dc00cc0104.pdf> (13 April 2010).  
*TCP port 9100 Protocol information and Warnings* are posted at:  
<http://www.auditmypc.com/port/tcp-port-9100.asp> (13 April 2010).  
*List of TCP and UDP Port Numbers* is available at:  
[http://en.wikipedia.org/wiki/List\\_of\\_TCP\\_and\\_UDP\\_port\\_numbers](http://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers) (12 April 2010).
- [4] To know about “*Jailbroken*” iPhones and the Security Risks associated with them, visit:  
[http://en.wikipedia.org/wiki/Jailbreaking\\_for\\_iPhone\\_OS](http://en.wikipedia.org/wiki/Jailbreaking_for_iPhone_OS) (1 May 2010).  
<http://www.canada.com/life/Jail+broken+iPhones+hacked+virus/2256956/story.html> (1 May 2010).  
[http://www.ioltechnology.co.za/article\\_page.php?iArticleId=5257753](http://www.ioltechnology.co.za/article_page.php?iArticleId=5257753) (1 May 2010).  
<http://www.networkworld.com/columnists/2009/111109antonopoulos.html> (1 May 2010).  
<http://www.reuters.com/article/idUKN2325185820091123> (1 May 2010).
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<http://www.oxygen-forensic.com/en/press/> (18 April 2010). It is the “Oxygen Forensics” suite.
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<http://www.answers.com/topic/bellsouth-intelligent-wireless-network> (4 May 2010).  
<http://encyclopedia2.thefreedictionary.com/BellSouth+Intelligent+Wireless+Network> (4 May 2010).  
<http://www.yourdictionary.com/computer/bell-south-intelligent-wireless-network> (4 May 2010).  
[http://www.rimdev.com/Tutorials/IAS\\_Descr\\_Prog\\_Guide.pdf](http://www.rimdev.com/Tutorials/IAS_Descr_Prog_Guide.pdf) (4 May 2010).
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## Further Reading

### Additional Useful Web References

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2. You can gain useful information on *Computer Forensics Toolkits, Digital Evidence Software Suites* by visiting:

- <http://www.forensics.nl/toolkits> (28 April 2010). There is a short information here on a large number of tools.
3. Check out the following link for links to various forensics toolkits  
<http://www.filesrecovery.in/file-recovery-tools/pocket-pc-forensic.asp> (25 April 2010).
  4. PDA Forensics Tools and Techniques – read about this in the following link (it is a blog).  
<http://www.informit.com/guides/content.aspx?g=security&seqNum=105&rll=1> (2 March 2010).
  5. Pictures and specifications for various *Handheld Digital Forensics Products* can be viewed at:  
<http://www.dataduplication.co.uk/details/mobilephoneforensics.html> (17 April 2010).
  6. Andrew Hoog, Chief Investigative Officer at viaForensics in the US of America is one of the *iPhone forensics experts*. His contact details are quoted below. Phone: +1 312-283-0551 and +1 312-283-0551. The website to contact him is <http://viaforensics.com/contact-us>
  7. Read EzineArticles from the Communications: Mobile-Cell-Phone Category at:  
<http://ezinearticles.com/?Introduction-to-Cell-Phones-and-IMEI-Numbers-What-is-It?-Pt1&id=4017473> (12 April 2010).
  8. To know *How to Identify the Cell Phone Number* refer to:  
[http://www.ehow.com/how\\_5486499\\_identify-cell-phone-number.html](http://www.ehow.com/how_5486499_identify-cell-phone-number.html) (1 April 2010).
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  10. Compelson Laboratories – To know more about MOBILedit! Forensic, visit WiKi at:  
<http://www.forensicswiki.org/wiki/MOBILedit!> (28 September 2010).
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<http://www.opm2.com/forensic/> (8 October 2006).
  12. Paraben Corporation (2006). Paraben Forensics Software, Hardware, and Training, visit the URL at:  
[www.parabenforensics.com/index.html](http://www.parabenforensics.com/index.html) (14 September 2006).
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[http://newsblaze.com/story/20070926073901\\_chil.nb/topstory.html](http://newsblaze.com/story/20070926073901_chil.nb/topstory.html) (1 May 2010).
  14. Following are some WCDMA-related links:  
<http://www.systemdisc.com/wcdma> (20 April 2010).  
<http://www.wisegeek.com/what-is-wcdma.htm> (20 April 2010).  
<http://www.topbits.com/wcdma.html> (20 April 2010).  
<http://www.answers.com/topic/wcdma> (20 April 2010).  
<http://www.mobileburn.com/definition.jsp?term=WCDMA> (20 April 2010).  
[http://cellphones.about.com/od/cell\\_phone\\_glossary/g/wcdma.htm](http://cellphones.about.com/od/cell_phone_glossary/g/wcdma.htm) (20 April 2010).  
<http://www.webopedia.com/TERM/W/WCDMA.html> (20 April 2010).  
<http://www.differencebetween.net/technology/difference-between-wcdma-and-hsdpa/> (20 April 2010).
  15. Following are some FOMA Links:  
<http://www.mobilemag.com/2004/11/15/ntt-docomo-dual-network-foma-and-lan-voip-phone/> (20 April 2010).  
[http://www.nttdocomo.co.jp/english/binary/pdf/corporate/technology/rd/technical\\_journal/bn/vol8\\_1/vol8\\_1\\_065en.pdf](http://www.nttdocomo.co.jp/english/binary/pdf/corporate/technology/rd/technical_journal/bn/vol8_1/vol8_1_065en.pdf) (20 April 2010).
  16. To know about Full Internet Browsing to NTT DoCoMo 3G FOMA™ Handset, refer to:  
<http://www.3g.co.uk/PR/June2005/1658.htm> (20 April 2010).
  17. For an excellent article “*Recovering and Examining Computer Forensic Evidence*,” visit:  
<http://www.fbi.gov/hq/lab/fsc/backissu/oct2000/computer.htm> (22 April 2010).
  18. Visit the following links accessed between March 2010 and May 2006:  
For article *Good Practice Guide for Computer based Electronic Evidence*, visit:  
[http://www.acpo.police.uk/asp/policies/Data/gpg\\_computer\\_based\\_evidence\\_v3.pdf](http://www.acpo.police.uk/asp/policies/Data/gpg_computer_based_evidence_v3.pdf)  
For article *Cell Phone Forensic Tools: An Overview and Analysis*, visit:  
<http://csrc.nist.gov/publications/nistir/nistir7250.pdf>  
For article *Toshiba Reports Battery Breakthrough*, visit:  
[http://news.com.com/206110786\\_35649141.html?tag=nl](http://news.com.com/206110786_35649141.html?tag=nl)  
For article *Guidelines for the Management of IT Evidence*, visit:  
<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN016411.pdf>

- For article *Best Practice Guidelines for Examination of Digital Evidence*, visit:  
<http://www.ioce.org/2002/Guidelines%20for%20Best%20Practices%20in%20Examination%20of%20Digital%20Evid.pdf>
- For article *Guidelines on PDA Forensics*, visit:  
<http://csrc.nist.gov/publications/nistpubs/80072/sp80072.pdf>
- For article *Guidelines on Cell Phone Forensics*, visit:  
<http://csrc.nist.gov/publications/drafts/DraftSP800101.pdf>
- For article *Secure Data Erase Utility*, visit:  
<http://cmrr.ucsd.edu/people/Hughes/SecureErase.shtml> (1 May 2010).
19. There is an informative article by Jesse David Hollington, in which he has described his experience with *review of all the 22 applications that run on a typical iPhone*. To read the article, visit the following link: <http://www.ilounge.com/index.php/articles/comments/iphone-gems-all-22-wallet-apps-reviewed/> (2 May 2010).
  20. Read *Why BlackBerry* by visiting: <http://crackberry.com/lecture-1-why-blackberry> (3 May 2010).
  21. Learn about advantages of BlackBerry, and BlackBerry FAQs by visiting: [http://black-berryfaq.com/index.php/Why\\_BlackBerry%3F](http://black-berryfaq.com/index.php/Why_BlackBerry%3F) (3 May 2010).
  22. The term “probative evidence” is explained at:  
<http://legal-dictionary.thefreedictionary.com/probative+value> (28 September 2010).  
<http://legal-dictionary.thefreedictionary.com/probative> (28 September 2010).  
<http://www.answers.com/topic/probative> (28 September 2010).

## Books

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2. EC-Council, *Computer Forensics: Investigating Data and Image Files*, EC-Council Press.
3. Zdziarski, J. (2008) *iPhone Forensics: Recovering Evidence, Personal Data, and Corporate Assets*, O’Reilly Media Inc., USA.
4. Jones, A. and Valli, C. (2008) *Building a Digital Forensics Laboratory: Establishing and Managing a Successful Facility*, Butterworth-Heinemann publication, USA.
5. Mart, E.G. (2006) *Getting started in Forensic Psychology Practice: How to Create a Forensic Specialty in your Mental Health Practice*, John Wiley & Sons Inc., USA.
6. Kubasiak, R.R., Morrissey, S. and Varsalone, J. (2008) *Mac OS X, iPod, and iPhone Forensic Analysis DVD Toolkit*, Syngress Publishing Inc., USA.
7. Morrissey, S. (2010) *iPhone Forensic Analysis: A Guide to iPhone and iPod Touch Investigations*, Syngress Publishing Inc., USA.
8. Godbole, N. (2009) *Information Systems Security: Security Management, Metrics, Frameworks and Best Practices* (Chapter 3), Wiley India, New Delhi.

## Articles and Research Papers

1. Use of “Sterile Media” is very crucial for ensuring that cross examination in the court does not bring up questions to raise the “forensic soundness” of the evidence. Therefore, “sanitization” of the media is very important. NIST (National Institute of Standards and Technology) has published a number of guidelines. *NIST guidelines on Media Sanitization* is available at:  
[http://csrc.nist.gov/publications/nistpubs/800-88/NISTSP800-88\\_rev1.pdf](http://csrc.nist.gov/publications/nistpubs/800-88/NISTSP800-88_rev1.pdf) (30 April 2010).
2. There are six excellent articles by Craig Ball. Law students and legal professionals will find a very useful article at: <http://www.almfd.org/pdfs/computer20forensics20for20attorneys.pdf> (26 April 2010).
3. Ayers, R., Jansen, W., Cilleros, N. and Daniellou, R., *Cell Phone Forensic Tools: An Overview and Analysis*, The NIST Report NISTIR 7250 is available at:  
<http://csrc.nist.gov/publications/nistir/nistir-7250.pdf> (25 December 2009).
4. Sansurooah, K., *An Overview and Examination of Digital PDA Devices under Forensics Toolkits*, the School of Computer and Information Science (SCIS), Edith Cowan University Perth, Western Australia. The paper can be read at:  
[http://scisec.scis.ecu.edu.au/conference\\_proceedings/2007/forensics/04\\_Sansurooah%20An%20](http://scisec.scis.ecu.edu.au/conference_proceedings/2007/forensics/04_Sansurooah%20An%20)



- overview%20and%20examination%20of%20digital%20PDA%20devices%20under%20forensics%20toolkits%20Camera%20Ready%20Paper.pdf (12 April 2010).
5. Frichot, C. *An Analysis of the Integrity of Palm Images Acquired with PDD*, The School of Computer and Information Science, Edith Cowan University, Bradford Street, Mt Lawley, Australia. The paper can be read at: [http://scissec.scis.ecu.edu.au/conference\\_proceedings/2004/-forensics/Frichot-2.pdf](http://scissec.scis.ecu.edu.au/conference_proceedings/2004/-forensics/Frichot-2.pdf) (1 April 2010).
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  7. Jansen, W.A. *Reference Material for Assessing Forensic SIM Tools*, IEEE National Institute of Standards and Technology, MD 20899, USA and Aurelien Delaitre National Institute of Standards and Technology Gaithersburg, MD 20899, USA, The paper (paper no. ICCST 2007-74) is available at: [http://csrc.nist.gov/groups/SNS/mobile\\_security/documents/mobile\\_forensics/Reference20Mat-final-a.pdf](http://csrc.nist.gov/groups/SNS/mobile_security/documents/mobile_forensics/Reference20Mat-final-a.pdf) (1 April 2010).
  8. Casadei, F., Savoldi, A. and Gubian, P. (2006) Forensics and SIM cards: an overview, *The International Journal of Digital Evidence*, 5 (1). The paper can be accessed at: <http://www.utica.edu/academic/institutes/ecii/publications/articles/EFE3EDD5-0AD1-6086-28804D3C49D798A0.pdf> (20 April 2010).
  9. Breeuwsmma, M., de Jongh, M., Klaver, C., van der Knijff, R and Roeloffs, M. (2007) Forensic data recovery from flash memory, *The Small Scale Digital Device Forensics Journal*, 1 (1), The paper can be accessed at: [http://www.ssddfj.org/papers/SSDDFJ\\_V1\\_1\\_Breeuwsmma\\_et\\_al.pdf](http://www.ssddfj.org/papers/SSDDFJ_V1_1_Breeuwsmma_et_al.pdf) (16 April 2010).
  10. Willassen, S.Y. (2003) Forensics and the GSM mobile telephone system, *The International Journal of Digital Evidence*, 2 (1). It can be found in <http://www.utica.edu/academic/-institutes/ecii/publications/articles/A0658858-BFF6-C537-7CF86A78D6DE746D.pdf> (2 April 2010).
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  13. Backer, C. Digital Forensics on Small Scale Digital Devices. The article can be accessed at: [http://www.crypto.rub.de/imperia/md/content/seminare/itsss09/baecker\\_digital\\_forensics.pdf](http://www.crypto.rub.de/imperia/md/content/seminare/itsss09/baecker_digital_forensics.pdf) (26 April 2010).
  14. Murphey, R. Automated Windows Event Log Forensics – the Science Digest paper is available at: <http://www.dfrws.org/2007/proceedings/p92-murphey.pdf> and CERT-In presentation (28 April 2010).
  15. Sarma, S.S. and Mohorikar, N., *Logs and Forensics*, Department of Information Technology, Ministry of Communications & Information Technology. To know more on this, visit: <http://www.cert-in.org.in/knowledgebase/-presentation/Logs-Forensics.pdf> (28 September 2010).
  16. Zdziarski, J. (O'Reilly)'s technical documentation on iPhone Forensics is available at: <http://www.esearchbook.com/files/4/eSearchBook.1224255173.iPhone%20Forensics.pdf> (2 May 2010).
  17. To understand the risks from “Jailbroken” devices, read the articles available at the following links:
    - “*Jail Broken*” iPhones Hacked by New Virus’ (posted November 24, 2009 by Reuters) at: <http://tech2.in.com/india/news/mobile-phones/jail-broken-iphones-hacked-by-new-virus/96752/0> (25 September 2010).
    - In the following link, Reuters has posted another related story: <http://in.reuters.com/article/idINIndia-44181320091123> (25 September 2010).
    - In the following link, there is an article “*Duh Worm – a new virus targeting “jail broken” iPhones*”: <http://topnews.us/content/28505-duh-worm-new-virus-targeting-jail-broken-iphones> (25 September 2010).
    - In the following link quoted, there is an article “*Apple applies for patent to kill jailbroken devices*”: ([http://publication.samachar.com/pub\\_article.php?id=9905908&nexttids=9908717|9907847|9907654|9905907|9905908&nextIndex=0](http://publication.samachar.com/pub_article.php?id=9905908&nexttids=9908717|9907847|9907654|9905907|9905908&nextIndex=0)) (25 September 2010).

18. To understand about “probative value of evidence,” you can refer to the paper by Deborah Davis and William C. Follette (2002) Rethinking the probative value of evidence: Base rates, intuitive profiling, and the postdiction of behavior, *Law and Human Behaviour*, 26(2). The article is accessible at: <http://www.sierratrialandopinion.com/papers/Probativevalue1.pdf> (28 Sept 2010).
19. Regarding Cell Phones without IMEI number (mentioned in Box 8.4) refer to the article at: [http://www.dnaindia.com/mumbai/report\\_phones-without-imei-numbers-to-be-disconnected-from-tomorrow\\_1318381](http://www.dnaindia.com/mumbai/report_phones-without-imei-numbers-to-be-disconnected-from-tomorrow_1318381) (17th December 2010).

### Video Clips

1. iPhone Forensics Demo is available at: <http://www.youtube.com/watch?v=op-HyBVN2Ek> (15 April 2010).
2. To know more about iPhone and its hardware components, visit: [http://www.youtube.com/watch?v=mPhciMud0MM&feature=player\\_embedded](http://www.youtube.com/watch?v=mPhciMud0MM&feature=player_embedded) (1 May 2010). It is a video clip that shows the *Insides of Apple iPhone* through the exercise of opening one iPhone handset.  
For a closer look at the iPhone, visit:  
<http://www.youtube.com/watch?v=YgW7or1TuFk&NR=1&feature=fvwp> (1 May 2010).  
To learn how to use an iPhone, you can visit the video clip available at:  
[http://www.youtube.com/watch?v=s\\_f-KK140vM&NR=1](http://www.youtube.com/watch?v=s_f-KK140vM&NR=1) (1 May 2010).
3. A demo of Mobile Recovery System can be seen at: <http://www.youtube.com/watch?v=25eBn9N20C4> (12 April 2010).
4. *Cell Phone SIM Card Spy: Spy On A Cellphone* can be seen at: <http://www.youtube.com/watch?v=iUkJIOGgsqM&NR=1> (10 April 2010).
5. Learn how a cell phone can be intercepted at: [http://www.youtube.com/watch?v=W28SOiZ\\_-8c&NR=1](http://www.youtube.com/watch?v=W28SOiZ_-8c&NR=1) (11 April 2010).
6. Learn how to track a cell phone by SMS by visiting: <http://www.youtube.com/watch?v=WVBvovRI15k&NR=1> (11 April 2010).
7. A short video clip on how to locate a mobile phone is available at: <http://www.youtube.com/watch?v=QzwT1UNWYOk&NR=1> (9 May 2010).
8. A video demo of iPhone forensics demo can be accessed at: <http://oreilly.com/catalog/9780596153595> (18 April 2010).
9. How *Mobile Cell Phone Number Tracking Tracing* is done can be seen through a video clip (especially for locating small children who move with a mobile phone) at: <http://www.youtube.com/watch?v=hZKfNRxdUeI&feature=related> (13 April 2010).
10. *Cost of Forensics* is explained in the video clip in the following link: <http://www.youtube.com/watch?v=ZywiP4I3ee4> (14 April 2010).

## **Chapter 9: Cybersecurity: Organizational Implications**

### References

- [1] Below are the links to Nina Gogbole’s talk about *Workforce Mobility Challenges and Issues*. The first link below is about Nina Godbole’s talk on the topic of “*Working From Home: Myths and Truths*” and the second link is where you will find the copy of the article in PCQuest February 2010 issue.  
<http://pcquest.ciol.com/content/techtrends/2010/110010806.asp> (7 August 2010).  
<http://pcquest.ciol.com/content/topstories/2010/110020105.asp> (7 August 2020).  
The pdf copy of Nina Godbole’s presentation at the PCQuest Summit 2009 talk can be downloaded at:  
<http://pcquest.ciol.com/infrasummit/2009/presentation/Nina-WorkForceMobility5BDelegateCopy-PCQuest%20Summit%202009%5D.pdf> (7 August 2010).
- [2] The following link on Top 5 Insider Attacks of 2009 is available at:  
<http://www.networkworld.com/podcasts/panorama/2009/>

121609pan-insideattacks.html (1 August 2010). There is an audio MP3 downloadable on this site.

- [3] Following are the links quoted for *Websense Tool* mentioned in Section 9.3 (Web Threats for Organizations: The Evils and Perils).  
Features of Websense Enterprise Edition are described at:  
<http://www.securitybrigade.com/products/websense/enterprise.php> (12 September 2010).  
To learn about *Websense Web Security Protection from Web-Based Threats*, visit:  
<http://www.guardsense.com/Web-Security.asp> (13 September 2010).  
*Remote filtering features from Websense* are described at:  
<http://www.ciol.com/Ciol-Techportal/content/Security/News/2005/205091962.asp> (12 September 2010).  
Read more about what is possible with Websense Remote Filtering Tool in the following URL:  
<http://www.ciol.com/Ciol-Techportal/content/Security/Interviews/2006/2060620505.asp> (14 September 2010).

## Further Reading

### Additional Useful Web References

1. Five top cybersecurity risks are mentioned in the following link:  
<http://www.crn.com/news/security/220000395/five-top-cybersecurity-risks.htm> (8 October 2010).
2. In the following link, there is a posting titled “Obama Cybersecurity Report Addresses Critical Infrastructure and Privacy Issues”: <http://www.wired.com/threatlevel/2009/05/5638/> (8 October 2010).
3. *Cyber Security Threat to India is Real* – this article can be accessed at:  
<http://news.rediff.com/special/2009/aug/05/cyber-security-threat-to-india-is-real.htm> (8 October 2010).
4. “Cybersecurity in India: An Ignored World” – the article can be accessed at: <http://www.crime-research.org/articles/Cybersecurity-India-Ignored-World/> (8 October 2010).
5. Like the “Big Brother” syndrome, for a very interesting topic whether the Government can know what kind of websites you are visiting, you can visit:  
<http://computer.howstuffworks.com/government-see-website2.htm> (8 August 2010). In this link, on the middle, there is also a link to virus related video. You may run that at your own risk.
6. The *Top 10 Cyber Threats of 2009* are mentioned at: <http://www.aakashjain.com/misc/10-cyber-threats-to-look-for-in-2009-648> (1 August 2010). Those threats are (a) collaboration tools, (b) virtualization, (c) Botnet, (d) cyber warfare, (e) phishing attacks, (f) wireless attacks, (g) threats due to green computing, (h) cloud computing, (i) insider threats, (j) risks for OS other than Windows.
7. In the following link, there is a *US Government Report* about the likelihood of extremists increasing cyberattacks: <http://www.fas.org/irp/eprint/leftwing.pdf> (8 August 2010).
8. How much of work hours are spent surfing by UK employees? Read some interesting information about this at:  
<http://www.cbi.org.uk/ndbs/Press.nsf/0363c1f07c6ca12a8025671c00381cc7/94d596bf6bcd69708025745e003b722b?OpenDocument> (9 August 2010).
9. Visit the following link for discussion blogs about “Social Media Security”:  
<http://socialmediasecurity.com/> (28 August 2010).
10. *2010 Social Media Marketing Benchmark Report* can be read at:  
<http://www.marketingsherpa.com/SocialMediaMarketing2010EXE.pdf>  
(13 August 2010).
11. Following are links to some known companies that claim to provide *security solutions with the use of social media marketing*:  
<http://www.stonesoft.com/en/> (29 August 2010). A Finland-based security solutions company.  
Information about *Social Media Monitoring Tools* can be found at:  
<http://www.toprankblog.com/2009/12/near-free-social-media-monitoring/> (29 August 2010).

12. *Social Media Marketing* – the following link can be used by those who are interested in reading the view of Rohit Bhargava about where social marketing media is heading. Rohit is a well-respected marketer and -blogger and frequent speaker at conferences:  
<https://www.marketingprofs.com/login/join.asp?adref=rdbl&source=http%3A%2F%2Fwww%2Emarketingprofs%2Ecom%2F8%2Fgetting%2Dsocial%2Dwith%2Dsocial%2Dmedia%2Drohit%2Dbhargava%2Dcollier%2Easp> (31 August 2010).
13. In reference to Section 9.7 (Protecting People’s Privacy in the Organization), some useful weblinks are as follows:  
 In the following link: read the interesting story about what Nandan Nilekani is up to with 8 gizmos in a case, to give 1.2 billion Indian people an identity!  
[http://in.news.yahoo.com/48/20100830/804/tnl-with-8-gizmos-in-a-case-nilekani-set\\_1.html](http://in.news.yahoo.com/48/20100830/804/tnl-with-8-gizmos-in-a-case-nilekani-set_1.html) (29 August 2010).  
 “People” is the difficult link in InfoSec Chain. Access the document *People is the Key Challenge in InfoSec* – NASSCOM survey to support the point at:  
[http://www.dsci.in/images/pdf/People%20the%20key%20challenge%20in%20info%20security\\_Survey.pdf](http://www.dsci.in/images/pdf/People%20the%20key%20challenge%20in%20info%20security_Survey.pdf) (29 August 2010).  
 In the following link, there is a view point on whether the Unique Identification Authority of India (UIDAI) legally constituted:  
<http://cyberlawsinindia.blogspot.com/2009/09/is-unique-identification-authority-of.html> (29 August 2010).  
 For *Unique Identification Authority of India*, the Wikipedia note is worth reading at:  
[http://en.wikipedia.org/wiki/Unique\\_Identification\\_Authority\\_of\\_India](http://en.wikipedia.org/wiki/Unique_Identification_Authority_of_India) (29 August 2010).  
 Information about *Multipurpose National Identity Card* is available at:  
[http://en.wikipedia.org/wiki/Multipurpose\\_National\\_Identity\\_Card](http://en.wikipedia.org/wiki/Multipurpose_National_Identity_Card) (29 August 2010).
14. In reference to Section 9.9 (Incident Handling: An Essential Component of Cybersecurity), following are some useful weblinks:  
*Handling a Security Incident* – a useful paper can be accessed at:  
[http://www.qaiworldwide.org/pdf\\_files/aug08\\_pw.pdf](http://www.qaiworldwide.org/pdf_files/aug08_pw.pdf) (4 October 2010).
15. Following are some useful links for cybersecurity standards:  
 To know more on cybersecurity standards, visit:  
[http://en.wikipedia.org/wiki/Cyber\\_security\\_standards](http://en.wikipedia.org/wiki/Cyber_security_standards) (1 October 2010).  
 To know more on cybersecurity regulation, visit:  
[http://en.wikipedia.org/wiki/Cyber-security\\_regulation](http://en.wikipedia.org/wiki/Cyber-security_regulation) (1 October 2010).  
 To know more on Cybersecurity – WIKI, visit:  
<http://www.cybersecuritywiki.com/> (1 October 2010).
16. Following are some useful links about “anonymizers”:  
[http://www.sonntag.cc/teaching/LTAEC\\_Budapest/Anonymizers/index.html](http://www.sonntag.cc/teaching/LTAEC_Budapest/Anonymizers/index.html) (2 October 2010).  
<http://en.wikipedia.org/wiki/Anonymizer> (2 October 2010).  
[http://www.livinginternet.com/i/is\\_anon\\_work.htm](http://www.livinginternet.com/i/is_anon_work.htm) (2 October 2010).  
[http://www.livinginternet.com/i/is\\_anon.htm](http://www.livinginternet.com/i/is_anon.htm) (2 October 2010).  
<http://www.ucertify.com/article/what-are-anonymizers.html> (2 October 2010).  
<http://www.guard-privacy-and-online-security.com/free-proxy-anonymizers.html> (2 October 2010).
17. A useful Wikipedia note about “proxy servers” is available at:  
[http://en.wikipedia.org/wiki/Proxy\\_server](http://en.wikipedia.org/wiki/Proxy_server) (5 October 2010).
18. In reference to *Incident Management* discussion in Section 9.9 the *2009 Annual Report of Indian Computer Emergency Response Team India (CERT-In)* can be accessed at:  
<http://www.cert-in.org.in/knowledgebase/annualreport/annualreport09.pdf> (3 October 2010).  
 To know about ITIL Incident Management for Beginners, visit:  
<http://www.slideshare.net/agnihotry/itil-incident-managementfor--beginners> (18 November 2010).  
 Read about Benefits of Incident Management at:  
[http://www.helpdesksurvival.com/Benefits\\_of\\_Incident-Management.html](http://www.helpdesksurvival.com/Benefits_of_Incident-Management.html) (18 November 2010).

Read about Incident Logging and Classification at:  
[http://itil.osiatis.es/ITIL\\_course/it\\_service\\_management/incident\\_management/process\\_incident\\_management/incident\\_logging\\_and\\_classification.php](http://itil.osiatis.es/ITIL_course/it_service_management/incident_management/process_incident_management/incident_logging_and_classification.php) (19 November 2010).

19. The *FISMA 2007 DRAFT about National Incident Management System* can be downloaded from the following link: <http://www.fema.gov/pdf/emergency/nrf/nrf-nims.pdf> (6 October 2010).
20. In the following link, there is a good article about *Incident Response Policies and Procedures*: [http://searchsecurity.techtarget.com/generic/0,295582,sid14\\_gci1069767,00.html](http://searchsecurity.techtarget.com/generic/0,295582,sid14_gci1069767,00.html) (4 October 2010).
21. *Security Standard: Computer Incident Handling Process – A Plain English Guide* providing explanation and illustration of this standard can be found at: <http://security.rit.edu/> (6 October 2010).
22. For Web 2.0 (mentioned in section 9.5.1) refer to the following links for additional information:  
<http://webdesign.about.com/od/web20/a/aa021306.htm> (What is Web 2.) (17 November 2010).  
[http://www.vinfotech.com/web\\_2.0/index.html](http://www.vinfotech.com/web_2.0/index.html) (Web 2.0 Design and Development) (17 November 2010).  
<http://www.dotnetuncle.com/Articles/Web-2-and-ASP-NET.aspx> (Web 2.0 and ASP.NET) (17 November 2010).  
Video Clip to Web 2.0 Designing Tips (17 November 2010).

### Books

1. Godbole, N. (2009) *Information Systems Security: Management: Metrics, Frameworks and Best Practices*, Chapters 2, 3, 4, 5, 36, 37 and 38, Wiley India, New Delhi.
2. Ibid, Chapter 14 (Intrusion Detection for Securing the Networks) and Chapter 15 (Firewalls for Network Protection).
3. Ibid, Chapter 11 (Network Security in Perspective) and Chapter 12 (Networking and Digital Communication Fundamentals).
4. Ibid, Chapter 31 (Privacy – Technological Impacts) – Section 31.2 (Privacy Implications of RFID Technology).
5. Ibid Chapter 27 (Laws and Legal Frameworks for Information Security) – Section 27.16 Building Security into Software/SDLC).
6. Ibid, Chapter 35 (Auditing for Security) – Section 35.9 (Technology-based Audits – Vulnerability Scanning and Penetration Testing).
7. Ibid Chapter 37 (Asset Management) – Section Managing Access to Organization’s Information Assets (under Section 37.10).
8. Ibid Chapter 4 (Information Security Management in Organizations).
9. Ibid Chapter 34 (Business Continuity and Disaster Recovery Planning).
10. Ibid Chapter 21 (Security of Operating Systems) – Section 21.8 Patched Operating System.
11. Ibid Chapter 37 (Asset Management) – Section 37.3 Security Aspects in IT Asset Management.
12. Ibid Chapter 6 (Information Security Risk Analysis).
13. Ibid Chapter 29 (Privacy – Fundamental Concepts and Principles).
14. Ibid Chapter 16 (Virtual Private Networks for Security).
15. T. Mather, S. Kumaraswamy and S. Latif (2009). *Cloud Security and Privacy: An Enterprise Perspective on Risks and Compliance*, O’Reilly. To read the article, visit: <http://oreilly.com/catalog/9780596802769/> (1 July 2010).

### Articles and Research Papers

1. Nina Godbole’s article based on the talk delivered at the PCQuest SummIT conference, December 2009 can be read at: [http://pcquest.ciol.com/infrasummit/2009/presentation/Nina-WorkForceMobility\[Delegate Copy-PCQuest%20SummIT202009\].pdf](http://pcquest.ciol.com/infrasummit/2009/presentation/Nina-WorkForceMobility[Delegate Copy-PCQuest%20SummIT202009].pdf) (1 July 2010).
2. The DSCI 2009 study on *State of Data Security and Privacy in the Indian Industry* can be accessed at: [http://www.naavi.org/cl\\_editorial\\_10/data\\_security\\_survey\\_2009\\_report\\_final\\_30th\\_dec\\_2009.pdf](http://www.naavi.org/cl_editorial_10/data_security_survey_2009_report_final_30th_dec_2009.pdf) (1 October 2010).
3. Vicky Shah’s article about *Security Incident Handling and Dealing with Law Enforcement Agencies* can be read at: <http://searchsecurity.techtarget.in/tip/Security-incident-handling-and-dealing-with-law-enforcement-agencies> (3 October 2010).

4. In the following link you can find guidance on *Customizing the Handling of an Unauthorized Access Incident*: [http://www.qaiworldwide.org/pdf\\_files/sept08\\_pw.pdf](http://www.qaiworldwide.org/pdf_files/sept08_pw.pdf) (8 October 2010).
5. United States Government Accounting Office (GAO) 2005 comprehensive report on *Emerging Cyber Security Threats and Issues* is available at the following link: <http://www.au.af.mil/au/awc/awcgate/gao/d05231.pdf> (8 October 2010).