

Use of Seized Materials & Results in Evidence



CJ341 – Cyberlaw & Cybercrime Lecture #21

M. E. Kabay, PhD, CISSP-ISSMP
<mailto:mekabay@norwich.edu>
V: 802.479.7937
Assoc Prof Information Assurance
School of Business & Management

P. R. Stephenson, PhD, CISM, CISSP, FICAF
<mailto:pstephen@norwich.edu>
V: 802.498.4923
Chair, Department of Computing
School of Business & Management

Julie Tower-Pierce, Esq
<mailto:jtp@hpit.net>
Adjunct Prof Justice Studies
School of Social Sciences

1

Copyright © 2009 M. E. Kabay, J. Tower-Pierce & P. R. Stephenson. All rights reserved.

Topics

- Admissibility of Digital Evidence
- The Courts & Digital Evidence
- Admission of Digital Evidence at Trial

Moore Chapter 11
Clifford Chapter 3 pp 174-186
SSCOECCI §V (PDF pp 119-128).



2

Copyright © 2009 M. E. Kabay, J. Tower-Pierce & P. R. Stephenson. All rights reserved.

Admissibility of Digital Evidence



➤ US v. Liebert (1975)

- Could computer records for alleged federal tax-evader be admitted as evidence?
- Yes, provided
 - ✓ Prosecution could prove digital data were *accurate* and *authentic*
 - ✓ Defense was given opportunity to check

➤ Resistance to admitting digital evidence continued

- Based on Federal Rules of Evidence
- <http://www.law.cornell.edu/rules/fre/>
- Includes hearsay, authentication, nature of writings & copies

3

Hearsay



- Rule 801: "...statement, other than one made by the declarant...."
- Rule 801(d)(1) permits digital evidence such as e-mail or Web postings if
 - Statement contradicts sworn testimony
 - Statement rebuts accusation of lying
 - Statement helps identify person



4

Copyright © 2009 M. E. Kabay, J. Tower-Pierce & P. R. Stephenson. All rights reserved.

Authentication (1)



➤ Authentication validates evidence

➤ Rule 901(a) requires authentication

- One method uses self-authentication mostly involving public records and certification (rarely works for digital evidence)
- Other approach involves authentication by a qualified professional

➤ Prof Moore argues that only 2 of the Rule 901 subclauses apply to digital evidence: both involve testimony of expert witnesses



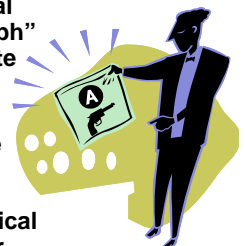
5

Copyright © 2009 M. E. Kabay, J. Tower-Pierce & P. R. Stephenson. All rights reserved.

Nature of Writings



- Rule 1002: specifies that original "writing, recording or photograph" must be available to authenticate copies presented in evidence
- Rule 1001(1) stipulates that *writings and recordings* include "letters, words, or numbers, or their equivalent, set down by...magnetic impulse, mechanical or electronic recording, or other form of data compilation."
- Rule 1004: allows for admission of bit-images of forensic data



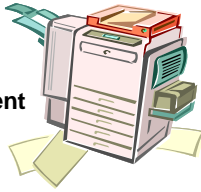
6

Copyright © 2009 M. E. Kabay, J. Tower-Pierce & P. R. Stephenson. All rights reserved.

Copies

Rule 1004 allows submission of copies when

- Originals are lost or destroyed
 - ❑ But verifiable copies make it easy to present in court given hash functions, proper bit-image
- Original is not obtainable
 - ❑ Usually have to return equipment to suspect
 - ❑ But data may be destroyed by suspect
- Original is in possession of opponent
 - ❑ Suspect may refuse to grant access to original data



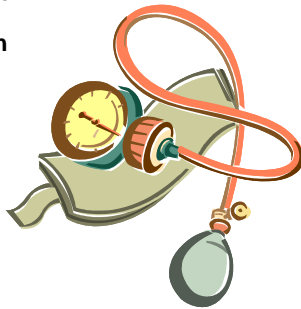
The Courts & Digital Evidence

- Frye v. US (1923)
- Daubert v. Merrell Dow Pharmaceuticals (1993)
- State v. Hayden (1998)
- People v. Lugashi (1988)
- US v. Scott-Emuakpor (2000)
- Williford v. State (2004)



Frye v. US (1923)

- Could scientific evidence about blood pressure and effects on polygraph evidence be introduced at trial?
- Court ruled that evidentiary collection had to cross line from experimental to demonstrative
- Set standard that evidence must be "generally accepted in scientific community"



Daubert v. Merrell Dow Pharmaceuticals (1993)

- Woman claimed drug company caused birth defects
- Offered scientific studies showing relationship
- Court required method to conform to general acceptance in scientific community using Frye
- SCOTUS overturned verdict
 - ❑ Scientific evidence need only be *reliable and scientifically valid*
 - ❑ Now known as the *Daubert Test* (see next slide)



The Daubert Test

- Has the scientific theory or technique been empirically tested? According to K. Popper (1989) in *The Growth of Scientific Knowledge*, "the criterion on the scientific status of a theory is its falsifiability, refutability, and testability."
- Has the scientific theory or technique been subjected to peer review and publication? This ensures that flaws in the methodology would have been detected and that the technique is finding its way into use via the literature.
- What is the known or potential error rate? Every scientific idea has Type I and Type II error rates, and these can be estimated with a fair amount of precision. There are known threats to validity and reliability in any tests (experimental and quasi-experimental) of a theory.
- What is the expert's qualifications and stature in the scientific community? And does the technique rely upon the special skills and equipment of one expert, or can it be replicated by other experts elsewhere?
- Can the technique and its results be explained with sufficient clarity and simplicity so that the court and the jury can understand its plain meaning? This is just the Marx standard, which is assumed to be incorporated in Daubert as it was with Frye.

Quoted from <http://faculty.ncwc.edu/toconnor/425/425lect02.htm>

State v. Hayden (1998)

- Hayden charged with rape and murder
- Difficulty obtaining fingerprints from bloody sheet
- Forensic specialist used digital photography and computer enhancement to develop fingerprint
- Challenged in court – not approved technique
- Prosecutors argued that all steps were scientifically sound
- Court rejected argument, suppressed evidence



