



# Electronic Discovery -- Workflow

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# Agenda

- Global Assessment
- ESI Roadmap/Data Map
- Preservation Plan (legal hold)
- Collection/Data Acquisition
- Processing (filter/cull)
- Review/Analysis
- Production



# Suggested Protocol for Discovery of Electronically Stored Information

- Judge Paul Grimm, U.S. District Court for the District of Maryland
- <http://www.mdd.uscourts.gov/news/news/ESIProtocol>
- Lorraine v. Markel Ins. Co., 241 F.R.D. 534 (D.Md. 2007)(discusses the admissibility of various types of ESI and how ESI should be admitted into evidence)



# Global Assessment

- Review business processes
  - Where is ESI created & stored
- Usual suspects
  - Key players/custodians
  - File types/locations
  - Accessibility



# Key Players

- Multidisciplinary eDiscovery team
  - Lawyers (law)
  - eDiscovery & IT (information science & technology)
  - Key business personnel (management)



# Key Players

- Identification of key IT personnel
  - Network design
  - Types of databases
  - Database dictionaries
  - Access control list & security access logs
  - Rights of individuals to access the systems, specific files, and applications
  - ESI document retention policy
  - Org chart for info system personnel
  - Backup & systems recovery routines



# ESI Roadmaps

- Computer network diagram
  - Take inventories & draw diagrams of computers
  - Enterprise--wide assessment (internal/external)
- Roadmaps -- graphical representation of the networks & ESI storage devices



# ESI Data Maps

- Visual aid to help lawyers and judges
  - Shows where & how ESI is stored
  - Complete inventory of ESI
  - Shows ESI locations, types, amounts, accessibility, metadata associations
  - Frequency, difficulties, and costs associated with the restoration of inaccessible ESI





# Legal Hold

- Send written notices to relevant employees
- Send written reminders
- Develop a documentation plan
- Monitor & enforce the legal hold notices and the reminders



# Data Acquisition/Collection

- Targeted collection
- Forensic collection
  - EnCase Forensic
  - AccessData FTK



# Computer Forensics

- Data imaging
  - Forensic software
  - Write blockers
- Data extraction
- Report/timeline
- Expert testimony



# Metadata

- Data about data

- Sample fields from eDocs: original\_filename;  
file\_extension; document\_type; store\_filepath; size; extracted\_datetime;  
system\_created\_datetime; system\_modified\_datetime;  
header\_created\_datetime; header\_modified\_datetime;  
header\_printed\_datetime; body; title; subject; primary\_author; manager;  
company; category; keywords; comments; body\_comments;  
header\_footer; last\_saved\_by; attach\_count; MD5; OCR;  
ocr\_page\_count; nonstandard\_fields; etc.



# Metadata cont'd

- File system metadata
- Document metadata
- E-mail metadata
- Provider-added metadata
- Client-added metadata



# Processing

- Filter/Cull
  - Remove system files (De-NIST)
  - Date ranges
  - Document types
  - De-Duplicate
    - MD5 hash value (32 characters -- alpha/numeric)
    - Hash value = digital fingerprint of each e-document
    - Per custodian or globally



# Processing cont'd

- E-mails
  - Extract embedded documents (attachments)
  - Preserve & extract all metadata
  - Code emails (e.g., author, to, from, cc, bc, sent date, sent time, subject, recipients, attachments, etc.)
  - Parent/child relationships (threading)



# Review/Analysis

- Perform keyword searches
- Perform concept searches
- Redact documents as needed
- Privileged, responsive, non-responsive, confidential, hot, etc.
- Foreign Language (double byte Unicode)





# Production

- Native, TIFF, PDF, Combination
- Create a load file (e.g., Concordance, Summation, iConect, XML, CSV, Relativity, etc.)
- Transfer responsive data to:
  - CD/DVD
  - External hard drive
  - USB/thumb drive
- Paper



# What Organizations Need To Know

- Where their ESI is kept
- What data storage technology is used to backup & archive the ESI
- How a legal hold vs. retention schedule applies to ESI
- How & when the ESI is disposed of
- How long it will take to produce the ESI
- ESI production format



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