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E-Discovery & Digital Forensics

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Integrating Digital Forensics Techniques into E-Discovery Processing and Review

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Agenda

- Overview of E-Discovery Workflow
  - Preservation, Collection, Processing, Review, Production
- Digital Forensics
  - Comparison to E-Discovery
  - Common techniques that apply to E-Discovery

Who are the Players?

- Clients/Corporations
  - Organize and know where data is
  - Continue doing business – carefully
- Law Firm
  - Direct discovery
  - Plan and strategize EARLY
  - Choose technology partners [vendor, in-house, client]
  - Review and redact
- ESI and Digital Forensics vendor
  - Communicate well with parties
  - Recommend best course of action based on experience
  - Manage expectations
  - Execute project plan as efficiently as possible

E-Discovery Workflow Pre-Review

- Collection
  - Interview client and if they have IT, make sure to talk with them
  - Preserve as much as possible and Collect from that preservation
  - Use Chain of Custody documentation
- Processing
  - You can choose to process only parts of the collected data
  - Dedupe, email thread, extract metadata and text, etc.
- Search/ECA
  - Have well-crafted search terms ready ahead of time
  - Run searches for “potentially privileged” at the beginning to remove them from first-pass review

E-Discovery Review and Production

- Coding
  - Use mass coding to your advantage in a first pass review to exclude junk email addresses, spam, whitepapers, etc.
  - Set up a coding panel that forces people to be specific
  - Don't overload with coding tags
  - If you mark as privileged, must say why it makes privilege logs much easier
- Production and Exports
  - Either have vendor do electronic productions or you; not both
  - Follow the agreed upon format and keep a copy for yourself
  - Make sure you get metadata that allows for deduplication
    - Conversation index, description of the hash methodology
  - Get an updated custodian lists for deduplicated data for each production

E-Discovery & Digital Forensics

- Shared goal
  - Locate digital evidence to support investigations or fact discovery
- E-Discovery
  - Content-based
  - "What" of a scenario
- Digital Forensics
  - Context-based
  - "How" and "when" of a scenario
- Example
  - E-discovery would find a key email
  - Forensics would show how it arrived at the computer, how often it was opened, if it was sent to another location, etc.

E-Discovery & Digital Forensics Cont.

- E-discovery & digital forensics are both ways to filter ESI
- E-discovery
  - Filtering and reducing a document set based on search terms, duplication, custodian, dates, etc.
  - Also used to describe ESI Processing
  - Output is a set of files
- Digital forensics
  - Investigation into the active and inactive space of computers by an experienced examiner
  - Commonly associated with preservation
  - Output is a report plus a small set of relevant files

Forensic Capabilities

- Computer investigations
  - Email analysis
  - Internet history analysis
  - Software analysis
  - External device analysis (i.e., USB drives)
  - Registry MRU (most recently used) analysis
  - User activity timeline
- Cell phone investigations
  - Can potentially retrieve text messages, photos, call logs, data from apps, calendar information, email, internet browsing information
  - BUT – very dependent on the type of phone

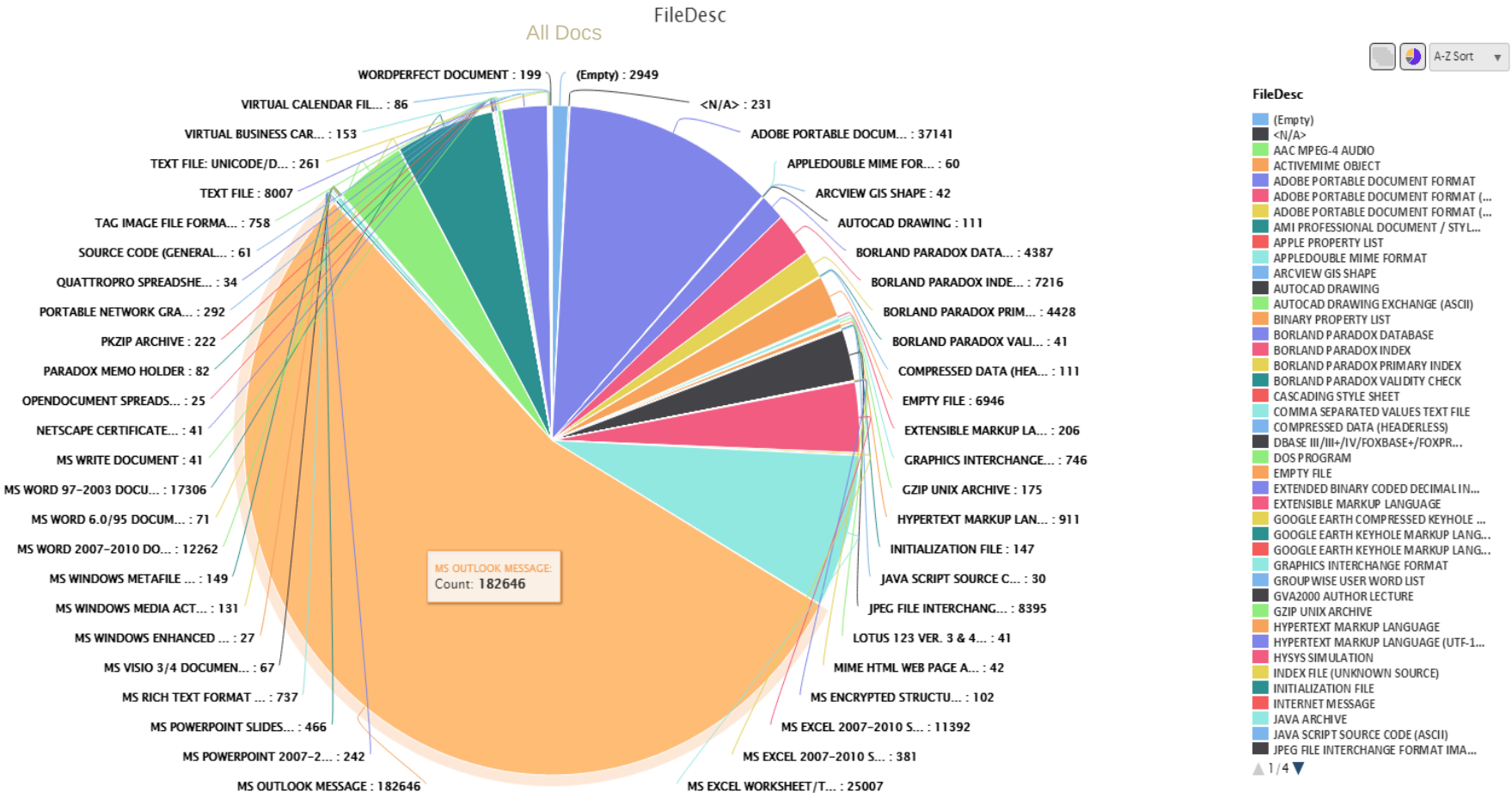
Frequent Digital Forensics Tasks

- Document Location and Authentication
  - Key email produced by the opposing party is detrimental to the case
  - Search doesn't find the email or anything similar
  - Investigator notices inaccurate header information (email dated after its supposed transmission)
  - Email might not be authentic/sent
- User Activity
  - Dates and times of file copies (especially to external media)
  - Deletion and wiping analysis with file recovery
  - Websites visited, USB drives used, files opened
  - Device location
- All of these exams use metadata

What is Metadata?

- "Embedded data" within an electronic document
  - Information may not be visible in a printout
  - Critical difference between paper and electronic documents
- Document information tracked by computer software
- Describes how, when, by whom a document was created, modified and transmitted (i.e. "a history of the document")
  - Can include hundreds of other items

Sample Metadata Report



Types of Metadata

- Email Metadata
  - Hundred of elements: sender, cc/bcc, subject, date/time sent, received, attachments, forward history, etc.
- Document Metadata
  - Date and time created, modified, last accessed, document size, file location, etc.
- Application-Specific Metadata
  - Word processing documents track updates and edits; spreadsheets have calculations, etc.
- Operating System Metadata
  - System logs relating to files that are stored, last edited, user permissions, etc.

Metadata in Litigation and Internal Investigations

- Additional source of evidence
  - Information and history behind an electronic document
- Useful for
  - Authenticating documents
  - Resolving factual disputes
    - Who created a document, if email was sent or received, etc.
- Valuable source of information for document review
  - Automated filtering, coding, sorting, indexing, etc.

Metadata Considerations

- Electronic documents should be collected and preserved
  - As they are stored in normal course of business – including metadata
- Preserving does NOT necessarily mean producing in discovery which does NOT necessarily become evidence
- Some metadata may not be accurate
  - It is easily forged or accidentally changed
  - Must authenticate if relevant
- Consider whether metadata is crucial due to the costs and analysis involved

Carved, Deleted & Orphaned Data

- Data carving can locate fragments of deleted data
  - Intensive scanning
- This type of data is always considered in forensics investigations
  - They might have a place in the story about what happened
  - They might be the story
- Requires computer science expertise to interpret

Document Similarity

- Goal: Identify duplicates or near-dupes
- Of these three, which are most similar?
  - An apple a day keeps the doctor away
  - An orange a day keeps the doctor away
  - A doctor should never compare an apple to an orange
- What's most important?
- Now extrapolate to hundreds of documents each with dozens of sentences
- Need an *efficient* way to find relevant info and *numerical* way to describe similarities

Conclusion

- Both forensics and e-discovery are important parts of the toolkit
- Investigatory vs. process-based
  - Use each for their strength
- Goals can change mid-case
- Have both types of experts available
- Plan ahead for both production and review
  - Reasonable expectations for turnaround
- Project management is key
  - Save time and money
  - Eliminate duplicate review
- Use technology to your advantage
  - Sophisticated software exists
  - Used properly, it can ease the burden of e-discovery

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