

Collaborative Navigation of the Stormy e-Discovery Seas^{*}

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I. [Introduction](#)

[1] Seventy years ago, when the world was still paper-based, a famous lyricist wrote: “*Say, it’s only a paper moon [s]ailing over a cardboard sea. But it wouldn’t be make-believe [i]f you believed in me.*”¹ Jump to today’s digital world, and imagine those lines re-written in an e-mail from a litigator to a client: “*Now, underneath each paper moon is a vast electronic sea. If you plot a realist’s course you’ll cruise e-Discovery.*” In the twentieth century, while civil litigation often wallowed in discovery disputes, at least paper’s one-dimensional nature provided several boundaries. The expansive powers of digital media have shattered those outer limits.² Thus, on a regular basis, judges, litigators, clients, and technologists have been forced to explore and test new methods of fair, thorough, and efficient requests for, and production of, electronic information.

[2] In days gone by:

- Discoverable information existed primarily or exclusively in printed hardcopy documents, whose content and history were, for all intents and purposes, fixed and unalterable.³
- Other than the document’s printed contents and oral questioning of authors and/or recipients, there was no opportunity to explore areas such as the timing and content of prior revisions or the identities of recipients of each such version.
- However large a paper dump ensued, relatively speaking there were finite sets of discoverable materials⁴ to be collected, reviewed and produced, on the one hand, and requested, obtained and reviewed, on the other hand.⁵

[3] Yet, in a modern civil lawsuit:

- Discoverable information exists in a wide array of electronic formats that typically contain much non-printed information, known as “metadata,”⁶ namely particulars that are unavailable when one merely looks at a hardcopy. Metadata mining may be most fruitful as to e-mail. However, even in commonly and widely used formats such as Microsoft Word, electronic versions of documents can reveal many types of underlying information.⁷

- Technology has made it possible, and in many instances easy, to uncover additional potentially helpful facts. Those facts can flesh out the context of a document, encompassing, for example, timing and content of prior revisions, identities of recipients of each such version, and/or identities of prior recipients taken out of a distribution loop.⁸
- The size of most every corporate party's discoverable data set is very expansive and often infinite.⁹

[4] Consequentially, in comparison to their predecessors, the twenty-first century litigator and client are faced with two much more daunting tasks. Fulfilling the goals of those two tasks entails steering clear of two sea mines:-

- Assessing one's own potentially huge data set in a thorough, cost-effective, and pristine-condition-preserving matter, *without being - or seeming to be - obstructionist*.
- Extracting, exploring and culling key information from a data set entirely under the control of one's opponent, *without being - or seeming to be - on a "drag the ocean" fishing expedition*.

[5] Litigators and technologists are still wrestling with how to engage in electronic discovery while evading those two e-Discovery analogues to Scylla and Charybdis.¹⁰ Judges have been increasingly focused on developing a growing body of e-Discovery case law, which will ultimately propound a tried and true process.¹¹ To be efficient and effective, that process must mandate and enforce cooperation among the litigants as to search terms and other selection criteria needed to narrow down huge data sets into manageable subsets.

II. [An Electronic Wave Has Engulfed Civil Litigation](#)

A. [Our Digital World](#)¹²

[6] In the world in general, 99.99% of information being generated is in non-printed form.¹³ E-mail usage and electronic file generation are at astounding levels.¹⁴ While estimates vary, last year one well-respected scholarly institute, The Sedona Conference,¹⁵ opined that "70[%] of corporate records may be stored in electronic format, and 30[%] of electronic information is never printed to paper."¹⁶ One expert

commentator went even further, contending that, in most companies, 90 to 95% of information is stored only in electronic form.¹⁷

[7] In turn, broad discovery remains paramount in civil litigation.¹⁸ Not surprisingly, therefore, in the litigation context, the transition to a predominantly electronic mode has been accelerating at a rapid pace.¹⁹ Black letter law is now to the effect that e-information is as susceptible to discovery rules and principles as paper.²⁰ “[I]f a party chooses an electronic storage method, the necessity for a retrieval program or method is an ordinary and foreseeable risk” of commercial litigation.²¹

B. Categories of Electronic Information

[8] Hard drives, back-up tapes, storage devices, web server logs, databases, and “deleted”²² files are among the numerous formats and environments that often need to be navigated.²³ The best judicial description of the world of electronic information was propounded last year by Judge Shira A. Scheindlin in the first of her several landmark electronic discovery decisions in an employment discrimination case, *Zubulake v. UBS Warburg LLC* (“*Zubulake I*”).²⁴ As its threshold issue in assessing Plaintiff’s motion to compel production, *Zubulake I* divided the world of electronic information into two distinct broad categories:

1) “[D]ata that is kept in an *accessible* format,” broken down into three sub-categories, “listed in order from most accessible to least accessible:”

a) “Active, online data,” such as hard drives;

b) “Near-line data,” such as optical disks; and

c) “Offline storage/archives[,] . . . [which] lack[] ‘the coordinated control of an intelligent disk subsystem,’ and [consist of], in the lingo, JBOD (‘Just a Bunch of Disks’).”²⁵

2) “Electronic data [that] is relatively *inaccessible*,” broken down into two sub-categories, also ranked in order of accessibility:

a) “Backup tapes;” and

b) “Erased, fragmented or damaged data.”²⁶

C. [Costs of Retrieving Electronic Information](#)

[9] The significance of the two *Zubulake I* categories is that they comprise a framework for coping with the all-important civil discovery issue of spiraling costs.²⁷ *Zubulake I* concluded that “in the world of electronic data, thanks to search engines, any data that is retained in a machine[-]readable format is typically accessible”²⁸ and thus, if responsive, must be produced at the expense of the producing party, under the usual rules of discovery.²⁹ On the other hand, as to inaccessible data (primarily back-up tapes), *Zubulake I* held that “[a] court should consider cost-shifting,” namely requiring the requesting party to shoulder some of the burden of retrieval costs.³⁰

[10] Back-up tapes trigger a host of fairness and cost issues, and *Zubulake I* did its best to fairly assess these issues from the perspective of both sides. What are back-up tapes, and why do they warrant disparate treatment?³¹ As a medium, a back-up tape drive is “[a] device, like a tape recorder, that reads data from and writes it onto a tape. Tape drives have data capacities of anywhere from a few hundred kilobytes to several gigabytes.”³² As a practical matter, companies make daily or weekly computer system data back-ups,³³ to have on hand in case of a catastrophic system crash. Typically, those back-up tapes are retained for a week, a month, or a similar period of time, and then are put back into rotation and recycled.³⁴ Each back-up takes a snapshot of the information on the computer system at a given time. When subsequent back-up tapes are made, previously created back-up tapes may be recycled or deleted from the storage facility.

[11] Although the cost of back-up tapes themselves is relatively small, the cost of restoring, reviewing, and extracting responsive information from them can run into tens of thousands of dollars.³⁵ Typically, there is no directory; thus, only once back-up tapes are “restored” and the contents indexed can the underlying information be searched, extracted, and/or manipulated.³⁶ Given that backed up data must not only be indexed but also decompressed, the restoration process is typically lengthy and costly.³⁷

[12] As acknowledged by Judge Scheindlin in *Zubulake I*, the stakes are thus higher all the way around regarding back-up tapes and other “relatively inaccessible” data. Consequently, her decision tried to give full credence to the positions of both requesting and producing parties.

[13] As to requesting parties, *Zubulake I* potentially opened a can of worms by rebuffing a once common objection to discoverability of back-up tapes. The accessibility/inaccessibility demarcation eliminated “the purposes for which the responding party maintains the requested data” as a factor in a new seven-factor cost-shifting analysis.³⁸ Further, “[w]hether the data is kept for a business purpose or for disaster recovery does not affect its accessibility.”³⁹ *Zubulake I* also carefully protected the rights of individual Plaintiffs/requestors by generally circumscribing when costs can be shifted to the requesting party.⁴⁰ It did so by ruling that cost-shifting is appropriate as to restoration of inaccessible data *only* if its marginal utility is evinced by a “fact-intensive” review of the results of a “small sample” restoration.⁴¹

[14] As to producing parties, *Zubulake I* and its follow-up decision, *Zubulake III*,⁴² carefully restricted the extent to which the arena of back-up tapes could become a bottomless sinkhole for a responding party. In *Zubulake I*, the new test was applied to a narrow pertinent set of ninety-four⁴³ back-up tapes that had previously been identified as responsive. The court ordered Defendant to produce at its own expense “*all* responsive e-mails that exist on its optical disks or on its active servers[,] . . . [and] responsive e-mails from any *five* backups [sic] tapes selected by [Plaintiff].”⁴⁴ The court also ordered Defendant to “prepare an affidavit detailing the results of its search, as well as the time and money spent. After reviewing the contents of the backup tapes and [Defendant]’s certification, the Court [was to] conduct the appropriate cost-shifting analysis.”⁴⁵ In *Zubulake III*, the court held that the results of the restoration of the small sample of five tapes warranted shifting to the requesting party only 25% of *restoration* costs as to the remaining tapes, and that all other costs - including the costs of *review* and *production* - remained with the producing party.⁴⁶

[15] Implicitly, the *Zubulake* decisions laid the groundwork for development of a conceptually sound, pragmatic, and cost-sensitive multi-step e-Discovery process, namely a process in which there are incentives for both sides to cooperate with each other and with the court. Significantly, the *Zubulake* opinions did so in the battleground of back-up tapes, the key factual setting that has instigated many other judges to wade into the e-Discovery waters.⁴⁷

D. [What Litigants Hope to Find: Smoking Guns](#)

[16] An ironic factual aspect of *Zubulake* was Plaintiff's packrat-like tendency to retain many paper copies of e-mails. Plaintiff "produced over 450 pages of relevant e-mails, including e-mails that would have been responsive to her discovery requests but were never produced by [Defendant]."⁴⁸ That fact played a major role in convincing the court to agree with Plaintiff that Defendant likely had additional pertinent e-mails in relatively inaccessible electronic form. In particular, *Zubulake I* reasoned that Plaintiff "ha[d] already produced a sort of 'smoking gun' - an e-mail suggesting that she be fired 'ASAP' after her EEOC charge was filed, in part so that she would not be eligible for year-end bonuses."⁴⁹

[17] As in *Zubulake*, in general a requesting party seeks to fulfill the overall discovery goal of developing evidence to support a claim or defense. Likewise, it also hopes to uncover the proverbial "smoking gun" e-mail or other document. As one commentator so aptly pointed out:

Once discovery begins, the chase is on for smoking gun e-mails, memos admitting liability, deleted design documents, and other documents never intended to see the light of day. . . . It has been proven time and time again that e-mails are fertile ground for unearthing damaging documents. Individuals believe them to be private communication.⁵⁰

Based on some widely publicized examples,⁵¹ hope springs external as to unearthing gold nuggets. In one of the fen-phen diet drug litigations, a Plaintiff's computer forensics experts uncovered a damaging e-mail message, which was ultimately leaked to the press.⁵² The message is universally claimed to have read: "Do I have to look forward to my waning years writing checks to fat people with a silly lung problem?"⁵³ Similarly, a Chevron Corporation subsidiary was apparently induced to settle a sexual-harassment claim - in 1995 for \$2.2 million - based on unearthed evidence that included an e-mail containing such jokes as "[twenty-five] reasons beer is better than women."⁵⁴ Generally, such smoking gun e-mails would remain hidden absent an automated method to retrieve them.

III. [Different Methods of Production and Review](#)

A. [Paper vs. Electronic](#)

[18] When a very small set of discoverable information exists, it is still feasible for the parties to physically review printed hard copies of all documents. In fact, when one's client's responsive set and/or the other side's produced set is quite small, some feel that paper review is advisable, even when it is in addition to one or more forms of electronic review. Why? In those situations, the "serendipity factor" applies, meaning that the odds are at their highest that paper review may reveal pertinent information that might be missed in robotic electronic review.⁵⁵

[19] Even when a lawsuit entails a medium to large e-information universe, there is not necessarily relevant, let alone earth-shattering, metadata.⁵⁶ As has always been the case, the nature and extent of permissible discovery vary widely, depending on factors such as legal theories, types of parties, and number of key players. However, in almost every lawsuit, the sheer volume of potentially responsive e-information has changed the tools needed just to get through the data set.⁵⁷

[20] In almost all current civil litigation involving one or more entity parties, the nature of the beast now mandates that electronic collection, production, and review predominate, and often constitute the only effective method.⁵⁸ An experienced practitioner has propounded a rule of thumb: "[i]n any matter involving more than [one] gigabyte of data, or more than 100,000 pages⁵⁹ of documentation, lawyers should consider e-[D]iscovery processes."⁶⁰

[21] In many lawsuits, the vastness of the potentially responsive set of electronic information⁶¹ has made it practically impossible for the litigation team to review hardcopy documents page-by-page. The *Zubulake I* court noted that, "[b]y comparison [to the time it would take to search through 100,000 pages of paper], the average office computer could search all of th[ose] documents for specific words or combinations of words in minute [sic], perhaps less."⁶² In the author's own experience, a complex litigation between two large corporate parties can generate the equivalent of more than one hundred million pages of discovery documents, requiring over twenty terabytes of server storage space.⁶³ Assuming a review rate of one box of paper documents⁶⁴ per weekday, per reviewer, a one hundred million page volume corresponds to over thirty person-years of review for each party. In ecological terms, each side would require approximately 6,250 trees⁶⁵ just to print one copy of each of the documents it produced and of each of the documents it received.

B. [Inappropriateness of Seeking, or Turning Over, “Everything”](#)

[22] Given the open-ended nature of data storage capacities, electronic era descendants of the old-fashioned fishing expedition and paper-dump are fraught with problems for both sides. An overly broad *request* by the propounding party will likely be both too intrusive on the responding party, and indefensible in court if enforcement is sought, thus causing the requester to lose not only time and money, but also credibility with the judge.⁶⁶

[23] An overly broad *response* by the producing party is also a double-edged sword. Getting buried in an avalanche of data could render it impossible for the requester to conduct any meaningful, let alone complete, review.⁶⁷ Moreover, if electronic information is produced in its various respective “native”⁶⁸ formats, much of it may be impractical (or impossible) to view, let alone review.⁶⁹ However, turning over an overly broad set of data, especially in its native format(s), is not a tenable strategy for a producing party because it, in effect, “gives away the store” in the first instance. To the extent the other side has the requisite resources and is sufficiently tech-savvy to explore the pertinent native files, each such “native document appears exactly as it appeared to the custodian who created and maintained the document[;] . . . [thus, one’s opponent would be able to] see all of the application’s hidden features, such as spreadsheet formulas, tracked changes and links between documents.”⁷⁰

C. [Searching](#)

[24] The pivotal “selection criteria”⁷¹ issue has been aptly framed by one Sedona Conference law-and-technology expert, who queried, “is the use of Selection Criteria a reasonable and reliable way to identify and cull potentially responsive data from large, co-mingled, general-issue, data sets?”⁷² The same expert defined the Sedona Principle Eleven phrase “selection criteria” as “filtering expressions . . . applied . . . to identify data items with specific characteristics. Those items . . . that match . . . are deemed to have ‘hits’ and will be selected, or culled, from the data set for further processing and/or review.”⁷³

[25] The most effective criteria for winnowing down a large universe of electronic information could include full-text word searches, time frame(s), file type(s), and/or key creators or modifiers of documents.⁷⁴ Though there are deficiencies,⁷⁵ technology is always changing, such that the capabilities and capacities of search engines continue to grow.⁷⁶

[26] No sophisticated party or attorney seriously contends that an electronic vetting process is unnecessary. The trickier issue, however, is whether - and, if so, when - a propounding party gains input into the responding party's selection criteria. Responding parties will tend to insist on the right to "go it alone" in the first instance, while requesting parties will want to have input *ab initio*.⁷⁷

IV. [Suggested Solution: Bilateral/Cooperative Approach From Litigation's Inception to Conclusion](#)

A. [Introduction](#)

[27] As recognized by *The Sedona Principles*, "dialogue between litigants is a prerequisite to resolving (or avoiding) potentially costly and disruptive electronic discovery disputes."⁷⁸ The prospect of such bilateral cooperation becomes real rather than a pipe dream as long as one accepts the following premises and presumptions:

- Many broad generalizations cannot be applicable to every litigation. A lawsuit - however unique its facts and legal theories - is always intrinsically a dispute between parties whose counsel are hired to vigorously advocate, which includes using strategy.⁷⁹
- The *Zubulake* marginal utility approach will be used to prevent fishing expeditions into inaccessible data such as back-up tapes, and the court will induce the parties to cooperate on search criteria at all three phases of the *Zubulake* framework.⁸⁰
- When an individual is litigating against a company, the trial judge will strive to ensure that justice is served.⁸¹
- Where necessary to protect privileged material,⁸² trade secrets and the like, the trial judge will work with the parties to establish protocols for data gathering and review, including, perhaps, appointing a neutral computer expert.⁸³
- All concerned, including computer experts, will employ the best technology practices to ensure that original electronic information is not manipulated and that the integrity of working copies thereof is preserved.⁸⁴

[28] With those principles accepted as starting points, it is time to touch on the most recent proposed standards and rules aiming for a cooperative e-Discovery process.

B. [Overview of Pending Proposed Rule Changes & Recommendations](#)

[29] The same long-held discovery law principles apply to electronic information.⁸⁵ However, judicial interpretation of those principles in the variegated factual contexts wrought by technological advances has been slow. Some of that slowness is due to judges' predilection to adhere to their traditional role of "develop[ing] principles on a case-by-case basis from the ground up."⁸⁶ As in other contexts, there are four reasons why we will all get very old if we wait for the adjudicative process to finish that task. First, "[m]ost reported discovery cases come from trial courts and have little precedential value."⁸⁷ Second, there is generally very little guidance from courts of appeals, because few discovery cases get appealed.⁸⁸ Third, when such cases are appealed, the level of appellate review is deferential, leaving most discovery determinations within the discretion of the trial judge.⁸⁹ Fourth, the reported decisions tend to involve obstructionist conduct at the most egregious end of the spectrum,⁹⁰ thus arguably offering insufficient guidance to those acting in a mainstream manner.

[30] There are several current movements to establish new standards that could provide some much-needed guidance in the e-Discovery arena. At the federal level, the Discovery Subcommittee of the United States Advisory Committee on Civil Rules (FRCP Committee) is assessing whether the nuances of electronic information warrant proposed amendments to the Federal Rules of Civil Procedure (FRCP).⁹¹ Many question whether the "three-to[-]four-year process" endemic to revising the FRCP⁹² can possibly keep up with technological advances.⁹³ Even the FRCP Committee itself has acknowledged a "legitimate concern that any definition we fix upon presently could be rendered meaningless by changes in five or ten years. The goal of this effort is to try to use terms that anticipate technological developments and would be sufficiently flexible to be of use once those occur."⁹⁴

[31] Nonetheless, the current draft of the proposed FRCP changes does tackle a number of key technology topics, such as:

- contemplating adding a provision to FRCP 34(1)(A) - as to

scope of discovery - that might encompass metadata;⁹⁵

- amending FRCP 34(b)(1)(B) - as to “form of the request” - to include that “[t]he request may specify the form in which electronically-stored data are to be produced,”⁹⁶ ostensibly including metadata; and
- considering authorizing a “quick peek” - in other words, “initial examination” - procedure in FRCP 34(b)(2)(E), whereby a party would preliminarily turn over electronic information to its adversary without waiving any privilege objections.⁹⁷

Three of the Sedona Conference’s eleven Principles - Three, Six and Eleven - address aspects of narrowing the scope of e-Discovery. Principle Three provides that “[p]arties should confer early in discovery regarding the preservation and production of electronic data and documents when these matters are at issue in the litigation and seek to agree on the scope of each party’s rights and responsibilities.”⁹⁸ Principle Six, in essence, advises against standard procedures covering “the role of forensic-style data retrieval and analysis procedures in civil discovery.”⁹⁹ In short, Principle Six warns that “the precise methods, or choice of vendor or consultant, should not be dictated by the court.”¹⁰⁰

[32] Sedona Principle Eleven particularly addresses “data sampling, searching, or the use of selection criteria.”¹⁰¹ Though that Principle authorizes the responding party’s harvesting of its own data set, it also prescribes that this culling be conducted in the spirit of fulfilling the “*good faith* obligation to preserve and produce potentially responsive electronic data and documents.”¹⁰² And, by way of an important qualification, the corresponding Observation “recommend[s], however, that *methodology be discussed by the parties before the searches begin*, most likely at the Rule 26(f) conference. This recommendation follows Principle [Three] and might serve to diffuse potential disputes, avoiding unnecessary duplication and costs.”¹⁰³

[33] Also weighing in is the Task Force on Electronic Discovery of the Section of Litigation of the American Bar Association (ABA), which has circulated for public comment a draft set of proposed amendments to the ABA’s Civil Discovery Standards.¹⁰⁴ Many of that task force’s proposals espouse ways that the parties can vet large sets of electronic information so as to more efficiently and fairly tackle huge amounts of data.¹⁰⁵ Moreover, on the “quick peek” issue, several of the ABA Standards’ other

proposals suggest three stipulated methods by which parties could produce large data sets likely containing some potentially privileged material without actually waiving privilege.¹⁰⁶

[34] The aptness of the recommendations of these various bodies is buttressed by the case studies in inefficiency discussed in [Part IV\(D\)\(4\)](#) below.

C. [Policies Favoring/Inducing Cooperation](#)

[35] In addition to the incentive to join forces in attempting to conquer the overwhelming amounts of data discussed in [Part II\(A\)](#) above, there are other factors militating in favor of cooperation.

1. [Idealistic Principles](#)

[36] Attorneys are expected to cooperate during the discovery process. First, professional responsibility requires attorneys to offer one another at least some level of cooperation.¹⁰⁷ Second, in theory, “information contained in electronic records can help the company’s position in a legal proceeding just as easily as it can be harmful.”¹⁰⁸ As a result, a thorough search for electronic evidence is in the company’s best interest. The author’s experience as a litigator has generally borne out that theory. Typically a dispute that proceeds into a lengthy discovery phase entails many facts that are not cut and dry and are thus susceptible to varying interpretations and depictions. As a result, it tends to be better for all sides to learn the full range of direct and circumstantial evidence that truly exists for claim building, defense building, and potential settlement assessment purposes.

2. [Specter of Sanctions](#)

[37] Even putting aside the carrot of the idealistic principles of ethics and truth-seeking, there is a new stick. Increasingly, tech-savvy judges have become much tougher on parties who, ostrich-like, refuse to cooperate in electronic discovery.¹⁰⁹ Judges have begun to lose their patience with recalcitrant parties, both discovery requesters (propounders) and discovery responders (producers). While the vast majority of reported e-Discovery decisions focus on wayward producers, several recent appellate decisions have restrained propounders by preventing them from

making vague requests and gaining unfettered access to an opponent's electronic information.¹¹⁰

[38] “[T]hat parties need to work together from the beginning, conferring with each other as often as necessary so that appropriate material is produced at reasonable times” is the take-away from a relatively recent reversal of a Plaintiff's jury verdict.¹¹¹ The Second Circuit's opinion in *Residential Funding Corp. v. DeGeorge Financial Corp.* reinforces the judicial trend to scrutinize companies' protestations that they cannot recover data stored on back-up tapes.¹¹² There, the appellate court found that the trial court had not adequately dissected Plaintiff's months of protestations concerning purported technical difficulties in recovering e-mails from the critical time period at issue. Those contentions, which continued past the start of trial, were rendered quite suspicious by Defendant's consultant's ability to recover 950,000 e-mails from the pertinent time period in four days.¹¹³

[39] The range of sanctions for a producing party who will not cooperate or otherwise meet its discovery obligations is very broad, including “monetary penalties (such as attorney fees, costs and/or pay-for-proof sanctions), exclusion of evidence; adverse inference jury instructions, and, in an appropriately extreme case, even a dismissal or default judgment.”¹¹⁴ In *Residential Funding Corp.*, the Second Circuit analyzed the requisite “culpable state of mind” to encompass not only “bad faith” or “gross negligence,” but also ordinary negligence.¹¹⁵ A few months later, a Southern District of New York judge went even farther in *Metropolitan Opera Ass'n v. Local 100, Hotel Employees & Restaurant Employees International Union*.¹¹⁶ There, the misconduct was so extreme¹¹⁷ that Judge Loretta A. Preska granted “Plaintiff's motion for [final] judgment as to liability against [D]efendants and for . . . attorneys' fees necessitated by the discovery abuse[s] by [D]efendants and their counsel.”¹¹⁸ *Metropolitan Opera Ass'n* relied on FRCP 37,¹¹⁹ 28 U.S.C. § 1927,¹²⁰ and a court's inherent power to sanction as the justifications for the lawsuit's ultimate “result [being] driven by discovery abuse,” rather than by resolution “on the merits.”¹²¹

D. [Collaborative Vetting Process Needed at all Litigation Stages](#)¹²²

1. [Rule 26\(f\) Initial Discovery Conference](#)

[40] An early dialogue among the parties as to the logistics of electronic discovery is likely necessary to assure compliance with FRCP 26(f),¹²³ especially in an action in which electronic information is likely to be significant.¹²⁴ Rule 26(f) provides in pertinent part that “the parties must, as soon as practicable and in any event at least [twenty-one] days before a scheduling conference is held or a scheduling order is due under [FRCP] 16(b), confer . . . to develop a proposed discovery plan.” As one federal district court judge pointed out in 2002:

In the electronic age, this [Rule 26(f)] *meet and confer* should include a discussion [of] whether each side possesses information in electronic form, whether they intend to produce such material, whether each other’s software is compatible, whether there exists any privilege issue requiring redaction, and how to allocate costs involved with each of the foregoing.¹²⁵

[41] The recent proposals have all focused on beefing up the e-Discovery aspect of the Rule 26 conference.¹²⁶ Consistent with Sedona Principle Three, e-Discovery issues such as selection criteria should be covered in the course of satisfying the FRCP 26(f) meet and confer obligation as well as in initial disclosures.¹²⁷ ABA Draft Standard 31(a)(i)-(xiii) mandates that “the initial discovery conference” address all e-Discovery, encompassing thirteen sub-topics such as “subject matter,” “time period,” likely sources, “accessibility of the potentially responsive data,” and “the potentially responsive data” and its likely “platforms.”¹²⁸ Likewise, a draft proposed addition to FRCP 26(f) would require the parties to address electronic discovery issues and related waiver-of-privilege concerns at the conference.¹²⁹ A proposed note to accompany that new provision would specifically reference “search protocol” as a discussion topic.¹³⁰

2. [30\(b\)\(6\) Deposition of Computer System Administrator](#)

[42] Assuming that the location and/or amount of an opponent’s computer data are important and have only been preliminarily delineated in the

initial discovery conference and in initial disclosures, there is a logical next step, in which both parties should engage openly and in good faith. Under FRCP 30(b)(6),¹³¹ a party should notice the deposition(s) of one or more person(s) with knowledge, such as the Information Technology (IT) Director. The federal magistrate who decided *McPeck I* and *McPeck II* has stated for attribution that “[t]he first deposition you take in any case should be the system administrator of your opponent.”¹³² In addition, ABA Draft Standard 31(a)(iv) contemplates as much by providing for the identification of one or more IT persons with knowledge at the initial discovery conference.¹³³

[43] Questions might cover issues such as “hardware, software, software applications, [system] back-ups, e-mail and voicemail administration.”¹³⁴ Many outlines of sample questions for IT 30(b)(6) depositions and for other types of e-Discovery questions (for depositions as well as interrogatories and requests for production) are readily available on the web.¹³⁵

3. [Throughout the Rest of the Discovery Process: \[Pre-Production\] Collaboration on Searching/Vetting](#)

[44] Each of the three pending sets of recommendations discussed in [Part IV\(B\)](#) above encourages that, in “meet and confer” conferences throughout a lawsuit, the parties focus on reaching agreements as to winnowing criteria.¹³⁶ Regardless of the specific standards that will be implemented by future rules, as a practical matter, the sooner in discovery that the parties cooperate on the searching/culling/vetting process, the better. Early collaboration gives the parties the best odds of avoiding return tickets to court to repeatedly revisit the same issues.

[45] Requesting parties tend to push for opportunities for early input, contending that a responding party’s inherent bias will infect the integrity of unilateral choices regarding search criteria. Propounders can raise a number of legitimate concerns about ceding to the responding party the exclusive right to identify the discoverable universe. First, there are the dual specters of under-inclusiveness and over-inclusiveness. Second, there is often an inequality of information, meaning that the requesting party may know nothing, or next to nothing, about the format, size or content of the responding party’s data’s. This concern is arguably heightened in fraud, employment discrimination, intellectual property infringement, and trade secret usage cases. Third, though search engines

have gotten more and more advanced, the tools chosen by a responding party may have deficiencies.¹³⁷

[46] If producing parties objectively chose broad, “defensible” search criteria from the get-go, then requesting parties would not keep clamoring for early input into the selection process.¹³⁸ Aside from zealous advocacy, producing parties can point to legitimate reasons for their own right to cull in the first instance, such as:

- protection of privileged and confidential materials;
- maintenance of discovery’s scope within appropriate legal boundaries; and
- utilization of search criteria to cull responsive electronic information is an antidote for the futility of producing a data set too large to be physically reviewed.¹³⁹

In short, the producing party will contend that, if it is proceeding in good faith under the standards of Sedona Principles Three, Six and Eleven, its own vetting process will be a remedy for, instead of an enabler of, obfuscation.

[47] Whatever happens initially, at some subsequent point in discovery, a producing party is likely to acknowledge the inevitable futility of utter unilateralism; then, it thus “may want to consider entering into discussions with the opposing party regarding specific selection criteria to be used in subsequent searches of the electronic data set. While this is not always possible or advantageous, there are situations when such a dialogue can eliminate needless disputes”¹⁴⁰ A bilateral/multi-lateral process does not just aid the propounding party. The longer the producing party waits to accept the inexorable need for a discourse, the less credibility¹⁴¹ that party will have in its future discussions with the other side and with the court. In addition, a joint plan puts fair pressure on the requestor to be more focused and particular from the outset. That pressure is, and should be, even greater as to inaccessible data such as back-up tapes. Significantly, the first *Zubulake* factor (comprising half of the marginal utility analysis) is “the extent to which the request is specifically tailored to discover relevant information.”¹⁴² But the trade-off is that a requesting party that has done its homework can get at the information it needs without going on a fishing expedition.

4. [Case Studies in Lack of Cooperation \(*McPeek* and *Tulip*\)](#)

[48] In the hearing resulting in the *Zubulake III* opinion, the parties returned to court within only two months, pursuant to the court's well-thought out, but brand new, three-step process in which "small sampling" review had been the second step. However, in some prior cases, without the guidance of the *Zubulake* framework, a similar process was very prolonged due to contentiousness between the parties.

[49] In the first round of the *McPeek* retaliation case (*McPeek I*), the court ordered partial restoration of back-up tapes, but only to the extent that those tapes contained e-mails to and from Plaintiff's supervisor during the key one year period.¹⁴³ Almost a year and a half later, after the search and resultant review were complete, the parties returned to court. The two sides vehemently disagreed in their characterizations of the results. On the one hand, Plaintiff contended that the search had "produced useful, relevant information that justify[ed] a second search of backup tapes for certain periods . . . [that would] not be that difficult or expensive given what the first search accomplished."¹⁴⁴ On the other hand, Defendant "insist[ed] that the first search only produced [cumulative] documents . . . [and] a second search would be expensive and time consuming."¹⁴⁵ The magistrate judge assessed the likelihood that the back-up tapes would contain word processing documents and/or e-mail messages that would produce relevant information. Then, he denied a request for additional searches as to three of the four key people at issue, but granted the request as to the fourth person.¹⁴⁶

[50] Impasses like the one in *McPeek* can lead to delay as well as expenditures of much time and money on repetitive scope-of-discovery issues. Such stalemates are even more vexatious when the responding party's unwillingness to cooperate is obstructionist to the degree that the court has to get involved and order cooperation on search parameters.¹⁴⁷ A classic example is *Tulip Computers International B.V. v. Dell Computer Corp.*,¹⁴⁸ a PC components patent infringement case that settled at the trial stage late last summer, after years of discovery skirmishes. There were five discovery problem areas, many aspects of which surfaced relatively early in the litigation.

[51] In *Tulip Computers*, for months after receiving Plaintiffs' requests for production (RFP's), Defendant Dell contended that there was no way to search the pertinent electronic information. It took until nine months after service of the RFP's for Dell to disclose that its off-site storage

contained 44,000 boxes of documents and many back-up tapes.¹⁴⁹ Dell ultimately offered access to some electronic documents kept in the ordinary course of business in its “data warehouse.”¹⁵⁰ As to those data warehouse documents, Dell initially imposed many restrictions (including search/data fields), but then softened its stance, so that Plaintiffs and its e-Discovery consultant Ontrack could adequately search for, and extract, the sought-after information.¹⁵¹

[52] An irresolvable dispute lingered as to e-mails that Dell contended could never be responsive. The court granted Plaintiffs’ customized request that Dell make its senior executives’ e-mail records available to Plaintiffs after having an opportunity to address privilege and confidentiality concerns.¹⁵² As part of the rationale for allowing Plaintiffs to ascertain for themselves the accuracy of Dell’s representations that all responsive documents had been produced, the court cited Dell’s history of obfuscations and stonewalling.¹⁵³

[53] Plaintiffs’ proposed procedure—including collaboration on searching—was deemed “fair, efficient, and reasonable.”¹⁵⁴ Defendant had to “provide the e-mails from the hard disks of the identified executives in electronic form to [Plaintiffs’ consultant,]” who would “search the e-mails based on an agreed upon list of search terms.”¹⁵⁵ Plaintiff was directed to give Defendant a list of e-mails containing those terms, but was not to read the e-mails until Defendant had an opportunity to review them to ensure that privilege and confidentiality concerns were not compromised.¹⁵⁶ After some more months of discovery disputes, the case stumbled along toward its ultimate eve-of-trial settlement.¹⁵⁷

V. [Conclusion](#)

[54] Litigants are advised to cooperate early and often in the battle against the common enemy, a huge fluid body of electronic information. Proposed rule changes and recent decisions dot the horizon, providing buoys and beacons to steer litigants and litigators on their journey. Yet, in the final analysis, these distant guides are insufficient to assist the parties in reaching their final destination expeditiously and safely. The nature of discovery and the complexities of electronic information militate in favor of bilateral programming of the figurative Global Positioning System. Absent cooperation in seeking a finite set of mutually agreeable destinations, the parties are likely to end up adrift at sea together.¹⁵⁸ They may even end up in a small sinking skiff, roaming an unbounded ocean,

bailing water in a futile attempt to avoid being swept under by “the great shroud of the [electronic] sea.”¹⁵⁹

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¹ E.Y. HARBURG & HAROLD ARLEN, *It’s Only a Paper Moon* (1932), available at <http://www.sing365.com/music/lyric.nsf/It's-Only-A-Paper-Moon-lyrics-Harold-Arlen/5253D880AE3F0DF5482568C4003358DB> (last visited Mar. 3, 2004).

² See Peter A. Antonucci, *Prepare Early and Confer Often: Advice from Federal Experts for Electronic Discovery Practice*, THE APPLIED DISCOVERY ORANGE PAGES ELECTRONIC DISCOVERY NEWSL. (Applied Discovery, Bellevue, Wash.), Feb. 2003, at 1, 6, at http://www.applieddiscovery.com/lawLibrary/newsletter/TheOrangePages_Feb03.pdf (“[N]early all cases now involve some component of electronic data discovery. ‘As server capacity grows there will be more and more electronic data stored every day. . . .’”); see also Patrick F. Dorrian, *Civil Justice Reform - Legal Service Providers: Jurists Offer Perspective, Tips on Electronic Discovery*, THE METRO. CORP. COUNS. (The Metropolitan Corporate Counsel, Mountaintop, N.J.), Nov. 2003, at 48, available at http://www.metrocorpcounsel.com/pdf/November%2003/NE%20%20pdf%20%201_3/48%20CC%20JURISTS%85DORRIAN%2011%20%20N.pdf (“‘Due to technology, everything we thought we knew about discovery has changed.’”) (quoting Judge John M. Facciola, *When Does Electronic Discovery Go Too Far?*, Conference Session Presented by Pike & Fischer (Sept. 25, 2003)).

³ A very impressive set of e-Discovery working papers begins with the “many ways in which producing electronic documents is qualitatively and quantitatively different from producing paper documents.” The Sedona Conference, *The Sedona Principles: Best Practices, Recommendations & Principles for Addressing Electronic Document Production*, 3-5, at <http://www.thesedonaconference.org/miscFiles/SedonaPrinciples200401> (Jan. 2004) [hereinafter *Sedona Principles*]; see also *id.* (describing the “six broad categories of differences” as: “Volume and Duplicability;” “Persistence;” “Dynamic, Changeable Content;” “Metadata;” “Environment-Dependence and Obsolescence;” and “Dispersion and Searchability”).

⁴ Finite relative to *today*, that is. See Wendy R. Leibowitz, *Digital Discovery Starts to Work*, NAT’L L.J., Nov. 4, 2002, at C3, available at

<http://www.law.com/servlet/ContentServer?pagename=OpenMarket/Xcelerate/View&c=LawArticle&cid=1036630494605&t=LawArticle> (last visited Apr. 2, 2004) (“Idealistic young associates were once thrown into the discovery phase of litigation and told: ‘Litigation is about finding the truth!’ . . . Discovery, they discovered, [however,] was actually used to hide the truth, bury opposing counsel in paper, run up everyone’s costs and support the accordion file and cardboard box industries.”). Assuredly, in the pre-electronic era many responding parties interposed objections that a “request [was] overly broad, unduly burdensome and not likely to lead to the discovery of relevant information[,] . . . inform[ing] [one’s] opponent that the requested materials [would] fill up a warehouse larger than the one depicted in the final scene of ‘Raiders of the Lost Ark.’” Daniel Blouin, *The Discovery Dance*, L. TECH. NEWS, Jan. 15, 2004, at 22, available at http://www.law.com/special/supplement/e_discovery/discovery_dance.shtml (last visited Mar. 7, 2004). Now, the stakes are even higher, given that “the prospect of identifying, reviewing and ultimately producing large quantities of electronically stored materials can be extraordinarily time-consuming and expensive.” *Id.*

⁵ Over time, litigators increasingly used technology tools to organize big sets of documents, but significantly many of those tools entailed the creation of electronic information from paper records rather than working with original electronic versions, if there were any. Deborah H. Junke recounts that:

In the 1970’s, paper document collections were bibliographically coded for retrieval. In more recent times, documents have been scanned, OCR [(Optical-Character-Recognition)] processed to create full text indices, as well as coded. In both cases, the entire universe of documents was handled and indexed in some manner before the real search could begin.

Deborah H. Juhnke, *Searching for the Elusive 1% (How Electronic Discovery Changed the Rules)*, Computer Forensics Inc., at http://www.forensics.com/pdf/Elusive_1%25.pdf (2001). In more recent times, “[t]he days where U-Haul trucks delivered thousands of boxes of paper documents for review by hundreds of temporary attorneys [have] start[ed] to go the way of the dinosaur. Today, review teams sit at rows of computer terminals reviewing, annotating and searching documents with the click of a mouse.” Kristin M. Nimsger & Michele C.S. Lange, *E-Document Conversion & Native Document Review*, LEGAL TECH NEWSL. (Law Journal Newsletters, Phila., Pa.), Dec. 2003, at 1, at http://www.ljnonline.com/issues/ljn_legaltech/21_9/news/141567-1.html (subscription required) (on file with Richmond Journal of Law & Technology).

⁶ Metadata “describes how, when, and by whom an electronic document was created, modified, and transmitted.” Carrie Davey, *Find it Fast: Leveraging Meta Data*, THE APPLIED DISCOVERY ORANGE PAGES ELECTRONIC DISCOVERY NEWSL. (Applied Discovery, Bellevue, Wash.), Aug. 2003, at 5, at http://www.applieddiscovery.com/lawLibrary/newsletter/TheOrangePages_Aug03.pdf; see also Webopedia, at <http://www.webopedia.com/TERM/m/metadata.html> (last modified Jan. 13, 2004). See generally Lisa M. Arent, Robert D. Brownstone & William

A. Fenwick, *EDiscovery: Preserving, Requesting & Producing Electronic Information*, 19 SANTA CLARA COMPUTER & HIGH TECH. L.J. 131 (2002), *modified*, Robert D. Brownstone, *EDiscovery: Preserving, Requesting & Producing Electronic Information* (June 11, 2003), at <http://www.fenwick.com/docstore/publications/Litigation/ediscovery.pdf> [hereinafter Brownstone].

⁷ Microsoft, *HOW TO: Minimize Metadata in Microsoft Word 2002*, at <http://support.microsoft.com/default.aspx?scid=kb;en-us;290945> (last visited Oct. 19, 2003) (“Whenever you create, open, or save a document in Word 2002, the document may contain content that you may not want to share with others when you distribute the document electronically. This information is known as metadata.”). Examples of stored metadata include: name; initials; company or organization name; name of computer; name of the network server or hard disk where the document was saved; other file properties and summary information; names of previous document authors; document revisions; document versions; template information; hidden text; and comments. *Id.*

⁸ In litigation, the “‘electronic history’ of [a] document” could show: “*access to a document by a given individual . . . the timing of an individual’s access . . . a document’s ‘evolution’ [and/or] . . . indicat[ions] [of] document tampering.*” Stephen M. Dorvee & Kristin R. Connor, *Electronic Discovery in Technology Litigation*, COMPUTER & INTERNET LAW., Nov. 2003, at 11.

⁹ See *infra* notes 18-19 and accompanying text.

¹⁰ See RANDOM HOUSE UNABRIDGED DICTIONARY 1725 (Stuart Berg Flexner ed., 2d ed. 1993) (defining “between Scylla and Charybdis” as being “between two equally perilous alternatives, neither of which can be passed without encountering and probably falling victim to the other”).

¹¹ As aptly recognized by one commentator:

Gradually, the law on electronic evidence is emerging. The good news is that it may eventually bring some order at long last to the discovery process. The bad news is that until the rules are clear, the sheer quantity of electronic evidence will bury and intimidate many counsels who rely on old protocols.

Whitney Adams, *A Primer on Electronic Discovery for Federal Agency Counsel*, Cricket Technologies 7, at

http://www.crickettechnologies.com/case_studies/FBA%20article%20proofread%209-19-031.pdf (Sept. 25, 2003). See generally Brownstone, *supra* note 6 (documenting an overall summary of e-Discovery law as of June 2003).

¹² See generally NICHOLAS NEGROPONTE, BEING DIGITAL (Alfred A. Knopf 1995), excerpts available at <http://archives.obs-us.com/obs/english/books/nn/bdcont.htm> (last updated Dec. 30, 1996).

¹³ See Peter Lyman & Hal R. Varian, *How Much Information? 2003*, at 1, at http://www.sims.berkeley.edu/research/projects/how-much-info-2003/printable_report.pdf (Oct. 30, 2003) (stating that only 0.01% of new information is stored in paper form). Cf. Peter Lyman & Hal R. Varian, *How Much Information?*, at 1, at <http://www.sims.berkeley.edu/research/projects/how-much-info/how-much-info.pdf>

(Nov. 10, 2000) (stating that printed documents comprise only 0.003% of total documents).

¹⁴ See *Sedona Principles*, *supra* note 3, at 13 (estimating that there are “105 million e-mail users in the United States, who . . . send over 1.5 billion e-mail messages a day (approximately 547.5 billion e-mail messages per year)”).

¹⁵ The Sedona Conference is accurately described as “a research and educational institute dedicated to the study of law and policy . . . [which] . . . has developed best practices recommendations . . . for addressing electronic document production.” Albert Barsocchini, *EDD Services’ Growth Rate is Staggering*, THE LEGAL INTELLIGENCER, Oct. 1, 2003, at 5, 5. *The Sedona Principles*, the prior working draft and related documents can all be accessed online at

<http://www.thesedonaconference.org/publications.html> (last visited Mar. 9, 2004).

¹⁶ *Sedona Principles*, *supra* note 3, at 3 (citing Lori Enos, *Digital Data Changing Legal Landscape*, E-COM. TIMES, May 16, 2000, at

<http://www.ecommercetimes.com/perl/story/3339.html>; Richard L. Marcus, *Complex Litigation at the Millennium: Confronting the Future: Coping with Discovery of Electronic Material*, 64 LAW & CONTEMP. PROBS. 253, 280-81 (2001)). One experienced business litigator recently concluded that, even putting aside other widely-used storage environments such as databases, “60% of business-critical information is now stored within corporate e-mail systems [alone], up from 33% in 1999.” Antonucci, *supra* note 2, at 2.

¹⁷ See William A. Fenwick, *Electronic Records: Opportunity for Increased Efficiency*, THE APPLIED DISCOVERY ORANGE PAGES ELECTRONIC DISCOVERY NEWSL. (Applied Discovery, Bellevue, Wash.), June 2003, at 4, 6, at

http://www.applieddiscovery.com/lawLibrary/newsletter/TheOrangePages_Jun03.pdf.

¹⁸ See *Jones v. Goord*, No. 95-CIV-8026, 2002 U.S. Dist. LEXIS 8707, at *1 (S.D.N.Y. May 16, 2002) (“Broad discovery is a cornerstone of the litigation process.”); David K. Isom, *Electronic Discovery: New Power, New Risks*, 16 UTAH B.J. 8, 11 (2003), available at http://www.utahbarjournal.com/html/november_2003_2.html (last updated Sept. 3, 2004 [sic]) (stating that simplified notice pleading “relies on liberal discovery rules and summary judgment motions to define disputed facts and issues and to dispose of unmeritorious claims”) (quoting *Swierkiewicz v. Sorema N. Am.*, 534 U.S. 506, 512 (2002)).

¹⁹ Two large law firms’ Litigation Support Managers recently opined on the matter:

“Last year, the number of electronic documents we received for review exceeded paper by a large margin,” said Odin Medina [of] . . . Fried, Frank, Harris, Shriver & Jacobson “The split was probably 80/20 in favor of electronic documents.” Mary Pat Poteet [of] . . . Pillsbury Winthrop LLP, agree[d]. “Some cases are entirely electronic now In the past five years or so we’ve moved from an average of just 5% electronic to the point where paper documents are in the minority.”

Electronic Discovery: New Challenges, New Opportunities, THE APPLIED DISCOVERY ORANGE PAGES ELECTRONIC DISCOVERY NEWSL. (Applied Discovery, Bellevue, Wash.),

Aug. 2003, at 1, at

http://www.applieddiscovery.com/lawLibrary/newsletter/TheOrangePages_Aug03.pdf.

²⁰ See generally Brownstone, *supra* note 6, § II(A)(1), at 2-4, § III(A)(3)(b), at 40-41 (citing, *inter alia*, FED. R. CIV. P. 34(a) (defining the term “document” broadly to include information in any tangible format)). In contemplating the body of evidence and scope of discovery, parties must account for information stored in electronic form and consider means of accessing such information. *Id.*

²¹ *In re Brand Name Prescription Drugs Antitrust Litig.*, No. 94-C-897, 1995 WL 360526, at *2 (N.D. Ill. June 15, 1995) (compelling production of computer-stored e-mail at responding party’s own expense).

²² The continued existence on hard drives of ostensibly “deleted” files may haunt many a litigant. Though this topic is beyond the scope of this piece, it is sufficient for the instant purposes to note that “deleted” does not necessarily mean gone forever. See, e.g., *Zubulake v. UBS Warburg, LLC*, 217 F.R.D. 309, 313 n.19 (S.D.N.Y. 2003) [hereinafter *Zubulake I*]. “Staggering quantities of deleted file fragments lodge in the space freed up by deletion, called unallocated space, and even in parts of the unallocated space reoccupied by new files, called slack space.” Craig Ball, *Can Your Old Files Come Back to Life?*, L. TECH. NEWS, Jan. 15, 2004, available at

http://www.law.com/special/supplement/e_discovery/old_files.shtml (last visited Mar. 16, 2004); accord James M. Rosenbaum, *In Defense of the DELETE Key*, 3 GREEN BAG 2d 393, 393-95 (2000); Tom Coughlin, *Rumors of My Erasure Are Premature*, Coughlin Associates, http://www.tomcoughlin.com/Techpapers/Rumors_of_my_erasure_061803.pdf (2003).

²³ “The broad definition of ‘documents’ typically used in requests for production encompasses information stored on computers and on computer media, such as floppy disks, zip drives, jaz drives and archival/emergency storage devices (such as back-up tapes).” Brownstone, *supra* note 6, § II(A)(1), at 3. See also *R.S. Creative, Inc. v. Creative Cotton, Ltd.*, 89 Cal. Rptr. 2d 353, 355-56 (Cal. Ct. App. 1999) (“[D]ocument’ . . . included computer tapes, discs and any information stored in a computer.”); *Linnen v. A.H. Robins Co.*, No. 97-2307, 1999 Mass. Super. LEXIS 240, at *16 (Super. Ct. Mass., June 15, 1999) (agreeing with Plaintiff that “documents” – as defined in preservation order and in document requests – encompassed data contained on back-up tapes). For computer terminology, see generally Techsoup, at <http://www.techsoup.org> (last visited Mar. 10, 2004) (providing a glossary of technology terms); Webopedia, at <http://www.pcwebopedia.com/> (last visited Mar. 10, 2004) (providing a dictionary and search engine for computer and Internet technology); WhatIs.com, at <http://whatis.techtarget.com/> (last visited Mar. 10, 2004) (providing an information technology specific encyclopedia). For electronic discovery terminology definitions, see *Sedona Principles*, *supra* note 3, at 51-52 app. A; David P. Stenhouse, *Electronic Evidence*, in 2 SEVENTH ANNUAL INTERNET LAW INSTITUTE 649, 656 (Practising Law Institute 2003) (including a limited glossary); Joan E. Feldman, *Standard Definitions*, Computer Forensics Inc., at http://www.forensics.com/pdf/Standard_Definitions.pdf (2001); Richard A. Lazar, THE GUIDE TO ELECTRONIC DISCOVERY 37-44 (Fios, Inc. 2002), available at <http://www.fiosinc.com/simplified/register.html> (subscription required) (including a glossary of electronic discovery terms) (on file with Richmond Journal of Law & Technology).

²⁴ *Zubulake I*, 217 F.R.D. at 309. The court established a new seven-factor test, under which cost-shifting is appropriate as to restoration of inaccessible data if the marginal

utility thereof is evinced by a “fact-intensive” review of results of “small sample” restoration. *Id.* at 324.

²⁵ *Id.* at 318-20 (emphasis added).

²⁶ *Id.* at 319 (emphasis added).

²⁷ Painting with a broad brush, the average cost of electronic review ostensibly is lower than the average cost of paper review. See Miranda Glass, “*Help Me Help You!*” *Talking Points to Get Colleagues on the E-Discovery Bandwagon*, THE APPLIED DISCOVERY ORANGE PAGES ELECTRONIC DISCOVERY NEWSL. (Applied Discovery, Bellevue, Wash.), Aug. 2003, at 3, at

http://www.applieddiscovery.com/lawLibrary/newsletter/TheOrangePages_Aug03.pdf

(reporting that the per page average cost of electronic discovery is \$.23, versus \$.70 per page for paper review). However, back-up data restoration, manipulation, and review can be quite costly. See, e.g., *Rowe Entm’t, Inc. v. William Morris Agency, Inc.*, No. 98 Civ. 8272, 2002 U.S. Dist. LEXIS 8308 (S.D.N.Y. May 9, 2002); see also Electronic Discovery Survey Center, *2003 eDiscovery in Civil Litigation Survey*, at Survey Question 11, at http://www.ediscoverysurvey.com/question_11.htm (2003) (concluding that more than 95% of legal professionals rate the cost of electronic discovery as “somewhat challenging” to “very challenging”).

²⁸ *Zubulake I*, 217 F.R.D. at 318.

²⁹ See *id.* at 315-16 (quoting and discussing at length FED. R. CIV. P. 26-37).

³⁰ *Id.* at 324.

³¹ See generally Brownstone, *supra* note 6, § II(B)(2)(a)-(c), at 18-24. For a much more technical explication of back-up tapes, see Tom Coughlin, *Current Trends in Data Storage Backup and Restoration*, Coughlin Associates, at http://www.tomcoughlin.com/Techpapers/SCU_Backup_Presentation_021303.pdf (Feb. 13, 2003).

³² Webopedia, *Tape Drive*, at http://www.webopedia.com/TERM/T/tape_drive.html (last visited Mar. 10, 2004). This definition was quoted by the court in *Zubulake I*, 217 F.R.D. at 319 n.55.

³³ In light of new technologies, such as transmission to Storage Area Networks (SAN) or Network Attached Storage (NAS), some parties may honestly say they do not have any (recent) back-up tapes. However, for the most part, back-up tapes still comprise the most widely used storage medium. Ian Austen, *Storage Methods Come and Go, but Tape Holds Its Own*, N.Y. TIMES, June 5, 2003, at G8 (“[C]orporations around the world still spend billions of dollars annually on tape cartridges that whirl away, backing up data.”).

³⁴ See, e.g., *Linnen v. A. H. Robins Co.*, 10 Mass. L. Rep. 189, 1999 Mass. Super. LEXIS 240 (Mass. Super. Ct. June 16, 1999) (noting that back-up tapes were recycled every three months).

³⁵ Corinne L. Giacobbe, Note, *Allocating Discovery Costs in the Computer Age: Deciding Who Should Bear the Costs of Discovery of Electronically Stored Data*, 57 WASH. & LEE L. REV. 257, 265-66 (2000) (stating that discovery of electronically-stored data can be extremely costly relative to hard copies, because companies tend to retain greater quantities of it and it tends to linger in storage systems longer).

³⁶ Back-up tapes are by their nature indiscriminate; “[t]hey capture all information at a given time and from a given server but do not catalogue it by subject matter.” *McPeck v. Ashcroft*, 202 F.R.D. 31, 33 (D.D.C. 2001) [hereinafter *McPeck I*]. A “practical shortcoming[] [is that] unlike the data on a hard drive or optical disc, the information on [a back-up tape] is arranged in linear form. [The] tape has to be wound backward and

forward to retrieve or record data, making it slower in operation.” Austen, *supra* note 33, at G8.

³⁷ For example, “[o]nce e-mails have been stored onto backup tapes, the restoration process is lengthy.” *Zubulake I*, 217 F.R.D. at 314. Moreover, “[b]ackup tapes also typically employ some sort of data compression, permitting more data to be stored on each tape, but also making restoration more time-consuming and expensive, especially given the lack of uniform standard governing data compression.” *Id.* at 319.

³⁸ *Id.* at 316. Under the new approach, step one is to identify inaccessible data, step two is to produce a small sample of inaccessible data for review, and step three is to:

conduct[] [a] cost-shifting analysis, [in which] the following factors should be considered, weighted more-or-less in the following order:

1. The extent to which the request is specifically tailored to discover relevant information;
2. The availability of such information from other sources;
3. The total cost of production, compared to the amount in controversy;
4. The total cost of production, compared to the resources available to each party;
5. The relative ability of each party to control costs and its incentive to do so;
6. The importance of the issues at stake in the litigation; and
7. The relative benefits to the parties of obtaining the information.

Id. at 324. As to the sampling approach, “[l]itigants should consider the use of sampling techniques when appropriate to narrow the burden of searching voluminous electronic data for relevant information.” *Sedona Principles*, *supra* note 3, at 39-40 cmt. 11.b.

³⁹ *Zubulake I*, 217 F.R.D. at 321. This holding is a more particular application of the broad policy increasingly espoused by courts over the past few years that, “[u]pon installing a data storage system, it must be assumed that at some point in the future one may need to retrieve the information previously stored.” *Kaufman v. Kinko’s, Inc.*, No. CIV.A.18894-NC, 2002 WL 32123851, at *2 (Del. Ch. Apr. 16, 2002). “[I]f a party chooses an electronic storage method, the necessity for a retrieval program or method is an ordinary and foreseeable risk” of doing business, and the inconvenience and cost of retrieval is insufficient to defeat a good faith discovery request. *Id.* at *2 n.2 (quoting *In re Brand Name Prescription Drug Antitrust Litig.*, No. 94-C-897, 1995 WL 360526, *2 (N.D. Ill. June 15, 1995). Note, though, that the proposed new Federal Rule of Civil Procedure 26(h)(2), provides in part that “[i]n responding to discovery requests, a party need not include electronically-stored data created only for disaster-recovery purposes.” Memorandum from Professor Rick Marcus, to the Advisory Committee on Civil Rules 33, available at <http://www.kenwithers.com/rulemaking/civilrules/marcus091503a.pdf> (Sept. 15, 2003).

⁴⁰ The *Zubulake I* court criticized prior decisions for having automatically engaged in cost-shifting analysis as a knee-jerk reaction, based on a faulty “assum[ption] that an

undue burden or expense may arise simply because electronic evidence is involved.” *Id.* at 318. As a matter of policy, *Zubulake I* noted that “cost-shifting may effectively end discovery, especially when private parties are engaged in litigation with large corporations. As large companies increasingly move to entirely paper-free environments, the frequent use of cost-shifting will have the effect of crippling discovery in discrimination and retaliation cases.” *Id.* at 317-18.

⁴¹ *Id.* at 324.

⁴² *Zubulake v. UBS Warburg LLC*, 216 F.R.D. 280 (S.D.N.Y. 2003) [hereinafter *Zubulake III*].

⁴³ It later turned out that there were only seventy-seven responsive tapes. *Id.* at 282.

⁴⁴ *Zubulake I*, 217 F.R.D. at 324 (emphasis added).

⁴⁵ *Id.*

⁴⁶ *Zubulake III*, 216 F.R.D. at 291. The *Zubulake III* court explained that “[t]he more likely it is that the backup tape contains information that is relevant to a claim or defense, the fairer it is that the [responding party] search at its own expense.” *Id.* at 284. *Zubulake III* also held that, “[a]s a general rule, where cost-shifting is appropriate, only the costs of restoration and searching should be shifted. . . . However, the responding party should always bear the cost of reviewing and producing electronic data once it has been converted to an accessible form.” *Id.* at 290.

⁴⁷ See, e.g., *supra* Part IV(D)(4) (discussing *Tulip Computers Int’l B.V. v. Dell Computer Corp.*, No. 00-981-RRM, 2002 U.S. Dist. LEXIS 7792 (D. Del. Apr. 30, 2002); *McPeek v. Ashcroft*, 212 F.R.D. 33 (D.D.C. 2003) [hereinafter *McPeek II*]; *McPeek I*, 202 F.R.D. 31 (D.D.C. 2001)).

⁴⁸ *Zubulake I*, 217 F.R.D. at 317.

⁴⁹ *Id.* at 312 n.8.

⁵⁰ J. Robert Keena, *E-Discovery: Unearthing Documents Byte by Byte*, BENCH & B. OF MINN. (Minn. State Bar, Minneapolis, Minn.), Mar. 2, 2002, <http://www2.mnbar.org/benchandbar/2002/mar02/ediscovery.htm>.

⁵¹ The following “real” (though seemingly apocryphal) examples were compiled in an article by David S. Bennahum:

- [•] Yes I know we shipped 100 barrels of [deleted], but on our end, steps have been taken to ensure that no record exists. Therefore it doesn’t exist. If you know what I mean. Remember, you owe me a golf game next time I’m in town.
- [•] Did you see what Dr. [deleted] did today? If that patient survives it will be a miracle.

David S. Bennahum, *Daemon Seed: Old Email Never Dies*, WIRED 7.05, May 1999, available at

http://www.wired.com/wired/archive/7.05/email_pr.html (redactions appear in the original article). See generally *supra* notes 72-74 and accompanying text (discussing John Jessen, whose war stories formed the basis of Bennahum’s article).

⁵² *Linnen v. A.H. Robins Co.*, 10 Mass. L. Rep. 189, 1999 Mass. Super. LEXIS 240 (Mass. Super. Ct. June 15, 1999).

⁵³ Keena, *supra* note 50; Kristin M. Nimsgar, *Same Game, New Rules: E-discovery Adds Complexity to Protecting Clients and Disadvantaging Opponents*, LEGAL TIMES, Mar. 25, 2002, available at http://www.law.com/special/supplement/e_discovery/same_game.html (last visited Mar. 16, 2004).

⁵⁴ Ann Carrns, *Prying Times: Those Bawdy E-Mails Were Good for a Laugh – Until the Ax Fell*, WALL ST. J., Feb. 4, 2000, at A1 (“[I]n harassment suits[,] [o]ne or two explicit e-mail messages typically aren’t enough . . . to prove that a workplace environment was hostile. But such e-mail can bolster other damaging evidence.”).

⁵⁵ Where appropriate, especially in a now rare small case, discovery requests “should [not] only concentrate on data in its electronic form. . . . Hard copies may often provide invaluable information. For example, handwritten notes may be written directly on a printout of a document” Dale M. Cendali et al., *Electronic Discovery*, in 2 SEVENTH ANNUAL INTERNET LAW INSTITUTE 615, 626 (Practising Law Institute 2003).

⁵⁶ “The term meta data has taken on an unfortunate negative connotation for many legal professionals. In reality, meta data very rarely reveals a ‘smoking gun’ document or otherwise harms a litigant’s case.” Davey, *supra* note 6, at 5.

⁵⁷ *Electronic Discovery: New Challenges, New Opportunities*, *supra* note 19, at 1.

⁵⁸ Some litigators may still be resisting transitioning to electronic discovery tools. See, e.g., Robert D. Brownstone, *How to Sway Litigators to Embrace the Electronic Realm*, 1 MEALEY’S LITIG. REP.: DISCOVERY 38 (2004) (suggesting ways to shepherd luddite-like litigators into the modern era).

⁵⁹ Depending on the nature of the medium and/or the file-type, the calculation of pages per gigabyte varies, ranging from approximately 15,000 to around 675,000. Applied Discovery, *How Many Pages in a Gigabyte?*, at

<http://www.applieddiscovery.com/clientResources/techTips1.asp> (last visited Mar. 10, 2004). While it is true that “[d]ifferent document types will generate very different numbers of pages per document and per gigabyte[,] . . . for a given document type, the average number of pages produced as compared to the size consumed by the original documents stays consistent.” *Id.*

⁶⁰ Antonucci, *supra* note 16, at 2. Some of the many providers of collecting/searching/producing services and/or computer forensics services are: Applied Discovery, at <http://www.applieddiscovery.com/> (last visited Mar. 10, 2004); Foundstone, at <http://www.foundstone.com/> (last visited Mar. 10, 2004); Guidance Software, at <http://www.guidancesoftware.com/services/index.shtml> (last visited Mar. 10, 2003); Kroll Ontrack, at <http://www.krollontrack.com/eEvidence> (last visited Mar. 10, 2004); New Technologies, Inc., at <http://www.forensics-intl.com/> (last updated Dec. 22, 2003); and Steelpoint, at <http://www.steelpoint.com/> (last visited Mar. 10, 2004).

⁶¹ Virginia R. Llewellyn, *Electronic Discovery Preparedness – The Secret to Success*, THE METRO. CORP. COUNS. (The Metropolitan Corporate Counsel, Mountainside, N.J.), Dec. 2003, at 40 (“Knowledge of data storage systems benefits the company’s position offensively as well, allowing outside counsel to effectively negotiate discovery parameters and challenge unduly burdensome requests.”). For a discussion of the extent to which a company may systematically reduce the amount of electronic information it retains, see Fenwick, *supra* note 17, at 4; Cendali et al., *supra* note 55, at 642. For a discussion of the preservation obligation, see generally Brownstone, *supra* note 6, § II(A), at 2-13.

⁶² *Zubulake I*, 217 F.R.D. 309, (S.D.N.Y. 2003) (Scheidlin, J.) (first alteration in original) (quoting Shira A. Scheindlin & Jeffrey Rabkin, *Electronic Discovery in Federal Civil Litigation: Is Rule 34 up to the Task?*, 41 B.C. L. REV. 327, 364 (2000)).

⁶³ In modern litigation, such a data universe typically consists primarily of pure electronic files, plus some image files created by scanning and/or OCR’ing hardcopy documents that were only found in paper form.

⁶⁴ Lazar, *supra* note 23, at 14 (defining a “box” as an “average banker’s box [that] holds 2,500 sheets of paper, and one page of information on average equals [twenty] kilobytes (.02 megabytes)”). Note that .02 is a conservative page-to-data size conversion factor, because data-intensive e-mails and/or spreadsheets may have factors of .01 or .005 megabytes. *See id.*

⁶⁵ DocFinity, *Saving the Environment One Tree at a Time; The Environmental Impact of Electronic Document Management*, DOCUMENT MAGAZINE, Oct. 1, 2002, available at <http://www.dptmag.com/editorial2.asp?ID=152> (last visited Apr. 2, 2004) (estimating that one tree is roughly equivalent to 8,000 pages) (citing CLAUDIA THOMPSON, RECYCLED PAPERS: THE ESSENTIAL GUIDE (MIT Press 1992)).

⁶⁶ *See, e.g.*, Tulip Computers Int’l B.V. v. Dell Computer Corp., No. 00-981-RRM, 2002 U.S. Dist. LEXIS 7792 (D. Del. Apr. 30, 2002) (demonstrating the consequences of a defendant’s ongoing stonewalling); *see also* discussion *supra* [Part IV\(D\)\(4\)](#).

⁶⁷ Tom McCann, *Electronic Discovery Becomes Hot Topic in Legal Tech*, CHI. LAW., Oct. 2003, at 43 (“The last thing you want . . . is to be overwhelmed by a deluge of data. Make specified searches to create a subset of data, sufficiently small so that both sides have time to review it. Some opposing counsel are reluctant But I’ve always been successful at negotiating a reasonable narrowing of the data.”).

⁶⁸ Nimsger & Lange, *supra* note 5 (“Native data refers to documents still in the original file format in which they were created (*i.e.*, in the specific software applications used to create each individual document).”).

⁶⁹ *Id.* (discussing the various disadvantages and advantages of native review).

⁷⁰ *Id.* “In most cases, the limitations associated with native file review - potential for spoliation, searching limitations and inability to redact - is driving a choice of review method toward data conversion [plus] online repository review.” *Id.* An even earlier hurdle may be that those same limitations restrict the producing party’s counsel’s pre-production review of native documents. *See, e.g.*, Jones v. Goord, No. 95-CIV-8026, 2002 U.S. Dist. LEXIS 8707 (S.D.N.Y. May 15, 2002) (demonstrating how practical considerations seemed to hamstring a judge who might otherwise have required Defendant to produce “data in electronic, manipulable form [to] facilitate expert analysis”). *Goord* is discussed in detail in Brownstone, *supra* note 6, § II(D)(3), at 30-31.

⁷¹ *Sedona Principles*, *supra* note 3, § 11, at 39.

⁷² John Jessen, *Electronic Discovery Issue #1* at 1 (2003) (unpublished manuscript, on file with Richmond Journal of Law & Technology).

⁷³ *Id.* at 2.

⁷⁴ *See id.* at 4.

⁷⁵ In the author’s experience, legal software initially developed before the recent electronic data explosion has not successfully reinvented itself to accommodate vast e-Discovery data sets. To fill the void, many new vendors have sprung up, purporting to offer vehicles that successfully navigate e-Discovery. Few providers offer services that even purport to be powerful enough to tackle enormous data sets. Ostensibly, “[a] handful of companies, such as startup Fios, Applied Discovery, and Kroll OnTrack . . . offer specific services . . . that catalog and categorize massive numbers of files.” Alex Salkever, *A Supercharged Search Engine for Lawyers*, BUSINESSWEEK ONLINE, June 25, 2003, available at http://www.businessweek.com/print/technology/content/jun2003/tc20030625_5288_tc047.htm?tc In those few putatively more robust applications, “[f]iles are organized by type,

date, keyword, and other criteria that provide far more capability to search for complex terms and patterns than on the average Web search engine.” *Id.*

⁷⁶ See, e.g., Cendali et al., *supra* note 55, at 626 (detailing the capabilities of various search software). See generally Joan Feldman, *Effective Data Searches*, Computer Forensics Inc., at http://www.forensics.com/pdf/Effective_Data_Searches.pdf (last visited Apr. 1, 2004).

⁷⁷ For an excellent summary of some of the pros and cons on this issue, see Jessen, *supra* note 72, at 2.

⁷⁸ *Sedona Principles*, *supra* note 3, at iv. *The Sedona Principles* also recognized that “[e]ach . . . aspect[] of discovery should be considered in light of the nature of the litigation and the amount in controversy, as well as the cost, burden, and disruption to parties’ operations.” *Id.*

⁷⁹ *Cf. id.* (“Electronic discovery is a tool to help resolve a dispute and should not be viewed as a strategic weapon to coerce unjust, delayed, or expensive results.”).

⁸⁰ If inaccessible data is worthy of discovery, then - once it “has been converted to an accessible form” - it should be treated just like accessible data for all e-Discovery purposes. *Zubulake III*, 216 F.R.D. 280, 290 (S.D.N.Y. 2003) (“Restoration . . . is the act of making inaccessible material accessible. That ‘special purpose’ or ‘extraordinary step’ should be the subject of cost-shifting. . . . However, [post-conversion,] the responding party should always bear the cost of reviewing and producing electronic data.”).

⁸¹ *Sedona Principles*, *supra* note 3, at 8 n.12 (“[E-Discovery] disputes are most likely to arise and require court intervention when the burdens of preservation and production are disproportionate among the litigants . . .”). The *Zubulake* approach intentionally sought to narrow the circumstances in which a corporate producing party can shift costs onto an individual requesting party. *Zubulake I*, 217 F.R.D. 309, 317-18 (S.D.N.Y. 2003). On the other side of the coin, to avoid fishing expeditions by individuals, the *Zubulake* approach makes a requesting party clear a marginal utility hurdle before it can get at relatively inaccessible data. *Id.* at 323.

⁸² In late 2003, an appellate decision denied “unlimited, direct access to [Defendant]’s databases” because the trial “court [had] established no protocols for the search . . . [and] did not even designate search terms to restrict the search.” *In re Ford Motor Co.*, 345 F.3d 1315, 1317 (11th Cir. 2003) (vacating discovery order). One commentator has described the *Ford* holding as interpreting Federal Rule of Civil Procedure 34 to “allow the responding party to search its own records to produce the required, relevant data . . . [but] not give the requesting party the right to conduct the actual search.” Blouin, *supra* note 4.

⁸³ For a discussion of the apparent judicial tendency to appoint a neutral expert to copy hard drives and to attempt to recover deleted data, see Brownstone, *supra* note 6, § II(C), at 25-27; *Simon Prop. Group L.P. v. MySimon, Inc.*, 194 F.R.D. 639, 641 (S.D. Ind. 2000) (appointing neutral expert to recover “deleted” files from computers, including home computers, used by Defendant’s employees), *supplemented by* No. IP.99-1195-C H/G, 2000 U.S. Dist. LEXIS 8953 (S.D. Ind. June 15, 2000); *Playboy Enters., Inc. v. Welles*, 60 F. Supp. 2d 1050 (S.D. Cal. 1999), *aff’d in part & rev’d in part on other grounds*, 279 F.3d 796 (9th Cir. 2002) (appointing neutral expert to copy Defendant’s personal computer hard drive, due to evidence of Defendant’s deletion of e-mails responsive to Plaintiff’s document production request and likelihood of recovery).

⁸⁴ See, e.g., Christopher D. Wall & Michele C. S. Lange, *Electronic Discovery: Recent Developments*, WASH. LAW., Mar. 2003,

http://www.dcbbar.org/for_lawyers/washington_lawyer/march_2003/electronic.cfm (last visited Mar. 16, 2004) (“Simply booting a computer can possibly destroy valuable metadata . . . that could be relevant in a lawsuit”) (citing *Antioch Co. v. Scrapbook Borders, Inc.*, 210 F.R.D. 645, 652-54 (D. Minn. 2002)).

⁸⁵ Llewellyn, *supra* note 61, at 40 (“The basic legal framework for electronic discovery is the same as that for paper documents, with the rules of discovery providing expansive access to an opposing party’s electronic data.”).

⁸⁶ *Electronic Evidence – A Big Issue With No Easy Solutions*, THE METRO. CORP. COUNS. (The Metropolitan Corporate Counsel, Mountainside, N.J.), Dec. 2003, at 48 (editor’s interview with BASF Senior Vice President and General Counsel, Thomas Y. Allman) [hereinafter Allman].

⁸⁷ *Practitioner Reacts to 2nd Circuit Electronic Discovery Decision*, FED. DISCOVERY NEWS, Dec. 16, 2002 (quoting Alan Blakely, chair of Federal Bar Association’s Federal Litigation Section).

⁸⁸ Allman, *supra* note 86, at 48. *But see* *Residential Funding Corp. v. DeGeorge Fin. Corp.*, 306 F.3d 99 (2d Cir. 2002).

⁸⁹ See, e.g., *Wright v. AmSouth Bancorp.*, 320 F.3d 1198, 1205 (11th Cir. 2003) (affirming denial of discovery after “review[ing] district court’s rulings on discovery issues for an abuse of discretion”).

⁹⁰ See, e.g., *Metro. Opera Ass’n v. Local 100, Hotel Employees & Rest. Employees Int’l Union.*, 212 F.R.D. 178 (S.D.N.Y. 2003).

⁹¹ The interim website for the pertinent materials can be found at Ken Withers, *Discovery Subcommittee Letter on Electronic Discovery and Responses*, at <http://www.kenwithers.com/rulemaking/civilrules> (last visited Mar. 3, 2004).

⁹² Robert A. Clifford, *Court Addresses Electronic Discovery*, CHI. LAW., July 2003, at 22 (“[2002’s] survey on electronic discovery [went out] to 150 lawyers, bar organizations and technical people seeking input on whether federal rules are adequate to ensure that discovery is predictable.”).

⁹³ Among the doubters is BASF General Counsel Thomas Y. Allman, interviewed in *Electronic Evidence – A Big Issue with No Easy Solutions*, *supra* note 87, at 48. “Drafting rules in this area is difficult. If you make them too specific, the pace of technological development may make the rules obsolete in a short time. On the other hand, if you make them too general, they are not really adding to the body of law.” *Id.*

⁹⁴ Marcus, *supra* note 39, at 5.

⁹⁵ *Id.* at 11-12. The proposed amendment tentatively states, intentionally vaguely, that “for electronically-stored data,” requests for production may cover “all data stored or maintained on that document {if the court so orders for good cause}.” *Id.* at 11. Specific references to metadata and “embedded data” are in the proposed Committee Note regarding this addition. Marcus, *supra* note 39, at 12. The committee has not yet reached a consensus on this issue, especially in the context of inaccessible data. See *id.* at 12.

⁹⁶ *Id.* at 14.

⁹⁷ *Id.* at 24-30 (discussing the pros and cons of alternative provisions in this regard).

⁹⁸ *Sedona Principles*, *supra* note 3, at 16; see also John L. Carroll, *Observations on the “Sedona Principles,”* at 4, at <http://www.thesedonaconference.org/miscFiles/carroll> (last visited Mar. 3, 2004) (“In the field of electronic discovery, we believe this principle

states the central lesson of the current case law, the commentary in the legal press, and the discussions in rulemaking circles.”).

⁹⁹ Carroll, *supra* note 98, at 5. Principle Six appears at first glance to aid responders, in that it provides that “[r]esponding parties are best situated to evaluate the procedures, methodologies and technologies appropriate for preserving and producing their own electronic data and documents.” *Sedona Principles*, *supra* note 3, at 27. However, the corresponding “Observation” contains a significant qualifying “corollary,” namely that “responding parties are responsible for the reasonably anticipated consequences of their choices. The corollary applies if a party has a history of discovery sanctions or if it has no reliable electronic document management procedures.” Carroll, *supra* note 98, at 5. Plus, even Sedona Principle Six itself cites a case where preservation efforts were grossly insufficient. *See* *Danis v. USN Communications, Inc.*, No. 98-C-7482, 2000 U.S. Dist. LEXIS 16900, at *13-14 (N.D. Ill. Oct. 23, 2000) (criticizing parties for failure to communicate or to gain “complete mastery of what types of documents were generated by [Defendant] in the ordinary course of business, how they were used, or their significance”).

¹⁰⁰ Carroll, *supra* note 98, at 5.

¹⁰¹ *Sedona Principles*, *supra* note 3, at 39.

¹⁰² *Id.* (emphasis added).

¹⁰³ Carroll, *supra* note 98, at 8 (emphasis added).

¹⁰⁴ The proposed e-Discovery-related amendments are posted along with a cover letter seeking comments. *See* Task Force on Electronic Discovery, American Bar Association Section of Litigation, *November 2003 Draft Amendments to Electronic Discovery Standards*, at <http://www.abanet.org/litigation/taskforces/electronic/document.pdf> (Nov. 17, 2003) [hereinafter *ABA Draft Amendments*]. The highlights of the proposed changes are summarized by a Co-Chair of the Task Force. *See* Gregory P. Joseph, *Electronic Discovery*, 26 NAT’L L.J. 19 (Nov. 24, 2003).

¹⁰⁵ *See, e.g., ABA Draft Amendments*, *supra* note 104, at 7-9 standard 31(a)(xi), (b)(i)-(iii); *see also* Joseph, *supra* note 103, at 19.

¹⁰⁶ *ABA Draft Amendments*, *supra* note 104, at 10 standard 32(a)-(c); *see also* Joseph, *supra* note 104, at 19.

¹⁰⁷ *See* MODEL RULES OF PROF’L CONDUCT R. 3.4(a) (prohibiting unlawfully obstructing another party’s access to evidence, unlawfully altering, destroying or concealing a document or other material having potential evidentiary value, and counseling or assisting another person in any such act); MODEL RULES OF PROF’L CONDUCT R. 8.4(c)-(d) (prohibiting dishonesty, fraud, deceit, misrepresentation, and conduct that is prejudicial to the administration of justice); MODEL CODE OF PROF’L RESPONSIBILITY DR 7-109(A) (1980) (prohibiting suppression of any evidence that a lawyer or his client has a legal obligation to reveal or produce).

¹⁰⁸ Fenwick, *supra* note 17, at 6.

¹⁰⁹ *Id.* (“Courts are increasingly critical of the ‘ostrich head-in-the-sand’ mentality. Recent decisions require early and thorough review of a company’s electronic files.”).

¹¹⁰ *See In re Ford Motor Co.*, 345 F.3d 1315, 1317 (11th Cir. 2003) (vacating discovery order that had granted unfettered access to product liability Defendant’s databases); *Wright v. AmSouth Bancorp.*, 320 F.3d 1198, 1205 (11th Cir. 2003) (affirming denial of broad discovery request in ADEA illegal termination case); *Southern Diagnostic Assocs. v. Bencosme*, 833 So. 2d 801, 802-03 (Fla. Dist. Ct. App. 2002) (per curiam) (quashing trial court’s order as entailing overly broad inspection of subpoena recipient’s computer

system). *Cf. In re Honeywell Int'l, Inc. Sec. Litig.*, No. M8-85, 2003 U.S. Dist. LEXIS 20602, at *22 (S.D.N.Y. Nov. 18, 2003) (requiring that non-party to produce certain information in electronic form, but rejecting request as to the other, more open-ended set of information).

¹¹¹ *Practitioner Reacts to 2nd Circuit Electronic Discovery Decision*, *supra* note 86.

¹¹² 306 F.3d 99 (2d Cir. 2002).

¹¹³ *Id.* at 111-12.

¹¹⁴ Brownstone, *supra* note 6, § II(A)(2)(C), at 4-6.

¹¹⁵ *Residential Funding Corp. v. DeGeorge Fin. Corp.*, 306 F.3d 99, 108 (2d Cir. 2002).

¹¹⁶ 212 F.R.D. 178 (S.D.N.Y. 2003).

¹¹⁷ For a veritable “how to *not*” fulfill the preservation, collection and production obligations, see the parade of horrors listed in Brownstone, *supra* note 6, § II(A)(5), at 12-13.

¹¹⁸ *Metro. Opera Ass'n*, 212 F.R.D. at 180 (emphasis added).

¹¹⁹ Rule 37 grants the trial court wide latitude to craft sanctions for the enforcement of discovery rules, ranging from the exclusion of evidence to granting a default judgment. FED. R. CIV. P. 37.

¹²⁰ “Any attorney . . . who so multiplies the proceedings in any case unreasonably or vexatiously may be required by the court to satisfy personally the excess costs, expenses, and attorneys’ fees reasonably incurred because of such conduct.” 28 U.S.C. § 1927 (2001).

¹²¹ *Metro. Opera Ass'n*, 212 F.R.D. at 174.

¹²² See Jason Krause, *Discovery Channels: Electronic Documents Are Vital to Building a Case, so Don’t Get Papered Over*, 88 A.B.A.J. 48 (2002) (“[T]he first rule of electronic discovery is to negotiate with the other side.”).

¹²³ FED. R. CIV. P. 26(f).

¹²⁴ *Sedona Principles*, *supra* note 3, at iv (“[P]arties are well-served by an early discussion about the issues in dispute, the types of information sought, the likely sources and locations of such information, and the realistic costs of identifying, locating, retrieving, reviewing, and producing.”).

¹²⁵ *In re Bristol-Myers Squibb Sec. Litig.*, 205 F.R.D. 437, 444 (D.N.J. 2002). The court denied “Defendants’ [request] for . . . full reimbursement for paper copying costs” where Defendants had “dumped” more than three million pages on Plaintiffs, and also denied “Defendants’ [request] . . . that the Plaintiffs pay one-half the cost of scanning documents [i]nto electronic form” in favor of requiring Plaintiffs “to pay the nominal cost of duplicating compact discs.” *Id.*

¹²⁶ *Sedona Principles*, *supra* note 3, at 16 cmt. 3.a (“Parties Should Include Electronic Discovery Issues in Their Rule 26 Disclosures and Conferences”); see also Isom, *supra* note 18, at 12 (discussing incentive for both sides - each of which will typically be both a requesting and a producing party - to explore issues such as “the scope of the duty to preserve evidence”).

¹²⁷ *Sedona Principles*, *supra* note 3, at 16 cmt. 3(a); accord Carroll, *supra* note 97, at 4. *But see* Marcus, *supra* note 39, at 19 n.15 (declining to expand the initial disclosure obligations).

¹²⁸ *ABA Draft Amendments*, *supra* note 104, at 7. Draft Standard 31(a)(v)(a)-(k)’s expressly non-exhaustive list of platforms mentions “databases; networks; computer systems, including legacy systems; servers; archives; back up or disaster recovery systems; tapes, discs, drives, cartridges and other storage media; laptops; personal

computers; Internet data; and personal digital assistants [PDA's].” *Id.* (capitalization and sub-section letters omitted).

¹²⁹ Marcus, *supra* note 39, at 17.

¹³⁰ *Id.* at 6 n.2; *see also* Kenneth J. Withers, *Computer-Based Discovery in Federal Civil Litigation*, Federal Judicial Center, at 16-19,

[http://www.fjc.gov/public/pdf.nsf/lookup/ElecDi01.pdf/\\$file/ElecDi01.pdf](http://www.fjc.gov/public/pdf.nsf/lookup/ElecDi01.pdf/$file/ElecDi01.pdf) (last visited Mar. 14, 2004) (posting an excellent pretrial conference checklist at the FRCP

Committee’s interim website).

¹³¹ FED. R. CIV. P. 30(b)(6).

¹³² Antonucci, *supra* note 2, at 6.

¹³³ *ABA Draft Amendments*, *supra* note 104, at 7.

¹³⁴ Brownstone, *supra* note 6, § III(A)(3)(c), at 41.

¹³⁵ *See, e.g.*, Lazar, *supra* note 23, apps. b-c (including sample FRCP 30(b)(6)

deposition questions and sample electronic discovery interrogatories and requests for

production); Paul French, *Unlocking E-Evidence. Know How to Discover*

Computerized Information, L.A. DAILY J., Aug. 13, 2002,

http://www.dataforensics.com/PDFS/ladj_1.pdf; Computer Forensics Inc., *Sample*

Documents, at http://www.forensics.com/html/resource_sampledocs.html (last

visited Mar. 14, 2004) (including samples of various e-discovery pleadings); Joan E.

Feldman & Roger I. Kohn, *Top Ten Things to Do When Collecting Electronic*

Evidence, at 2, at http://www.forensics.com/pdf/Top_Ten.pdf(2001); *see also*

Stenhouse, *supra* note 23, at 22-23. *See generally* Brownstone, *supra* note 6, §

III(A)(3)(c), at 41-42.

¹³⁶ *See, e.g.*, *ABA Draft Amendments*, *supra* note 104, at 8 (“[P]arties should consider stipulating to . . . a court order providing for . . . [t]he use of specified . . . selection criteria . . . [and] [t]he appointment of a mutually-agreed, independent information technology consultant . . . [to] [s]earch . . . in accordance with specific, mutually-agreed parameters.”).

¹³⁷ Text searches may be insufficient if they do not encompass acronyms, buzzwords and/or euphemisms. Moreover, context searches, Boolean searches (including proximity searches) and/or field/metadata searches may be needed.

¹³⁸ Jessen, *supra* note 72, at 6 (“[T]he scope of terms employed must be broad enough to be *defensible* in the event of a challenge by the requesting party.”) (emphasis added).

¹³⁹ *Id.* at 2.

¹⁴⁰ *Id.* at 6.

¹⁴¹ *See infra* [Part IV\(D\)\(4\)](#) (discussing *Tulip Computers Int’l B.V. v. Dell Computer Corp.*, No. 00-981-RRM, 2002 U.S. Dist. LEXIS 7792 (D. Del. Apr. 30, 2002).

¹⁴² *Zubulake I*, 217 F.R.D. 309, 321 (S.D.N.Y. 2003).

¹⁴³ *McPeck I*, 202 F.R.D. 31, 35 (D.D.C. 2001).

¹⁴⁴ *McPeck II*, 212 F.R.D. 33, 34 (D.D.C. 2003).

¹⁴⁵ *Id.*

¹⁴⁶ *Id.* at 34-37.

¹⁴⁷ *See* Jessen, *supra* note 72, at 6 n.9. As aptly summarized by Jessen, the *Amsted* “[D]efendants’ document production efforts, which involved word searches on [twenty-five] backup tapes of electronic mail and the questioning of selected individuals regarding e[-]mail on their computers, were insufficient, and . . . additional searches not limited by [D]efendants’ relevancy objections were required.” *Id.*

¹⁴⁸ No. 00-981-RRM, 2002 U.S. Dist. LEXIS 7792 (D. Del. Apr. 30, 2002).

¹⁴⁹ *Id.* at *5-6.

¹⁵⁰ *Id.* at *7.

¹⁵¹ *Id.* at *9-10.

¹⁵² *Id.* at *18-21.

¹⁵³ *Id.* at *19. The Court states:

The history of [Defendant's] failures to cooperate in the discovery process . . . favor . . . awarding [Plaintiffs] some relief that allows them to ascertain for themselves whether [Defendant's] representations . . . are accurate. Moreover, counsel for [Defendant] could not represent to the court that it has thoroughly searched these e-mail records for responsive information.

Id.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* The court did, however, draw the line at the Dell Chief Executive Officer. *Id.* at *20 n.2 (“The only link that Tulip can point to between Michael Dell and any issue in this case is an e-mail from Michael Dell to another Dell executive, stating that he was happy that his project was completed.”).

¹⁵⁶ *Id.* at *19.

¹⁵⁷ Docket Report, *Tulip Computers Int'l B.V. v. Dell Computer Corp.*, No. 00-CV-981, at 49 (D. Del. July 10, 2003), available at <https://pacer.ded.uscourts.gov/dc/pacer150.html> (subscription required) (on file with Richmond Journal of Law & Technology).

¹⁵⁸ *Cf.* YANN MARTEL, *LIFE OF PI* (Harvest Books 2003).

¹⁵⁹ HERMAN MELVILLE, *MOBY DICK* 566 (1851) (with apologies to the author).