

Electronic Discovery and the Challenge Posed by the Sarbanes-Oxley Act

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INTRODUCTION

In 2002, the United States Congress passed the Sarbanes-Oxley Act, a complex set of provisions that imposes additional federal requirements² on all publicly traded corporations.³ Sarbanes-Oxley influences the business operations of public corporations because its provisions mandate changes pertaining to financial document storage⁴ and the financial transparency of public companies.⁵ Furthermore, these changes impact current legal rules and practices. One specific legal area Sarbanes-Oxley impacts is electronic discovery (“e-discovery”), and more specifically, e-discovery cost-shifting.⁶

Currently, courts determine whether to grant cost-shifting relief in e-discovery disputes by applying a seven-part test, or some variation thereof,⁷ established in *Zubulake v. UBS Warburg*.⁸ While the *Zubulake* cost-shifting test is a considerable improvement over prior cost-shifting approaches, the test is not a panacea.⁹ Applications of the

² Registered companies must file periodic disclosure documents with the Securities and Exchange Commission (SEC) and the annual, quarterly, and special reports with the SEC. *See* 15 U.S.C. §§ 78w, 78m.

³ *See* Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15 U.S.C.).

⁴ *See id.* § 103(a)(2)(A)(i) (stating that auditors of public corporations must maintain all information related to any audit report for seven years). In the aftermath of a number of highly publicized cases and corporate governance abuses, Congress passed the Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204 (July 30, 2002) (codified as amended in scattered sections of Title 15). This law imposes specific document preservation requirements and also imposes criminal penalties for intentional destruction of data. *Id.* at §§ 103(a)(2) (stating that auditors must maintain all information related to an audit report for seven years) and 802(a) (providing a maximum sentence of 20 years in prison and a fine for “[whoever] knowingly alters, destroys, mutilates, conceals, covers up, falsifies, or makes a false entry in any record, document, or tangible object with intent to impede, obstruct, or influence the investigation . . . of any matter within the jurisdiction of any department or agency of the United States . . .”).

⁵ *See id.* § 409 (stating that all public corporations must disclose material changes in financial conditions or operations to the public on a rapid and current basis); *see also id.* § 906(a) (stating that financial reports of public companies must be certified by the CFO and CEO).

⁶ The phrase “electronic discovery” refers to discovery of electronic documents and data. An electronic document has been defined as “information intentionally created by a computer user and stored in electronic form.” Hon. Shira A. Scheindlin & Jeffrey Rabkin, *Electronic Discovery in Federal Civil Litigation: Is Rule 34 Up to the Task?*, 41 B.C. L. REV. 327, 333 (2000).

⁷ *See* *OpenTV v. Liberate Technologies*, 219 F.R.D. 474, 477 (N.D. Cal. 2003); *Hagemeyer N. Am., Inc., v. Gateway Data Scis. Corp.*, 222 F.R.D. 594, 602 (E.D. Wis. 2004).

⁸ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 322 (S.D.N.Y. 2003) (creating a seven-factor test for evaluating e-discovery cost-shifting disputes).

⁹ *See id.* at 322.

Zubulake cost-shifting test can occasionally produce harmful and unjust outcomes in three ways: first, applications of the *Zubulake* test encourage litigants to use e-discovery blackmail¹⁰ by creating financial incentives for wealthy producing parties to settle claims rather than comply with expensive e-discovery requests. Second, the *Zubulake* test fosters e-discovery evasion¹¹ because producing parties can use discovery-inefficient storage systems¹² to prevent production of otherwise discoverable digital documents by making production costs too expensive to justify the request. Third, the *Zubulake* test will not generate equitable results under Sarbanes-Oxley because public companies will, on average, be compelled to divulge more digital documents in e-discovery disputes than their private counterparts.¹³ These three negative scenarios are not a result of poor judicial construction, but rather arise from the difficulty of extrapolating traditional discovery rules to the rapidly changing digital medium.

¹⁰ “E-discovery blackmail” describes a process by which a litigant capitalizes on e-discovery cost disparities by forcing another litigant to settle a claim that the settling litigant would otherwise defend if not for the enormous costs of e-discovery.

¹¹ “E-discovery evasion” describes the actions by which a litigant avoids producing discoverable documents by capitalizing on cost disparities arising from the ability to store and access data in different formats on different systems.

¹² “Discovery-inefficient storage systems” are data storage systems involved in e-discovery disputes that allow a litigant to avoid production of discoverable documents because of the high cost of data production on the system.

¹³ Post *Zubulake* test may not always generate equitable outcomes in e-discovery disputes, because producing parties can manipulate the test to unfairly shift their discovery production costs to requesting parties. See *Open TV v. Liberate Technologies*, 219 F.R.D. 474, 479 (N.D. Cal.2003). Specifically Sarbanes-Oxley differentiates public and private companies, because the former are forced to retain financial data in compliance with the legislation, and perhaps more important for e-discovery analysis, to retain the data in a manner that makes them easily accessible. See Daniel B. Garrie & Matthew J. Armstrong, *The Sarbanes-Oxley Act’s Effect on Electronic Discovery*, 52 FED L. 4, *4, May 2005.

A BRIEF HISTORY OF E-DISCOVERY COST-SHIFTING

Today, businesses are awash in electronic information. One study found that approximately 547.5 billion e-mail messages were transmitted in the United States alone in 2003.¹⁴ Furthermore, a single large Fortune 500 company can generate and receive several million e-mail messages and digital documents each day.¹⁵ Finally, in 2001, 93% of all newly recorded information was stored on magnetic media.¹⁶ These facts demonstrate society's growing dependence upon digital information.¹⁷ In light of these statistics, one would expect e-discovery to be the norm and paper discovery to be the exception.¹⁸ However, statistics suggest that litigators continue to underutilize e-discovery techniques in litigation.¹⁹ Recent research indicates that most companies are unaware that civil discovery can result in the impoundment or copying of computer hard drives, e-mails, instant messages, or servers.²⁰ Despite these oversights, litigants are held

¹⁴ The Sedona Conference Working Group Series, *The Sedona Principles: Best Practices Recommendations and Principles for Addressing Electronic Document Production*, at 4, (Mar. 2003), available at <http://www.thesedonaconference.org/miscFiles/SedonaPrinciples200303>. (Last checked Mar. 9, 2005).

¹⁵ *Id.*

¹⁶ *Id.* (citing Richard L. Marcus, *Confronting the Future: Coping with Discovery of Electronic Materials*, 64 L. & CONTEMP. PROBS. 253, 280-281 (2001)) (stating that nearly one-third of all electronic information is never converted to paper). See generally University of California at Berkeley School of Information Management and Systems report, "How Much Information? 2003," at 1 (Oct. 27, 2003), available at http://www.sims.berkeley.edu/research/projects/how-much-info-2003/printable_report.pdf. (Last checked Mar. 9, 2005).

¹⁷ *Id.*

¹⁸ See Albert Barsocchini, *EDD Services' Growth Rate is Staggering*, THE LEGAL INTELLIGENCER, Oct. 1, 2003, at 5.

¹⁹ See Robert H. McKirgan & Randy Papetti, *Cheating in the 21st Century*, 27 LITIG. 49, 52 (Sum., 2001) (stating that parties should send out preservation orders to potential discovery sources before actual discovery notices are sent out).

²⁰ Ashby Jones, *What a Mess! For Corporations, Pileup of Electronic Data Could Be Trouble Waiting to Happen*, NAT. L. J. Dec. 2, 2002, at C6 (Col. 1) (stating that in a 2000 American Bar Association membership survey, 83 percent of respondents said that their corporate clients had not established protocol to deal with discovery requests for electronic data).

to demanding e-discovery standards even though the judiciary system lacks a mechanical cost-allocation test that consistently delivers fair results.²¹

A. The History of E-Discovery

In 1970, the Federal Rules of Civil Procedure (“Federal Rules”) were amended in an attempt to clarify the issue of e-discovery.²² The Advisory Committee Notes for the 1970 amendments to the Federal Rules of Civil Procedure revised the description of “documents” in Rule 34(a) to accord with changing technology.²³ “It makes clear that Rule 34 applies to electronic data compilations from which information can be obtained only with the use of detection devices, and that when the data can as a practical matter be made usable by the discovering party only through respondent’s devices, respondent may be required to use his devices to translate the data into usable form.”²⁴ Corporations have been ordered to produce, sometimes at considerable expense, computerized information, including e-mail messages, support systems, software, voice mail systems, computer storage media and backup tapes and telephone records.²⁵ The language of the Federal Rules, as well as recent case law, both affirm that e-discovery requests are controlled by the traditional discovery rules provided by Federal Rules 26 and 34.²⁶

Over the past thirty years, courts have struggled to integrate digital data production’s highly variable cost structure into the Federal Rules’²⁷ traditional discovery

²¹ Arguably, the cost of e-discovery adds a new column to the litigation budget, causing some litigators to view it as a third-party cost that cuts into their income. Even the most tech-savvy lawyers are frustrated by expensive computer consultants that increase their clients’ expensive litigation costs.

²² In 1970, Rule 34(a) of the Federal Rules of Civil Procedure was amended to broaden the definition of the word “document” to include “other data compilations from which information can be obtained, translated, if necessary, by the respondent through detection devices into reasonably usable form.” *Anti-Monopoly, Inc. v. Hasbro, Inc.*, 1995 WL 649934 at 1 (S.D.N.Y. 1995) (order compelling production of documents).

²³ See Proposed Amendments to the Federal Rules of Civil Procedure Relating to Discovery, 48 F.R.D. 487, 527 (1970).

²⁴ *Id.*

²⁵ See Peter Brown, *Developing Corporate Internet, Intranet, and E-mail Policies*, 520 PLI/Pat 347, 364 (1998)(citing *In re Brand name Prescription Drugs Antitrust Litigation*, 1995 WL 360526 (N.D. Ill. June 15, 1995)); FED. R. CIV. P. 34.

²⁶ See FED. R. CIV. P. 26, 34; *Anti-Monopoly*, 1995 WL 649934, 1; *Crown Life Ins. Co. v. Craig*, 995 F.2d 1376, 1383 (7th Cir. 1993); and *Nat’l Union Elec. Corp. v. Matsushita Electric Industrial Co.*, 494 F. Supp. 1257, 1259 (E.D. Pa. 1980).

²⁷ See *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 358 (1978) (holding that under the Federal Rules, “the presumption is that the responding party must bear the expense of complying with discovery requests, but he may invoke the district court’s discretion under Rule 26(c) to grant orders protecting him from

principles.²⁸ During the past decade, the federal courts have attempted to align e discovery with technological advances in such cases as *McPeek v. Ashcroft*,²⁹ *Rowe Entertainment, Inc. v. The William Morris Agency, Inc.*,³⁰ and *Zubulake v. UBS Warburg, LLC*.³¹ In each case, the respective court read and applied Rule 26(b)(2) with the intent of protecting producing parties from undue burden or expense.³² All three courts sought to resolve the digital discovery conundrum by: (1) clarifying the situations where courts should consider cost shifting; and (2) developing a test derived from the Federal Rules to determine which party should bear data production costs.³³

‘undue burden or expense,’” thereby precluding discovery or conditioning discovery on the requesting party’s payment of discovery costs).

²⁸ There are many examples of conflicting guidance in the case law. *Compare, e.g.*, *McPeek v. Ashcroft*, 202 F.R.D. 31, 33 (D.D.C. 2001) (restoring all backup tapes not necessary in every case), *with* *Linnen v. A.H. Robins Co.*, 10 Mass. L. Rptr. 189, *9-10 (Mass. Super. Ct. 1999) (imposing obligation to cease recycling backup tapes); *compare, e.g.*, *In re Brand Name Prescription Drugs Antitrust Litig.*, 1995 WL 360526, at *2 (N.D. Ill. 1995) (holding that producing party must bear production costs, as would be the case with paper documents, because the producing party chose to store the data electronically), *with* *Rowe Entm’t, Inc. v. William Morris Agency, Inc.*, 205 F.R.D. 421, 421 (S.D.N.Y. 2002) (adopting a multiple factor test to allocate the costs of an electronic discovery burden).

²⁹ *See* *McPeek* 202 F.R.D. at 34. The court used a marginal utility approach to order the producing party to restore a limited number of backup tapes containing e-mails that may have been pertinent to the case. *Id.* The court held that there was enough likelihood of finding responsive e-mails in backup tapes created between July 1, 1998 and July 1, 1999 to justify imposing the costs of the search on the producing party. *Id.* The court further ordered the producing party to keep a record of its costs so the parties could argue whether the search results would justify further back-up tape restoration. *Id.* at 35.

³⁰ *See* *Rowe Entm’t*, 205 F.R.D. at 433. In *Rowe* a producing party moved for a blanket protective order precluding discovery of e-mail stored on backup disks. *Id.* at 423, 424. The court held that while there was no justification for a blanket protective order, the costs associated with restoring and producing the e-mails should be shifted to the requesting party. *Id.* at 428, 433. In doing so, the court created and applied an eight-factor cost-shifting test. *Id.* at 429.

³¹ *See* *Zubulake v. UBS Warburg, LLC*, 217 F.R.D. 309, 312 (S.D.N.Y. 2003). In a gender discrimination suit against her former employer, the plaintiff requested that the defendant produce “[a]ll documents concerning any communication by or between UBS employees concerning plaintiff.” *Id.* The defendant produced 350 pages of documents, including approximately 100 pages of e-mail. *Id.* at 312, 313. The plaintiff knew that additional responsive e-mails existed because she, in fact, had produced approximately 450 pages of e-mail from her own correspondence. *Id.* at 313. The plaintiff then requested that the defendants produce the additional e-mail from archival media. *Id.* Claiming undue burden and expense, the defendant urged the court to shift the cost of production to the plaintiff, citing the *Rowe* decision. *Id.* at 317. The court noted that the application of *Rowe*’s eight factor cost-shifting test may result in disproportionate cost-shifting away from large defendants. *Id.* at 320. It then modified the test to include only seven factors. *Id.* at 322. Applying the modified test, the court ordered the defendant to produce, at its own expense, all responsive e-mail existing on its optical disks, active servers, and five backup tapes selected by the plaintiff. *Id.* at 324. Discovery of e-mails stored on the additional 89 back-up tapes remained contingent upon a successful initial search of the first five tapes. *Id.*

³² *See supra* note **Error! Bookmark not defined..**

³³ *See supra* note **Error! Bookmark not defined..**

The federal district court in *McPeek* established a rudimentary e-discovery cost-shifting test to determine whether to grant cost-shifting relief.³⁴ The *McPeek* court applied a marginal utility approach,³⁵ stating 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 [producing party] search at its own expense.”³⁶ This holding represents an early attempt to develop a cost-shifting test for e-discovery disputes.³⁷

Courts applied *McPeek*, or some variation thereof, until the *Rowe* decision created an eight-factor e-discovery cost-shifting test that incorporated *McPeek*’s marginal utility test.³⁸ The *Rowe* court used these eight factors to emphasize that courts should focus on data’s marginal utility when evaluating e-discovery disputes.³⁹ By recognizing a multitude of relevant factors, the *Rowe* decision represented a significant step for courts in creating a more precise e-discovery cost-shifting test.⁴⁰

Courts considered the *Rowe* test to be “the gold standard,”⁴¹ until *Zubulake* augmented its factors to reflect those listed in FRCP 26(b)(2)(iii).⁴² The *Zubulake* court consolidated the *Rowe* test into seven factors that courts should consider when deciding whether to grant cost-shifting relief.⁴³ The seven *Zubulake* factors are: (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,

³⁴ *McPeek*, 202 F.R.D. at 34.

³⁵ Marginal utility has been defined as the “amount that utility increases with an increase of one unit of an economic good or service” See WordNet 2.0, Princeton University. The courts have applied the principle of “marginal utility” to e-discovery disputes by determining that “the 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.” *Hagemeyer North America, Inc. v. Gateway Data Sciences Corp.*, 222 F.R.D. 594, 602 (E.D.Wis 2004) (*citing* *McPeek v. Ashcroft*, 202 F.R.D. at 34.).

³⁶ *Id.*

³⁷ *See id.* (stating that shifting production costs could prevent problems caused by discovering parties that make overly broad discovery requests).

³⁸ *Rowe Entm’t, Inc. v. William Morris Agency, Inc.*, 205 F.R.D. 421, 429 (S.D.N.Y. 2002). The eight *Rowe* factors are: (1) the specificity of the discovery requests; (2) the likelihood of discovering critical information; (3) the availability of such information from other sources; (4) the purposes for which the responding party maintains the requested data; (5) the relative benefit to the parties of obtaining the information; (6) the total cost associated with production; (7) the relative ability of each party to control costs and its incentive to do so; and (8) the resources available to each party. *Id.*

³⁹ *Id.* at 430.

⁴⁰ *Id.* at 429.

⁴¹ *See* *Zubulake v. UBS Warburg, LLC*, 217 F.R.D. 309, 320 (S.D.N.Y. 2003).

⁴² *See id.* at 321 (stating that the factors in Rule 26 should be incorporated into a new cost-shifting test that fixes the *Rowe* test because the *Rowe* test weighs too heavily in favor of cost-shifting). The *Zubulake* test mirrors Rule 26(b)(2)(iii) because six of the seven factors were taken directly from Rule 26. *Id.*

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.⁴⁴ The *Zubulake* court stated that the first six factors of the seven-factor test correspond to the three explicit considerations of Rule 26(b)(2)(iii).⁴⁵ The *Zubulake* court held that these changes were necessary because the *Rowe* test generally favored cost-shifting, undercutting the presumption⁴⁶ that the producing party bears document production costs.⁴⁷ Thus, *Zubulake* represents a step towards creating a cost-shifting test that relies on Rule 26(b)(2)'s proportionality factors⁴⁸ to maintain consistency with the Federal Rules' presumption that the producing party bears the cost of production.⁴⁹ Presently, courts rely upon the seven-factor *Zubulake* test, or some modification thereof, to resolve these e-discovery cost-shifting disputes.⁵⁰

In summary, the *Zubulake*, *Rowe*, and *McPeck* courts sought to resolve the digital discovery conundrum by: (1) clarifying the situations where courts should consider cost shifting; and (2) providing a test derived from the Federal Rules that determines which party should bear data production costs.⁵¹ While each of these cases represents notable milestones in the application of discovery principles to technology, the reality is that courts will never be a step ahead of technology.⁵² Consequently, courts should develop

⁴³ *Id.* at 322.

⁴⁴ *Id.*

⁴⁵ *Id.* at 323. FRCP 26(b)(2)(iii) states “the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues.”.

⁴⁶ This presumption was established by the Supreme Court in *Oppenheimer Fund, Inc. v. Sanders*, where the court interpreted the federal discovery rules as presuming that “the responding party must bear the expense of complying with discovery requests, but he may invoke the district court’s discretion under Rule 26(c) to grant orders protecting him from ‘undue burden or expense’” 437 U.S. 340, 358 (1978).

⁴⁷ *Id.* at 320.

⁴⁸ *See Id.* at 321; *see also* FED. R. CIV. P. 26(b)(2)(iii).

⁴⁹ *See Zubulake*, 217 F.R.D. at 321 (stating that the amount in controversy and the importance of the issues at stake in the litigation should be added to the cost-shifting test to make the test parallel Rule 26 and to balance the *Rowe* factors that weigh in favor of cost-shifting).

⁵⁰ *See id.* at 322.

⁵¹ *See Zubulake*, 217 F.R.D. at 321 (stating that the factors listed in Fed. R. Civ. P. 26 should be added to the *Rowe* cost-shifting test).

⁵² An article reviewing recent technological advances in telecommunications demonstrates how rapidly evolving technology does not always conform to the existing legal framework, specifically regarding IP

an e-discovery cost-shifting test of broad application, such that the legal test is independent of the particular characteristics of the underlying technology at issue.

telephony conversations. See Daniel B. Garrie & Matthew J. Armstrong & Professor Harris, *VoIP Is Your Conversation Protected*, 29 SEATTLE U. L. REV. (publication forthcoming Fall of 2005)

CRITICISMS OF THE *ZUBULAKE* TEST

Although courts currently apply the *Zubulake* test in e-discovery disputes, it does not always generate just results⁵³ because it allows technology to dictate judicial outcomes.⁵⁴ The *Zubulake* test has three significant problems that must be corrected in order to ensure an equitable forum for litigants. First, the *Zubulake* test facilitates e-discovery blackmail by plaintiffs who force wealthy defendants to settle cases by constructing narrowly tailored yet expensive e-discovery requests that cause production costs to economically prohibit litigation.⁵⁵ Second, the *Zubulake* test fosters e-discovery evasion because it rewards parties who use discovery-inefficient legacy systems, while penalizing those who choose, or are required by law, to use efficient electronic record systems.⁵⁶ Third, because the *Zubulake* test relies heavily on computer system costs in e-discovery disputes, the *Zubulake* test places an unfair burden upon companies that are legally required to retain data.⁵⁷ The courts must either modify the *Zubulake* test, or adopt a new e-discovery cost-shifting solution that addresses these three deficiencies.

⁵³ See *OpenTV v. Liberate Techs.*, 219 F.R.D. 474, 479 (N.D. Cal. 2003).

⁵⁴ See generally Mark D. Robins, *Computers and the Discovery of Evidence - A New Dimension to Civil Procedure*, 17 J. MARSHALL J. COMPUTER & INFO. L. 411 (1999) (reviewing cases in which computer-related discovery requests have been granted or denied, and recommending specific electronic discovery practices for judges and litigators).

⁵⁵ See *Xpedior Creditor Trust v. Credit Suisse First Boston (USA), Inc.*, 309 F.Supp.2d 459, 466 (S.D.N.Y. 2003) (finding that the large financial assets of a producing party weighed against cost-shifting where the producing party's assets dwarfed the discovering party's, even though the discovering party could have contributed had cost-shifting relief been warranted).

⁵⁶ See Stephen D. Williger & Robin M. Wilson, *Negotiating the Minefields of Electronic Discovery*, 10 RICH. J.L. & TECH. 52, ¶¶ 20 - 25 (2004).

⁵⁷ See *supra* note 4 and accompanying text.

A. The *Zubulake* Test Permits E-Discovery Blackmail

First, the *Zubulake* test does not always generate equitable results because it is unable to prevent the opportunistic use of e-discovery blackmail.⁵⁸ This scenario arises when a discovering party constructs a narrowly tailored, yet expensive e-discovery request such that the total cost of production approaches, or in some cases exceeds the cost of settling a claim.⁵⁹ Thus, e-discovery blackmail enables discovering parties to compel wealthy producing parties to settle claims⁶⁰ that they would otherwise contest.⁶¹

Although the third *Zubulake* factor does in fact weigh the total cost of production against the amount in controversy, such a consideration is just one of seven factors in the test,⁶² and often is overcome by the other six factors.⁶³ Additionally, the fourth *Zubulake* factor considers the financial resources available to each litigant relative to the total cost of production,⁶⁴ which inhibits wealthy corporate defendants from receiving equitable cost-shifting relief⁶⁵ upon receiving an expensive e-discovery request.⁶⁶ Corporations with large fiscal resources are thereby placed at a serious disadvantage because they can only avoid e-discovery blackmail when they can effectively file a 12(b)(6) motion to dismiss before discovery takes place.⁶⁷ E-discovery blackmail further harms litigants by effectively denying them a forum for their grievances⁶⁸ if the e-discovery request is not

⁵⁸ See generally Geanne Rosenberg, *Electronic Discovery Proves Effective Legal Weapon*, N.Y. Times, Mar. 31, 1997, at D5 (discussing the use of electronically stored data discovery requests as a negotiation tool).

⁵⁹ See *Farmers Ins. Co. v. Peterson*, 81 P.3d 659, 660 (Ok. 2003) (denying a producing party's request for a writ of prohibition because the producing party's "unilateral decision on how it stores information cannot, by itself, be a sufficient reason for placing discoverable matter outside the scope of discovery").

⁶⁰ Mark Ballard, *Digital Headache: E-discovery Costs Soar into the Millions, and Litigants Seek Guidance*. NAT'L L. J., Feb. 10, 2003 at A18.

⁶¹ See Corinne L. Giacobbe, *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, 267-68 (2000).

⁶² See *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 322 (S.D.N.Y. 2003).

⁶³ See *OpenTV v. Liberate Techs.*, 219 F.R.D. 474, 479 (N.D. Cal. 2003) (holding that since both litigants were similarly situated corporations, it was appropriate to split the costs of data production under the *Zubulake* test even though only two of the seven factors favored cost-shifting).

⁶⁴ See *Zubulake*. 217 F.R.D. at 322.

⁶⁵ Martin H. Redish, *Electronic Discovery and the Litigation Matrix*, 51 DUKE, L.J. 561, 589 (2001).

⁶⁶ See *OpenTV v. Liberate Techs.*, 219 F.R.D. 474, 479 (N.D. Cal. 2003) (holding that since both litigants were similarly situated corporations, it was appropriate to split the costs of data production under the *Zubulake* test even though only two of the seven factors favored cost-shifting).

⁶⁷ See FED R. CIV. P. 12(b)(6).

⁶⁸ See *GTFM, Inc. v. Wal-Mart Stores, Inc.*, 49 Fed. R. Serv. 3d (West) 219, 221 (S.D.N.Y. 2000).

rejected at the outset, on grounds of being unduly burdensome or expensive.⁶⁹ Courts must therefore modify the *Zubulake* test to eliminate the opportunistic use of e-discovery blackmail in the discovery process.⁷⁰

B. The *Zubulake* Test Permits E-Discovery Evasion

Second, the *Zubulake* test fosters e-discovery evasion by producing parties because it fails to recognize that data can be stored on legacy storage systems to prevent discovery of otherwise discoverable data, thereby causing the combined costs of finding and producing data to exceed the amount in controversy.⁷¹ In such situations, courts applying *Zubulake* are likely to grant cost-shifting relief to alleviate the alleged burden placed upon the producing party, especially when the producing party has limited financial resources.⁷² Once a court decides to shift costs, it becomes unlikely that a producing party will be compelled to produce digital documents⁷³ because the discovering party has to pay costs that approach or exceed the value of the case, making discovery economically impractical.⁷⁴ Therefore, courts applying *Zubulake* effectively reward parties for using discovery-inefficient legacy storage systems, while punishing parties that choose, or are required by law, to use efficient electronic record systems.⁷⁵ *Zubulake* thus creates a perverse disincentive that prevents companies from investing in more efficient data storage technologies, because parties with efficient storage systems are generally forced to produce more digital documents than parties using legacy storage

⁶⁹ See FED. R. CIV. P. 26(c).

⁷⁰ Janet Novack, *Control/Alt/Discover*, FORBES, Jan. 13, 1997, at 60 (referring to the use of electronic data discovery costs to force settlement as "blackmail").

⁷¹ See *OpenTV v. Liberate Technologies*, 219 F.R.D. 474, 479 (N.D. Cal. 2003) (granting cost-shifting relief where the discovering party sought source code stored in an inaccessible format for the purposes of discovery).

⁷² See generally *Wiginton v. CB Richard Ellis, Inc.*, 2003 WL 22439865 at *6 (N.D. Ill. Oct. 27, 2003) (criticizing company for failing to conduct "any" searches of e-mails, when such searches could have identified responsive documents that should have been preserved).

⁷³ See *McPeck v. Ashcroft*, 202 F.R.D. 31, 33 (D.D.C. 2001) (stating that "[t]here is certainly no controlling authority for the proposition that restoring all backup tapes is necessary in every case. The Federal Rules of Civil Procedure do not require such a search, and the handful of cases are idiosyncratic and provide little guidance.").

⁷⁴ See Ballard *supra* note 60, at A18; see also Thomas Y. Allman, *Electronic Evidence Discovery: A Primer*, in 6 BRIEFLY...PERSPECTIVES ON LEGISLATION, REGULATION, & LITIGATION No. 11, at 17 (Nat'l Legal Ctr. for the Public Interest, Nov. 2002).

⁷⁵ See Allman, *supra* note 74, at 4-5 (explaining difficulties and expenses in accessing old, or legacy, data).

systems.⁷⁶ Although companies eventually may determine that the need for a newer storage system exceeds the risks posed by broad electronic discovery,⁷⁷ litigants should not be forced to weigh potential adverse legal consequences against the benefits that could be realized by investing in appropriate systems for their business needs.

Zubulake itself offers a prime example of e-discovery evasion.⁷⁸ In *Zubulake*, the court used its discretion to construct a narrower e-discovery request than originally requested, because the respondent's documents were stored on 94 inaccessible backup tapes that required extremely costly restoration.⁷⁹ The *Zubulake* court ordered the discovering party to pick five of the tapes to be initially restored, while restoration of the remaining tapes remained contingent upon a successful initial search.⁸⁰ The producing party, by following its corporate e-mail policy, prevented the discovering party from discovering all of the requested e-mails by saving them on backup disks instead of a more accessible medium.⁸¹ *Zubulake's* holding implies that by maintaining a complex disaster and data recovery system, litigants can sidestep e-discovery requests for data residing in their data warehouses. The *Zubulake* court's failure to differentiate between acceptable and unacceptable electronic information repositories in creating its cost-shifting test encourages e-discovery evasion.⁸² If this shortcoming remains unaddressed by the

⁷⁶ This assumes that more effective digital record systems minimize the costs of e-discovery. Lower production costs favor the discovering party because courts will be less likely to grant cost-shifting relief, leaving the producing party to produce the data at its own expense. Thus, upgrading storage systems is not within a company's best legal interests because by upgrading they expose themselves to a greater likelihood of losing legal disputes.

⁷⁷ Karen L. Hagberg & A. Max Olson, *Shadow Data, E-Mail Play a Key Role in Discovery, Trial*, N.Y. L.J., June 16, 1997, at S3 (discussing the problem posed by plaintiffs using discovery rules to harass defendants).

⁷⁸ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 324 (S.D.N.Y. 2003) (holding that the discovering party could choose five of the 94 back-up tapes to be produced, while the remaining back-up tapes could be produced later contingent on the success of the initial search. Since the estimated cost of \$300,000 to produce the e-mails would have been prohibitive, UBS was able to avoid production of all of the responsive e-mails).

⁷⁹ *Id.* at 313 (stating that the cost of restoring all 94 back-up tapes was approximately \$300,000).

⁸⁰ *Id.* at 324.

⁸¹ *Id.*

⁸² In *Zubulake*, the court states that "whether document production is unduly burdensome or expensive primarily turns on whether it is kept in an *accessible* or *inaccessible* format." *Id.* at 318. The court then determined that online data, near-line data, and offline storage archives are generally considered to be accessible, while backup tapes and erased, fragmented or damaged data are considered to be inaccessible. *Id.* at 319-320. The *Zubulake* court then stated that it is "wholly inappropriate to even consider cost-shifting" when accessible data is requested. *Id.* at 320. Thus, the *Zubulake* test will only grant producing parties cost-shifting relief if they store data in an inaccessible manner. The absence of a provision that punishes parties for storing data in an inaccessible manner may foster increased use of e-discovery evasion

judicial system, e-discovery evasion will likely become a more frequently used means for abusing the e-discovery process.

C. The *Zubulake* Test Will Not Yield Equitable Judicial Outcomes Once Provisions of the Sarbanes-Oxley Act Become Effective

Third, the *Zubulake* test will be unlikely to generate equitable judicial decisions, because Sarbanes-Oxley requires public companies to store and access financial data differently than private companies.⁸³ Prior to Sarbanes-Oxley most public and private companies in industries other than financial services and healthcare did not have to comply with burdensome legally mandated data retention policies.⁸⁴ Under Sarbanes-Oxley, however, public companies are distinguished from their private counterparts in that they must retain financial data in order to comply with the legislation.⁸⁵ Not only are public companies forced to retain more data than private companies, but public companies are now required to maintain the data in an easily accessible manner.⁸⁶ In e-discovery disputes governed by *Zubulake*, therefore, courts are more likely to compel public companies to produce digital documents than their private counterparts because Sarbanes-Oxley requires public companies to maintain efficient storage systems. Public companies' efficient storage systems reduce their data production costs, and

as litigants realize that they can avoid producing problematic digital documents by storing them in an inaccessible format.

⁸³ See *supra* note 3, at §§ 103(a)(2)(A)(i) (stating that auditors of public corporations must maintain all information related to any audit report for seven years), 409 (stating that all public corporations must disclose material changes in financial conditions or operations to the public on a rapid and current basis).

⁸⁴ See Securities Act Rules 17a-4(b)(4) (requiring all broker-dealers to retain for at least three years all communications (including e-mail) sent and received by broker dealers relating to the business), 17a-4(f)(2)(ii)(A) (requiring all broker-dealers using electronic data to preserve it exclusively in a non-rewritable, and non-erasable format), 17a-4(f)(3)(iv) (requiring all broker-dealers using electronic media to organize and index all stored information), 17 C.F.R. § 240.17a-4(b)(4), -4(f)(2)(ii)(A), -4(f)(3)(iv) (2003).

⁸⁵ See *supra* note 3 at § 103(a)(2)(A)(i) (stating that auditors of public corporations must maintain all information related to any audit report for seven years).

⁸⁶ See *supra* note 3. A careful analysis of the Sarbanes-Oxley Act reveals a clear-cut set of imperatives that form the basis of an Electronic Records Management strategy. They are as follows:

- (1) Maintain good records to support financials (§ 103(a)(2)).
- (2) Ensure documents can be produced on demand (§ 105(b)(2)).
- (3) Ensure documents are not altered or destroyed (§§ 802, 1102).
- (4) Certify the accuracy of financial statements (§§ 302, 404, 906).
- (5) Certify the system of internal controls (§§ 302, 404).
- (6) Disclose material changes to financial information in real-time (§ 409).

consequently, their chances of receiving cost-shifting relief.⁸⁷ Thus, under *Zubulake*, publicly traded companies are subject to much greater litigation risks and costs than their private counterparts, giving private corporate competitors an advantage in lawsuits involving e-discovery.⁸⁸

For example, Bill Teuber, the CFO of the information-storage giant EMC, “spent more than \$1 million and thousands of man-hours complying with two of the main statutes in the Sarbanes-Oxley Act of 2002 - Section 404, relating to internal controls; and Section 302, mandating CEO and CFO certifications of quarterly financial statements.”⁸⁹ The actual cost of full compliance with Sarbanes-Oxley is uncertain and the resulting burden on public corporations is expected to exist for the foreseeable future because of the ongoing testing and disclosure requirements.⁹⁰ EMC’s private corporate competitors are not incurring these costs. Thus, if EMC becomes involved in litigation, under *Zubulake*, it will likely incur further costs in the form of an e-discovery dispute ? because its data production costs will be lower than its private counterparts, thereby increasing the scope and likelihood of e-discovery. Courts must address the imbalance between public and private companies arising in e-discovery cost-shifting disputes because such imbalance unfairly burdens public companies, thereby creating inequitable judicial outcomes.

⁸⁷ Kimberly D. Richard, Note and Comment, *Electronic Evidence: To Produce or Not to Produce, That Is the Question*, 21 WHITTIER L. REV. 463, 464 (1999).

⁸⁸ Jack Seward, *Digital Stealth Secrets and the Act*, CORP. COMPLIANCE & REG. NEWSL. (Law Journal Newsletters), March 2004.

⁸⁹ See Alix Nyberg, *Sticker Shock*, CFO MAGAZINE, Sep. 1, 2003, at ¶ 2, available at <http://www.cfo.com/article.cfm/3010299> (last visited Oct. 9, 2004).

⁹⁰ *Id.*

AN ELECTRONIC DISCOVERY COST-SHIFTING SOLUTION

The previous section of this paper discussed three significant problems with the *Zubulake* test: (1) it permits e-discovery blackmail; (2) it permits e-discovery evasion; and (3) it unfairly burdens companies that must comply with digital records legislation. Any solution must be designed to alleviate these problems, account for a multitude of e-discovery situations, and be rigid enough to provide a mechanical rule that gives guidance to future litigants.⁹¹ This is a difficult task because traditional discovery rules were designed to function with paper documents, not digital ones. We propose the Benchmark Cost-Shifting Test (“BCST”)⁹² as an alternative e-discovery dispute resolution system to *Zubulake* and its progeny. The BCST adequately addresses these problems by separating the e-discovery dispute resolution process into three distinct parts: (1) a data discoverability test, (2) a system-normalized cost analysis, and (3) a query relevancy assessment. The BCST’s three-step process provides a mechanical and equitable test that gives adequate guidance to future litigants while addressing *Zubulake*’s deficiencies by normalizing production costs and accounting for technological change.

Although courts have extrapolated traditional discovery principles from paper documents to digital ones, courts have also been challenged by production cost differences between paper and digital documents.⁹³ The costs of digital data production

⁹¹ The *Zubulake* test has generated inconsistent applications of law that solve e-discovery problems in particular cases, yet fail to offer much guidance to future litigants. *OpenTV v. Liberate Technologies*, 219 F.R.D. 474, 479 (N.D. Cal 2003). When determining whether cost-shifting is appropriate, a judge must balance seven factors. *Id.* at 477. Judges’ consistent tendencies to prejudice bad faith actors and the leniency of a seven-factor balancing test have resulted in arbitrary applications of the *Zubulake* test in e-discovery disputes. *Id.* at 479. Also, given the many factors in the test, it is unlikely that similar cases will arise, and if they do, judges will likely be able to differentiate one case from another to justify the use of judicial discretion. Despite the creation of the seven step *Zubulake* test, courts’ applications of the rule are far from mechanical, leaving future litigants with little useful precedent for risk management. *Id.*

⁹² The BCST is an innovative solution proposed by Daniel B. Garrie and Matthew J. Armstrong to correct these potential areas of e-discovery abuse. As of the date of publication no court has adopted the BCST.

⁹³ See Lesley Friedman Rosenthal, *Electronic Discovery Can Unearth Treasure Trove of Information or Potential Land Mines*, 75 N.Y. ST. B.J. 32, 32 (Sept. 2003).

have the potential to exceed the cost of ordinary paper discovery⁹⁴ because of the potential size of the data set⁹⁵ as well as the complex steps of finding⁹⁶ and viewing digital documents. Both technological complexities and poorly designed information systems continue to frustrate judicial efforts to formulate a unified test that governs all e-discovery requests. Courts, when faced with expensive e-discovery requests, thus generally rely on cost-shifting to insulate producing parties from enormous costs.⁹⁷ While cost-shifting remains a viable option in some e-discovery disputes, technological advancements have eliminated the need to use cost-shifting in the majority of e-discovery disputes.

The BCST solves these problems by applying traditional discovery rules to e-discovery disputes while limiting cost-shifting to the most unduly burdensome production requests.⁹⁸ The BCST is composed of three parts: (1) a data discoverability test, (2) a system-normalized cost analysis, and (3) a query relevancy assessment. It also contains two exceptions that account for situations where there is: (i) a significant public interest;⁹⁹ or (ii) a request for deleted data.¹⁰⁰ The BCST is designed to grant cost-

⁹⁴ Because paper discovery is labor-intensive, it may well exceed the cost of digital discovery in some instances. However, in situations where there is an enormous amount of responsive data or where data is not easily accessible, e-discovery production costs can greatly exceed the costs of paper-based discovery.

⁹⁵ See *Rowe Entertainment, Inc. v. William Morris Agency*, 205 F.R.D. 421, 429 (S.D.N.Y. 2002) (explaining that electronic data is so voluminous because, unlike paper documents, “the costs of storage are virtually nil. Information is retained not because it is expected to be used, but because there is no compelling reason to discard it.”). See also Wendy R. Liebowitz, *Digital Discovery Starts to Work*, NAT’L L.J., Nov. 4, 2002, at 4 (reporting that in 1999, ninety-three percent of all information generated was in digital form).

⁹⁶ In order to view a paper document, one need only to search for it in a file cabinet and then examine it with one’s own eyes. Conversely, an electronic document must be searched for in a complex storage system consisting of millions of unrelated documents, and then produced in an accessible format so it can be viewed on another computer. Only then can a discovering party view a document to determine its relevance to the case at bar.

⁹⁷ See generally *Oppenheimer Fund v. Sanders*, 437 U.S. 340, 358 (1978), and *Rowe Entertainment, Inc., v. William Morris Agency* 205 F.R.D. 421, 428 (S.D.N.Y. 2002). If a producing party requests an order to protect it from “undue burden or expense,” the court may shift the costs to the non-producing party, rather than disallowing the e-discovery request. FED. R. CIV. P. 26(c).

⁹⁸ The BCST will attempt to create more efficient, equitable results in e-discovery disputes by accounting for both technological differences between litigants’ systems and the legislative disparity between public and private corporations. The BCST will also seek to limit cost-shifting to the most extraordinary of situations to keep e-discovery in line with paper based discovery.

⁹⁹ A social benefit exception is added to prevent cost-shifting in cases where there exists an important public interest in finding the truth. In those particular cases, cost-shifting could compromise the public’s ability to find the truth because the public would have to bear data production costs.

shifting relief only in the most unduly burdensome situations where production costs economically prohibit litigation. The BCST also addresses the wide spectrum of e-discovery production costs by evaluating all production requests against a benchmark standard. Thus, the BCST creates a mechanical rule that is both responsive to technological change and capable of providing equal treatment for all litigants.

A. The Data Discoverability Test

In the BCST's first step courts apply a data discoverability test to determine whether requested data is discoverable under Federal Rules of Civil Procedure 34(a) and 26(b)(1),(2).¹⁰¹ Generally, all documents are discoverable under the Federal Rules of Civil Procedure unless: (1) the documents are privileged; (2) the discovery sought is unreasonably cumulative or duplicative; (3) the discovery sought is obtainable from some other source that is more convenient, less burdensome, or less expensive; (4) the discovering party already had ample opportunity to obtain the information sought in discovery; or (5) the burden or expense of the proposed discovery outweighs its likely benefit.¹⁰² In close cases where an e-discovery request's expense approaches its likely benefit,¹⁰³ courts should generally favor discoverability because production costs can be

¹⁰⁰ A spoliation exception is added to permit the use of judicial discretion when shifting costs depending on whether data is deleted negligently, maliciously, or in accordance with legally permissible business practices.

¹⁰¹ See FED. R. CIV. P. 34(a) (permitting a litigant to request production of "any designated documents, (including writings, drawings, graphs, charts, photographs, phono-records, and other data compilations from which information can be obtained, translated, if necessary, by the respondent through detection devices into reasonably usable form), or to inspect and copy, test, or sample any tangible things which constitute or contain matters within the scope of Rule 26(b) and which are in the possession, custody, or control of the party upon whom the request is served"). See also FED. R. CIV. P. 26(b)(1) (permitting "discovery regarding any matter, not privileged, that is relevant to the claim or defense of any party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of any discoverable matter"). See also FED. R. CIV. P. 26(b)(2) (permitting a court to limit the frequency or extent of discovery methods if "(i) the discovery sought is unreasonably cumulative or duplicative, or is obtainable from some other source that is more convenient, less burdensome, or less expensive; (ii) the party seeking discovery has had ample opportunity by discovery in the action to obtain the information sought; or (iii) the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues").

¹⁰² See *supra* note 101.

¹⁰³ See FED. R. CIV. P. 26(b)(2)(iii).

shifted or minimized under the second and third elements of the BCST.¹⁰⁴ If, however, it is obvious that a discovering party purposefully abused the discovery process by requesting an extremely broad or expansive search, a court should deny the discovery request.¹⁰⁵ By stipulating that courts must initially apply the data discoverability test, the BCST ensures that courts evaluate digital document requests in the same way as paper document requests.¹⁰⁶

B. The System-Normalized Cost Analysis

In the BCST's second step, courts determine whether to shift costs by applying the system-normalized cost analysis test and then evaluating its results.¹⁰⁷ Courts apply this test when a producing party argues that an e-discovery request is unduly burdensome, thereby warranting cost-shifting relief.¹⁰⁸ Courts perform this analysis in four-sequential steps by: (1) determining the amount in controversy; (2) computing the adjusted amount in controversy; (3) computing the system-normalized cost of production; and (4) comparing the adjusted amount in controversy against the system-normalized cost of production.

First, a court determines the amount in controversy by calculating the expected return of the claim. To do so, a court evaluates the factual record and subjectively assigns different probabilities to different possible outcomes based on the strength of the case. The court then multiplies the probabilities of recovery against the respective projected amounts of recovery and adds the results to determine the expected return of the claim.¹⁰⁹ For additional guidance, courts may allow both the producing party and the responding party to provide the court with their own calculations of the claim's expected

¹⁰⁴ Assuming the digital documents would otherwise be discoverable under FED. R. CIV. P. 34 and FED. R. CIV. P. 26(b)(1),(2).

¹⁰⁵ See FED. R. CIV. P. 26(b)(2)(iii). See also *Dikeman v. Stearns*, 560 S.E.2d 115, 117 (Ga. Ct. App. 2002) (holding that the trial court did not abuse its discretion in refusing to order discovery of a complete copy of a law firm's hard drive because the request was overbroad, oppressive, and annoying).

¹⁰⁶ *Id.*

¹⁰⁷ This test normalizes e-discovery costs on different types of storage systems, eliminating the abuses of e-discovery evasion and e-discovery blackmail. This ensures that neither party can capitalize on potential cost differences arising from varying technology costs.

¹⁰⁸ See FED. R. CIV. P. 26(c) (stating that "a court can make any order which justice requires to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense . . .").

¹⁰⁹ In situations where claimants request injunctive relief, courts must determine the adjusted amount in controversy by multiplying the fair market value of the injunctive relief by the probability of recovery.

return. For instance, if a claim has a 25% chance of receiving a positive jury verdict yielding \$1 million, a 50% chance of obtaining a \$600,000 settlement, and a 25% chance of receiving a negative jury verdict yielding nothing [\$0], the claim's expected return would be \$550,000. A court then uses the figure representing the claim's expected return, here \$550,000, as the amount in controversy when evaluating the claim under the remainder of the BCST.

Second, a court computes the adjusted amount in controversy by multiplying the amount in controversy by a diminishing factor that represents the importance of the data to the discovering party.¹¹⁰ Courts evaluate each case individually and apply a diminishing factor between 30 and 80 percent, where 30 percent represents data that is helpful but not crucial to the discovering party, and 80 percent represents data that forms the basis of the discovering party's claim. If the data's value to the discovering party is somewhere in-between, courts can use a factor between 30 and 80 percent that adequately represents that value. The 30 to 80 percent factor determined by a court is then multiplied against the amount in controversy, yielding the adjusted amount in controversy. For instance, in our hypothetical case, if a court determines that the requested data is critical to the discovering party's claim, it will multiply the amount in controversy of \$550,000 by a diminishing factor of 80 percent, yielding an adjusted amount in controversy of \$440,000.

Courts should augment the amount in controversy prior to weighing it against the system-normalized cost of production because data production costs have the potential to economically prohibit litigation before the total cost of production equals the amount in controversy. For instance, the upper end of the range for the diminishing factor is set at 80 percent of the amount in controversy because producing parties face other costs - such as attorney fees - that at times can account for up to 20 percent of the amount in controversy. If the amount in controversy is not multiplied by 80 percent, producing parties could potentially face costs in excess of 100 percent of the amount in controversy.¹¹¹ This outcome would be counterproductive because it would

¹¹⁰ This portion of the BCST partially incorporates the marginal-utility approach used in *McPeek*. See *McPeek v. Ashcroft*, 202 F.R.D. 31, 34 (D.D.C. 2001).

¹¹¹ In situations where the amount in controversy is less than \$100,000, a court, at its discretion, can use a higher adjusting factor to give a discovering party access to necessary discoverable data. A higher

economically prohibit a producing party from litigating claims filed against it. Without this protective buffer zone, discovering parties could compel producing parties to settle claims that they would otherwise contest, effectively denying them a forum for their grievances. The lower end of the range utilizes a 30 percent reducing factor to limit production costs imposed upon producing parties for relevant, yet unnecessary, discoverable data. The 30 percent factor gives discovering parties access to a reasonable amount of relevant data while still providing producing parties with the possibility of obtaining a better outcome through litigation than can be obtained through settlement.

For the third step in the analysis, a court calculates the system-normalized cost of discovery by utilizing the System-Normalized E-Discovery Cost Curve.¹¹² This graph represents the average production costs based on the size of a data storage system and the size of a data request. The curve is determined by an evolutionary algorithm¹¹³ that calculates data production costs for different systems of all types and sizes.¹¹⁴ To use the graph, a court must first estimate the size of the data request¹¹⁵ and the size of the producing party's system.¹¹⁶ Then, the court calculates the system-normalized cost of production for the e-discovery request by imputing these two values. For example, to

adjusting factor can be necessary when there is a small amount in controversy because the cost of a relatively small data production request can easily exceed the amount in controversy. Courts are entitled to exercise greater discretion in these situations because data production costs could prevent plaintiffs from bringing legitimate claims requiring e-discovery that have a small-expected monetary value. In the above example, a court could use an adjusting factor as high as 150 percent of the amount in controversy if a producing party intentionally engages in e-discovery evasion and refuses to make a reasonable settlement offer.

¹¹² See *infra* Figure 1: System-Normalized Digital Discovery Curve.

¹¹³ Any party seeking this algorithm can request it in writing by e-mailing Daniel Garrie at daniel.garrie@gmail.com

¹¹⁴ The system-normalized discovery costs are derived from the application of several complex-modeling algorithms that take a group of similar computer systems and calculate the costs of discovery for multiple data sets on the respective systems, which are then averaged to generate a single discovery value on that system.

¹¹⁵ A court derives the estimated size of the data set from the producing party's estimation of the size of the data-set requested. The discovering party can rebut this estimation by having a computer expert examine the producing party's system. A court can modify this value at its discretion depending on whether the estimated data set is too broad or too narrow because this factor directly impacts the resulting cost analysis. A court can also issue sanctions if the producing party attempts to deceive the court by claiming that the requested data set is much larger than it actually is.

¹¹⁶ A court derives the estimated size of the producing party's system from a signed affidavit by the producing party. The discovering party can rebut this estimation by having a computer expert examine the producing party's system. A court can modify this value at its discretion because this factor directly impacts the resulting cost analysis. A court can issue sanctions if the producing party attempts to deceive the court by claiming its system is much larger than it actually is.

find the cost of discovering 10-megabytes of information on a 1,500-gigabyte system, a judge looks up 10-megabytes on the X-axis, which represents the size of the data request. Next, the judge looks up 1,500-gigabytes on the Z-axis, which represents the size of the producing party's system. Finally, the judge reads off the corresponding value on the Y-axis of \$100,000, which represents the system-normalized cost of production for the e-discovery request.

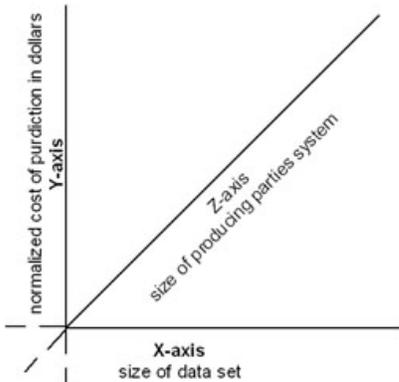


Figure 1: System-Normalized E-Discovery Cost Curve

X-axis = The size of the data request in Megabytes.

Y-axis = The system-normalized cost of production in Dollars.

Z-axis = The size of the producing party's system in Gigabytes.

Step four of the analysis requires a court to compare the adjusted amount in controversy to the system-normalized cost of production. Cost-shifting relief is granted whenever the system-normalized cost of production exceeds the adjusted amount in controversy.¹¹⁷ Otherwise, no cost-shifting relief is granted and the producing party bears the production costs.¹¹⁸ Thus, the BCST's second step grants producing parties cost-shifting relief whenever the system normalized cost of production would economically prohibit them from contesting a claim in court. For example, in the hypothetical case discussed above, a court comparing the system-normalized cost of production value of \$100,000 against the adjusted amount in controversy of \$440,000 would not grant cost-shifting relief. In this situation, the data production costs do not economically prohibit

¹¹⁷ This amount represents the cost at which forcing the producing party to produce data becomes economically prohibitive of litigation.

¹¹⁸ See *Rowe Entertainment, Inc. v. William Morris Agency*, 205 F.R.D. 421, 431 (S.D.N.Y. 2002) (stating that if the total cost of the requested discovery is not substantial, then there is no cause to deviate from the presumption that the responding party will bear the expense).

the producing party from engaging in litigation, so, according to the presumption, the producing party must bear the cost of production.¹¹⁹ Consequently, the BCST's system-normalized cost analysis test ensures that neither litigant can gain an unfair advantage by using different data storage systems to manipulate judicial outcomes.¹²⁰

C. Query Relevancy Assessment

In the BCST's third step, a court applies a query relevancy assessment¹²¹ to modify unduly burdensome or expensive discovery requests.¹²² This BCST element allows courts to exercise judicial discretion to minimize discovery costs borne by producing parties by formulating more appropriate search parameters.¹²³ In making this assessment, a court considers: (1) the relatedness of the query terms to the material in dispute; (2) the practicality of the resultant data set; (3) the formulation of the search terms; and (4) the degree of expertise required to draft an appropriate query that discovers the desired documents.¹²⁴ Courts may elect to alter overly broad discovery requests by forcing the discovering party to limit its search to certain keywords in specified

¹¹⁹ See *Zubulake v. UBS Warburg*, 217 F.R.D. 309, 317 (S.D.N.Y. 2003), and *Oppenheimer Fund v. Sanders*, 437 U.S. 340, 358 (1978) (stating that the responding party bears the expense of reviewing and producing data in an accessible form).

¹²⁰ See James J. Marcellino & Anthony A. Bongiorno, *E-Mail Is the Hottest Topic in Discovery Disputes: One Litigant Seeks Facts Buried in a Data Base; the Other Seeks to Avoid Burdens of Production*, NAT'L L.J., Nov. 3, 1997, at B10 (discussing the potential for abuse of discovery rules involving electronically stored data requests).

¹²¹ Query relevancy is an important element of the BCST because the system-normalized cost analysis will grant cost-shifting relief in fewer circumstances than does the *Zubulake* test. Thus, the query relevancy portion of the BCST alleviates a portion of the additional burden borne by producing parties under the system-normalized cost analysis.

¹²² This portion of the BCST is consistent with the policies embodied by FED. R. CIV. P. 26(c).

¹²³ See generally *Wiginton v. CB Richard Ellis, Inc.*, 2004 WL 1895122, at 7 (N.D. Ill. Aug. 10, 2004) (finding that keyword term selection bears upon a court's decision to apply cost-shifting when evaluating an e-discovery request); see also *Proctor & Gamble Co. v. Haugen*, 179 F.R.D. 622, 632 (D. Utah 1998) (sustaining, in part, a magistrate judge's order authorizing a keyword search of 25 terms in electronic databases, and overruling an objection that the searches could lead to too-extensive of a volume of documentation), *aff'd in part, rev'd in part*, 222 F.3d 1262 (10th Cir. 2000).

¹²⁴ It is important for courts to consider keyword-based difficulties when assessing the relevancy of an e-discovery request. The first difficulty associated with keyword searching arises from the selection of keywords to use in a search. The conversion of natural language thoughts into keywords is not always intuitive, and minor distortions can result in ineffective or overly broad searches. The second difficulty associated with keyword searching is that search results come out as entire documents instead of linguistic units. Thus, while a search may yield only 200 instances of a particular keyword, there may be thousands of pages of documents associated with the 200 linguistic units.

locations.¹²⁵ Courts should seek to construct fair solutions by employing query relevancy assessments in most e-discovery disputes.¹²⁶ Only where it is evident that a discovering party purposefully abused the discovery process by requesting an extremely broad search should courts take a firm stance and deny the discovery request altogether.¹²⁷

D. Exceptions to the Rule

Although the BCST is a versatile test that courts can effectively apply in many situations, its application could create undesirable results when there is either: (1) a significant public interest; or (2) a request for deleted data.¹²⁸ In these situations, courts should refrain from making a normal BCST application, and instead should apply rules developed specifically to address these two exceptions.

First, the public interest exception permits courts to compel digital production in situations where the total cost of production exceeds the amount in controversy when the issues at stake are of significance to the public.¹²⁹ In such situations, a court may permit

¹²⁵ There are four techniques for keyword searching that a court can apply to obtain a more targeted result. The first technique is *phrase searching*. Phrase searching compensates for poor syntax modeling by modifying search terms to permit queries of greater complexity. The second technique is *result ranking*. Result ranking re-ranks query results using meta-information and word frequency. It allows courts to re-order document results by date so document requests can be limited based on the perceived utility of particular documents. The third technique is *excerpts and highlighting*. Excerpts and highlighting can be used to pull out the relevant paragraphs with respect to the search terms so entire documents need not be produced. This allows the court to overcome large text sizes and speeds up the discovery process. The fourth and final technique is *natural language processing* (“NLP”). NLP reformulates the query based on a synonym expansion, enabling a court to modify keyword searches to find data that is more relevant to the dispute. By applying these four techniques, courts should be able to devise searches that yield reasonable amounts of associated documents so a search’s practicality is not grossly outweighed by its cost.

¹²⁶ See *supra* note 124.

¹²⁷ See *Dikeman v. Stearns*, 560 S.E.2d 115, 117 (Ga. Ct. App. 2002) (holding that the trial court did not abuse its discretion in refusing to order discovery of a complete copy of a law firm’s hard drive because the request was overbroad, oppressive, and annoying).

¹²⁸ The spoliation exception allows courts to use discretion when shifting costs depending upon whether a party deleted data negligently, maliciously, or in accordance with legally permissible business practices. The social benefit exception enables courts to prohibit cost-shifting in cases where an important public interest exists in finding the truth because cost-shifting could compromise the public’s ability to find the truth.

¹²⁹ See FED. R. CIV. P. 26(b)(2)(iii) (stating that when courts limit discovery because the burden or expense of proposed discovery outweighs its likely benefit must consider (1) the needs of the case, (2) the amount in controversy, (3) the parties’ resources, (4) *the importance of the issues at stake in the litigation*, and (5) the importance of the proposed discovery in resolving the issues). See also *Zubulake v. UBS Warburg*, 217 F.R.D. 309, 322 (S.D.N.Y. 2003) (including as factor six “the importance of the issue at stake in the litigation,” which is given disproportionate weighting depending upon the factor’s relevancy to the facts of a particular case).

e-discovery to whatever extent is necessary to discover the truth.¹³⁰ This exception grants a court the discretion to ascertain whether a matter of public interest is sufficiently important to justify unfairly burdening the producing party, which must either settle the case or incur high production costs. This exception should only be applied when an extraordinary public interest exists because its application is manifestly unjust to producing parties.

Second, the spoliation exception gives courts greater leniency when addressing cost-shifting disputes involving deleted data. When a litigant seeks to discover previously deleted files, courts should apply different standards, depending upon whether the producing party deleted the data negligently, maliciously, or in the normal course of business.¹³¹ If a producing party deleted data negligently or maliciously, that party should be required to bear the cost of producing the requested data; otherwise, the producing party would be unjustly rewarded.¹³² If, however, the producing party deleted the data in the normal course of business, the discovering party should bear the costs of restoring the data.¹³³ Under current discovery rules, no party has a duty to preserve

¹³⁰ See FED. R. CIV. P. 26(b)(2)(iii).

¹³¹ Compare, e.g., *Fujitsu Ltd. v. Federal Express Corp.*, 247 F.3d 423, 436 (2d Cir. 2001) (stating that the duty to preserve data begins "when the party has notice that the evidence is relevant to litigation or when a party should have known that the evidence may be relevant to future litigation."), with *Trigon Insurance Co. v. United States*, 204 F.R.D. 277, 291 (E.D. Va. 2001) (granting an adverse inference against computer expert testimony and reimbursing the discovering party's attorney fees where the producing party willfully and intentionally destroyed documents that should have been produced during discovery).

¹³² See *In re Prudential Ins. Co. Sales Practices Litigation*, 169 F.R.D. 598, 613 (D.N.J. 1997) (holding that life insurer's consistent pattern of failing to prevent unauthorized document destruction violated a court order and warranted sanctions requiring payment of one million dollars to the court and payment of some of Plaintiff's attorney fees and costs).

¹³³ See generally Michael Marron, Comment, *Discoverability of "Deleted" E-mail: Time for a Closer Examination*, 25 SEATTLE U. L. REV. 895, 907-09 (2002). This rule is based on the policy that there must be some point after which a party can consider its data, and its obligations to produce its data, "deleted." *Id.* at 931-32. Unlike paper documents which can be destroyed by trashing or shredding, digital documents are exceptionally difficult to delete completely. *Id.* at 909. For instance, deleted data is not truly deleted until it has been deleted from a hard-drive, overwritten by other data, and deleted from server back-up tapes. *Id.* Most ordinary people consider their digital documents to be deleted once they have successfully sent them to, and emptied, the recycle bin. *Id.* However, this only removes the tag that points to the location on the hard-disk where the data is stored. See Lesley Friedman Rosenthal, *Electronic Discovery Can Unearth Treasure Trove of Information or Potential Land Mines*, 75 N.Y. ST. B.J. 32, 33 (2003). The "deleted" data, therefore, is not actually deleted until the computer re-uses that location on the hard-drive to store new data. *Id.* Furthermore, the data could still reside on server back-up tapes that record files stored on computers at designated intervals. *Id.* Finally, even if the data is deleted, overwritten, and removed from back-up servers, the data could still be extracted by forensic computer experts unless the hard-drives are actually physically destroyed. Due to the nearly indestructible nature of computer data, courts must enact a policy that limits the discovery obligations of producing parties once they have taken sufficient

electronic data unless it knows or should know that it is likely to be requested in a future litigation, or if retention is specifically mandated by law.¹³⁴ In cases involving deleted data, producing parties already suffer the adverse affects of the resilient nature of electronic data.¹³⁵ It is therefore unjust for a court to require a producing party to bear the additional cost of finding and restoring legally-deleted data, especially if the discovery of that deleted data proves to be against the producing party's interests.¹³⁶

legally permissible steps to delete data. See Michael Marron, Comment, *Discoverability of "Deleted" E-mail: Time for a Closer Examination*, 25 SEATTLE U. L. REV. 895, 931-932 (2002). An appropriate standard would be to presume that legally deleted data is undiscoverable, but to permit discovery if the discovering party is willing to pay for its production. *Id.* at 932.

¹³⁴ See *Fujitsu*, 247 F.3d at 436 (stating that the duty to preserve data begins "when the party has notice that the evidence is relevant to litigation or when a party should have known that the evidence may be relevant to future litigation"). See also *Thompson v. U.S. Dept. of Housing and Urban Development*, 219 F.R.D. 93, 100 (D. Md. 2003).

¹³⁵ See generally Marron, *supra* note 133, at 907-909 (given the resilient nature of deleted data and the ability to recover it, it would unjust to force someone who thought they destroyed a particular piece of data in good faith to pay the costs of finding it and piecing it back together).

¹³⁶ For example, a series of emails played an important role in a "very good" settlement of a shareholder stock-fraud suit brought against Boeing Company. Jones, *supra* note 20, at C6. These emails should have been destroyed under Boeing's document-retention program. *Id.* Instead, they languished on 14,000 backup tapes in a company warehouse where they were subject to discovery. *Id.*

BCST: A MORE RELIABLE TOOL FOR JUDICIAL GUIDANCE

The BCST introduces five innovative ideas that enable the judicial system to resolve e-discovery cost-shifting disputes in an equitable manner. First, the BCST clarifies e-discovery dispute resolution by dividing it into three distinct steps so that courts can more readily determine: (1) whether discovery is permissible; (2) whether cost-shifting is warranted; and (3) whether costs can be reduced by performing a query relevancy assessment. Second, the BCST adds a system-normalized component to the balancing test that greatly reduces e-discovery evasion and ensures equitable treatment of all litigants. Third, the BCST introduces a query relevancy assessment that enables courts to minimize e-discovery production costs by changing search parameters. Fourth, the BCST further ensures equitable treatment of all litigants by removing the resources available to each party as a factor in the cost-shifting balancing test. Fifth, the BCST establishes a common-law digital document standard by encouraging all potential litigants to utilize industry standard data storage systems.

A. E-Discovery Disputes are Analyzed in Three Distinct Steps

The BCST divides the e-discovery process into three distinct steps: (1) whether discovery is permissible, (2) whether cost-shifting is warranted, and (3) whether costs can be reduced by performing a query relevancy assessment.¹³⁷ By separating e-discovery evaluations into three steps, courts can address issues of data discoverability and cost-shifting with greater clarity than before. By applying mechanical rules at each step, courts can eliminate the confusion that potentially can result from multi-factor balancing tests. This solution benefits both courts and litigants because it is easier to apply and provides better guidance to litigants about how courts resolve e-discovery disputes.

In the BCST's first step, a court determines whether requested materials are discoverable under the Federal Rules. By isolating this step from cost-shifting considerations, the BCST ensures that courts apply similar discovery rules to digital

¹³⁷ See generally section entitled "An E-Discovery Cost-Shifting Solution."

documents and paper documents. In the BCST's second step, a court performs a system-normalized cost analysis to determine whether cost-shifting is warranted. Here a court evaluates an e-discovery dispute based on a benchmark standard cost of data production derived from the System-Normalized Digital Discovery Cost Curve, rather than basing its decision on the highly variable and potentially inflated cost of production on the producing party's system. The BCST approach thus fixes many of *Zubulake's* problems by using an industry standard data production cost to evaluate all e-discovery requests, regardless of the financial status of the litigants. Finally, in the BCST's third step, a court performs a query relevancy assessment to minimize data production costs by revising litigants' search parameters. This step enables courts to minimize wasteful discovery while still providing litigants with complete access to discoverable data.

B. A System-Normalized Component is Incorporated into E-Discovery Cost-Shifting Disputes

The BCST's primary innovation is its use of a benchmark standard to determine litigants' data production costs instead of arbitrary and speculative "actual" costs of production. This approach limits a producing party's ability to use e-discovery evasion because the "actual" cost of data production plays no notable role in the cost-shifting assessment. Thus, under the BCST, producing parties are unable to avoid producing digital documents by storing troublesome data on discovery-inefficient legacy storage systems. The BCST brings e-discovery cost-shifting in line with the treatment of traditional "paper" discovery requests because cost-shifting is limited to situations where production costs economically prohibit litigation.

Additionally, the BCST's system-normalized component yields two ancillary benefits. First, it eliminates the need for courts to differentiate between different levels of data accessibility by creating a single e-discovery test that applies to data stored on many types of storage systems. Second, the BCST promotes economic efficiency by encouraging litigants to use storage systems that comport with industry standards, instead of rewarding litigants for using discovery-inefficient systems that ultimately frustrate discovery requests.

C. A Query Relevancy Assessment is Incorporated into E-Discovery Cost-Shifting Disputes

The BCST's query relevancy assessment incorporates a new element into e-discovery cost-shifting analyses that enables courts to reduce wasteful discovery searches by limiting their search parameters. When making a query relevancy assessment, courts should utilize their discretion in order to formulate narrowly-tailored searches that minimize costs, while still providing the parties access to discoverable data. Courts applying the BCST are therefore able to take a more active role in minimizing wasteful e-discovery costs caused by inefficient discovery requests that substantially burden plaintiffs, yet do not rise to the level of being unduly burdensome.¹³⁸ This ability also encourages courts to apply traditional discovery rules to e-discovery disputes, because it gives courts the ability to mitigate the anti-cost-shifting inclination that is built-in to a system-normalized cost analysis.

D. The Parties' Resources Are Removed From the Factor List

The BCST encourages equitable treatment of all litigants by removing the parties' resources from consideration in cost-shifting analyses. Unlike the *Rowe*¹³⁹ and *Zubulake*¹⁴⁰ tests, which confuse data discoverability factors with cost-shifting factors, the BCST separates the two different steps so courts can address each item with more clarity. The BCST does not incorporate the parties' resources into the cost-shifting step of the analysis because the court already has considered the parties' resources when determining whether data is discoverable.¹⁴¹

Furthermore, the BCST does not use the parties' resources as a factor because such information should play no role in courts' assessments of whether data production costs economically prohibit litigation. The BCST also addresses the tendency of courts to predicate their cost-shifting decisions upon the parties' respective financial resources

¹³⁸ See FED. R. CIV. P. 26(c)(1) (stating that discovery can be precluded to protect a party from annoyance, embarrassment, oppression, or undue burden or expense).

¹³⁹ See *Rowe Entm't, Inc. v. William Morris Agency, Inc.*, 205 F.R.D. 421, 429 (S.D.N.Y. 2002).

¹⁴⁰ See *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 322 (S.D.N.Y. 2003).

¹⁴¹ The BCST does not incorporate every factor listed in Fed. R. Civ. P. 26(b)(2) into its cost-normalized systems analysis because those factors are examined when courts determine whether the data is discoverable.

whenever courts are allowed to consider economic resources as a factor.¹⁴² In an area of law as widely used as e-discovery, it is preferable to have a mechanical test that applies universally to all litigants, irrespective of the underlying technology used by the litigants.

E. The BCST Creates a Common Law Digital Document Standard

Perhaps most importantly, the BCST establishes a common law digital document standard that steps in where technology has fallen short, as seen by the hundreds if not thousands of document formats and storage mediums existing in business today. The BCST provides a mechanism that enables courts to ignore proprietary computer systems, complex networks, and other technological instruments when evaluating e-discovery disputes. Thus, the BCST provides courts with a test capable of evolving with technology, while simultaneously rectifying the problems that plagued previous judicial tests.

¹⁴² See *OpenTV v. Liberate Techs.*, 219 F.R.D. 474, 479 (N.D. Cal. 2003) (holding that the litigants must split the cost of data extraction evenly because they are similarly situated corporations).

A REAL WORLD EXAMPLE

As noted in the criticism section, the *Zubulake* seven-factor balancing test can create inequitable outcomes in e-discovery cost-shifting disputes. In November of 2003, for example, the *Zubulake* test led to an unfair result in *OpenTV v. Liberate Technologies*.¹⁴³ While neither litigant attempted to abuse the *Zubulake* test's weaknesses by engaging in e-discovery blackmail or e-discovery evasion,¹⁴⁴ the *OpenTV* court nevertheless reached a holding that complied neither with traditional discovery rules nor common law precedent.¹⁴⁵ Instead, the *OpenTV* court exercised its judicial discretion under *Zubulake*'s balancing test to decide the case.¹⁴⁶ The producing party should not have received cost-shifting relief, while the discovering party shouldered the burden of paying for the costs of discovery. The court's unbridled use of judicial discretion in applying the *Zubulake* test highlights the balancing test's inability to generate consistent results.

A. Applications of the *Zubulake* Test Can Create Unfair Results

In *OpenTV* the litigants disagreed about who should bear the costs of finding and producing the source code stored in the producing party's database.¹⁴⁷ The producing party offered the discovering party unrestricted use of its office database to extract the source code.¹⁴⁸ The discovering party rejected the offer, however, arguing that it improperly shifted the cost of production because it required the discovering party to find and extract data from the database before it could even be reviewed.¹⁴⁹ The producing party's offer, therefore, violated the traditional discovery rule that the producing party

¹⁴³ *Id.*

¹⁴⁴ *Id.* at 475.

¹⁴⁵ *Id.* at 479.

¹⁴⁶ *Id.* In *OpenTV*, the court invoked the *Zubulake* provision that states that, "[w]hile the list of factors is instructive, it 'is not merely a matter of counting and adding.'" *Id.* Instead of denying cost-shifting because the majority of factors weighed against it, the court made an exception because both parties were similarly situated corporations and the data recovery placed an undue burden on the responding party. *Id.*

¹⁴⁷ *Id.* at 476.

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

must bear the cost of finding and producing documents.¹⁵⁰ In resolving this dispute, the *OpenTV* court looked to persuasive authority and thereby applied the *Zubulake* test.¹⁵¹

The *OpenTV* court began its analysis by stating that e-discovery cost-shifting is only considered when inaccessible data is sought.¹⁵² Thereafter, the *OpenTV* court determined that the producing party's source code was relatively inaccessible,¹⁵³ warranting an application of the *Zubulake* cost-shifting test.¹⁵⁴ Next, the court applied each of the seven *Zubulake* factors separately,¹⁵⁵ finding that factors one, two, three, and five weighed against cost-shifting, while factors four and seven favored cost-shifting, and factor six was neutral.¹⁵⁶ As in *Zubulake*, the *OpenTV* court determined that while the list of factors is instructive, "it is not merely a matter of counting and adding."¹⁵⁷ The court then applied its discretion to create an equitable solution by granting disproportionate weight to factor four: "the cost of production, compared to the *resources available to each party*."¹⁵⁸ Even though the *Zubulake* factors collectively weighed against cost shifting, the *OpenTV* court nevertheless ordered the two litigants to split the data extraction costs because extracting the source code imposed an undue burden and expense upon the producing party and both litigants had similar fiscal resources.¹⁵⁹

¹⁵⁰ *Id.* at 479. See also *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 358 (1978); *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 317 (S.D.N.Y. 2003) (stating that the responding party bears the expense of reviewing and producing data in an accessible form).

¹⁵¹ *OpenTV*, 219 F.R.D. at 476.

¹⁵² *Id.* (stating that "[s]hifting the cost of production from the producing party to the requesting party should be considered only when inaccessible data is sought). See also *Zubulake*, 217 F.R.D. at 324 (holding that "[a] court should consider cost-shifting only when electronic data is relatively inaccessible.").

¹⁵³ In this case, the producing party's data actually appeared to be relatively accessible. The data was stored in an industry standard storage system and would have constituted "online" or "near-line" data under the definitions set forth in *Zubulake*, 217 F.R.D. at 318-319. According to *Zubulake*, it is "wholly inappropriate to even consider cost-shifting" for "online" and "near-line" data sources. *Id.* at 320. Thus, it is arguable that the *OpenTV* court should not have even considered cost-shifting relief under the *Zubulake* test. Under the BCST a court would not be forced to make this decision because the BCST is applied based on the size of the storage system and the amount of files requested, not the actual cost of production on the producing party's system.

¹⁵⁴ *OpenTV*, 219 F.R.D. at 477.

¹⁵⁵ *Id.*

¹⁵⁶ The seven factors are: (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 issue at stake in the litigation and; (7) The relative benefits to the parties of obtaining the information. *Id.* at 477-79.

¹⁵⁷ *Id.* at 479.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

The *OpenTV* court made two errors in its application of the *Zubulake* test. First, it disregarded the balancing test's defined order by applying disproportional weight to factor four.¹⁶⁰ Second, the court seemingly based its entire decision upon the financial status of both parties, a factor that should not dictate the amount one pays in judicial actions.¹⁶¹ Under the *Zubulake* test, factors one and two receive the most weight, while factors three, four, and five receive less weight, and factors six and seven are given variable weightings based on their relevance to the particular case.¹⁶² Since factor four falls into the second group of factors,¹⁶³ the *OpenTV* court should not have given it greater weight than factors one and two, which weighed heavily against cost-shifting.¹⁶⁴

Thus, the *OpenTV* court incorrectly exercised its discretion to shift costs based solely upon the financial strength of the parties, notwithstanding a preponderance of factors that weighed against cost-shifting.¹⁶⁵ While the holding arguably achieved a just result under the circumstances, it did not comport with traditional discovery rules.¹⁶⁶ The *OpenTV* holding illustrates the difficulty of applying the seven-factor *Zubulake* test in a consistent manner. Furthermore, *OpenTV* demonstrates how extensive use of judicial discretion in e-discovery can result in inconsistent legal applications that provide little useful guidance for future litigants. In an area of law as widely used as e-discovery, courts would be better off to apply a mechanical test such as the BCST that regularly generates fair and legally consistent cost-shifting determinations.

B. *OpenTV* Under the BCST

¹⁶⁰ *See id.*

¹⁶¹ *See id.*

¹⁶² *See supra* note 156155 for the seven factors. The *Zubulake* test notes that the seven factors should not be weighted equally. *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 322 (S.D.N.Y. 2003). The *Zubulake* test then creates a weighing process that separates the seven factors into three different groups that receive different weights. *Id.* at 323. First, factors one and two receive the most weight. *Id.* Second, factors three, four, and five receive less weight. *Id.* Third, factors six and seven are given variable weightings based on their relative importance based on the facts of a particular case. *Id.*

¹⁶³ *See Zubulake*, 217 F.R.D. at 322-23.

¹⁶⁴ *See id.*

¹⁶⁵ *OpenTV v. Liberate Techs.*, 219 F.R.D. 474, 479 (N.D. Cal. 2003).

¹⁶⁶ *See also* *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 358 (1978); *Zubulake*, 217 F.R.D. at 317 (stating that the responding party bears the expense of reviewing and producing data in an accessible form).

The *OpenTV* court would have had the opposite outcome had it applied the BCST. Instead of splitting data extraction costs between the parties,¹⁶⁷ the producing party would have borne all of the data production costs. However, the court could have reduced the producing party's costs by altering the search terms through the BCST's query relevancy assessment.

A court applying the BCST to *OpenTV* would first determine whether the requested materials are discoverable under Federal Rules 34 and 26(b)(1), (2).¹⁶⁸ Generally, all documents, both physical and digital,¹⁶⁹ relevant to the claim or defense of a party are discoverable unless: (1) the documents are privileged; (2) the request is unreasonably cumulative or duplicative; (3) the discovery sought is obtainable from some other source that is more convenient, less burdensome, or less expensive; (4) the discovering party already had ample opportunity to obtain the information sought in discovery; and (5) the burden or expense outweighs the likely benefit.¹⁷⁰ Here a court should hold that the producing party's source code is discoverable because the data is not privileged, is not unreasonably duplicative, is not obtainable from another source or another method in discovery, and it probably does not create a burden that outweighs its likely benefit. The only potential problem with the request is that the burden or expense could arguably be found to outweigh the likely benefit since the discovering party requested multiple versions of similar programs.¹⁷¹ In this case, the discovering party requires the majority of the files to support its case because it needs to analyze the progression of compatibility between its program and the producing party's programs.¹⁷² Furthermore, courts should generally favor discoverability of data in questionable e-discovery disputes when applying the BCST, because courts are still able to shift or minimize costs after determining whether the data is discoverable. Thus, a court applying the BCST to *OpenTV* should permit discovery, because the benefit gained by

¹⁶⁷ *OpenTV*, 219 F.R.D. at 479.

¹⁶⁸ See FED. R. CIV. P. 34 and FED. R. CIV. P. 26(b)(1), (2).

¹⁶⁹ See FED. R. CIV. P. 34(a) (stating that documents include writings, drawings, graphs, charts, photographs, phono-records, and other data compilations from which information can be obtained).

¹⁷⁰ See FED. R. CIV. P. 26(b)(1), (2).

¹⁷¹ While the redundancy of the multiple program versions increases discovery costs without greatly increasing the likely benefit, the discovering party needs the information to prove its claim. See *OpenTV*, 219 F.R.D. at 477. Furthermore, the discovery request should not create an undue burden or expense simply because it is time consuming for the producing party to search its system. *Id.*

the discovering party would likely outweigh the burden placed upon the responding party.

Once a court establishes that the disputed source code is discoverable, it then must determine whether to consider shifting costs when a producing party claims that an e-discovery request is unduly burdensome or expensive. Under the BCST's system-normalized cost analysis, cost-shifting relief is granted when data production costs on a benchmark system either economically prohibit litigation or exceed the benefit to the discovering party.

The first step of a system-normalized cost analysis requires a court to determine the amount in controversy by finding the expected value of the claim. In *OpenTV*, the discovering party had filed a patent infringement action requesting specific performance in the form of injunctive relief.¹⁷³ Although the opinion does not provide a monetary estimation of the claim's value or a probability of its success, the expected value appears to be well in excess of \$200,000.¹⁷⁴ Thus, a court applying the BCST to *OpenTV* could use \$200,000 as the amount in controversy.

The second step of the BCST's system-normalized cost analysis requires a court to calculate the adjusted amount in controversy. A court performs this action by applying a diminishing factor between 30 and 80 percent that represents the data's importance to the discovering party's claim. In *OpenTV*, the data sought by the discovering party is necessary to prove its case, so a court applying the BCST to *OpenTV* would use the upper end of the cost-shifting range and multiply the amount in controversy by 80 percent.¹⁷⁵ Thus, a court applying the BCST to *OpenTV* would use \$160,000¹⁷⁶ as the adjusted amount in controversy.

The third step of the BCST's system-normalized cost analysis requires a court to determine the system-normalized data production cost from the system-normalized e-discovery cost curve. To do so, a court uses as inputs the size of the data set requested

¹⁷² *See id.*

¹⁷³ *See id.* at 474 (stating that the holder of a software patent brought a patent infringement action).

¹⁷⁴ *See id.* at 478 (holding that although the parties failed to estimate the amount in controversy, "this infringement action has the potential for recovery in the hundreds of thousands of dollars.").

¹⁷⁵ *See id.* (holding that the source code is relevant to the discovering party's claim because the dispute is over the software product itself).

¹⁷⁶ $\$160,000 = \$200,000.00$ (amount in controversy) * .80 (upper end of range).

and the size of the producing party's system into the equation. In *OpenTV*, the discovering party has requested 100 versions of source code,¹⁷⁷ and there was no mention of the size of the producing party's system.¹⁷⁸ Even on a large benchmark system, this search would not cost much more than \$10,000.¹⁷⁹ Therefore, a court applying the BCST to *OpenTV* would likely use \$10,000 as the system-normalized data production cost.

In the fourth step of the BCST's system-normalized cost analysis a court weighs the adjusted amount in controversy against the system-normalized data production cost to determine whether to grant cost-shifting relief. Under the BCST, it is recommended that courts shift costs when the system-normalized data production cost exceeds the amount in controversy. Here, a court would not likely grant cost-shifting relief because the system-normalized data production cost of \$10,000 is much less than the adjusted amount in controversy of at least \$160,000. Thus, a court applying the BCST to *OpenTV* would find that cost-shifting would not be warranted, because the benchmark data production cost is only about 6.25% of the amount in controversy.¹⁸⁰

As a final point, a court applying the BCST to *OpenTV* could, at its discretion, make a query relevancy assessment to minimize the responding party's data production costs. In performing a query relevancy assessment, a court considers: (1) the relatedness of the query terms to the material in dispute; (2) the practicality of the resulting data set; (3) how the search terms are formulated; and (4) the degree of expertise required to draft a query to discover the desired documents. In *OpenTV*, the query terms bear a high correlation to the disputed material because they are names of specific versions of source code; the resulting data set is impractical because multiple versions of similar programs have been requested; the search terms are names of specific programs that cannot be modified by the court and; the degree of expertise required to draft the search is minimal

¹⁷⁷ *OpenTV*, 219 F.R.D. at 477.

¹⁷⁸ *See id.*

¹⁷⁹ In *OpenTV*, the court calculated that it would take 1.25 to 1.5 hours of work to extract each of the 100 versions of source code. *Id.* This equals approximately 125 to 150 man hours of work, which would cost \$12,500 to \$15,000 at a rate of \$100 per hour. In *OpenTV*, however, a large percentage of the responding party's costs are created because its storage system, while supposedly an industry standard, is inefficient at finding specific files. *See id.* Therefore, the discovery request would likely be significantly less expensive when performed on a benchmark system than it is when performed on the producing party's system.

¹⁸⁰ Since no cost shifting is warranted, the court does not need to consider whether the spoliation or public interest exceptions apply. Here, neither exception would apply because data has not been deleted and is only desired for private interests.

because each search consists of specific program names. A court would modify the requesting party's search parameters to increase the practicality of the resultant data set because the redundant program versions create additional, unnecessary production costs.¹⁸¹ Such modification of search parameters minimizes the costs incurred by the producing party while still allowing the discovering party to prove its case by tracking the changes between different program versions.

In sum, a court applying the BCST to *OpenTV* would likely reach an opposite result than that reached in the actual case. Instead of crafting a holding based upon the financial similarities of the litigants as was done in *OpenTV*, a court applying the BCST should determine whether to shift costs based upon the benchmark cost of production. In addition, the court, at its discretion, could modify the query to increase the likelihood of discovering the requested data. Thus, a court applying the BCST is able to use a methodical approach that evaluates all parties evenhandedly, irrespective of the extent of each party's data storage systems and financial resources.

¹⁸¹ Three versions of each program mentioned in *OpenTV* would be the minimum necessary for the discovering party to prove its case. Under the BCST's query relevancy assessment, the court would probably permit the discovering party to obtain five versions of each program in order to be practical, yet thorough.

CONCLUSION

The BCST replaces the *Zubulake* test and eliminates its unintentional consequences by notably reducing the effects of e-discovery blackmail, e-discovery evasion, and legislative disparities between public and private companies.¹⁸² The BCST severely limits e-discovery blackmail because it does not include the litigants' resources as a factor in the cost-shifting analysis. The BCST ensures that cost-shifting relief is granted whenever the benchmark production costs exceed the adjusted amount in controversy. Thus, plaintiffs will be unable to force wealthy defendants into settlement simply by making expensive discovery requests that exceed the cost of settling a claim. E-discovery blackmail could, however, still occur in a few situations where producing parties use legacy systems that are more costly to use than the benchmark standard. Some may argue that the BCST unfairly burdens litigants by forcing them to comply with the benchmark system standard. Such argument is unfounded because the BCST merely provides notice to litigants that e-discovery disputes will be evaluated by an impartial standard that accounts for technological change.

The BCST eliminates e-discovery evasion because the cost of production is derived from a benchmark system, rather than the producing party's system.¹⁸³ Thus, digital documents will only remain undiscovered under the BCST when the benchmark cost of production economically prohibits litigation by exceeding the adjusted amount in controversy.¹⁸⁴ Litigants will be unable to avoid digital document production requests by asserting that it is too costly to find and recover data on their own storage systems. Instead, courts will calculate litigants' e-discovery costs from the BCST's system-

¹⁸² See *supra* Part A, The Data Discoverability Test in the Electronic Discovery Cost-Shifting Solution.

¹⁸³ See *supra* Part B, The System-Normalized Cost Analysis in the Electronic Discovery Cost-Shifting Solution.

¹⁸⁴ See generally FED. R. CIV. P. 26(b)(2) (stating that the frequency or extent of use of discovery methods otherwise permitted under these Rules and by any local rule shall be limited by the court if it determines that . . . (iii) the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues."). See *supra* Part B, The System-Normalized Cost Analysis in the Electronic Discovery Cost-Shifting Solution.

normalized e-discovery cost curve. Thus, the BCST eliminates the e-discovery practice of hiding digital documents on legacy systems while retaining them for private use.

Applying the BCST also minimizes cost-shifting inequalities created by disparities in legislative treatment between public and private companies because it treats all litigants similarly when calculating e-discovery production costs. Instead of considering the actual cost of production on a producing party's system, the BCST uses the benchmark cost of production derived from the system-normalized e-discovery cost curve. The BCST thereby avoids imposing greater costs on companies that are required by law to retain data on easily accessible storage systems.¹⁸⁵ In addition, the BCST encourages equitable treatment of all corporate litigants without forcing private companies to retain electronic data. Therefore, it does not extend Sarbanes-Oxley to private companies, but rather levels the playing field in e-discovery disputes.

While the BCST eliminates the most troublesome abuses of the e-discovery process, it does not alleviate all of the problems caused by applying traditional discovery rules to digital documents. For example, courts must still address the costs of finding and producing digital documents in accessible formats, a step not required in paper discovery.¹⁸⁶ Unfortunately, no common law e-discovery test can completely remove these additional cost factors because traditional discovery rules were not created with digital documents in mind.¹⁸⁷ The BCST does, however, attempt to account for these additional costs by acting as a common law digital document standard. Thus, the BCST reduces a notable number of flaws and ambiguities created by the various e-discovery cost-shifting tests utilized by the judiciary today.

¹⁸⁵ See Securities Exchange Act Rule 17a-4(b)(4), 17 C.F.R. 240.17a-4(b)(4) (2003) (requiring all broker-dealers to retain for at least three years all communications, including e-mail, sent and received by broker-dealers relating to the trading business); 17 C.F.R. 240.17a-4(f)(2)(ii)(A) (2003) (requiring all broker-dealers using electronic data to preserve it exclusively in a non-rewritable, and non-erasable format); 17 C.F.R. 240.17a-4(f)(3)(iv) (2003) (requiring all broker-dealers using electronic media to organize and index all stored information).

¹⁸⁶ See *OpenTV v. Liberate Techs.*, 219 F.R.D. 474, 479 (N.D. Cal. 2003) (granting cost-shifting relief because of the undue burden and expense involved in extracting and copying source code).

¹⁸⁷ Perhaps the legislature could draft a more complete digital document standard to be applied by courts in e-discovery disputes.

APPENDIX: TECHNICAL DATA STORAGE AND RETRIEVAL SOLUTIONS

Despite the prevalence of legal compliance departments in most large corporations, e-discovery issues typically go unaddressed, due to the complexity of creating and implementing uniform data management and retention policies on decentralized storage systems. Currently within most large enterprises, Electronic Case Filing Management (“ECF”), the process of implementing and modifying existing technology to ensure compliance with e-discovery laws, is largely decentralized and generally receives little legal guidance.¹⁸⁸ ECF has two distinct components: (1) document management – receiving, transmitting, and processing of legal documents, and (2) records management – storing and archiving legal documents over time. These two components cannot be maintained by merely introducing new technology, but rather require a change from the current state of fragmented case file management policies to uniform policies implemented across an entire enterprise.¹⁸⁹

An ideal enterprise ECF legal solution would rely on XML architecture running Google-like services.¹⁹⁰ This system must be designed to be reliable, highly available, fault-tolerant, and scalable while performing at acceptable levels. Currently there are three major companies in the market that deliver enterprise ECF legal solutions with these capabilities: (1) Sun/BEA Systems, (2) IBM, and (3) Microsoft.¹⁹¹ In addition to having their own solutions, these companies support a wide range of vendors that deliver legal solutions that are compatible with these enterprise platforms.¹⁹² IBM, for example, has 166 different solution providers that deliver a wide range of legal solutions, such as records management, case file management, billing, integration, document processing,

¹⁸⁸ Generally, in most companies there are no communication lines between “techies” and attorneys regarding digital information management. This communication void presents an enormous liability for corporations and their employees who can be punished both civilly and criminally.

¹⁸⁹ Please contact Daniel Garrie at daniel.garrie@gmail.com for further discussion and analysis of particular enterprise systems and applications.

¹⁹⁰ The foundation of web services is XML messaging over standard web protocols such as HTTP. This is a lightweight communication mechanism that any programming language, middleware, or platform can participate in, greatly facilitating interoperability. These industry standards enjoy widespread industry acceptance, making them low-risk technologies for corporations to adopt. Web services can be used to integrate two businesses, departments, or applications quickly and cost-effectively.

¹⁹¹ See *supra* note 189.

and imaging.¹⁹³ This wide range of solutions within the IBM framework guarantees that IBM can meet the needs of each individual component on a common enterprise platform. IBM and the other two previously mentioned vendors all have experience delivering these types of solutions. It is wise for small, medium, and large companies to retain an independent consultant for assistance in making an initial platform/vendor selection because each enterprise provider seeks to promote its own products. The three aforesaid vendors rely on either J2EE¹⁹⁴ (the Java 2 Platform, Enterprise Edition) or .NET¹⁹⁵ (Microsoft.NET), which supply the “plumbing” that goes into building web services, such as XML interoperability, transactions, and load balancing.¹⁹⁶

Any practical technical solution must work within the existing corporate infrastructure. Each of the three previously mentioned companies and their respective vendors has implemented enterprise ECF systems.¹⁹⁷ The viability of these solutions, however, hinges upon open collaboration between technologists, attorneys, and executives in drafting a document management solution. While e-discovery law is complex and constantly evolving, it is possible to design a digital ECF enterprise system that meets both the functional and legal requirements of the enterprise.

¹⁹² There are several products that offer a complete ECF/CM solution: SharePoint (Microsoft), Content Manager (IBM), and iManage.com (a Microsoft-based solution).

¹⁹³ For additional information on particular vendors and solutions, please e-mail Daniel Garrie at daniel.garrie@gmail.com.

¹⁹⁴ J2EE is built and supported by Sun Microsystems, IBM, and other industry players.

¹⁹⁵ .NET is built and supported by Microsoft and other industry players.

¹⁹⁶ Designing and delivering a practical and functional enterprise ECF solution is further complicated by the ancillary issues of (1) document access, (2) document security, (3) document authenticity, and (4) document storage formats.

¹⁹⁷ See *supra* note 189.