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ARTICLES

E-DISCOVERY: REASONABLE SEARCH, PROPORTIONALITY, COOPERATION, AND ADVANCING TECHNOLOGY

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I. INTRODUCTION

Rule 26(g)(1)(A) of the Federal Rules of Civil Procedure (the "Federal Rules")[1] requires that an attorney responding to a discovery request verify by signature, after "reasonable inquiry," that the disclosure is, to the best of the attorney's knowledge, "complete and correct."[2] In a digital environment, with masses of data in multiple formats and locations,[3] the determination of whether a "reasonable" effort to meet the

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1. This Article chiefly focuses on rules, developments, and cases at the federal level. For an overview of developments at the state level, see Thomas Y. Allman, State E-Discovery Today: An Assessment and Update of Rulemaking (Feb. 2011) (unpublished manuscript) (on file with author), *available at* http://works.bepress.com/thomas_allman/1/.

2. *See* Branhaven, LLC v. Beeftek, Inc., 288 F.R.D. 386, 389 (D. Md. 2013) (imposing sanctions for violation of Rule 26(g) and noting "counsel has an affirmative duty to assure that their client responds completely and promptly to discovery requests"); St. Paul Reins. Co. v. Commercial Fin. Corp., 198 F.R.D. 508, 511 (N.D. Iowa 2000) (holding Rule 26(g)(3) permits sanctions where counsel acts "without substantial justification," such that certification will provide a "deterrent" to evasion by attorneys to "stop and think about the legitimacy of a discovery request"); *see also* Doyle v. Gonzales, 2011 U.S. Dist. LEXIS 20158, at *8 (E.D. Wash. Feb. 10, 2011) (ordering additional e-discovery to proceed until city certifies that its production is "complete and accurate"); Kay Beer Distrib. v. Energy Brands, Inc., 2009 U.S. Dist. LEXIS 130595, at *14 (E.D. Wis. June 10, 2009) (holding an attorney signature constitutes certification of reasonable inquiry to assure that response is complete and correct); Mancia v. Mayflower Textile Serv. Co., 253 F.R.D. 354, 354 (D. Md. 2008) (holding Rule 26(g) certification is important element in discovery process).

3. *See* John Gantz & David Reinsel, *As The Economy Contracts, The Digital Uni-*

completeness requirement has occurred may turn on an assessment of the practices used to conduct a search of electronic materials.[4] Those practices, in turn, must be judged on a standard of "proportionality" (i.e., that the effort fits the size and needs of the case). As search technologies change, moreover, standards of reasonableness necessarily must also change. Given the difficulty in achieving certainty as to the adequacy of any particular search system, emphasis on cooperation and agreement has become a rational method of proceeding. This Article briefly reviews the impact of proportionality, cooperation, and technology on developing standards for "reasonable" search, and suggests practical steps for clients and counsel to prepare to defend the adequacy of their search efforts.

II. REASONABLE SEARCH REQUIREMENT

The purpose of discovery, generally, is to facilitate efficient and just dispute resolution.[5] Balanced against that goal, however, is concern for

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verse Expands 1, 3-4 (May 2009), http://www.emc.com/collateral/leadership/digital-universe/2009DU_final.pdf (study indicates that expansion of data volume is most significant factor increasing e-discovery costs); EMERY G. LEE III & THOMAS E. WILLGING, FED. JUDICIAL CTR., LITIGATION COSTS IN CIVIL CASES: MULTIVARIATE ANALYSIS, REPORT TO THE JUDICIAL CONFERENCE ADVISORY COMMITTEE ON CIVIL RULES 1, 1 (2010), *available at* http://www.fjc.gov/public/pdf.nsf/lookup/costciv1.pdf/$file/costciv1.pdf (factors associated with higher litigation costs include "electronic discovery requests from both sides" and "disputes over electronic discovery"); *see also* GEORGE L. PAUL, FOUNDATIONS OF DIGITAL EVIDENCE 3 (2008) (new technologies have "altered commerce, everyday communication, government, public discourse—indeed almost everything," including "civilization's system of writing").

4. In large-volume cases especially, "completeness" of search may be something of a misnomer. *See* Moore v. Publicis Groupe, 287 F.R.D. 182, 188 (S.D.N.Y. 2012) ("In large data cases like this, involving over three million emails, no lawyer using any search method could honestly certify that its production is 'complete[.]'"). As Magistrate Judge Facciola famously stated:

> Whether search terms or 'keywords' will yield the information sought is a complicated question involving the interplay, at least, of the sciences of computer technology, statistics and linguistics. Given this complexity, for lawyers and judges to dare opine that a certain search term or terms would be more likely to produce information than the terms that were used is truly to go where angels fear to tread.

United States v. O'Keefe, 537 F. Supp. 2d 14, 24 (D.D.C. 2008).

5. *See, e.g.*, Basaldu v. Goodrich Corp., 2009 WL 1160915, at *2 (E.D. Tenn. Apr. 29, 2009) (noting that the purpose of discovery is to "get all of the proverbial cards on the table in advance of the trial"); Bd. of Regents of U. of Neb. v. BASF Corp., 2007 WL 3342423, at *5 (D. Neb. Nov. 5, 2007) ("open and forthright" sharing of information required, "with the aim of expediting case progress, minimizing burden and expense and removing contentiousness as much as practicable"). Discovery processes are thus meant to comport with the overall goals of the civil litigation system. *See* FED. R. CIV. P. 1 (stating that the rules are to be interpreted to "secure the just, speedy and inexpensive determination" of cases).

undue burden and expense.[6] Given these conflicting interests, courts do not require "perfect" efforts to search for relevant electronically stored information ("ESI").[7] Rather, the search must be "reasonable," that is, a search performed "competently, diligently and ethically."[8]

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6. Rule 26(b)(2)(C)(iii) states that the court may limit discovery where "the burden or expense of the proposed discovery outweighs its likely benefit, considering the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the action, and the importance of the discovery in resolving the issues." FED. R. CIV. P. 26(b)(2)(C)(iii); *see* FED. R. CIV. P. 26(b)(2)(B) (stating that the party is not required to produce information identified as "not reasonably accessible because of undue burden or cost"); FED. R. CIV. P. 45(c) (party serving subpoena must "take reasonable steps to avoid" imposing undue burden or expense); *see also* St. John v. Napolitano, 274 F.R.D. 12, 16 (D.D.C. 2011) (holding that the court has "broad discretion to tailor discovery," including a "balancing of interests"); Duling v. Gristede's Operating Corp., 266 F.R.D. 66, 71 (S.D.N.Y. 2010) (noting need for "balancing" of interests of requesting and responding parties); Cartel Asset Mgmt. v. Ocwen Fin. Corp., 2010 U.S. Dist. LEXIS 17857, at *28 (D. Colo. Feb. 8, 2010) (stating "all discovery is subject to the balancing test"); Qwest Comm. Int'l, Inc. v. WorldQuest Networks, Inc., 213 F.R.D. 418, 419 (D. Colo. 2003) (court has "discretion, in the interests of justice, to prevent excessive or burdensome discovery"); *see generally* JAMES N. DERTOUZOS, NICHOLAS M. PACE, & ROBERT H. ANDERSON, RAND INST. FOR JUST., THE LEGAL AND ECONOMIC IMPLICATIONS OF ELECTRONIC DISCOVERY ix (2008), http://www.rand.org/content/dam/rand/pubs/occasional_papers/2008/RAND_OP183.pdf (noting that, "if not managed properly," it is possible that the "sheer volume and complexity" of ESI can "increase litigation costs, impose new risks on lawyers and their clients, and alter expectations about likely court outcomes").

7. *See, e.g.,* Chen-Oster v. Goldman, Sachs & Co., 285 F.R.D. 294, 306 (S.D.N.Y. 2012) ("[T]he standard for the production of ESI is not perfection."); *Moore*, 287 F.R.D. at 191 (the Federal Rules "do not require perfection" in review); Lewis v. Sch. Dist. #70, 2006 WL 2506465, at *2 (S.D. Ill. Aug. 25, 2006) (even with the use of technology, "the search would undoubtedly not be perfect"); Treppel v. Biovail Corp., 233 F.R.D. 363, 374 (S.D.N.Y. 2006) (noting that there is "no obligation" on the part of the responding party to "examine every scrap of paper in its potentially voluminous files;" rather, responding party "must conduct a diligent search which involves developing a reasonably comprehensive search strategy"); *see also* Ralph Losey, *Predictive Coding Narrative: Searching For Relevance In the Ashes of Enron*, E-DISCOVERY TEAM BLOG (Apr. 18, 2013), http://e-discoveryteam.com/2013/03/18/predictive-coding-narrative-searching-for-relevance-in-the-ashes-of-enron-restatement/ ("Perfection in legal search is never possible by anyone with any software.").

8. *See* Advisory Committee Notes, FED. R. CIV. P. 26(g) (the "reasonable inquiry" requirement is met where the investigation undertaken is "reasonable under the circumstances;" it is an "objective standard similar to the one imposed by Rule 11"); *see generally* SEDONA CONF., THE SEDONA PRINCIPLES, BEST PRACTICES RECOMMENDATIONS & PRINCIPLES FOR ADDRESSING ELECTRONIC DOCUMENT PRODUCTION (2d ed. 2007); *see also* In re Delta/Airtran Baggage Fee Antitrust Litig., 846 F. Supp.2d 1335, 1350 (N.D. Ga. 2012) (requiring "reasonable inquiry into the factual basis of [attorney's] response, request or objection"); Zander v. Craig Hosp., 2011 WL 834190, at *1 (D. Colo. Mar. 4, 2011) (requiring "timely, reasonable and diligent search"); Moore v. Napolitano, 723 F. Supp.2d 167, 173 (D.D.C. 2010) (party obligated to make a "reasonable search"); Nycomed U.S. Inc. v. Glenmark Generics Ltd., 2010 U.S. Dist. LEXIS 820134, at *9 (E.D.N.Y. Aug. 11, 2010) (obligation to conduct a "diligent search" requires "good faith on the part of the responding party and its attorneys"); Fendi Adele v. Filene's Basement, Inc., 2009 WL 855955, at *8

Absent agreement of the parties, or specific order of the court, disputes about the adequacy of ESI searches almost inevitably arise.[9] In that event, the requesting party may move to compel disclosure,[10] and the responding party may move for a protective order.[11]

To date, courts have not identified "objective benchmarks [or] standards" specific to the search process.[12] Complicating the absence of a clear framework for measuring the adequacy of a search, questions of proportionality and technological changes (addressed below) may require even more refined analysis of the burdens and benefits of (and alternatives to) any chosen search methodology.[13] Further, questions arise as to how (and when) a court should evaluate the reasonableness of search efforts.[14] The risks of second-guessing, and difficulty in

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(S.D.N.Y. Mar. 24, 2009) (litigants have obligation to "make reasonable efforts to locate responsive documents").

9. *See* EEOC v. McCormick & Schmick's Seafood Rests., Inc., 2012 WL 380048, at *4 (D. Md. Feb. 3, 2012) (where producing party "generates the search terms on its own, the inevitable result will be complaints that the terms were inadequate"); Covad Comm. Co. v. Revonet, Inc., 258 F.R.D. 5, 13 (D.D.C. 2009) (noting that it is a "rare case that a litigant does not allege some deficiency in the production" of ESI, "particularly e-mail").

10. *See* FED. R. CIV. P. 37(a)(1) (party may move for an order "compelling disclosure," but must include "a certification that the movant has in good faith conferred or attempted to confer with the person or party failing to make disclosure").

11. *See* FED. R. CIV. P. 26(c)(1) (responding party may move for protective order, but must include a certification of "good faith" attempt to confer with requesting party); FED. R. CIV. P. 26(c)(2) (if motion for protective order is denied, the court may "on just terms, order that any party or person provide or permit discovery").

12. *See* Sedona Conf., *The Sedona Conference Commentary on Achieving Quality in the e-Discovery Process,* 10 SEDONA CONF. J. 299, 315-16 (2009); *see also* ANNE KERSHAW & JOE HOWIE, ELEC. DISCOVERY INST., JUDGES' GUIDE TO COST-EFFECTIVE E-DISCOVERY iii (2010), *available at* http://www.ediscoveryinstitute.org/publications/edis_judges_guide_to_cost-effective_e-discovery (noting that there are "probably more ways of gathering, processing and producing ESI than there are lawyers").

13. *See* Michael D. Berman, Scott Fischer, & Richard E. Davis, *Has Indexing Technology Made Zubulake Less Relevant?,* ABA: TECHNOLOGY FOR THE LITIGATOR 1, 4 (Feb. 11, 2010), *available at* http://www.esi-mediation.com/pdf/hasIndexingMadeZubulakeLessRelevant.pdf (technological improvements have made previously inaccessible information accessible, which "may change" analysis related to "proportionality" and burden of retrieving "inaccessible" materials). E-discovery technologies, moreover, come in a wide array of forms, with a wide array of features. *See generally* Ralph Losey, *The Many Types of Legal Search Software in the CAR Market Today*, E-DISCOVERY TEAM BLOG (Mar. 3, 2013), http://e-discoveryteam.com/2013/03/03/the-many-types-of-legal-search-software-in-the-car-market-today/ (describing "nine popular types of advanced search algorithms" currently available); Maura R. Grossman & Gordon V. Cormack, *The Grossman-Cormack Glossary of Technology-Assisted Review*, 7 FED. CTS. L. REV. 1, 6 (2013) (surveying technology terms associated with various processes).

14. *See* Ralph Losey, *CAR*, E-DISCOVERY TEAM BLOG (Mar. 23, 2013), http://e-discoveryteam.com/car/ (suggesting a need for acceptance of "high margins of error" in

proving reasonableness, further suggest that cooperation and agreement (where possible) must help determine the reasonableness of search efforts.

III. PROPORTIONALITY

The Federal Rules, in various provisions, reference (although perhaps not directly), the need for "proportionality" in arranging e-discovery processes.[15] Inherent in the balance between production of information necessary for a fair search for truth, versus the burden and cost of discovery, is a sense of "proportionality."[16] That is, a "reasonable" search is reasonable not on some idealized notion of adequacy, but "reasonable under the circumstances."[17] Thus, in considering the "relevant circumstances" of a case, a court may need to review: "(i) the number and complexity of the issues; (ii) the location, nature, number and availability of potentially relevant witnesses or documents; (iii) the extent of past working relationships between the attorney and the client, particularly in related or similar litigation; and (iv) the time available

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search, as "[even] if you do attain high recall in a large data set, you will never be able to prove it"); *see also* Hon. Craig Shaffer, *Defensible By What Standard?,* 13 SEDONA CONF. J. 212, 218 (2012) ("Designing and implementing a defensible discovery process, however, is complicated by the *post hoc* nature of most discovery motions challenging the results.").

15. *See* FED. R. CIV. P. 1, 26(b)(2)(B), 26(b)(2)(C), and 26(g); *see generally* Jesse A. Schaefer & Betsy Cook Lanzen, *Tick Tock: The Pendulum Swings Back to a World of Proportional Discovery*, NAT. L. REV. (July 23, 2013), www.natlawreview.com (noting trend in cases suggesting a "shift away from the liberal, all-you-can-eat discovery mindset back to the more proportional, take-only-what-you-need practice"); *see generally* Sedona Conf., *Federal Rules of Civil Procedure: Commentary on Proportionality in Electronic Discovery*, 11 SEDONA CONF. J. 289 (2010); John Carroll, *Proportionality in Discovery: A Cautionary Tale*, 32 CAMPBELL L. REV. 455 (2010).

16. *See, e.g.*, Moody v. Turner Corp., Case No. 1:07-cv-692 (S.D. Ohio Sept. 21, 2010) (availability of "vast amounts of electronic information can lead to a situation of the ESI-discovery tail wagging the poor old merits-of-the-dispute dog"); Oracle USA, Inc. v. SAP A.G., 264 F.R.D. 541, 543-44 (N.D Cal. 2009) (case requires "cooperation in prioritizing discovery" and awareness of "the proportionality requirement of [Rule] 26"); Rimkus Consulting Grp. v. Cammarata, 688 F. Supp.2d 598, 613 (S.D. Tex. 2010) (the Federal Rules require "reasonable efforts" and what is reasonable "depends on whether what was done—or not done—was proportional to that case"); Mancia v. Mayflower Textile Serv. Co., 253 F.R.D. 354, 359 (D. Md. 2008) (the requirement of discovery "proportional to what is at issue" is "clearly stated in Rule 26(g)(1)(B)(iii)"); *see also* DCP Midstream LP v. Anadarko Petrol. Corp., 393 P.3d 1187, 1197 (Colo. Sup. Ct. 2013) (court must take "active role" in managing discovery to assure "appropriate scope of discovery in light of the reasonable needs of the case"); *see generally* Sedona Conf., *supra* note 15, at 301 (recognizing that use of search technology to "quickly isolate essential information" may serve proportionality by "creating efficiencies and cost savings," and "reduce overall costs, better target discovery, protect privacy and confidentiality, and reduce burdens").

17. *See* In re Delta/Airtran Baggage Fee Antitrust Litig., 846 F. Supp.2d 1335, 1350 (N.D. Ga. 2012).

to conduct an investigation."[18] Such an assessment requires "more than a mathematical count" of locations searched or documents retrieved.[19]

Research, moreover, shows that search and review are the most expensive aspects of the e-discovery process.[20] In theory, an estimate of the cost of discovery, compared to the amount at issue in litigation, could yield rough parameters for the scope of search and review[21] and, beyond certain limits,[22] the producing party should not be required to pay the costs of an exhaustive search.[23] Although rough parameters of

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18. S2 Automation, LLC v. Micron Tech., Inc., 2012 U.S. Dist. LEXIS 120097, at *99-100 (D.N.M. Aug. 9, 2012); *see generally* I-Med Pharma, Inc. v. Biomatrix, Inc., 2011 WL 6140658 (D.N.J. Dec. 9, 2011); St. Paul Reins. Co. v. Commercial Fin. Corp., 198 F.R.D. 508, 511 (N.D. Iowa 2000).

19. *See* Kleen Prods., LLC v. Pkg. Corp. of Am., 2012 U.S. Dist. LEXIS 139632, at *46 (N.D. Ill. Sept. 28, 2012) ("The selection of custodians must be designed to respond fully to document requests and to produce responsive, nonduplicative documents during the relevant period."); Moore v. Publicis Groupe, 287 F.R.D. 182, 192 (S.D.N.Y. 2012) ("[W]here the line will be drawn as to review and production is going to depend on what the statistics show for the results, since proportionality requires consideration of results as well as costs.").

20. *See* NICHOLAS M. PACE & LAURA ZAKARAS, RAND INST. FOR JUST., WHERE THE MONEY GOES: UNDERSTANDING LITIGANT EXPENDITURES FOR PRODUCING ELECTRONIC DISCOVERY 1, 16 (2012), http://www.rand.org/content/dam/rand/pubs/monographs/2012/RAND_MG1208.pdf (corporate survey, finding seventy-three percent of costs attend to document search and review).

21. *See* Ralph Losey, *Bottom Line Driven Proportional Review* 1, 5 (2013), http://ralphlosey.files.wordpress.com/2013/03/bottom_line_driven_review2.pdf (suggesting that, with predictive coding and relevancy ranking, it is possible to set an amount of search tailored to the amount at issue); *but see* George Socha, *EDRM E-Discovery Budget Calculators: Let's Begin The Dialogue*, LAW TECH. NEWS (Dec. 5, 2013), http://www.lawtechnologynews.com/id=1202630585259/EDRM-E-Discovery-Budget-Calculators%3A--Let's-Begin-the-Dialogue ("Independent research indicates significant variability in 'standards' for estimating document and page counts;" it is "extremely challenging to provide accurate estimates until the mix of data is known . . . and this data may not be available when initial estimates are provided"); David Degnan, *Accounting for the Costs of Electronic Discovery*, 12 MINN. J.L.SCI. & TECH. 151, 169 (2011) (wide range in assumptions regarding costs of e-discovery "create nightmare scenarios for those who must plan a realistic litigation budget").

22. The search for "all" relevant ESI is arguably counter-productive, given that much information produced may provide little value in the dispute-resolution function. *See* Victor Li, *IT-Lex Conference: Predicting the Future of Predictive Coding*, LAW TECH. NEWS (Oct. 18, 2013) ("In e-discovery, only about 0.001 percent of [documents] even ends up making the evidence list. It's more important to find the hot docs than to chase down all the relevant ones. We're wasting money by chasing relevant—relevant is irrelevant.") (quoting Ralph Losey).

23. *See* Apple, Inc. v. Samsung Elecs. Co., 2013 U.S. Dist. LEXIS 67085, at *3 (N.D. Cal. May 9, 2013) (refusing, on grounds of proportionality, to order "herculean effort" to produce data that requesting party "is able to do without"); Wood v. Capital One Servs., LLC, 2011 WL 2154279, at *7 (N.D.N.Y. Apr. 15, 2011) ("rule of proportionality" required denial of motion to compel, without prejudice to right to renew in event that requesting

e-discovery cost estimates may exist,[24] precise budgeting for projects may be elusive, especially at the outset of litigation.[25] Moreover, the "transaction costs" of conducting even a fairly straightforward estimate of costs,[26] and the costs of negotiation with the opposing party,[27] may

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party was "willing to underwrite the expense associated" with additional search); *see also* Shaffer, *supra* note 14 (search quality standards require "reliable methodologies that provide a quality result at costs that are reasonable and proportionate to the particular circumstances of the client and the litigation").

24. *See* Pace & Zakaras, *supra* note 20 (corporate survey finding cost of approximately $18,000 per gigabyte for "discovery" of information); Ann G. Fort, *Rising Costs of E-Discovery Requirements Impacting Litigants*, LAW.COM (Mar. 20, 2007), http://www.alm.law.com/jsp/article.jsp?id=900005554136 (estimating cost of $3 per email for production in litigation).

25. *See* Doug Austin, *Want to Estimate Your eDiscovery Budget? Use One of These Calculators*, E-DISCOVERY DAILY (Dec. 17, 2013), www.ediscoverydaily.com ("It can be difficult to estimate the total costs for eDiscovery at the outset of a case. There are a number of variables and options that could impact the budget by a wide margin and it may be difficult to compare costs for various options for processing and review."); Chris Dale, *Establishing a Uniform Basis for eDiscovery Costs Projections*, E-DISCLOSURE INFO. PROJECT BLOG (Aug. 14, 2013) http://chrisdale.wordpress.com/2013/08/14/establishing-a-uniform-basis-for-ediscovery-costs-projections (noting "difficulty of making sensible prediction of eDiscovery costs," in part because "every provider of eDisclosure/eDiscovery software and services has a different way of presenting the figures"); Interview by Metropolitan Corporate Counsel with Sophie Ross, Senior Managing Director, FTI Consulting, Inc. (Nov. 21, 2011), *available at* http://www.metrocorpcounsel.com/articles/16672/two-pronged-approach-handling-e-discovery (noting difficulty in assessing e-discovery costs, because "e-discovery process is quite complex," and large matters "typically have several providers and several law firms involved as well as data moving back and forth, so the project management requirements are important"); Neetal Parekh, *How to Budget for eDiscovery Costs*, FINDLAW (Sept. 25, 2009, 5:49 AM), http://blogs.findlaw.com/technologist/2009/09/how-to-budget-for-ediscovery-costs.html ("At early stages of a case, it often proves to be a challenge to consider the scope of discovery as a whole—especially when trying to account for the looming variable of eDiscovery costs."); Conrad J. Jacoby, *Using Technology To Estimate, Control And Manage Litigation Document Review Budgets*, METROPOLITAN CORP. COUNS. (Sept. 1, 2009), http://www.metrocorpcounsel.com/articles/11649/using-technology-estimate-control-and-manage-litigation-document-review-budgets (discovery budgets are "often set before the parties finalize the scope of discovery, which can then grow far beyond early estimates").

26. *See* Losey, *supra* note 21, at 7 n.13 (noting that advanced software for search "comes with its own transactional costs, which means it cannot be economically used in cases that are too 'small'"); *id.* at 20 ("[C]omplex, big-ticket cases are the easiest to do e-discovery[.] If there is a billion dollars at issue, a reasonable budget for document review is large. On the other hand, proportional e-discovery in small cases is a real challenge, no matter how simple they supposedly are."); *see also* Socha, *supra* note 21 ("Accurate budgeting and budget monitoring of the electronic data discovery effort, both at case initiation and throughout any EDD project, is desired by many, achieved by few."); Angela Hunt, *Why Attorneys Love-Hate Data Analytics*, LAW TECH. NEWS (Dec. 2, 2013), http://www.lawtechnologynews.com/id=1385754107570/Why-Attorneys-Love-Hate-Data-Analytics?slreturn=20140420095929 (use of "big data and performance metrics" can help minimize legal spending, but lawyers "need some convincing").

27. *See* William P. Butterfield, Conor R. Crowley, & Jeannine Kenney, *Reality Bites:*

overwhelm the value of the case.[28] The goal may be, more modestly, to avoid gross over-use of resources, compared to the value of the case.[29]

IV. COOPERATION

The practice of e-discovery differs markedly from the norms of information retrieval for other business and institutional purposes.[30] E-discovery involves an "inherent asymmetry," where the requesting party generally develops discovery requests without actual access to the information requested.[31] E-discovery focuses on "fixed results sets," rather than ranked retrieval, and emphasizes high rates of recall, as contrasted with the high precision focus of most information users.[32] Because of the adversarial nature of litigation, e-discovery generally consists of arms-length,[33] one-time transactions, rather than an

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Why TAR's Promises have yet to be Fulfilled 1, 2-3 (2013), http://www.umiacs.umd.edu/~oard/desi5/additional/Butterfield.pdf (suggesting that "the cost of extensive negotiations with the opposing party and ancillary litigation over the application of a TAR protocol in a given case will outweigh the cost-savings otherwise achieved by the tool").

28. A proportionality assessment, moreover, may be particularly difficult in the early stages of a case. *See* Theodore C. Hirt, *The Quest for "Proportionality" in Electronic Discovery—Moving from Theory to Reality in Civil Litigation*, 5 FED. CTS. L. REV. 171, 192 (2011) (stating that the proportionality assessment is difficult where it is "impossible to review the content of the requested information until it is produced"); Scott A. Moss, *Litigation Discovery cannot be Optimal but could be Better: The Economics of Improving Discovery Timing in a Digital Age,* 58 DUKE L.J. 889, 889 (2009) (noting that the proportionality rules are difficult to apply where comparisons are required for discovery value and cost, before parties actually gather evidence).

29. *See, e.g.,* In re Fannie Mae Sec. Litig., 552 F.3d 814, 817 (D.C. Cir. 2009) (noting that the government agency spent $6 million, over nine percent of its annual budget, in failed attempts to comply with subpoenas); Gabriel Techs. Corp. v. Qualcomm, Inc., 2013 WL 410103 (S.D. Cal. Feb.1, 2013) ($2.8 million to conduct initial classification of 1 million documents); In re Intel Corp. Microprocessor Antitrust Litig. 258 F.R.D. 280, 282 (D. Del. 2008) (despite preservation effort involving 4,000 employee custodians and thousands of backup tapes, "discovery remediation plan" was required).

30. The American system of discovery also differs in kind from the civil law system used in much of the rest of the world. *See* STEPHEN N. SUBRIN & MARGARET Y.K. WOO, LITIGATING IN AMERICA: CIVIL PROCEDURE IN CONTEXT 131 (2006) (in contrast to civil law systems, where a judge decides what evidence is needed, in the U.S., "it is the lawyers who conduct pretrial discovery, albeit supervised in a general way by judges").

31. *See* Douglas W. Oard & William Webber, *Information Retrieval For E-Discovery*, 7 FOUNDATIONS & TRENDS IN INFO. RETRIEVAL 99, 106 (2013).

32. *See* Herbert Roitblat, Anne Kershaw & Patrick Oot, *Document Categorization in Legal Electronic Discovery: Computer Classification versus Manual Review*, 61 J. AM. SOC. FOR INFO. SCI. & TECH. 70, 71 (2010) (noting that discovery requests are generally "much broader and more vague" than conventional requests for information).

33. *See* Butterfield, Crowley, & Kenney, *supra* note 27, at 4 ("parties in litigation may have tactical, strategic, or ethical concerns that limit their willingness to fully coop-

iterative and collaborative process meant to optimize results for the user within the constraints of the information system.[34]

Although the discovery process assumes the good faith of counsel,[35] e-discovery often devolves into a "go fish" approach to search[36] in which discovery of defects in a search may be a matter of fortuitous revelation, rather than the product of an organized system of quality control.[37] The age of "big data,"[38] moreover, has created an environment where human-only review may become essentially impossible[39] (and arguably

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erate in a transparent manner"); Thomas Y. Allman, *E-Discovery Standards in Federal and State Courts after the 2006 Federal Amendments*, ELEC. DISCOVERY L. 1, 32 (May 3, 2012), *available at* http://www.ediscoverylaw.com/files/2013/11/2012FedStateEDiscoveryRulesMay3.pdf (stating that "parties are often unable, for tactical or practical reasons, to agree on preservation or discovery restrictions at an early stage"). "Lawyers trained in and committed to a system governed by the adversary process are not conditioned to function effectively in the pretrial environment envisioned by the Federal Rules." William W. Schwarzer, *The Federal Rules, the Adversary Process, and Discovery Reform*, 50 U. PITT. L. REV. 703, 705 (1989).

34. *See* Oard & Webber, *supra* note 31, at 101, 112-15 (reviewing unique features of e-discovery information retrieval tasks).

35. *See* Smith v. Life Investors Ins. Co. of Am., 2009 U.S. Dist. LEXIS 58261, at *14-15 (W.D. Pa. July 9, 2009) ("At bottom, the discovery process relies upon the good faith and professional obligations of counsel to reasonably and diligently search for and produce responsive documents.").

36. *See* Hon. Andrew Peck, *Search, Forward,* LAW TECH. NEWS 25, 26 (Oct. 2011), *available at* http://law.duke.edu/sites/default/files/centers/judicialstudies/TAR_conference/Panel_1-Background_Paper.pdf ("[M]any counsel still use the 'Go Fish' model of keyword search[.]").

37. *See* Wingnut Films, Ltd. v. Katja Motion Pictures Corp., 2007 U.S. Dist. LEXIS 72953, at *11 (C.D. Cal. Sept. 18, 2007) (party "fortuitously" discovered existence of responsive documents, not produced, even as opposing counsel "persisted in belittling" concerns about production as "paranoia and harassment") (quotation omitted).

38. *See* John M. Barkett, *More on the Ethics of E-Discovery: Predictive Coding And Other Forms of Computer-Assisted Review* 30 (2012), https://law.duke.edu/sites/default/files/centers/judicialstudies/TAR_conference/Panel_5-Original_Paper.pdf ("Large numbers here are not hundreds or thousands of documents, but hundreds of thousands and millions of documents.").

39. *See* Manfred Gabriel, Chris Paskach, & David Sharpe, *The Challenge And Promise of Predictive Coding for Privilege* 1, 1 (June 14, 2013), http://www.umiacs.umd.edu/~oard/desi5/research/Gabriel-final2.pdf (noting that attorney review of documents makes up nearly three-quarters of e-discovery costs). One common problem is the variety of formats in which information may appear. *See* Ned Averill-Snell, *How Document Viewing is Key to Effective eDiscovery in the Legal Market*, WIRED (Nov. 15, 2013, 12:07 PM), http://insights.wired.com/profiles/blogs/how-document-viewing-is-key-to-effective-ediscovery-in-the-legal#axzz32GXYTCK7 (noting that "dozens" of document formats means that legal teams "must stock a complex and often expensive array of programs for viewing," and also be trained in using them; switching between formats "wastes costly time and increases the risk of error"); *see also* Pace & Zakaras, *supra* note 20 (indicating that research also suggests that the best review speed, using human reviewers, may be in the range of 100 documents per hour; at that rate, e-discovery costs

inadequate,[40] compared to machine-plus-human review).[41]

In response, many judges, often referencing *The Sedona Conference Cooperation Proclamation*,[42] have suggested a need for "transparency"

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may be quite difficult to control); *see* Sedona Conf. WGI, *The Sedona Conference Best Practices Commentary on the Use of Search and Information Retrieval Methods in e-Discovery*, 8 SEDONA CONF. J. 189, 194 (2007) ("In many settings involving [ESI], reliance solely on a manual search process for the purpose of finding responsive documents may be infeasible or unwarranted.").

40. *See* Butterfield, Crowley, & Kenney, *supra* note 27, at 1 (noting that it is "well recognized" that "human, manual review is not only entirely impractical in the age of ESI, but is also far from the 'gold standard' of review against which other search tools should be judged"); Maura R. Grossman & Gordon V. Cormack, *Technology-Assisted Review in e-Discovery can be More Efficient than Exhaustive Manual Review,* 17 RICH. J. L. & TECH. 11, 12 (2011); Patrick Oot, Anne Kershaw, & Herbert L. Roitblat, *Mandating Reasonableness in a Reasonable Inquiry*, 87 DENV. U. L. REV. 533, 551 (2010) ("Human review is of unknown accuracy and consistency."); *but see* Ralph Losey, *Electronic Discovery Best Practices* (Oct. 27, 2012), www.edbp.com ("Despite the many well-known limitations of manual review and key word search, these search methods still have a place in multimodal review."). Agreement rates between human reviewers may fall in the range of about fifty percent (the equivalent of a coin flip). *See* Maura R. Grossman & Gordon V. Cormack, *Inconsistent Responsiveness Determination in Document Review: Difference of Opinion or Human Error?*, 32 PACE L. REV. 267, 267 (2012) (TREC study suggests that "disagreements among assessors are largely attributable to human error"); William Webber, *Re-examining the Effectiveness of Manual Review* 1-8 (2011), *available at* http://www.williamwebber.com/research/papers/w11sire.pdf (noting that there is "greatly varying quality of reviewers" within review teams, suggesting a "lack of process control," and that "an automated method of production can be as reliable a means" as "full manual review"); Herbert Roitblat, *The Process of Electronic Discovery* 1, 2 (2010), *available at* http://www.umiacs.umd.edu/~oard/desi-ws/papers/roitblat.doc ("Various studies have found that assessors do not often agree among themselves as to which documents are relevant.").

41. Humans remain essential to the review process, even in a machine-dominated environment. *See* Monica Bay, *EDI-Oracle Study: Humans are still Essential in e-Discover*, LAW TECH. NEWS (Nov. 20, 2013), http://www.lawtechnologynews.com/id=1202628778400/EDI-Oracle-Study%3A-Humans-Are-Still-Essential-in-E-Discovery (study suggests that "software is only as good as its operators," and "spending more money [on review] does not correlate with greater quality"); Ralph Losey, *Legal Search Science*, E-DISCOVERY TEAM BLOG (Nov. 17, 2013), http://e-discoveryteam.com/2013/11/17/legal-search-science/ (suggesting need for "multimodal" search through "hybrid human computer information retrieval;" in this system "the expert reviewer remains in control of the process, and their expertise is leveraged [by machine] for greater accuracy and speed"); Oot, Kershaw, & Roitblat, *supra* note 40 ("All categorization systems require some level of education interaction. Better results occur when knowledge is transferred early and continuously throughout the process."); *see also* Robert Rohlf, *Rebuttal: EDRM Is A Model Of Collaboration In Action*, LAW TECH. NEWS (Dec. 16, 2013), http://www.lawtechnologynews.com/id=1202632479582/Rebuttal%3A-EDRM-Is-a-Model-of-Collaboration-in-Action ("In spite of new technologies enabling cost reduction and short-cuts at different stages of [e-discovery], nothing has eliminated these basic steps as a necessity.").

42. *See* Sedona Conf. WGI, *supra* note 39. For a list of judges (and citations to numerous opinions) adopting the Sedona Conference Cooperation Proclamation, see

(or at least "translucency") in the e-discovery process, aimed at party-agreed protocols for the conduct of e-discovery.[43] But the precise degree of required clarity (or, conversely, permissible opacity) in sharing information about the e-discovery process is disputed in the case law.[44] On one view, "it is impossible to evaluate the adequacy of an electronic search for records without knowing what search terms have been used," and "the precise instructions that custodians give their computers are crucial."[45] On another view, the details of counsel's advice and

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www.thesedonaconference.org.

43. *See, e.g.*, Saliga v. Chemtura Corp., 2013 U.S. Dist. LEXIS 167019, at *3 (D. Conn. Nov. 25, 2013) ("the best solution in the entire area of electronic discovery is cooperation among counsel;" declining to order defendant to provide plaintiff with specific information regarding "data collection process," and instead directing parties to resolve disputes through "cooperation"); In re Porsche, 2012 U.S. Dist. LEXIS 136954, at *22-3 (S.D. Ohio Jan. 24, 2012) ("Transparency in the discovery process is necessary to ensure that all relevant information is made available to the litigants[.] . . . Full disclosure of Defendants' efforts in collecting responsive documents will illuminate this issue so that the parties can resolve it."); Da Silva Moore v. Publicis Groupe, 287 F.R.D. 182, 192 (S.D.N.Y. 2012) ("An important aspect of cooperation is transparency in the discovery process."); Cartel Asset Mgmt. v. Ocwen Fin. Corp., 2010 U.S. Dist. LEXIS 17857, at *40 (D. Colo. Feb. 8, 2010) ("This Court has endorsed [the Sedona Cooperation Proclamation] and its call for cooperative, collaborative and transparent discovery.") (quotation omitted); DeGeer v. Gillis, 755 F. Supp.2d 909, 929 (N.D. Ill. 2010) ("proper and most efficient" course is agreement as to "search terms and data custodians" prior to document retrieval); Mancia v. Mayflower, Inc., 253 F.R.D. 354, 357-58 (D. Md. 2008) ("compliance with the 'spirit and purposes' of the discovery rules requires cooperation by counsel to identify and fulfill legitimate discovery needs, yet avoid seeking discovery the cost and burden of which is disproportionately large to what is at stake"); U. of Neb. v. BASF Corp., 2007 WL 3342423, at *5 (D. Neb. Nov. 5, 2007) ("The overriding theme of recent amendments to the discovery rules has been open and forthright sharing of information by all parties to a case with the aim of expediting case progress, minimizing burden and expense, and removing contentiousness as much as practicable."); Balboa Threadworks, Inc. v. Stucky, 2006 U.S. Dist. LEXIS 29265, at *15 (D. Kan. Mar. 24, 2006) (directing counsel to be prepared to discuss search protocol and creation of keyword list); *see generally* Oot, Kershaw, & Roitblat, *supra* note 40 ("Litigants should consider cooperation with an opponent early to establish a search protocol."); Thomas Y. Allman, *Conducting E-Discovery after the Amendments: The Second Wave*, 10 SEDONA CONF. J. 215, 216 (2009) (courts "expect parties to reach practical agreements on search terms, date ranges, key players and the like").

44. There is a case to be made for cooperation, independent of the dictates of courts and rule-makers. *See* Craig Ball, *Cooperation in Practice: Georgetown Institute 2013*, BALL IN YOUR CT. BLOG (Nov. 20, 2013), http://ballinyourcourt.wordpress.com/2013/11/20/cooperation-in-practice-georgetown-institute-2013/ ("[W]e don't cooperate and promote transparency to help the other side. We do it because of the genuine and significant benefits it affords to our side. It allows us to move forward with greater safety and certainty, conserves money and time and forestalls misdirected effort."); *see also* Jason R. Baron, *Law in the Age of Exabytes: Some Further Thoughts on "Information Inflation" and Current Issues in E-Discovery Search*, 17 RICH. J.L. & TECH. 9, 28-29 (2011) (suggesting that "serious ethical issues" may arise from failure of parties to cooperate in e-discovery search process).

45. Nat'l Day Laborer Org. Network v. U.S. Immigration & Customs Enforcement

instructions regarding discovery processes are privileged, and parties are not required to prove the adequacy of their efforts until at least some showing of incompleteness appears in the record.[46] Yet, a

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Agency, 877 F. Supp.2d 87, 106-07 (S.D.N.Y. 2012); *see also* Am. Home Assurance Co. v. Greater Omaha Packing Co., 2013 WL 4875997, at *6 (D. Neb. Sept. 11, 2013) (discussing that a party must provide the requesting party "adequate opportunity to contest" the adequacy of discovery and ordering the producing party to "disclose the sources it has searched or intends to search and, for each source, the search terms used"); Apple, Inc. v. Samsung Elecs. Co., 2013 U.S. Dist. LEXIS 67085, at *3 (N.D. Cal. May 9, 2013) (requiring identification of search terms and custodians by subpoena respondent, for purposes of "evaluating the adequacy" of respondent's search for records); FormFactor, Inc. v. Micro-Probe, Inc., 2012 WL 1575093, at *7 n.4 (N.D. Cal. May 3, 2012) (citing cases for proposition that search terms are not work product); In re Enforcement of Subpoena issued by FDIC, 2011 WL 2559546, at *1 (N.D. Cal. June 28, 2011) (holding search terms "fact" work product, subject only to "qualified protection"); Romero v. Allstate Ins. Co., 271 F.R.D. 96, 109 (E.D. Pa. 2010) (holding that document production information, including search terms, is not within work product protection); SEC v. Collins & Aikman Corp., 256 F.R.D. 403, 410 (S.D.N.Y. 2009) (holding that attorney's assessment of relevance of potentially responsive documents is not "core" work product); Smith v. Life Investors Ins. Co. of Am., 2009 WL 2045197, at *7 (W.D. Pa. July 9, 2009) (rejecting work product protection for search terms used by counsel in conducting discovery); Craig Ball, *Transparency of Process No Peril to Work Product*, BALL IN YOUR CT. BLOG (Dec. 16, 2013), http://ballinyourcourt.wordpress.com/2013/12/16/transparency-of-process-no-peril-to-work-product/ ("No one suggests that the searches a lawyer runs to test theories and form mental impressions are *per se* discoverable. How a lawyer serves to inform his or her own assessment of the case may be protected. But that's a different kettle of fish from the use of search terms to objectively filter collections for review and production[.]").

46. *See* S2 Automation LLC v. Micron Tech., Inc., 2012 U.S. Dist. LEXIS 120097, at *38 (D.N.M. Aug. 9, 2012) (where party certifies that it has "produced all responsive documents, there is little more the Court can do now to require them to produce documents, unless further discovery reveals that the search was inadequate"); In re Cathode Ray Tube Antitrust Litig., 2011 U.S. Dist. LEXIS 120218, at *34-35 (N.D. Cal. Mar. 21, 2011) ("Plaintiffs ask [defendant] to disclose the search terminology which [defendant] used to search for and examine relevant documents. . . . While desirable, such joint development is not a legal requirement in this case."); Moore v. Napolitano, 723 F. Supp.2d 167, 172-73 (D.D.C. 2010) (holding that there is no burden on producing party to show adequacy of efforts, unless requesting party discovers some "flaw" in the production); Benson v. St. Joseph Reg'l Health Ctr., 2006 U.S. Dist. LEXIS 28795, at *14 (S.D. Tex. May 1, 2006) ("It is unnecessary for Defendants to explain the details of their method of searching when they have certified and represented to the Court that they have complied fully with Plaintiffs' requests."); *see also* H. Christopher Boehning & Daniel J. Toal, *No Disclosure: Why Search Terms are Worthy of Court's Protection*, N.Y. L.J. (Dec. 3, 2013), http://www.newyorklawjournal.com/id=1202630205785/No-Disclosure:-Why-Search-Terms-Are-Worthy-of-Court's-Protection?slreturn=20140420110723 (suggesting that court-compelled disclosure of search terms constitutes a "dangerous dance on the edge of violating work product protection;" search process necessarily involves the lawyer "developing (and redeveloping) a theory of the case"); *see generally* Sean Grammel, *Protecting Search Terms as Opinion Work Product: Applying the Work Product Doctrine to Electronic Discovery*, 161 U. PENN. L. REV. 2063 (2013) (surveying cases); Ralph Losey, *Keywords and Search Methods should be Disclosed, but not Irrelevant Documents*, E-DISCOVERY TEAM BLOG (May 26, 2013), http://e-discoveryteam.com/2013/05/26/keywords-and-search-

completely "black box" form of production risks inefficiency and unfairness.[47]

Even if full transparency cannot be achieved, the Federal Rules repeatedly recognize a requirement of "good faith" discovery negotiation between parties.[48] That negotiation requirement, at least, may mean that the requesting party and the producing party must confer on potential search terms.[49] Negotiation alone, however, cannot assure a trouble-free process.[50]

V. TECHNOLOGICAL CHANGES

In a world of paper records (not so long ago), review of documents for production in discovery, by hand, was the norm. Today, researchers question the underlying assumption that human review, alone, suffices to assure quality in any document production.[51] In larger scale cases,

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methods-should-be-disclosed-but-not-irrelevant-documents/ (suggesting a need for "sharing process, not documents" in planning e-discovery); *see generally* David J. Kessler, Robert D. Owen, & Emily Johnston, *Search Terms are More Than Mere Words*, N.Y. L. J., Mar. 21, 2011.

47. *See* EEOC v. Dolgencorp, LLC, 2011 U.S. Dist. LEXIS 35195, at *51-52 (M.D.N.C. Mar. 31, 2011) (rejecting party's unilateral relevance determinations); Novelty, Inc. v. Mountain View Mktg., Inc., 265 F.R.D. 370, 376 (S.D. Ind. 2009) ("Unilaterally deciding to conduct a cursory initial search to be followed by 'rolling' productions from subsequent, more thorough, searches is not an acceptable option."); *but see* Treppel v. Biovail Corp., 233 F.R.D. 363, 374 (S.D.N.Y. 2006) (discussing the situation where a plaintiff declined to discuss search scope and keyword terms, the defendant "should have proceeded unilaterally, producing all responsive documents located by its search").

48. *See* FED. R. CIV. P. 16(f) (providing sanctions for party or counsel who "does not participate in good faith" in pretrial conference, or is "substantially unprepared to participate"); *id.* at 26(c)(1) (requiring party moving for protective order to certify "good faith" effort to confer "in an effort to resolve the dispute without court action"); *id.* at 26(f) (counsel and unrepresented parties responsible for "attempting in good faith to agree on the proposed discovery plan"); *id.* at 37(a) (requiring party moving to compel to certify "good faith" effort "to obtain [disclosure] without court action"); *see generally* Jason Baron & Edward Wolfe, *A Nutshell on Negotiating E-Discovery Search Protocols*, 11 SEDONA CONF. J. 229 (2010).

49. *See, e.g.*, In re Facebook PPC Advert. Litig., 2011 WL 1324516, at *6 (N.D. Cal. Apr. 6, 2011) (requiring parties to negotiate regarding search terms); Romero, 271 F.R.D. at 109 (same); Trusz v. UBS Realty Investors LLC, 2010 U.S. Dist. LEXIS 92603, at *15 (D. Conn. Sept. 7, 2010) (same).

50. *See* Kinetic Concepts, Inc. v. Convatec, Inc., 268 F.R.D. 226, 246 (M.D.N.C. 2010) (noting "continued wrangling" that may ensue where parties give "vague assurance" of steps to be taken, which "frequently derails the discovery process").

51. Research shows inconsistency in human review. *See* Maura R. Grossman & Gordon V. Cormack, *Inconsistent Assessment of Responsiveness in E-Discovery: Difference of Opinion or Human Error*? 1, 1 (2011), *available at* http://www.umiacs.umd.edu/~oard/desi4/papers/grossman2.pdf ("It is well known that any two reviewers will often disagree as to the responsiveness of particular documents; that is, one will code a document as responsive, while the other will code the same document

moreover, all-human review has essentially become impossible.[52] Keyword searching alone may also suffer from significant problems.[53] Technological advances have thus both pulled and pushed the standard of reasonableness in search toward use of "computer assisted" review.[54] The legal search technology market, however, has not fully matured.[55]

E-discovery differs from conventional information retrieval. In the typical e-discovery project, the starting point for a search requires consideration of the appropriate scope of data custodians, time frames, and search terms.[56] Despite vast improvements in software used for search,[57] including "predictive coding,"[58] the up-front work of planning

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as non-responsive;" "vast majority of cases of disagreement are a product of human error rather than documents that fall in some 'gray area' of responsiveness"); Ellen M. Voorhees, *Variations in Relevance Judgments and the Measurement of Retrieval Effectiveness*, 36 INFO. PROC. & MGMT. 697, 697 (2000) (noting "substantial differences in relevance judgments" among human reviewers).

52. *See* Gregory L. Fordham, *Using Keyword Search Terms in E-Discovery and How They Relate to Responsiveness, Privilege, Evidence Standards and Rube Goldberg*, 15 RICH. J.L. & TECH. 8, 10 (2009) (given volumes of digital information, "it is simply not practical to take a 'boots on the ground' approach" to document review; "the weak link in the chain is often the human element"); *see also* Baron, *supra* note 44 (noting that large document collections in litigation can now run into "billions" of pages).

53. *See* William P. Butterfield, Conor R. Crowley, & Melinda R. Coolidge, *Diving Deeper to Catch Bigger Fish* 1, 5 (2009), *available at* http://www.law.pitt.edu/DESI3_Workshop/Papers/DESI_III.ButterfieldCrowley.pdf (keyword searching alone may be "over-inclusive" or "under-inclusive;" thus, "both the precision and recall of searches for relevant information can be adversely affected when searches rely on keywords").

54. *See* Amor A. Esteban, *The Evolution and Integration of E-Discovery*, 1 PRAC. LAW. 24, 25 (2013) ("Technology has not remained static . . . and each new advancement adds to the growing complexity of managing and understanding the related legal challenges.").

55. *See* David Horrigan & Alan Pelz-Sharpe, *Abandoning the EDRM Assembly Line: A Legal-Regulatory Technology Market Ripe for Change*, 451 RESEARCH (Oct. 23, 2013), https://451research.com/report-short?entityId=79081&referrer=marketing (suggesting that "legal sector is served poorly," as available technology is "difficult to use, dated, proprietary in nature and designed poorly;" marketplace is "flooded with tiny and poorly funded vendors" that do not have the ability to "scale their operations" and "legal buyers are slow to come to a decision" and "very conservative" and "penny-pinching").

56. *See, e.g.*, Nat'l Day Laborer Org. Network v. U.S. Immigration & Customs Enforcement Agency, 877 F. Supp.2d 87, 102 (S.D.N.Y. 2012) (holding that failure to search files of former employees made search inadequate). "[I]n order to determine adequacy, it is not enough to know the search terms. The method in which they are combined and deployed is central to the inquiry." *Id.*; In re Delta/Airtran Baggage Fee Antitrust Litig., 846 F. Supp.2d 2d 1335, 1351 (N.D. Ga. 2012) (determining that search was inadequate due to failure to collect back-up tapes and process hard drives); Moore v. Napolitano, 723 F. Supp.2d 167, 173 (D.D.C. 2010) (limiting search to three specific Secret Service divisions).

57. *See generally* Ralph Losey, *Secrets of Search*, E-DISCOVERY TEAM BLOG (Dec. 11, 2011), http://e-discoveryteam.com/2011/12/11/secrets-of-search-part-one/ (three-part series on advances in e-discovery search technologies and practices).

an e-discovery project remains the most important part of the function.[59] Ironically, reduced cost of information storage has increased the cost and complexity of effective search,[60] as information now appears in

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58. *See* R.T. Oehrle & E.A. Johnson, *The Structure Of Predictive Coding: A Guide for the Perplexed* 1, 1 (2013), *available at* http://www.umiacs.umd.edu/~oard/desi5/additional/Oehrle-final.pdf (suggesting that predictive coding is a "response to the convergence of dynamic market forces," including a "skyrocket" in volume, and "downward" trending in estimates of the quality of human linear review). To date, however, predictive coding techniques have not been shown to work efficiently in lower cost, lower volume cases. *See* John C. Eustice, *Using Technology Assisted Review in the Right Cases and in the Right Way*, INSIDE COUNS. (Nov. 14, 2013), http://www.insidecounsel.com/2013/11/14/using-technology-assisted-review-in-the-right-case (discussing that technology assisted review is particularly valuable for "cases involving high financial stakes, large volumes of mostly textual electronic data (such as e-mail), and short discovery periods"). The "black box" nature of predictive coding, moreover, for most lawyers and clients, may constitute an impediment to widespread acceptance of advanced technology. *See* R. Eric Hutz, *E-Discovery: Using Predictive Coding to Manage E-Discovery Costs and Risks*, INSIDE COUNS. (Feb. 23, 2012), http://www.insidecounsel.com/2012/02/23/e-discovery-using-predictive-coding-to-manage-e-di (noting that many view predictive coding as a "black box" process, using complex algorithms "not easily understood or explainable by anyone other than a computer scientist"); *see also* Jason R. Baron & Jesse B. Freeman, *Cooperation, Transparency, and the Rise of Support Vector Machines in E-Discovery: Issues Raised by the Need to Classify Documents as Either Responsive or Nonresponsive* 1, 6 (May 26, 2013), *available at* http://www.umiacs.umd.edu/~oard/desi5/additional/Baron-Jason-final.pdf (providing a "look under the hood" at the algorithms and processes of predictive coding).

59. *See* Vanessa Lloyd, *What Infinite E-discovery Searches Need is a Reboot, Not Kumbaya*, CORP. COUNS. ADVISORY (July 17, 2013), http://www.lexisnexis.com/communities/corporatecounselnewsletter/b/newsletter/archive/2013/07/17/what-infinite-e-discovery-searches-need-is-a-reboot-not-kumbaya.aspx (noting "too much emphasis on the tools and technology;" more important is "having the proper people and the workflows in place to help guide and manage the e-discovery process"). "In reality, people are more important to the review process than ever when using technology-assisted review. Because reviewers need to make determinations up-front and interact with the technology, the quality of the review is only as good as the quality of the reviewer." Barry Murphy, *2012: The Year of Technology-Assisted Review in eDiscovery*, FORBES (Jan. 17, 2012, 2:12 PM), http://www.forbes.com/sites/barrymurphy/2012/01/17/2012-the-year-of-technology-assisted-review-in-ediscovery/. "Fundamentally, the focus always has been—and remains—methodology." Amanda Jones & Ben Kerschberg, *What Technology-Assisted Electronic Discovery teaches Us about the Role of Humans in Technology*, FORBES (Jan. 9, 2012, 10:18 PM), http://www.forbes.com/sites/benkerschberg/2012/01/09/what-technology-assisted-electronic-discovery-teaches-us-about-the-role-of-humans-in-technology/. "None of this technology solves the problem on its own. It needs a brain, and a legally trained brain at that[.]" Chris Dale, *Having the Acuity to Determine Relevance with Predictive Coding*, CHRIS DALE BLOG (Oct. 15, 2010), www.chrisdale.wordpress.com.

60. *See generally* Cody Bennett, *A Perfect Storm for Pessimism: Converging Technologies, Cost and Standardization* (2011), *available at* http://www.umiacs.umd.edu/~oard/desi4/papers/bennett.pdf. "The amount of information will grow vastly while storage costs become subdued, increasing the need for computational technologies to offset the very large costs associated with knowledge workers. This paradigm shift signals a mandatory call for smarter information systems, both automated

multiple formats and locations, and subject to the control of multiple custodians.[61] Negotiations (and litigation) between parties over the conduct of search can greatly add to the cost of e-discovery.[62] Institutions often follow a "hodgepodge" of information management procedures, adapted to an array of diverse functions.[63] These challenges, moreover, are highly individualized, such that no single information retrieval system can be called "standard" or "best."[64]

VI. SUGGESTED PRACTICES

In recent years, a host of new e-discovery related local rules and model orders have been suggested from various quarters.[65] Many of these procedures may offer valuable solutions to long-standing e-discovery search issues.[66] Proposed changes to the Federal Rules of

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and semi-automated." *Id.* at 1; *see also* TRANSMITTAL OF RULES TO CONGRESS, 234 F.R.D. 219, 272 (2006) (report of the Advisory Committee) (noting "exponentially greater volume" of digital material, versus "hard-copy," with information that is "dynamic" and "incomprehensible when separated from the system that created it").

61. *See* Charles R. Ragan, *Information Governance: It's a Duty and It's Smart Business*, 19 RICHMOND J. L. & TECH. 1, 3 (2013) (noting requirement of "federated" search, and tendency of organizations to store information past its useful life); *id.* at 12-19 (noting additional challenges).

62. EORHB, Inc. v. HOA Holdings, LLC, 2013 WL 1960621 (Del. Chanc. May 6, 2013) (discussing that given the "low volume of relevant documents," the cost of using predictive coding would not "likely be outweighed by any practical benefit of its use;" thus, parties "may conduct document review using traditional methods").

63. *See* Ragan, *supra* note 61, at 25-26 (noting information security, protection of proprietary information, disaster recovery, and many other potential institutional goals).

64. *See id.* at 20 ("[T]he strategies one organization may choose to follow, and the acceptance or mitigation of particular information-related risks, will differ from the next, depending on each organization's business objectives, specific legal obligations and its tolerance for risk.").

65. *See* Thomas Y. Allman, *Local Rules, Standing Orders, and Model Protocols: Where the Rubber Meets the (E-Discovery) Road*, 19 RICH. J.L. & TECH. 8, 47 (2013) (noting "healthy proliferation of local e-discovery initiatives" without an "obvious pattern emerging as the dominant approach").

66. A Model Order for patent cases, for example, has been proposed and implemented (with some success) in recent cases. *See* Fed. Cir. Bar Assoc., *An E-Discovery Model Order*, 21 FED. CIR. B.J. 347 (2012) (model order includes presumptive limits on discovery requests, with cost-shifting for requests in excess of presumption); Edward Reines & Ping Gu, *Reducing the Cost of Patent Litigation*, RECORDER, Aug. 20, 2012, at 20, *available at* http://pdfserver.amlaw.com/ca/TR_Litigation_082012.pdf (model order assumes that litigants "would tend to expend their own resources more carefully than they would an adversary's resources"); *see also* Steven R. Trybus & Sara Tonnies Horton, *A Model Order Regarding E-Discovery in Patent (and Other?) Cases*, 20 A.B.A. PRETRIAL PRAC. & DISCOV. 2, 4 (2012) (suggesting that cost-shifting and other provisions of patent bar model order could be "applied to other types" of complex litigation); Wendy Akbar, *"One Ring to Rule Them All?" E-Discovery Search Methodology in Patent Litigation in Light of Recent Model Orders and Case Law*, ELEC. DISCOVERY (July 2, 2012), http://electronicdiscovery.info/one-

Civil Procedure,[67] particularly those focused on cooperation and proportionality, may also do some good.[68] But for practitioners and their clients, in the main, no "magic" remedy seems likely to appear any time soon.[69] Despite the challenges associated with defining a "reasonable"

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ring-to-rule-them-all-e-discovery-search-methodology-in-patent-litigation-in-light-of-recent-model-orders-and-case-law-electronic-discovery/; John Tredennick, *New Model E-Discovery Order for Patent Cases turns Fishing Expeditions into Games of "Go Fish,"* CATALYST SECURE BLOG (Oct. 10, 2011), http://www.catalystsecure.com/blog/2011/10/new-model-e-discovery-order-for-patent-cases-turns-fishing-expeditions-into-games-of-go-fish/ (suggesting that the Model Order could have "far-reaching implications" for patent disputes and other civil cases). At least one court has suggested that the Model Order may place a check on incentives in "assymetrical" litigation. *See* DCG Sys., Inc. v. Checkpoint Tech., LLC, 2011 WL 5244356, at *2 (N.D. Cal. Nov. 2, 2011) (suggesting the need for "experimentation" to address "a largely unchecked problem" in e-discovery); In re Google Litig., 2011 WL 611300, at *3 (N.D. Cal. Dec. 7, 2011) (objective of the Model Order is "scaling the burden of electronic document production to its legitimate benefit"). For another sample form of the order, see Ralph Losey, *Judge Grimm's New Discovery Order is Now an e-Discovery Best Practice—Part One*, E-DISCOVERY TEAM BLOG (Oct. 27, 2013), http://e-discoveryteam.com/2013/11/03/judge-grimms-new-discovery-order-is-now-an-e-discovery-best-practice-part-two-with-postscript-to-vendors-on-legal-software-of-the-future/ (referencing Discovery Order, Chambers of Hon. Paul W. Grimm, District of Maryland, text available at www.iaals.du.edu/library/publications/model-e-discovery-order).

67. *See* Craig B. Shaffer & Ryan T. Shaffer, *Looking Past the Debate: Proposed Revisions to the Federal Rules of Civil Procedure*, 7 FED. CTS. L. REV. 178, 179 (2013) (overview of proposed Rules changes); Thomas Y. Allman, *Rules Committee Adopts "Package" of Discovery Amendments*, 13 BNA DIG. DISC. & E-EVID. 200, 201 (2013). For the text of the revised Federal Rules, and comments on the proposed revisions, *see* NOTICE OF PROPOSED AMENDMENTS AND OPEN HEARINGS, USC-Rules-2013-00-0002/.

68. *See* Kevin F. Meade & Arielle Gordon, *Questions Raised by Proposed Amendments to Federal Rules*, N.Y. L.J. (Dec. 2, 2013), http://www.newyorklawjournal.com/id=1202629954493/Questions-Raised-by-Proposed-Amendments-to-Federal-Rules (suggesting that "true impact" of proposed changes may not be felt until rules are interpreted by courts); Todd Ruger, *Discovery Rules Changes Greeted with Skepticism in Senate*, NAT'L L.J. (Nov. 6, 2013), http://www.nationallawjournal.com/id=1202626625047/Discovery-Rules-Changes-Greeted-With-Skepticism-in-Senate%0D%0A (noting "controversy" over proposed rule changes, which could allegedly "harm plaintiffs" in discrimination cases and "do nothing about the high-stakes, highly complex or highly contentious cases in which discovery costs are a problem"); *see also* David Horrigan, *Kroll Ontrack Recaps E-Discovery 2013 with a Google+ Hangout*, LAW TECH. NEWS (Dec. 12, 2013), http://www.nationallawjournal.com/id=1202632092502/Kroll-Ontrack-Recaps-E-Discovery-2013-With-a-Google%2B-Hangout (e-discovery experts agree that "rule changes would accomplish little without fundamental changes in the legal traditions that govern e-discovery just as much as the rules do"); Mitchell Dembin & Philip Favro, *Changing Discovery Culture One Step at a Time*, LAW TECH. NEWS (Dec. 5, 2013), http://www.lawtechnologynews.com/id=1202630168239/Changing-Discovery-Culture-One-Step-at-a-Time (rejecting "Pollyannaish view" that proposed Rules changes will "cure the present ills afflicting discovery").

69. *See* Jason Krause, *Predictive Coding Wars: Man or Machine?,* DISCOVERY CLOUD BLOG (Dec. 17, 2013), http://www.discoverycloud.nextpoint.com/2013/12/11/predictive-coding-wars-man-

search methodology, lawyers and their clients must satisfy judicial expectations regarding search efforts in litigation, and attune their efforts accordingly.[70] The list below, largely derived from extant opinions touching on search issues, outlines at least a "starter set" of basic principles.

A. EDUCATION

The era of "mutually assured destruction" in e-discovery is over.[71] Today, in virtually every case, e-discovery *is* discovery.[72]

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machine/. Mr. Krause states:

> Though there is no magic bullet or simple technological answer to this problem, there is hope. During the last half-decade of research . . . we have [developed] a much better understanding of what a good "search process" looks like. That includes a "human in the loop" (known in the Legal Track as a "topic authority") evaluating on an ongoing basis what automated search software kicks out by way of results. *Id.*

70. *See* Dan H. Willoughby, Jr., Rose Hunter Jones, & Gregory R. Antine, *Sanctions for e-Discovery Violations: By the Numbers*, 60 DUKE L.J. 789, 803 (2010) (in review of five years of sanction opinions, failure to produce information most common basis for sanctions); *see also* Sue Reisinger, *Kroll Study Sees Dramatic Drop in e-Discovery Sanctions*, LAW TECH. NEWS (Dec. 6, 2012), *available at* http://www.krollontrack.com/publications/E-DiscoverySanctions.pdf (noting that the "learning curve" for management of e-discovery cases is evident in decline in sanctions, but "procedural disputes" over "search protocols" and cooperation remain a concern).

71. In the early days of the Internet (and e-mail), counsel and clients often held off on demanding electronic information, on the theory that both sides could overwhelm the other with such requests. *See* Ralph E. Losey, *Top Trends in e-Discovery Noted at ILTA Conference*, ATKINSON-BAKER CT. REPS. (Nov. 2007), *available at* http://www.depo.com/E-letters/TheDiscoveryUpdate/1107/Articles/TopTrends.html. Losey states:

> The [ILTA] panel thinks that corporate America is finally starting to get it, and recognize[s] that they must get a better handle on their records, and be prepared for e-discovery. They correctly noted that for many years most large organizations have taken a kind of "ostrich" approach to the looming problem, and tried to ignore the disastrous law suits that happen to other companies. Consistent with that policy of denial and avoidance, they have instructed their legal counsel to adopt what the panel called "don't ask, don't tell" agreements with opposing counsel. This has worked in the past when two large companies were suing each other, and is usually referred to as the "MAD" approach, "Mutually Assured Destruction," and e-discovery is the nuclear weapon that both sides informally agree not to use. If one company did dare to drop a bomb of an e-discovery request, the other would respond in kind. It kept the peace for many years, but is now as passé as the cold war itself. *Id.*

72. *See* Deborah Jillson, *Harnessing the Beast: Litigation Readiness for Big Data*, LAW TECH. NEWS (Dec. 17, 2013), http://www.lawtechnologynews.com/id=1202632455434/Harnessing-the-Beast%3A-Litigation-Readiness-for-Big-Data (stating that "paper-based litigation practices and discovery have disappeared and electronic discovery is here to stay"); Megan Zavieh, *Luddite Lawyers are Ethical Violations Waiting to Happen*, LAWYERIST (Dec. 2, 2013), http://lawyerist.com/71071/luddite-lawyers-ethical-violations-waiting-happen/ (noting that, today, "even litigation between individuals represented by solo attorneys is likely to

Attorneys must educate themselves about the fundamentals of e-discovery technology,[73] and inform themselves about their client's "key players,"[74] information management environment,[75] the capabilities of available service providers,[76] and the search requirements of the

involve electronic discovery"); *see also* Rachel K. Alexander, *E-Discovery Practice, Theory, and Precedent: Finding the Right Pond, Lure, and Lines Without Going on a Fishing Expedition*, 56 S.D. L. REV. 25, 26 (2011) ("electronic communication and processing has taken a dominant role in business and personal relationship worldwide"); Moss, *supra* note 28, at 892 (noting key importance of e-discovery in litigation today).

73. *See* Mikki Tomlinson, *Attacking eDiscovery Ignorance in 2013*, E-DISCOVERY J. (Nov. 29, 2012, 9:22 AM), http://old.ediscoveryjournal.com/2012/11/attacking-ediscovery-ignorance-in-2013/ (suggesting that poor cooperation efforts in e-discovery "oftentimes boils down to eDiscovery ignorance"); Allman, *supra* note 33, at 7 ("Counsel has an ethical obligation to acquire the requisite skills and knowledge to advise on e-discovery, confidentiality of client information and privilege reviews, and the maintenance of an appropriate relationship with courts and counsel while balancing cooperation and advocacy."); *see also* Joel Cohen & James L. Bernard, *The "Ethic" of Getting up to Speed "Technologically*," N.Y. L.J. (Dec. 10, 2013), http://www.newyorklawjournal.com/id=1202631612989/The-'Ethic'-of-Getting-Up-to-Speed-'Technologically' ("like it or not, an understanding of technology is ethically required"); Oot, Kershaw, & Roitblat, *supra* note 40, at 535 (noting need to "encourage attorneys to learn and study technology" and "help [attorneys] better understand their options for meeting discovery obligations in litigation"); Sedona Conf. WGI, *supra* note 39, at 195 ("Parties and courts should be alert to new and evolving search and information retrieval methods."). The ABA's recent modifications to its Model Rules of Professional Responsibility emphasize the point. *See* AMER. BAR ASS'N MODEL RULE 1.1, Comment 8 (2012) ("To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology[.]").

74. *See* Zubulake v. UBS Warburg, 229 F.R.D. 422, 432 (S.D.N.Y. 2004) (noting obligation of counsel to identify "key players" and communicate with them "to understand how they stored information" relevant to proceedings); *see also* Mafe Rajul, *"I Didn't Know My Client Wasn't Complying!" The Heightened Obligation Lawyers Have to Ensure Clients Follow Court Orders in Litigation Matters*, 2 SHIDLER J.L. COMM. & TECH. 9, 14 (2005) (noting lawyer's obligation of speaking with "key player[s]" involved in litigation).

75. *See* Logtale, Ltd. v. IKOR, Inc., 2013 WL 3967750 (N.D. Cal. July 31, 2013) (noting that counsel had not been "sufficiently proactive in ensuring that his clients are conducting thorough and appropriate document searches, especially in light of obvious gaps and underproduction;" it is "not enough for counsel to simply give instructions to his clients and count on them to fulfill their discovery obligations;" additionally suggesting that, if there were "continuing problems," court would order party to retain an e-discovery vendor and submit "detailed declarations" regarding discovery efforts).

76. *See* Lauren Katz, *A Balancing Act: Ethical Dilemmas in Retaining E-Discovery Consultants*, 22 GEO. J. LEGAL ETHICS 929, 940-41 (2009) (to fulfill duty of competence, attorneys may need to obtain assistance of e-discovery consultants); *see also* Sedona Conf. WGI, *supra* note 39 ("Parties should perform due diligence in choosing a particular information retrieval product or service from a vendor."). Wholesale delegation to a vendor of responsibility for the e-discovery process could be dangerous. *See* Peerless Indus., Inc. v. Crimson AV, LLC, 2013 WL 85378 (N.D. Ill. Jan. 8, 2013) (granting sanctions based on party's "backseat approach" of reliance on vendor to accomplish collection; defendant ordered to "show that they in fact searched" for the requested documents).

particular case.[77] Courts will rarely tolerate willful ignorance on these subjects.[78] Counsel, moreover, should develop at least a rough familiarity with the norms of e-discovery project management, especially the budgeting elements of such projects.[79] Education in the area of information management practices and litigation preparedness may also improve the efficiency of e-discovery projects,[80] aid in litigation

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77. *See* Oot, Kershaw, & Roitblat, *supra* note 40 ("Many lawyers and judges need education regarding 'reasonable inquiry' discovery response techniques.").

78. *See* Clay v. Consol. Pa. Coal Co., 2013 U.S. Dist. LEXIS 129809, at *4 (N.D. W. Va. Aug. 13, 2013) (ordering sanctions where claims of "miscommunication" between counsel and client, coupled with mistaken "assumption" that searches would occur, suggested "suspicious course" and "severe shortcoming" in discovery process); 1100 West, LLC v. Red Spot Paint & Varnish Co., 2009 WL 1605118, at *28 (S.D. Ind. June 5, 2009) (sanctioning counsel for failure to supervise client's search, and misrepresentations about client information); Diabetes Ctrs. of Am., Inc. v. HealthPia Am. Inc., 2008 U.S. Dist. LEXIS 8362 (S.D. Tex. Feb. 5, 2008) (discussing that counsel was "remiss" for entrusting search for responsive e-mails to junior associate, not provided with direction or instruction for crafting keyword search); Phoenix Four, Inc. v. Strategic Res. Corp., 2006 WL 1409413, at *6 (S.D.N.Y. May 23, 2006) (stating that counsel was "grossly negligent" for "simply accept[ing]" client's representations about lack of computers to search); *see also* Scott Giordano, *Five Steps to Regaining E-Discovery Control in the Era of Big Data*, KM WORLD (Mar. 4, 2013), http://www.kmworld.com/Articles/Editorial/ViewPoints/Five-Steps-to-Regaining-E-Discovery-Control-in-the-Era-of-Big-Data-88159.aspx (the "vast majority" of judicial sanctions in e-discovery matters involve "poor coordination among e-discovery team members"); Daniel Gelb, *Understanding E-Discovery Obligations before Making a Certification*, 7 DIGITAL DISC. & E-EVID. 214, 215 (2007) (certification requirement prohibits an attorney from "willfully blind" representation that a discovery response is complete); *but see* Thomas Y. Allman, *Achieving an Appropriate Balance: The Use of Counsel Sanctions in Connection with the Resolution of E-Discovery Misconduct*, 15 RICH. J. L. & TECH. 9, 22 (2009) ("Some courts, unfortunately, treat outside counsel as virtual guarantors of discovery diligence and see very little room for reliance on client resources."). At least one court, in a pilot project, requires the presence of knowledgeable counsel at conferences concerning e-discovery. *See* In re Pilot Project Regarding Case Mgmt. Techniques for Complex Civil Cases in the S. Dist. of N.Y., No. 11 Misc. 00388 (order requiring, in complex cases chosen for pilot project, Rule 26(f) conference with counsel "sufficiently knowledgeable" of e-discovery matters relating to their clients' technological systems to discuss potentially relevant data, data system capabilities, and keyword lists and responsiveness rates).

79. *See* David Horrigan & Alan Pelz-Sharpe, *supra* note 55 ("lawyers often receive huge e-discovery bills with massive cost overruns, but know little about what went into the costs, leaving them unable to question the bill intelligently"); David Degnan, *supra* note 21, at 153 (noting that data processing charges for service vendors may include an array of services, some of which can be performed by the corporation itself, if properly staffed and equipped).

80. *See* Mitchell Dembin & Philip Favro, *supra* note 68. "If a goal of in-house counsel is to obtain more cost-effective results in discovery, then it behooves counsel to examine the organization's information governance plan. The time to conduct this examination is not in the crisis atmosphere of complex litigation[.]" *Id.*; Esteban, *supra* note 54, at 26 ("Companies are taking a hard look at their records retention and management policies to balance the need to preserve data for regulatory or litigation requirements with the costs

budgeting,[81] and help parties and counsel avoid allegations of bad faith.[82]

B. GOOD FAITH

Civil procedure rules do not specifically "describe the lengths" to which a litigant must go in conducting a reasonable search for information.[83] Yet, "halfhearted and ineffective" efforts are clearly inadequate;[84] a "good faith" effort is essential.[85] One common phenomenon,

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of preservation and, later in a litigation cycle, collection and production."); Connie Brenton, *E-discovery: What is the Optimal Model for Corporations?*, INSIDE COUNS. (Nov. 22, 2013), http://www.insidecounsel.com/2013/11/22/e-discovery-what-is-the-optimal-model-for-corporat ("Corporations that have put in place well-defined e-discovery processes have dramatically increased their litigation discovery effectiveness, reduced their risk and saved tens of millions of dollars in the bargain."); Herbert Roitblat, *A Systems Approach to E-Discovery*, LAW TECH. NEWS (Nov. 6, 2013), http://www.lawtechnologynews.com/id=1202626658605/A-Systems-Approach-to-E-Discovery (suggesting that "fragmented" information systems may adversely affect cost and consistency of search; records management, information lifecycle management and information governance systems, implemented prior to litigation, may improve efficiency); Matthew A. Bills, *9 Ways to Reduce E-discovery Costs*, CORP. COUNS. 1, 1 (Sept. 6, 2013), *available at* http://www.grippoelden.com/media/news/4_9%20Ways%20to%20Reduce%20E-discovery%20Costs.pdf (suggesting need to "implement a sound records-management policy" as means to reduce costs); *see also* Victor Li, *Georgetown 2013: Building a Better Info Governance Practice*, LAW TECH. NEWS (Nov. 22, 2013), http://www.lawtechnologynews.com/id=1202629213326 (suggesting that "defensible" deletion policies, combined with technology assisted review, can reduce volume of documents reviewed by up to forty percent) (citing Tim Hart at McKesson Corp.).

81. *See* D. Casey Flaherty, *Standardizing E-Discovery Cost Redux*, LAW TECH. NEWS (Dec. 17, 2013), http://www.lawtechnologynews.com/id=1387234094772/Standardizing-E-Discovery-Cost-Redux ("unless you are intimately familiar with your data, you are going to have a very hard time determining *ex ante* (before the event) what your costs will be").

82. *See generally* Peter Kiewit Sons, Inc. v. Wall St. Equity Grp., Inc., 2012 WL 1852048 (D. Neb. May 18, 2012) (ordering monetary sanctions and payment for a forensic search where "Defendants' essentially non-existent document retention policy" and "disorganized method of storing the documents they do keep" rendered them "an unreliable source of discovery," necessitating forensic search).

83. *See* Benson v. Sanford Health, 2011 WL 1135379, at *4 (D.S.D. Mar. 25, 2011).

84. *See* Robinson v. City of Arkansas City, Kansas, 2012 WL 603576, at *4 (D. Kan. Feb. 24, 2012); *see also* Northstar Marine, Inc. v. Huffman, CA 13-00037-WS-C (S.D. Ala. Aug. 27, 2013) (where parties agreed in Rule 26(f) report to use "computer-assisted search technology," the excuse that a party could not find an "inexpensive provider" of search technology did not suffice; "no showing of due diligence or good cause" to modify agreed order); Maggette v. BL Dev. Corp., 2009 WL 4346062, at *1 n.1 (N.D. Miss. Nov. 24, 2009) (stating that sanctions were appropriate for "casual, if not arrogant, rebuff to plaintiffs' repeated efforts to obtain information which is ordinarily easily produced in litigation"); R & R Sails, Inc. v. Ins. Co. of Penn., 251 F.R.D. 520, 525 (S.D. Cal. 2008) (sanctions for failure to produce electronic claim log after repeated requests; where employee who certified claim log did not exist later produced it from his own computer).

for example, is the "drive by" Rule 26(f) conference.[86] Early engagement on every conceivable e-discovery issue may be neither possible nor desirable;[87] yet, counsel surely cannot avoid their "meet and confer" obligations merely as a matter of gamesmanship,[88] and surely cannot ignore court directions regarding cooperation.[89] "Sand-bagging"

85. *See* Tayadon v. Geyhound Lines, Inc., 2012 WL 2048257 (D.D.C. June 6, 2012) (ordering parties to make "genuine efforts to engage" in "cooperative discovery regime," and requiring periodic court tele-conferences to confirm progress); In re Sept. 11th Liab. Ins. Coverage Cases, 243 F.R.D. 114, 125 (S.D.N.Y. 2007) ("Discovery is run largely by attorneys, and a court and the judicial process depend upon honesty and fair dealing among attorneys."); *see also* Sedona Conf. WGI, *supra* note 39, at 195 ("Parties should make a good faith attempt to collaborate on the use of particular search and information retrieval methods, tools and protocols (including keywords, concepts, and other types of search parameters).").

86. Lee H. Rosenthal, *Electronic Discovery – Is the System Broken? Can it be Fixed?*, THE ADVOCATE 8, 9 (Summer 2010) (noting FJC study, indicating that only half of attorney respondents included discussion of ESI in Rule 26(f) conferences, and only one in five court-ordered discovery plans included provisions relating to ESI); *see also* Michael Collyard, *E-Discovery: Avoiding Drive By "Meet & Confers*," INSIDE COUNS. (Sept. 13, 2011), http://www.insidecounsel.com/2011/09/13/e-discovery-avoiding-drive-by-meet-confers.

87. *See* H. Christopher Boehning & Daniel J. Toal, *Are Meet, Confer Efforts Doing More Harm Than Good?*, N.Y. L.J. (July 31, 2012), http://www.newyorklawjournal.com/id=1202564932130/Are-Meet,-Confer-Efforts-Doing-More-Harm-Than-Good%3F ("Ideally, parties will engage on key e-discovery and preservation issues when and if the need arises."); Lee H. Rosenthal, *A Few Thoughts on Electronic Discovery after December 1, 2006*, 116 YALE L.J. POCKET PART 167, 176 (2006) ("Every item on this daunting [Rule 26(f)] list may not apply or be important in every case.").

88. *See* Branhaven LLC v. Beeftek, Inc., 2013 WL 388429 (D. Md. Jan. 4, 2013) (ordering sanctions for wrongful Rule 26(g) certification, where counsel "essentially admitted" that discovery response was "meaningless" and intended to "buy time;" noting that "[i]f all counsel operated at this level of disinterest as to discovery obligations, chaos would ensue"); Lane v. Page, 2011 U.S. Dist. LEXIS 21198, at *12 (D. N.M. Feb. 10, 2011) (noting that the Federal Rules "exhibit little patience for gamesmanship"); Jimena v. UBS AG Bank, Inc., 2010 U.S. Dist. LEXIS 119393, at *10 (E.D. Cal. Oct. 25, 2010) (stating that the Federal Rules are "meant to encourage fairness and to avoid obstructionism, gamesmanship, and tactical maneuvering"); *cf.* Cache La Poudre Fees, LLC v. Land O Lakes, Inc., 2007 WL 6840001, at *24 (D. Colo. Mar. 2, 2007) ("bad faith" occurs where counsel is "not merely negligent, but has engaged in some wrongdoing" or has "some motive of self-interest"). The circumstances of a case (including prior instances of improper behavior) might also suggest bad faith. *Id.*; *see* Thibeault v. Square D Co., 960 F.2d 239, 246 (1st Cir. 1992) (court may consider "all the circumstances" surrounding "lapses" in discovery, including "events which did not occur in the case proper but occurred in other cases," which may indicate "counsel's proven propensities").

89. *See* EEOC v. Original Honeybaked Ham Co. of Ga., Inc., 2013 WL 752912, at *3 (D. Colo. Feb. 27, 2013) (noting court's "broad discretion" to "insure not only that lawyers and parties refrain from contumacious behavior, . . . but that they fulfill their high duty to insure the expeditious and sound management of the preparation of cases for trial"); *see id.* at *1 (imposing sanctions for party "negligent in its discovery obligations, dilatory in cooperating with defense counsel, and somewhat cavalier in its responsibility" to the court).

exchanges of information (in hopes that the opposing party will somehow stumble) also typically receives a frigid judicial response.[90] Similarly, self-created problems in production of information generally do not serve as adequate excuses for incompleteness of response.[91]

The good faith obligation applies in both directions.[92] Blunderbuss discovery requests,[93] followed by take-no-prisoners refusal to recognize priorities in discovery,[94] fail the bad faith standard for requesting

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90. *See* In re Nat'l Assoc. of Music Merchants, Musical Instruments & Equip. Antitrust Litig., 2011 WL 6372826, at *2 (S.D. Cal. Dec. 19, 2011) (denying request to research database, where plaintiff had "ample opportunity" to obtain the information through prior discovery, but failed to take advantage of "meet and confer" process; but permitting additional, limited search to extent requesting party willing to pay cost); Covad Comm. Co. v. Revonet, Inc., 254 F.R.D. 147, 149 (D.D.C. 2008) (failure of party to respond to an invitation to propose search terms is not the kind of "collaboration and cooperation" expected by courts and it is a "waste of judicial resources to continue to split hairs on an issue that should disappear when lawyers start abiding by their obligations" to confer); *see also* In re Biomet M2A Magnum Hip Implant Prods. Liab. Litig., No. 3:12-MD-2391 (N.D. Ind. Apr. 18, 2013) (where responding party offered to permit plaintiffs to suggest additional search terms, and plaintiffs declined, responding party not required to start search over, where "confidence tests" suggested a "comparatively modest number" of additional documents would be found); In re Seroquel Prods. Liab. Litig., 244 F.R.D. 650, 651, 662 (M.D. Fla. 2007) (where party "undertook the [search] task in secret," party failed to work in "cooperative" manner).

91. *See* Sedona Conf., *supra* note 15, at 298 (in assessing whether discovery request is unduly burdensome, a court should consider the extent to which the claimed burden "grow[s] out of the responding party's action or inaction"); *see also* Escamilla v. SMS Holdings Corp., 2011 U.S. Dist. LEXIS 122165, at *16-17 (D. Minn. Oct. 21, 2011) (where party "creates its own burden or expense" by converting data into an inaccessible format, it should not be entitled to shift costs of search); Pippins v. KPMG LLP, 2011 U.S. Dist. LEXIS, 116427, at *25 (S.D.N.Y. Oct. 7, 2011) (rejecting burden concern as "self-inflicted to a large extent").

92. *See* Kinee v. Abraham Lincoln Fed. Sav. & Loan Assoc., 365 F. Supp. 975, 982 (E.D. Pa. 1973) ("grossly improper" for plaintiff to "set out a dragnet" against a large number of parties "to the inconvenience, expense and possible anxiety of being sued," without "reasonable investigation" in advance of filing).

93. *See* Woodward v. Emulex Corp., 714 F.3d 632, 636 (1st Cir. 2013) (holding that trial court did not abuse its discretion by limiting discovery to specifically named employees and thereby prevent "a fishing expedition into possibly barren waters"); Georgacarakos v. Wiley, 2011 U.S. Dist. LEXIS 26900, at *16 (D. Colo. Mar. 16, 2011) (magistrate judge properly exercised authority to "overlook matters of form and cut to the heart of a discovery dispute" by modification of overbroad document request); *see also* Craig Ball, *Modern E-Discovery Requests*, LAW TECH. NEWS (Dec. 1, 2013), http://www.lawtechnologynews.com/id=1202630112765/Modern-E-Discovery-Requests (suggesting that "[s]lipshod requests for production" of ESI "sow the seeds for failed discovery;" and suggesting need to overcome "challenges" in requesting information by "ditch[ing] the boilerplate" and "focusing on what we really are seeking—information in utile and complete forms").

94. *See* Cartel Asset Mgmt. v. Ocwen Fin. Corp., 2010 U.S. Dist. LEXIS 17857, at *40 (D. Colo. Feb. 8, 2010) ("The court is left with the impression that counsel are searching for discovery disputes, rather than working cooperatively[.]").

parties.[95] Broad-based demands for free access to a responding party's computer systems also typically fail, absent a significant showing of need.[96]

C. PLAN FORMULATION

The American system of civil justice generally depends upon a party-driven pre-trial process.[97] Whether generated purely by the responding party,[98] or as the product of negotiations between the parties, courts expect genuine efforts to formulate a discovery plan,[99] rather than

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95. *See* Gen. Steel Domestic Sales, LLC v. Chumley, 2011 U.S. Dist. LEXIS 63803, at *1-7 (D. Colo. June 15, 2011) (rejecting request for production of every recorded sales call in database, where review of calls would require four years to identify potentially responsive information); Willner v. Sybase, 2010 U.S. Dist. LEXIS 121658, at *9 (S.D. Idaho Nov. 16, 2010) (search of employee emails would amount to "proverbial fishing expedition—an exploration of a sea of information with scarcely more than a hope that it will yield evidence to support a plausible claim;" in employing "proportionality standard," court must balance requesting party's interest against "not-inconsequential burden of searching for and producing documents"); Murray v. Geithner, 2010 U.S. Dist. LEXIS 33236, at *2 (S.D.N.Y. Mar. 25, 2010) (stating that it is "not the Court's task" to do a party's "job for him by redrafting his manifestly overbroad discovery requests").

96. *See* NOLA Spice Designs, LLC v. Haydel Enterp., Inc., 2013 WL 3974535, at *1 (E.D. La. Aug. 2, 2013) (rejecting "ultra-broad" request for passwords to permit defendant to "roam freely through all manner of personal and financial data" on websites; noting that "mere skepticism" that opposing party has not produced all relevant information was insufficient to justify drastic discovery measures); Giachetto v. Patchogue-Medford Union Free Schl. Dist., 293 F.R.D. 112, 116 (E.D.N.Y. 2013) (rejecting "unfettered access" to social network information, but requiring production of any "specific references" to emotional distress that plaintiff claimed); Tucker v. AIG, Inc., 281 F.R.D. 85, 90 (D. Conn. 2012) (request for "carte blanche access to rummage through" mirror images of laptops in effect seeks to "dredge an ocean" in effort to "capture a few elusive, perhaps non-existent, fish").

97. *See* Jordan M. Singer, *Proportionality's Cultural Foundation*, 52 SANTA CLARA L. REV. 145, 162 (2012) ("We are willing to allow wide attorney discretion in conducting pretrial activities because such discretion is the best mechanism we have to promote the ultimate goals (the core values) of a predictable, efficient, and fair resolution of the merits."); *but see* Terry Ahearn & Wendy Axelrod, *E-Discovery: Cooperation and Proportionality, the Past, Present and Future*, INSIDE COUNS. (Sept. 24, 2013), http://www.insidecounsel.com/2013/09/24/e-discovery-cooperation-and-proportionality-the-pa (suggesting that "judicial, instead of party, management of discovery has become the norm and voluntary party cooperation often the exception").

98. Where the requesting party refuses to cooperate in formulating a search plan, the responding party may have no choice but to proceed with its own plan. Absent that situation, however, courts generally disfavor a "unilateral decision" regarding search. *See* Capitol Records, Inc. v. MP3tunes, LLC, 261 F.R.D. 44, 47 (S.D.N.Y. 2009) (unilateral decision fails to heed call for "cooperation concerning e-discovery").

99. *See, e.g.*, Da Silva Moore v. Publicis Groupe, 287 F.R.D. 182, 193 (S.D.N.Y. 2012) ("counsel must design an appropriate process, including use of available technology, with appropriate quality control testing"); William A. Gross Constr. Assocs., Inc. v. Am. Mftrs. Ins. Co., 256 F.R.D. 134, 135-36 (S.D.N.Y. 2009) (noting "need for careful thought, quality control, testing, and cooperation to avoid searches in the dark, by the seat of the pants").

simply dumping the matter in a judge's lap.[100] Indeed, some courts have imposed sanctions,[101] and expressed remarkable annoyance at parties who manage to bicker over every element of discovery.[102] Even if the discovery plan is incomplete, or meant to evolve over time,[103] courts greatly appreciate efforts to structure the discovery process,[104]

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100. *See* Romero v. Allstate Ins. Co., 271 F.R.D. 96, 109 (E.D. Pa. 2010) (stating that the court "expects counsel to 'reach practical agreement' without the court having to micro-manage e-discovery," including agreement on "search terms, date ranges, key players" and "any other essential details about the search methodology"); SEC v. Collins & Aikman Corp., 256 F.R.D. 403, 415 (S.D.N.Y. 2009) (had discovery plan been created by meet and confer process, "the Court might not now be required to intervene"); Victor Stanley, Inc. v. Creative Pipe, Inc., 250 F.R.D. 251, 262 (D. Md. 2008) ("Selection of the appropriate search and information retrieval technique requires careful advance planning by persons qualified to design effective search methodologies.").

101. *See, e.g.*, E.I. du Pont de Nemours & Co. v. Kolon Indus., Inc., 911 F.Supp.2d 340 (E.D. Va. 2012) (ordering payment of fees and costs for "Shermanesque" refusal to cooperate); Innospan Corp. v. Intuit, Inc., 2012 WL 1144272 (N.D. Cal. Apr. 4, 2012) (sanctions for "relentless discovery violations" and failure to cooperate); Taydon v. Greyhound Lines, Inc., 2012 WL 2048257 (D.D.C. June 6, 2012) (declaring "High Noon" for failure to cooperate, and requiring bi-weekly telephone status conference with court to report on progress and resolve any discovery disagreements); Aguilar v. Immigration & Customs Enforcement Div. of the U.S. Dep't of Homeland Sec., 255 F.R.D. 350, 364 (S.D.N.Y. 2008) ("This lawsuit demonstrates why it is so important that parties fully discuss their ESI early in the evolution of a case. . . . [T]he parties might have been able to work out many, if not all, of their differences[;]" "[i]nstead, these proceeding have now been bogged down in expensive and time-consuming litigation of electronic discovery issues[.]").

102. *See, e.g.*, Patroski v. Pressley Ridge, 2011 U.S. Dist. LEXIS 133290, at *8 (W.D. Pa. Nov. 17, 2011) (not court's responsibility to "referee discovery bouts between consenting adults"); Morris v. Coker, 2011 WL 3847590, at *1 (W.D. Tex. Aug. 26, 2011) (court invites lawyers to "kindergarten party" to deal with discovery bickering); Avista Mgmt., Inc. v. Wausau Underwriters Ins. Co., No. 6:05-cv-1430-Orl-31JGG, (M.D. Fla. June 7, 2006), *available at* http://money.cnn.com/2006/06/07/magazines/fortune/judgerps_fortune/ (court orders attorneys to play game of "rock, paper, scissors" on courthouse steps to resolve one of continuing discovery disputes).

103. *See* In re Facebook PPC Advert. Litig., 2011 WL 1324516, at *6 (N.D. Cal. Apr. 6, 2011) ("the argument that an ESI Protocol cannot address every single issue that may arise is not an argument to have no ESI Protocol at all"); *see also* Jamie Brown & Paul Weiner, *Data Handling Strategies for Smaller Cases—A Checklist* (2013), *available at* www.law.georgetown.edu (suggesting "phased collection," with "narrow time frame" and use of "primary sources" to start, as means of controlling costs); Bills, *supra* note 80 ("conducting discovery in phases is an effective way to reduce costs by focusing the parties' time and effort on the most critical discovery at the outset"); Sean R. Gallagher, *Bringing Proportionality back into the Discovery Process: E-Discovery for the other 97% of Us*, A.B.A. 1, 11 (Apr. 23, 2013), http://www.americanbar.org/content/dam/aba/events/labor_law/2013/04/aba_national_symposiumontechnologyinlaboremploymentlaw/17_gallagher.authcheckdam.pdf (suggesting need for "front-loading certain aspects" of discovery for early stages, such as to permit "clarification of the magnitude of the claims," so that parties may later be "better positioned to target future discovery in a more efficient manner").

104. *See* Advisory Committee Notes, FED. R. CIV. P. 26 ("desirable" that "proposals

and sharpen any issues that require judicial resolution.[105] Courts especially dislike forced choices between botched discovery efforts (already undertaken) and repeated (wasteful) palliative efforts.[106]

In more complicated matters, involving specialized search technologies, the development of such a plan, by the parties rather than by the court, may be particularly essential.[107] Where necessary, at least in the preliminary phases of discovery plan formulation, the parties may prefer to operate under protection of a confidentiality stipulation and order.[108] In some cases, early involvement of a mediator or special master

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regarding discovery be developed through a process where [parties] meet in person, informally exploring the nature and basis of the issues, and discuss how discovery can be conducted most efficiently and economically").

105. *See* Ahearn & Axelrod, *supra* note 97 (suggesting the desirability of "jointly submitted document production or ESI protocol," which will "clearly define [party] mutual discovery obligations" and "frame the issues upfront").

106. *See, e.g.*, Kleen Prods., LLC v. Pkg. Corp. of Am., 2012 WL 4498465 139632, at *46 (N.D. Ill. Sept. 28, 2012) (cooperation "should be started early in the case;" it is "difficult or impossible to unwind procedures that have already been implemented"); Nat'l Day Laborer Org. Network v. U.S. Immigration & Customs Enforcement Agency, 877 F. Supp.2d 87, 111 (S.D.N.Y. 2012) ("repeating vast swaths of the search in order to ensure adequacy is a waste of resources" and ordering parties to "work cooperatively" to design additional, targeted searches); Larsen v. Coldwell Banker Real Estate Corp., 2012 U.S. Dist. LEXIS 12901, at *18 (C.D. Cal. Feb. 2, 2012) (rejecting request to redo production on assertion of only "a few alleged discrepancies"); High Voltage Beverages, LLC v. Coca-Cola Co., 2009 U.S. Dist. LEXIS 88259, at *5-6 (W.D.N.C. Sept. 7, 2009) (requiring party to "sift sand for documents it has already produced would be unreasonably duplicative of earlier efforts;" noting "unrebutted showing that the man-hours and expense of reviewing the collection would be extraordinary, and it appears to the court that the burden or expense of the proposed discovery outweighs its likely benefit"). The court stated in *Ford Motor Co. v. Edgewood Properties, Inc.*:

> It is beyond cavil that this entire problem could have been avoided had there been an explicit agreement between the parties as to production, but as that ship has sailed, it is without question unduly burdensome to a party months after production to require that party to reconstitute their entire production to appease a late objection.

Ford Motor Co. v. Edgewood Props., Inc., 257 F.R.D. 418, 426 (D.N.J. 2009); Gucci Am., Inc. v. Costco Whole Corp., 2003 WL 21018832, at *2 (S.D.N.Y. May 6, 2003) (responding party "waited until the end of discovery, after the issue was brought before the Court, to conduct a thorough search").

107. *See* Sedona Conf. WGI, *supra* note 39 ("Success in using any automated search method or technology will be enhanced by a well-thought out process with substantial human input on the front end[.]"); *see also* Gordon v. Kaleida Health, 2013 WL 2250579 (W.D.N.Y. May 21, 2013) (need for parties to "meet and confer" regarding protocol for predictive coding); In re Actos (Pioglitazone) Prods. Liab. Litig., MDL No. 6:11-MD-2299 (W.D. La. July 27, 2012) (order detailing methods for technology assisted review in case; noting need for "cooperation" in implementation of order); Victor Stanley, Inc. v. Creative Pipe, Inc., 250 F.R.D. 251, 262 (D. Md. 2008) ("the party selecting the [search] methodology must be prepared to explain the rationale for the method chosen to the court, demonstrate that it is appropriate for the task, and show that it was properly implemented").

108. *See* Butterfield, Crowley, & Kenney, *supra* note 27, at 14-15 (suggesting desira-

may also advance the plan formulation process.[109]

D. MEETING BURDENS

Courts generally assume that producing parties are in the best position to understand their own information storage and retrieval systems,[110] and thus required (in the first instance) to create a plan for conducting required searches for information (with an opportunity for input by the requesting party).[111] Where the requesting party makes a

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bility of court order to effect that disclosure of search methodologies does not constitute waiver of work-product protection or attorney-client privilege, and search terms will be treated as highly confidential) (citing In re CV Therapeutics, Inc. Sec. Litig., 2006 U.S. Dist. LEXIS 38909, at *31-32 (N.D. Cal. Apr. 3, 2006)); *see also* Steven C. Bennett, *How Can Courts Encourage Cooperation in Discovery?*, 82 N.Y.S.B.A.J. 27, 29 (2010) ("Under cover of settlement privilege, parties, counsel and their computer advisors might more freely discuss the terms that can most effectively and efficiently retrieve the most relevant materials while minimizing the burden on the responding party. Indeed, such a system might encourage parties to share test results of various search alternatives and permit limited, targeted follow-up searches without the specter of claims of spoliation and related discovery violations.").

109. *See* Cannata v. Wyndham, 2012 WL 528224, at *4 (D. Nev. Feb. 17, 2012) (special master empowered to approve and limit search terms); AFSCME v. Ortho-McNeil-Janssen Pharm., Inc., 2010 U.S. Dist. LEXIS 135371, at *15 (E.D. Pa. Dec. 21, 2010) ("If the Parties are unable to resolve these matters within the time allotted, the Court may require them to submit their discovery processes to a special master, with costs to be borne by the parties."); Equity Analytics LLC v. Lundin, 248 F.R.D. 331, 333 (D.D.C. 2008) (expert used to certify choice of search terms); *see also* Marian Riedy, Suman Beros, & Kim Sperduto, *Mediated Investigative E-Discovery*, 4 FED. CTS. L. REV. 79, 81 (2010) (proposing mediation methodology for approval of search protocol); *see generally* Hon. Shira A. Scheindlin & Jonathan M. Redgrave, *Special Masters and E-Discovery: The Intersection of Two Recent Revisions to the Federal Rules of Civil Procedure*, 30 CARDOZO L. REV. 347, 353 (2008) (noting that authority of special masters includes "reviewing discovery documents" and "settlement negotiations").

110. *See* Harlow v. Sprint/Nextel Corp., No. 08-2222 (D. Kan. Nov. 26, 2013) (responding party in "best position to establish" that it has "already produced" sufficient relevant data; directing parties to "work together in good faith and in a cooperative manner toward the goal of narrowing the size of the production" as well as "the cost and time needed to produce it"); Kleen Prods. LLC, 2012 U.S. Dist. LEXIS 139632, at *18 ("responding parties are best situated to evaluate the procedures, methodologies, and techniques appropriate for preserving and producing their own" ESI); Victor Stanley, Inc. v. Creative Pipe, Inc., 250 F.R.D. 251, 261 n.10 (D. Md. 2008) (producing party must demonstrate that search methodology is "appropriate for the task, and show that it was properly implemented"); Ice Corp. v. Hamilton Sundstrand Corp., 2007 WL 1364984, at *6 (D. Kan. May 9, 2007) ("burden is on the [producing] party to support its objections [to further discovery] with specificity and, where appropriate, with reference to affidavits and other evidence"); *see also* SEDONA CONF., *supra* note 8, at 38 (producing party generally in best position to select most appropriate methods for reviewing and producing ESI).

111. *See* Ruiz-Bueno v. Scott, 2013 WL 6055402, at *4 (S.D. Ohio Nov. 15, 2013). In Ruiz-Bueno, the court stated:

> What should have occurred here is that, either as part of the Rule 26(f) planning

credible argument that the search technique fails, in some important way, to capture relevant information, the responding party may be required to explain the reasonableness of its search methodology,[112] including quality assurance,[113] and (if necessary) demonstrate the unreasonableness of extending the search beyond the locations and techniques already proposed (or undertaken).[114]

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process, or once it became apparent that a dispute was brewing over ESI, counsel should have engaged in a collaborative effort to solve the problem. That effort would require defendants' counsel to state explicitly how the search was constructed or organized. Plaintiffs' counsel would then have been given the chance to provide suggestions about making the search more thorough. That does not mean that all of plaintiffs' suggestions would have to be followed, but it would change the nature of the dispute from one about whether plaintiffs are entitled to find out how defendants went about retrieving information to one about whether those efforts were reasonable. That issue cannot be discussed intelligently either between counsel or by the Court in the absence of shared information about the nature of the search. *Id.*

112. *See* Sedona Conf. WGI, *supra* note 39, at 195 ("Parties should expect that their choice of search methodology will need to be explained, either formally or informally, in subsequent legal contexts (including depositions, evidentiary proceedings, and trials)."); *see also* Victor Stanley, Inc. v. Creative Pipe, Inc., 250 F.R.D. 251, 262 (D. Md. 2008) (party "failed to demonstrate" that keyword search was "reasonable" where party "neither identified the keywords selected nor the qualifications of the persons who selected them to design a proper search; they failed to demonstrate that there was quality-assurance testing; and when their production was challenged" they "failed to carry their burden of explaining what they had done and why it was sufficient"). The record of negotiations between the parties, together with the specific methodology of the search protocol, may be a center-piece of the presentation to the court. *See* Ashish S. Prasad, *Problems and Solutions in Electronic Discovery*, 11 DIGITAL DISC. & E-EVIDENCE 1, 5 (Jan. 6, 2011) ("documentation created throughout the [e-discovery] process will enable counsel to describe with accuracy the actions that were taken" and provide an "excellent opportunity for the organization to demonstrate its good faith and reasonable efforts").

113. *See* Chen-Oster v. Goldman, Sachs & Co., 2012 U.S. Dist. LEXIS 130123, at *42 (S.D.N.Y. Sept. 10, 2012) (responding party "must use reasonable measures to validate ESI collected from database systems to ensure completeness and accuracy of the data acquisition"); ClearOne Comm. v. Chaing, 2008 WL 920336, at *2 (D. Utah Apr. 1, 2008) (approving search terms, but suggesting potential need to revisit list if "a surprisingly small or unreasonably large number of documents" are identified as responsive); In re Seroquel Prods. Liab. Litig., 244 F.R.D. 650, 662 (M.D. Fla. 2007) ("common sense dictates that sampling and other quality assurance techniques must be employed to meet requirements of completeness"); *see also* Ralph Losey, *An Elusive Dialogue On Legal Search: Part Two—Hunger Games and Hybrid Multimodal Quality Controls*, E-DISCOVERY TEAM BLOG (Sept. 3, 2012), http://e-discoveryteam.com/2012/09/03/an-elusive-dialogue-on-legal-search-part-two-hunger-games-and-hybrid-multimodal-quality-controls/ (suggesting need for "multimodal" controls, using "a variety of quality assurance methods"); Oot, Kershaw & Roitblat, *supra* note 40, at 558 (reasonableness assessment of search should require litigant to "[e]xplain how what was done was sufficient;" "[s]how that it was reasonable and why;" "[s]et forth the qualifications of the persons selected to design the search;" "[c]arefully craft the appropriate keywords with input from the ESI's custodians as to the words and abbreviations they use;" and "[u]se quality control tests of the methodology to assure accuracy in retrieval and the elimination of false positives") (citations omitted).

114. In re Coventry Healthcare, Inc. Sec. Litig., 290 F.R.D. 471, 475 (D. Md. 2013)

The response almost certainly will require some (at least rough) estimates regarding the effectiveness of the search performed (or proposed),[115] versus the cost and effectiveness of the additional search sought by the requesting party.[116] Where the responding party is unprepared to make such a showing, protection from the request may be denied, or the court may order some form of targeted additional discovery.[117] The responding party therefore must be prepared to explain the

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("The party seeking to lessen the burden of responding to electronic discovery bears the burden of particularly demonstrating that burden and of providing suggested alternatives that reasonably accommodate the requesting party's legitimate discovery needs.") (quotation omitted); Kleen Prods., LLC v. Pkg. Corp. of Am., 2012 WL 4498465 139632, at *46 (N.D. Ill. Sept. 28, 2012) ("a party must articulate and provide evidence of its burden"); Stambler v. Amazon.com, Inc., 2011 U.S. Dist. LEXIS 157125, at *36 (E.D. Tex. May 23, 2011) (burden of justifying non-production or reduced production "should properly fall" on responding party); Ross v. Abercrombie & Fitch Co., 2010 U.S. Dist. LEXIS 47620, at *10 (S.D. Ohio May 14, 2010) ("The party claiming that discovery is burdensome does have an obligation to make that claim with specificity.").

115. *Compare* Surowiec v. Capital Title Agency, 790 F. Supp.2d 997, 1010 (D. Ariz. May 4, 2011) (sanctions where "unreasonably narrow search," using only plaintiff's name and escrow number, considered "inexcusable"); *compare* William A. Gross Constr. Assocs., Inc. v. Am. Mfrs. Mut. Ins., Co., 256 F.R.D. 134, 135 (S.D.N.Y. Mar. 19, 2009) (criticizing "seat of the pants" efforts by lawyers to construct search terms) *with* Conn. Gen. Life Ins. Co. v. Scheib, 2013 WL 485846, at *3 (S.D. Cal. Feb. 6, 2013) (proof of $121,000 required to index, filter, and process additional information established that requests were "unduly burdensome"); Velocity Press v. Key Bank, 2011 WL 1584720, at *3 (D. Utah Apr. 26, 2011) (details furnished to court as to search terms and search method showed "reasonable" investigation).

116. *See* Ralph Losey, *Good, Better, Best: A Tale of Three Proportionality Cases—Part Two*, E-DISCOVERY TEAM BLOG (Apr. 15, 2012), http://e-discoveryteam.com/2012/04/15/good-better-best-a-tale-of-three-proportionality-cases-part-two/ (suggesting that "basic metrics be shared on proposed keywords," to provide "enough disclosure so that the keyword picks are not blind").

117. *See* Advisory Committee Notes, FED. R. CIV. P. 26. The Committee Notes provide as follows:

> [T]he parties may need some focused discovery, which may include sampling of the sources, to learn more about what burdens and costs are involved in accessing the information, what the information consists of, and how valuable it is for the litigation in light of information that can be obtained by exhausting other opportunities for discovery.

Id.; Sedona Conf., *supra* note 15, at 291. The Sedona Conference states:

> When asked to limit discovery on the basis of burden or expense, courts must make an assessment of the importance of the information sought. . . . In some cases, it may be clear that the information requested is important—perhaps even outcome-determinative. In other cases, courts order sampling of the requested information, consider extrinsic evidence, or both, to determine whether the requested information is sufficiently important to warrant potentially burdensome or expensive discovery.

Id.; *see also* Gallagher, *supra* note 103. In the article, Gallagher states:

> More often than not, the court and the litigants are not in a position at the beginning of the case to identify all potential discovery disputes or assess the importance of certain information. . . . Sampling is one tool that can be used by the

reasonableness of its chosen search protocol to the court,[118] and must be prepared for the possibility that the court will require education on the details of the technical processes involved in the search.[119]

VII. CONCLUSION

Clients and counsel involved in e-discovery deserve the certainty and efficiency that a relatively clear standard for "reasonable" search might provide.[120] Some efforts at drafting technical standards are

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parties to determine the importance and uniqueness of the information sought.

Id.; Craig Ball, *Eight Tips to Quash the Cost of E-Discovery*, BALL IN YOUR CT. BLOG (Mar. 21, 2013), http://ballinyourcourt.wordpress.com/2013/03/21/eight-tips-to-quash-the-cost-of-e-discovery/ ("Staggering sums are spent in e-discovery to collect and review data that would never have been collected if only someone had run a small scale test before deploying an enterprise search.").

118. Such an explanation need not, necessarily, involve revelation of work product or attorney-client discussions. *See* Ruiz-Bueno v. Scott, 2013 WL 6055402, at *4 (S.D. Ohio Nov. 15, 2013) (noting "vast difference between describing, factually, what a party has done to comply with a document request, and revealing discussions between counsel and the client about that process").

119. *See* Shaffer, *supra* note 14, at 231 ("Application of the 'reasonableness' standard in the context of a technology-assisted e-discovery process invariably will present the court with methodologies or forensic techniques which are beyond the knowledge or skills of a layperson, and certainly outside the experience of most judges."). In *Bell Atlantic Corp. v. Twombly*, the U.S. Supreme Court stated:

> The judicial officer always knows less than the parties, and the parties themselves may not know very well where they are going or what they expect to find. A magistrate supervising discovery does not—cannot—know the expected productivity of a given request, because the nature of the requester's claim and the contents of the files (or head) of the adverse party are unknown.

Bell Atlantic Corp. v. Twombly, 550 U.S. 544, 560 n.6 (2007); Eurand, Inc. v. Myland Pharm., Inc., 266 F.R.D. 79, 84 (D. Del. 2010) ("Neither lawyers nor judges are generally qualified to opine that certain search terms or files are more or less likely to produce information than those keywords or data actually used or reviewed."); Equity Analytics, LLC v. Lundin, 248 F.R.D. 331, 333 (D.D.C. 2008) (noting that "lawyers state as facts what are actually highly debatable propositions as to the efficacy of various methods used to search" ESI). In *United States v. Farlow*, the court stated:

> Even the most computer literate of judges would struggle to know what protocol is appropriate in any individual case, and the notion that a busy trial judge is going to be able to invent one out of whole cloth or to understand whether the proposed protocol meets ill-defined technical search standards seems unrealistic.

United States v. Farlow, 2009 WL 4728690, at *6 (D. Me. Dec. 3, 2009).

120. *See* D. Casey Flaherty, *E-Discovery Costs Prediction: It's Time to Share*, LAW TECH. NEWS (Aug. 12, 2013), http://www.lawtechnologynews.com/id=1202614976472/E-Discovery-Costs-Prediction%3A-It's-Time-to-Share ("Standardizing a method for comparing EDD vendor cost projections is long past due. . . . [T]he centralizing forces in e-discovery [such as Sedona and EDRM] need to assume responsibility for creating and maintaining a universally recognized tool" for budget calculation). Oot, Kershaw, & Roitblat, *supra* note 40 ("Measurement against an accepted standard is essential to evaluating reasonableness.").

underway.[121] Yet, the development of consistent, reliable metrics and generally accepted quality criteria, at present, eludes the e-discovery field.[122] Courts, confronted with an absence of uniform performance standards, tend to focus on fairness of process, versus the reasonableness of predicted outcomes.[123] This state of play may persist for the foreseeable future, especially as the e-discovery market remains fragmented.[124] For practitioners and in-house counsel, at this point, education, good faith efforts at cooperation, early discovery plan formulation, and focus on demonstrating the true needs of the case, versus best estimates of cost, offer at least some hope of avoiding judicial ire.

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121. The International Standards Organization ("ISO"), for one, has initiated a standards-setting process. *See* Matt Nelson, *Flying under the Radar: Proposed International E-Discovery Standard*, INSIDE COUNS. (Oct. 24, 2013), http://www.insidecounsel.com/2013/10/24/flying-under-the-radar-proposed-international-e-di. The draft ISO standard (not yet published) appears to focus principally on terminology and process. *See* Stephen Tepler, *International Standard Project for E-Discovery Approved*, LAW TECH. NEWS (Apr. 30, 2013), http://www.lawtechnologynews.com/id=1202597948357. The standard may, however, include guidance from sources such as the Sedona Conference. *See ISO Moves Forward on E-Discovery Standard*, ARMA INT'L (May 22, 2013), http://www.arma.org/r1/news/newswire/2013/05/22/iso-moves-forward-on-e-discovery-standard. For updates on the ISO standard, see www.iso.org.

122. *See* Bruce Hedin, Dan Brassil, & Christopher Hogan, *Toward a Meaningful E-Discovery Standard* 1, 1-7 (June 14, 2013), *available at* http://www.umiacs.umd.edu/~oard/desi5/additional/Hedin.pdf (suggesting that e-discovery standard cannot be developed unless it answers question of "how accurate" the search results will be); *see also* Sedona Conf., *supra* note 12 (reasonableness of party's discovery process "must be evaluated on a case-by-case basis in the context of the value and importance of the matters in dispute, and no single practice, process or quality-checking measure should be assumed to be appropriate in any and all circumstances").

123. *See* Ralph Losey, *Secrets of Search—Part II*, E-DISCOVERY TEAM BLOG (Dec. 18, 2011), http://e-discoveryteam.com/2011/12/29/secrets-of-search-part-iii/ (suggesting that standards for review should include "quality tech[nology] assisted review," "[d]irect supervision and feedback by the responsible lawyers(s) (merits counsel)," "[e]xperienced, well motivated human reviewers," "[h]ighly skilled project managers," and "[s]trategic cooperation between opposing counsel," among other factors).

124. The U.S. e-discovery market includes hundreds of participants. A few dozen offer a national presence with a broad range of services. The remainder includes smaller, regional providers, and providers of specialty e-discovery services. Finally, a number of law firms, corporations, and government entities perform at least a portion of their e-discovery services "in-house." *See* Evan Koblentz, *Gartner Forecasts E-Discovery Growth to $2.9 Billion in 2017*, LAW TECH. NEWS (Jan. 3, 2013), http://www.lawtechnologynews.com/id=1202583045089/Gartner-Forecasts-E-Discovery-Growth-to-$2.9-Billion-in-2017.