As more of daily life continues to shift online—now accelerated due to the pandemic—the importance of electronically stored information (ESI) will undoubtedly continue to increase across all litigation. As such, attorneys will need to seriously consider the most advantageous file formats for obtaining needed information in discovery.

ESI includes a wide variety of formats (emails, word documents, spreadsheets, digital photos, videos, etc.), ESI is typically produced in one of two reasonably usable formats: Native File Format (“NFF”) or Tagged Image File Format (“TIFF”) with load files containing the text of the document as well as certain metadata makes the documents searchable.¹

TIFF

While TIFF is a widely supported graphic image file format, it has many different possible compression formats and resolutions possible (e.g., a Microsoft Word file would be produced as a series of images, similar to a PDF). TIFF is the more commonly used format for its three purported benefits: (1) TIFF documents can be Bates numbered; (2) redacted; and (3) it is harder, albeit not impossible, to alter data presented in TIFF inadvertently or deliberately.² However, the major drawbacks of TIFF are: (1) they typically much larger files than their native counterparts; (2) require time and expense to convert from NFF to TIFF; and (3) metadata does not normally appear on a printed page and thus survive TIFF regeneration, though it can be partially preserved or recreated in a separate load file (known as “TIFF+”).³ Practitioners should be mindful in production requests to insist on a production with metadata in any TIFF production. In the absence of a specific production request for particular file formats, some courts have held that TIFF with no metadata is sufficient production.⁴ However, it is arguable whether TIFF with no metadata is sufficient production.⁵

Native File Format

NFF retains the file structure associated with the original creation of the file (i.e., if the file requested is a Microsoft Word file, it is produced as a Microsoft word file). NFF, in contrast to TIFF, does preserve all of the metadata associated
with each file. Though some attorneys may be loath to consider technical aspects of ESI, working knowledge of metadata is worth taking the time to understand.

**Metadata**

“Metadata” is often described as data about data and can be divided into two categories: “system metadata” and “application metadata” (sometimes also called “document metadata”). System Metadata is not embedded within the file it describes, but rather is stored externally (on a computer or other external device). System metadata is used by the computer’s file system to track file locations (the file’s “path”) and store information about each file’s name, size, creation, modification, and usage. Application metadata may also contain information about when a document was created, viewed, saved, or printed. What separates application and system metadata is whether it is embedded in the file in question. Application metadata, unlike system metadata, which is left behind where the file was stored, is information that is embedded in the file it describes and moves with the file when the file is moved or copied. The application metadata of an email, for instance, includes roughly 1,200 or more properties, such as the dates the email was sent, received, replied to, forwarded, blind carbon copy (“bcc”) information, and sender address book information.

While one might easily imagine that such data could be extremely useful in the context of lawsuits, there are some caveats to keep in mind. While there is some overlap in the information saved as application metadata and system metadata, they are not always simple apples to apples comparisons. For example, application metadata time and date stamps in Microsoft Office files are “much less susceptible to causal modification” than system metadata date stamps. Activities like moving or copying a file will update one or more system metadata dates, but will sometimes leave application metadata dates unchanged. It is also not unusual to have instances where application metadata will not necessarily contain corresponding fields, and even if it does, the application metadata may not convey the same information as the system metadata. In addition, application metadata is not always accurate. For example, when a user at a law firm creates a memorandum on Microsoft Word using a memorandum template created by someone else at the firm, the metadata for the new memorandum may incorrectly identify whoever created the template as the author of the new memorandum. Attorneys should also keep in mind that metadata is neither created by nor normally accessible to an average computer user and there may be additional costs associated with extracting it.

Generally speaking, metadata is discoverable as long as the relevance threshold of Rule 26(b)(1) is satisfied, regardless of the metadata’s “present format and level of accessibility.” And in some jurisdictions, courts have even included deleted computer files as discoverable. Metadata is relevant when the process by which a document was created is in issue, or there are questions concerning a documents’ authenticity. The extent to which metadata will be produced depends primarily on the facts and circumstances of each individual case. The Sedona Principles outlined three considerations for litigants:

- (a) what metadata is ordinarily maintained;
- (b) the potential relevance of the metadata to the dispute (e.g., is the metadata needed to prove a claim or defense, such as the transmittal of an incriminating statement); and
- (c) the importance of reasonably accessible metadata to facilitating the parties' review, production, and use of the information.

Beyond potentially bearing upon the merits of a case, metadata also may perform a functional role in the usability of ESI. For instance, system metadata may allow for efficient sorting of files by dates or other information captured in metadata; application metadata may allow for varied displays of documents. Both system and application metadata may be important when using external “technology platforms for searching, culling, and analyzing large volumes of ESI.”

**Benefits of NFF**
Production in NFF has many benefits. Many have argued that ESI in NFF is cheaper to produce, retains otherwise discoverable metadata, and is easier to use, search, and sort.\(^2\) In the last 20 years, information storage has grown from kilobytes and megabytes to terabytes and petabytes; the volume of ESI requiring review can easily reach gargantuan proportions.\(^2\) This is where production in NFF has tremendous cost saving potential as it avoids the expense of converting files into static images, which can be a lengthy process with a high volume of discovery.\(^2\)

Additionally, it is difficult to display multi-dimension, dynamic content in a static image format (e.g., navigation panels, hyperlinks, videos, or the formulas in an excel spreadsheet).\(^2\)

The major reasons offered for preferring TIFF to NFF are 1) ability to redact privileged information, 2) potential for alteration, and 3) ease of Bates numbering. While documents requiring redaction may be best suited for static image production, it is unlikely that every single document in discovery will require redaction. Thus, limiting all production to TIFF formats is unnecessary.\(^2\) Regarding alteration, any malicious alteration by opposing counsel would of course carry a threat of heavy sanctions under F.R.C.P. §37(e). In addition, the producing party can include a legend stating that the materials are subject to a protective order.\(^2\) However, if one were truly bent on altering evidence despite consequences, TIFF offers no security advantages as it is not that difficult to alter a TIFF file either. In the event of an inadvertent change to a file, the producing party will still retain its original files and can identify any inadvertent changes to documents.

Lastly, before considering Bates numbering, it should be considered that many items produced in discovery may not end up being used in proceedings, as not all discoverable material need be admissible. However, if Bates numbering is required for NFF ESI it can be accomplished in one of two ways: (a) if Bates numbers are needed during trial or on motion papers, file identifiers and page numbers can be easily stamped on printouts or images of specific documents in question; and (b) the name of an electronic file can be changed without altering its content—it is simple and inexpensive to add a Bates numbering system to filenames.\(^2\)

But before rushing to request all documents in NFF, litigators should be aware that there is a general presumption in many courts—albeit a dated approach—against the relevance and thus production of all metadata. For instance, in a case where plaintiffs sought metadata for all ESI production, the court held that “that emerging standards of electronic discovery appear to articulate a general presumption against the production of metadata.”\(^2\) In a similar case with a broad ESI metadata production request, another jurisdiction held that parties “should tailor their metadata requests to specific word documents, specific e-mails or specific sets of e-mail.”\(^3\) As this furthermore “reflects the general uneasiness that courts hold over metadata's contribution in assuring prudent and efficient litigation.”\(^4\) In many of cases, courts deny production requests for similar reasons: 1) failure to establish an agreement at the FRCP 26(f) conference regarding the format of ESI files, 2) parties waited until after initial discovery production was completed to request metadata, and 3) parties could not show particularized need for the metadata of any specific documents.\(^2\)

This illustrates an established trend in multiple jurisdictions: if parties do not make specifically tailored production requests for NFF early, they are likely to be denied.

In Illinois federal courts, to have any hope of success in a motion to compel the production of metadata, the initial document request must contain requests for metadata. “On the other hand, if metadata is not sought in the initial document request, and particularly if the producing party already has produced the documents in another form, courts tend to deny late requests, often concluding that the metadata is not relevant.”\(^4\) The 7th Circuit E-Discovery Program developed clear standards for ESI Production requests and provided that ESI production requests “should be reasonably targeted, clear and as specific as possible.”\(^5\) Shotgun production requests that seek “any and all” even loosely relevant ESI violate “the spirit, if not the letter, of these principles.”\(^6\) Moreover, attempts to overwhelm opposing counsel through a dump of electronic documents would similarly be prohibited.\(^6\)

The Sedona Conference cautioned that parties should not demand forms of production, including native files and metadata fields, “for which they have no practical use or that do not materially aid in the discovery process.”\(^7\) However, the goal of the rules on ESI are to “encourage forms of production that would facilitate the orderly, efficient, and cost-effective production of ESI and which allow the requesting party to meaningfully analyze, search, and display the produced electronic data.”\(^7\) If parties consider the potential benefits of NFF and metadata prior to the FRCP 26(f)
conference or the Illinois Supreme Court Rule 218 Conference and include particularized needs in initial requests for production, they will have a substantial leg up on those that have not taken the time to develop working knowledge of ESI formats.

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2. Id at 244.
3. Id at 228.
9. Id.
11. Supra note 7, at 4.
12. Supra note 7, at 3.
13. Supra note 6, at 6.
14. Id.
15. Supra note 7, at 4.
16. Supra note 6, at 3.
17. John B. v. Goetz, 879 F.Supp.2d 787, 877–78 (M.D. Tenn. 2010); See also Aguilar v. Immigration & Customs Enforcement Div., U.S. Dept of Homeland Sec., 255 F.R.D. 350, 355–56 (S.D.N.Y.2008). ("with its potential relevance under Rule 26(b) unquestioned, the metadata of both archival and active ESI has been found to be discoverable.")


22. Supra note 1, at 229.


25. Fuchsberger, at 32.


27. Id at 35.

28. Id.


31. Id.

32. Id. See also Autotech Technologies Ltd. Partnership v. Automationdirect.com, Inc., 248 F.R.D. 556 (N.D. Ill. 2008), (defendant motion to compel production of metadata was denied because the defense did not ask for it as part of discovery requests nor as part of previously filed motions to compel earlier in the action. Without the request, the plaintiff's production without metadata complied with ordinary meaning of Fed. R. Civ. P. § 34.); See Aguilar v. Immigration and Customs Enforcement Div. of U.S. Dept. of Homeland Sec., 255 F.R.D. 350, 352 (S.D. N.Y. 2008) (the court denied plaintiff's request for metadata because of the small amount of data and the late requests for document metadata occurred after production); See D'Onofrio v. SFX Sports Group, Inc., 247 F.R.D. 43, 48, 102 Fair Empl. Prac. Cas. (BNA) 1499 (D.D.C. 2008) (where plaintiff's request for the defendant's business plan in native file format with accompanying metadata was denied as the plaintiff failed to request metadata as part of her initial discovery demands); See R.F.M.A.S., Inc. v. So, 271 F.R.D. 13, 43-44 (S.D. N.Y. 2010) (where plaintiff's late requests to the defendant via motion for certain system metadata, which could not be tied back to specific earlier discovery demands, was denied as the plaintiff failed to request it at the outset.); Covad Communications Co. v. Revonet, Inc., 267 F.R.D. 14, 20 (D.D.C. 2010) (re-production of information in electronic native format, with metadata, at late stage of protracted litigation was not necessary and would not be compelled, where that information already had been produced as hard copy documents, that format was usable, and party requesting that information did not state why it needed native format to analyze and use hard copy it already had); See U.S. ex rel. Carter v. Bridgepoint Educ., Inc., 305 F.R.D. 225 (S.D. Cal. 2015) (Court held that plaintiffs impliedly conceded they did not “specify” a format when they first proffered their document requests for “original documents.”).


36. *Id.*


38. *Id* at 172.