

Enfish and TLI: A Study of the Federal Circuit's Recent Section 101 Opinions

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Like a ray of light at the end of a long dark tunnel, the Federal Circuit's recent reversal of a determination of patent ineligibility in [Enfish, LLC v. Microsoft Corp.](#) offered patentees facing [Alice](#) complications a glimmer of hope. Reaction by the patent bar was swift. Notices of additional authority and requests for reconsideration were submitted to district courts around the country. Commentary has already been posted to the internet hailing *Enfish* as a long-awaited clarification of *Alice*. The USPTO even issued a [Memorandum of guidance](#) regarding *Enfish* to the Examining Corps following the Federal Circuit's decision, which was written by Circuit Judge Hughes.

However, less than a week after *Enfish*, the Federal Circuit, with Circuit Judge Hughes again as author, issued an opinion in [In re TLI Communications LLC Patent Litigation](#) in which the court appeared to return to a pre-*Enfish* approach. The *TLI* opinion addresses *Enfish* and offers a narrow distinction between the two cases. It remains to be seen whether the carve-out announced in *Enfish* is sound and will withstand scrutiny, or whether *Enfish* will bring more confusion than clarification to the *Alice* landscape.

The Supreme Court's *Alice* decision gave little specific guidance to district courts on applying its two-step eligibility test. At the Federal Circuit Judicial Conference in Washington, D.C. in April, Judge Gilstrap commented that "[\[i\]t's a challenge to interpret the court's analysis and apply it faithfully.](#)" After several years in which software patents have routinely been deemed patent ineligible, patentees hope that *Enfish* will provide much needed direction about the application of *Alice*. However, when *Enfish* and *TLI* are read together, that proposition appears in doubt.

Enfish. In *Enfish*, the plaintiff below asserted U.S. Patent Nos. [6,151,604](#) and [6,163,775](#), both of which are directed to a particular logical model for a computer database. In contrast to a relational database model that uses relationships between multiple tables to store various fields of information, the asserted patents disclosed a self-referential model in which all data entities are in a single table, and the column definitions are provided by the rows. An example of such a self-referential table is shown below:

SELF-REFERENTIAL TABLE							
ID	Type	Title	Label	Address	Employed By (#4)	Author	Email (#5)
#1	DOCUMENT	PROJECT PLAN		C:\WORD\PROJ.DOC		#2	
#2	PERSON		SCOTT WLASCHIN		#3		
#3	COMPANY		DEXIS	117 EAST COLORADO			
#4	FIELD		EMPLOYED BY				
#5	FIELD		EMAIL				

According to the asserted patents, the self-referential model allows for faster searching, more flexibility in configuring the database, and more effective storage of images and unstructured text. The district court determined that the asserted claims of these patents, however, were not patent eligible under [§ 101](#) because they were directed to the abstract concept of “organizing information using tabular formats.”

On review, the Federal Circuit first laid the groundwork for its analysis with the principals that *Alice* “plainly contemplates that the first step of the inquiry is a meaningful one, *i.e.*, that a substantial class of claims are *not* directed to a patent-ineligible concept,” and that claims are to be evaluated under Step One “based on whether ‘their character as a whole is directed to excluded subject matter.’” Both of these statements are encouraging for patentees but are simply recitations of existing law.

The Federal Circuit next interpreted *Alice*’s Step One analysis in the context of computer-related technology to determine that it is “relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis.” Underlying this conclusion is that the court “do[es] not read *Alice* to broadly hold that all improvements in computer-related technology are inherently abstract” nor that “claims directed to software, as opposed to hardware, are inherently abstract and therefore only properly analyzed at the second step of the *Alice* analysis.”

The Federal Circuit’s reasoning in *Enfish* appears to create a new inquiry for computer-related technology under Step One: “whether the focus of the claims is on the specific asserted improvement in computer capabilities ... or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” Turning to the self-referential database model at issue, the court held that the focus of the asserted claims is “on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.”

The court’s conclusion was bolstered by the disclosed benefits of the model—increased flexibility, faster search times, and smaller memory requirements. Finally, the court distinguished (patent eligible) claims directed to a specific improvement in computer functionality with (patent ineligible) claims that recite use of an abstract mathematical formula on any general purpose computer, recite a purely conventional computer implementation of a mathematical formula, or recite generalized steps to be performed on a computer using conventional computer activity.

On its face, the *Enfish* opinion is a boon for patentees of software-related technologies because it appears to create a new safe zone for “improvements in computer functionality.” However, is this carve-out as clear and sound as it may seem? The first clue in answering that question may come from the *TLI* opinion, issued just days after and from the same authoring Judge as *Enfish*.

TLI. The fate of [U.S. Patent No. 6,038,295](#), in the *TLI* opinion, is quite different from that of the patents in *Enfish*: “the [’295 patent] claims no more than the abstract idea of classifying and storing digital images in an organized manner.” Accordingly, *TLI* affirmed the district court’s determination that the patent fails to claim patent-eligible subject matter under § 101.

The patent-in-suit in *TLI* related to “an apparatus for recording of a digital image, communicating the digital image from the recording device to a storage device, and to administering the digital image in the storage device.” The claimed invention was intended to address challenges in organizing a large database of digital images stored on a computer. The goal of the inventors was to administrate and archive the “digital images simply, fast and in such way that the information therefore may be easily tracked” using manually or dynamically assigned “classification data.”

Under *Alice* Step One, the Federal Circuit first observed that “representative claim 17 is drawn to the concept of classifying an image and storing the image based on its classification,” but then unexpectedly appears to move into the Step Two analysis in the very next sentence, stating: “the specification makes clear that the recited physical components merely provide a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized manner.” Returning to Step One, the *TLI* opinion next recites the carve-out of *Enfish*, but concludes that “the [TLI] claims here are not directed to a specific improvement to computer functionality.” The court reasoned that the claims of the asserted patent are instead “directed to the use of conventional or generic technology in a nascent but well-known environment.”

Still within the context of its Step One analysis, the court further criticized the ’295 patent for “fail[ing] to provide any technical details for the tangible components” and “predominately describ[ing] the system and methods in purely functional terms” rather than “describ[ing] a new telephone, a new server, or a new physical combination of the two.” The opinion also highlights that the telephone and server components of the asserted claims are described in the specification as being well-known. The court concluded that “the focus of the patentee and of the claims was not on an improved telephone unit or an improved server.” For all these reasons, the claims of the ’295 patent were deemed directed to an abstract idea.

Turning to its Step Two analysis, the court held that none of the recited physical components add an inventive concept sufficient to bring the abstract idea into the realm of patentability. Having failed both analytical steps of *Alice*, the asserted claims were affirmed to be patent ineligible.

Analysis. Despite the attempted harmonizing discussion of *Enfish* in *TLI*, the latter exposes several inconsistencies between the opinions as well as potential flaws in the reasoning of *Enfish*. As an initial matter, the Federal Circuit’s descriptions of the claimed technologies in each of the opinions share similarities in areas that impacted the legal analysis. Each involved a database implementation on a commodity computer. Also, the benefits of each purport to include increased search speed and dynamic configuration of data files. Still further, the disclosure of each was largely functional with little to no emphasis on new physical components.

The court’s treatment of these apparent factual similarities could not have been more different. In *Enfish*, the court found that the self-referential model led to an “improvement in computer capabilities,” but the claimed invention did not give the computer more total memory, or a processor with greater clock speed, or a faster bussing architecture.

The self-referential model creates a logical data structure that allows for faster results to be returned in comparison to other logical database models. This represents an algorithmic improvement rather than an improvement in the capabilities of the physical hardware on which the algorithm executes. For example, there are numerous algorithms for sorting a collection of elements, and, on average, a bucket sort performs substantially better than a selection sort. Executing a bucket sort rather than a selection sort on a particular computer does not change the fundamental capabilities of that computer; the computer executes the same number of operations per unit time in either scenario. Rather, the performance benefit is attributable to the algorithm. The *Enfish* court, however, found that the self-referential model indeed provided an “improvement in computer capabilities.”

In contrast, the *TLI* court lambasted the claimed image database using classification data for failing to improve the recited telephone unit or server. The *TLI* opinion highlighted that “the server is described simply in terms of generic computer functions such as storing, receiving, and extracting data.” However, the computer on which the self-referential database of *Enfish* is configured, would also merely receive, store, and extract data—this is the fundamental role of a computer running a database.

The Federal Circuit also found support for its analysis in *Enfish* in the alleged benefits of the self-referential model over existing solutions. The court emphasized faster search times and flexibility from not needing programmer pre-configuration. The *TLI* invention claimed to offer similar benefits by providing a classification based indexing solution and automated assignment of classifications. However, the court was unmoved by these very same benefits in the *TLI* analysis, instead finding that, for example, “attaching classification data, such as dates and times, to images for the purpose of storing those images in an organized manner is a well-established basic concept.” In so doing, the Federal Circuit appears to have taken the same approach in *TLI* as it criticized the district for taking in *Enfish*: “the district court oversimplified the self-referential component of the claims and downplayed the invention’s benefits.”

The *Enfish* opinion also was notably open-minded in assessing the functional description of the claimed invention, recognizing that “[m]uch of the advancement made in computer technology consists of improvements to software that, by their very nature, may not be defined by particular physical features but rather by logical structures and processes.” The *Enfish* opinion never states whether the invention provided technical details of the tangible components or described “a new computer.” To the contrary, the ’604 *Enfish* patent describes the involved computer as having an “(I/O) circuit 22” and “a central processing unit (CPU) 24 coupled to the I/O circuit 22 and to a memory 26,” and that “[t]hese elements are those typically found in most computers and, in fact, computer 23 is intended to be representative of a broad category of data processing devices.” This is hardly a “new computer.” The *TLI* opinion took a different view of the database system disclosure in the ’295 patent. The court criticized the disclosure for failing to provide technical details about physical features or describing “a new server,” and instead focusing on “purely functional terms.”

Not only is the different evaluation of similar evidence notable, but so too is the court’s use of the specification. In *Enfish*, the court pointed out that the Step One analysis should look to the claims as a whole to determine if they are directed to eligible subject matter. Having reached

that conclusion in *Enfish*, the court then found that the specification added support for its conclusion. In contrast, the *TLI* court looked first to the specification disclosure to determine that the claims were not directed to patent eligible subject matter.

Observations. Given the comparisons and contrasts between *Enfish* and *TLI*, it seems that the former was inconsistently, if not incorrectly, decided. Setting aside the *Enfish* carve-out for a moment, had the Federal Circuit applied the same analysis from *TLI* in the *Enfish* case, the *Enfish* patents should not have been found subject matter eligible. As such, it was the court’s “improvement in computer capabilities” carve-out that saved the *Enfish* patents.

Looking more closely at the supposed clarification to the *Alice* Step One analysis—“improvement in computer capabilities”—it seems nothing more than a question of novelty rather a determination of abstractness, which is what Step One is meant to reach. The word “improvement” suggests novelty. Indeed, the Federal Circuit highlighted that the *Enfish* self-referential model “functions *differently than conventional* database structures” and is “directed to an *improvement if an existing* technology.” This tendency to draw notions of novelty and obviousness into the Step One analysis is a core problem with the *Alice* framework in the context of software-related technologies, and may indicate the lack of a clear or appropriate test in that context. The blurred lines of abstractness and novelty also manifest in the conflation of Step One and Step Two, as is seen in the *TLI* opinion.

Where does the clarification of *Enfish* leave the patent bar? For the time being, *Enfish* may represent a safe-harbor for patent eligibility of software patent claims. It will almost certainly add to the burden of accused infringers of such claims that seek relief under § 101, and demand even more close calls from district courts weighing the issue. The required notice function of software patent claims, however, will continue to fail the public. Between the endpoints of firmware that makes a machine functional and software that does little more than use a computer as a calculator lay applications that, based on *Enfish* and *TLI*, may or may not be patent eligible.

One potential solution for software related technologies is a § 101 test that simply examines whether the claimed invention is a technical solution within a technical field. This is similar to the standard set forth in *Diamond v. Diehr*. Such a determination should exclude pure business methods and execution of a mathematical formula on a generic computer. Thereafter, §§ [102](#), [103](#), and [112](#) would still act to filter unpatentable claims, but backed by a robust jurisprudence with ample guidance for application. Under this or a similar approach, *Enfish* and *TLI* may have reached the same results but without an inconsistency in reasoning between them.

Conclusion. *Enfish* likely represents yet another notable piece in the yet-to-be-solved puzzle of patent eligibility of software patent claims. Whether it will provide much needed clarification or further muddy the *Alice* framework remains to be seen. If nothing else, *Enfish* amplifies current concerns from the patent bar and bench about how to apply *Alice* in this context. Indeed, the *Enfish* opinion itself states that the “Supreme Court has not established a definitive rule to determine what constitutes an ‘abstract idea’ sufficient to satisfy the first step of the *Mayo/Alice* inquiry.” If not *Enfish*, perhaps its progeny could be headed for the Supreme Court to provide such a definitive rule.