

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TYLER DIVISION**

MIRROR WORLDS, LLC,

Plaintiff,

v.

APPLE INC.,

Defendant.

Civil Action No. 6:08-CV-88 LED

JURY TRIAL DEMANDED

APPLE INC.,

Counterclaim Plaintiff,

v.

MIRROR WORLDS LLC,  
MIRROR WORLDS TECHNOLOGIES,  
INC.,

Counterclaim Defendants.

**APPLE INC.'S CLAIM CONSTRUCTION BRIEF RE MIRROR WORLDS' PATENTS**

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## I. INTRODUCTION

Claims must be construed based on an understanding of “what the inventors actually invented and intended to envelop with the claim.” *Phillips v. AWH*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc). Yet Mirror Worlds’ proposed claim constructions repeatedly and improperly ignore its patents’ description of the purported invention and the problems it was intended to solve. Mirror Worlds’ attempts to evade the specification and claim language are sometimes blatant, for example in its insistence that a “substream” need not be a “stream,” and that a “controlling operating system” need not “control.” But sometimes its attempts are less obvious. For instance, Mirror Worlds seeks to keep hierarchical systems within the scope of its claims despite the fact that the specification criticizes “hierarchical directories” as “an invention of 1960’s” and “an inadequate organizing device.” Exh. A [‘227 patent] at 1:30-31, 1:46-47.<sup>1</sup> Similarly, Mirror Worlds attempts to ignore its express definition of the phrase “timestamp” as “a date/time used to *uniquely* identify each data unit” by suggesting that a “timestamp to identify” can be any “time-based identifier,” regardless of whether it is unique.

Mirror Worlds’ improper attempts to distance itself from its own description of its invention is particularly harmful here because the patents contain an unusually large number of phrases coined by the inventors, terms like “stream-based operating system” and “glance view.” These terms, and the patents generally, are best understood by keeping the big picture—the patents’ description of the invention and the problems it was intended to solve—firmly in mind.

## II. MIRROR WORLDS’ PATENTS

The Mirror Worlds patents describe its inventors’ vision of a next-generation computer

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<sup>1</sup> All exhibit citations herein are to the Declaration of Stefani Smith in Support of Apple’s Claim Construction Brief. Unless otherwise noted, all patent citations herein are to the ‘227 patent specification, which is shared by the ‘313 and ‘427 patents, and all emphasis is added.

operating system. It was 1996, and the specification reflects the inventors' frustrations with the operating systems of the time:

[C]onventional operating systems are not well suited to the needs to most users. For example, conventional operating systems utilize separate applications which require file and format translations. In addition, ***conventional operating systems require the user to invent pointless names for files and to construct organizational hierarchies that quickly become obsolete.*** Named files are an invention of the 1950's and the hierarchical directories are an invention of [the] 1960's.

1:23-30. The inventors' frustrations extended to the "desktop metaphor," which allowed users to interact with a computer using "the familiar language of the paper-based world, that is paper documents as files, folders as directories, ... etc.":

***[T]he paper-based model is a rather poor basis for organizing information*** where the state of the art is still a messy desktop and where one's choices in creating new information paradigms is constrained."

1:36-40. Summarizing these problems, the specification lists six "disadvantages" of "conventional operating systems," three of which are particularly relevant to the issues here:

- (1) ***a file must be "named" when created*** and often a location in which to store the file must be indicated resulting in unneeded overhead;
- (2) ***users are required to store new information in fixed categories, that is directories or subdirectories,*** which are often an inadequate organizing device; ...
- (6) the historical context of a document is lost because ***no tracking of where, why and how a document evolves is performed.***

1:42-52. The Mirror Worlds patents' solution to these problems was a "document stream operating system." 2:12-16. This new operating system organizes information and presents it to the user using the metaphor of a "stream" instead of the metaphor of a "desktop." "A visual representation of the stream metaphor" is shown in Figure 1. 6:30-32. "Every document created and every document sen[t] to a person" is automatically stored in that person's "main stream." 4:8-10. This "stream" of documents is kept in chronological order. 1:6-10. Thus, a "stream" is "a time-ordered sequence of documents that functions as a diary of a person or an entity's electronic life." 4:6-8. As time passes, the stream continuously accumulates the documents that a person is receiving or generating, and pushes earlier documents further away, just as a stream

continuously passes by an observer, pushing earlier-arrived water further away.

According to the patents, this stream-based operating system has numerous advantages. It does not require naming documents, because it uses a time, not a name, to identify them. 4:42-45 (“because documents, by default, are added to the [stream] at the present time point... no name is required from the user for the document.”). Users are not restricted to storing information in “fixed categories, that is directories or subdirectories,” because it replaces folders and directories with “stream filters,” i.e. search queries, that produce subsets, or “substreams,” of a user’s main stream. 3:62-65. The “substreams” produced by these searches are more flexible than conventional folders because they can “overlap,” allowing a document to be in more than one substream at once. 4:47-61. Finally, a stream-based operating system solves the problem that there is “no tracking of where, why and how a document evolves” because, “like a diary, a stream records evolving work, correspondence and transactions.” 4:27-30.

As shown below, the Mirror Worlds patents’ description of the purported invention, and the problems it was intended to solve, provides important context for the present disputes.

### III. THE MORE SIGNIFICANT DISPUTED TERMS

#### A. Disputed Terms Related To The “Streams” Concept

##### 1. “stream-based operating system” and “document stream operating system” (‘427 claims 1 & 25; ‘313 claim 1)

Term	MW’s Construction	Apple’s Construction
“stream-based operating system” and “document stream operating system”	“an operating system that includes support for streams”	“a non-hierarchical operating system in which, as each document is presented to the operating system, the document is placed according to a time indicator in the sequence of documents already stored relative to the time indicators of the stored documents”

The “stream based operating system” or “document stream operating system”—the parties agree these terms are synonymous—is at the heart of the claimed invention and represents the inventor’s “solution” to the disadvantages of conventional operating systems. 2:6-9; *see also*



2:13-16 (“One object of the present invention is to provide a document stream operating system and method which solves many, if not all, of the disadvantages of conventional operating systems.”). Mirror Worlds concedes this point. See Mirror Worlds’ Opening Claim Construction Brief (“MW Opening Br.”) at 8-9. Nonetheless, Mirror Worlds proposes that the term be decoupled from the characteristics that purportedly distinguish it from the prior art, and merely include any operating system that provides “support” for streams. In contrast, Apple’s proposed construction is drawn directly from the specification and gives effect to the fundamental nature of the invention.

“Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009). Consistent with this principle, Apple’s proposed definition follows directly from the distinction the specification draws between the patent’s non-hierarchical “stream[-based] operating system” and the “conventional operating systems” that came before. 2:6-7, 2:12-16. The specification criticizes conventional operating systems for requiring users “to construct organizational hierarchies that quickly become obsolete.” 1:27-28. It also disparages them for requiring users “to store new information in fixed categories, that is directories or subdirectories, which are often an inadequate organizing device.” 1:44-47. Based on this disparagement of hierarchical operating systems, Apple’s proposed construction confirms that the claimed “stream-based operating system” must be non-hierarchical. See *Edwards Lifesciences*, 582 F.3d at 1333 (affirming district court’s ruling that “a person of ordinary skill in the art would clearly understand that this invention requires malleable, rather than resilient,

wires,” because the later were disparaged in the specification); *Astrazeneca AB v. Mut. Pharm. Co.*, 384 F.3d 1333, 1340 (Fed. Cir. 2004) (“Where the general summary or description of the invention describes a feature of the invention ... and criticizes other products ... that lack that same feature, this operates as a clear disavowal of these other products....”). In fact, Apple’s proposed construction is drawn directly from the specification’s own definition of the stream-based operating system of the invention:

The present invention relates to an operating system in which documents are stored in a chronologically ordered ‘stream’. *In other words*, that is, as each document is presented to the operating system, the *document is placed according to a time indicator in the sequence of documents already stored relative to the time indicators of the stored documents*.

1:4-11.

In contrast, Mirror Worlds has proposed a construction that is inconsistent with not only the language of the claim limitations themselves, but with the very character of the invention as described in the patent. *Phillips*, 415 F.3d at 1316 (claim construction requires “an understanding of what the inventors actually invented and intended to envelop with the claim”). A “stream-based operating system” is not just any operating system that “includes support for streams”—it is an operating system that is *based on* the concept of streams. “Including support” for something is not the same as being “based” on it. For example, Apple’s Macintosh computers now include Boot Camp, software that provides support for Windows on a Mac. But anyone who has seen a “Mac vs. PC” or “I’m a PC” television commercial knows that that Macs are not Windows-based.

To support its flawed construction, Mirror Worlds argues that Apple’s construction would “exclude embodiments ... that utilize or are built on top of conventional hierarchical operating systems.” MW Opening Br. at 9. This argument is based on a misreading of the specification. Indeed, the specification expressly describes *replacing* the hierarchical aspects of

conventional operating systems in those embodiments: “In such implementations, the graphic user interface (GUI) of the other operating system can be replaced by the present invention.” 14:37-51. In other words, in these implementations, the hierarchical “desktop metaphor” of the conventional operating systems—the part that presents computer “operations in the familiar language of the paper-based world, that is, paper documents as files, folders as directories, a trashcan for deletion, etc.”—must be replaced by the stream-based operating system described in the patents. Whatever “subsystems” are retained in these implementations are not the systems that organize documents, but merely lower level systems for underlying computing operations such as interrupt handling, input/output, and writing to disc drives or other physical media. *Id.*; *see also* Exh. B [‘427 patent] at claims 1, 8, 16 and 25. This does not change the nature of the invention as defining an operating system ***based on*** streams, i.e. a “stream-based operating system.” Thus, Apple’s construction should be adopted.

**2. “stream” (‘227 claims 1, 13 & 25; ‘313 claim 1; ‘427 claims 1 & 25; ‘999 claim 1)**

Term	MW’s Construction	Apple’s Construction
“stream”	“a time-ordered collection of data units, or documents, unbounded in number, in which the time associated with a data unit can be in the past, present or future, and the location of file storage is transparent to the user”	“a time-ordered sequence of documents that functions as a diary of a person or an entity’s electronic life and that is designed to have three main portions: past, present and future”

“[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. This is such a case.

Apple’s proposed construction has two parts, both of which flow from the inventor’s own definition of the term “stream.” The first part—“a time ordered sequence of documents that functions as a diary of a person or an entity’s electronic life”—is a direct quote from the express definition of “stream” provided in the specification. The specification states: “[a] ‘stream’

according to the present invention is a time-ordered sequence of documents that functions as a diary of a person or an entity's electronic life.” 4:6-8. This definition was reaffirmed in the prosecution history, where Mirror Worlds was forced to provide express “definitions based on the specification” for several key patent terms in order to secure its patent rights. Among those definitions this one: “[a] ‘stream’ is a time-ordered sequence of documents (data units) that functions as a virtual object (diary), see page 11, lines 11-12 of the present specification.” Exh. C [‘227 FH (Paper 18)] at 227 CFH 765. This express definition of “stream,” repeated in both the specification and file history, is controlling. *Phillips*, 415 F.3d at 1316.

The second part of Apple's definition (that streams are “designed to have three main portions: past, present and future”) is based on the specification's direct statement that “[a] ***stream has three main portions***: past, present and future.” 5:53-54. This definition was again confirmed in the prosecution history, where Mirror Worlds distinguished Dr. Gelernter's prior art Washington Post article on the basis that the article “was not considering future events.” Exh. C [‘227 FH (Paper 18)] at 227 CFH 776. By distinguishing the prior art on the basis that the streams disclosed therein did not contemplate future events, Mirror Worlds disclaimed coverage of streams not designed to handle such future events.

In contrast, Mirror Worlds' construction is both inconsistent with and unsupported by the intrinsic record. For example, Mirror Worlds' proposed construction acknowledges that the “time associated with a data unit can be in the past, present, or future,” but is inconsistent with the intrinsic record to the extent its use of the phrase “can be” is read to permit streams that do not include future events. The specification and prosecution history are unambiguous that a stream “has”—and is designed to have—a future portion, not that it might merely be able to handle future documents. *See, e.g.* 5:53-6:7; 7:44-63; 4:18-21. Likewise, Mirror Worlds

proposes that streams must be “unbounded in number.” However, the word “unbounded” does not appear anywhere in the intrinsic record. Nor do “limitless” or “unlimited.” Indeed, the specification describes streams sizes “on the order of 100,000 documents (perhaps a year or two of documents for the average user),” and states that “in another embodiment, ... lifestreams may have millions of documents or more.” 13:67-14:4. While these are large numbers, they are not “unbounded.” Mirror Worlds’ attempt to take back its definition of “stream” should be rejected.

### 3. “time-ordered stream” (‘999 claim 1)

Term	MW’s Construction	Apple’s Construction
“time-ordered stream”	“a displayed stream in which the elements are arranged in time order”	same as “stream”

The “time-ordered stream” claimed in the ‘999 patent should be given the same meaning as the “stream” claimed in the other patents, for the same reasons: it is defined in the specification and file history. *See NTP v. Research In Motion*, 418 F.3d 1282, 1292 (Fed. Cir. 2005). The ‘999 patent incorporates by reference the specification of its parent applications, including its definition of “stream.” Mirror Worlds provides no reason why that definition should not apply. Nor does it provide any reason why the definition that it gave during the prosecution of the parent application should not control and should instead be enlarged to cover something far beyond what the inventors actually invented. *Ormco v. Align Tech.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007). The bottom line is that Mirror Worlds has provided no reason why the ‘999 patent should now cover a definition of stream that was never contemplated in the ‘999 patent’s parent. Mirror Worlds’ proposed construction should be rejected.

### 4. “main stream” (‘227 claims 1, 13 & 25; ‘313 claim 2) and “including each data unit ... in the main stream” (‘227 claims 1, 13 & 25)

Term	MW’s Construction	Apple’s Construction
“main stream”	“a stream of each data unit, or document, received by or generated by the computer system”	“a stream which stores every data unit, or document, received by or generated by the computer system”

“including each data unit according to the timestamp in the respective chronological indicator in the main stream”	No construction is necessary. However, if the Court rules that one is necessary: “including each data unit in the main stream, ordered according to the time stamp in the respective chronological indicator”	“storing each document in the main stream, in the location required by its identifying timestamp”
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The primary dispute for each of these terms is whether the “main stream” needs to “store” every document it receives (Apple’s proposed construction), or whether it may simply contain pointers to those documents (Mirror Worlds’ proposed construction). The specification shows that it needs to store the documents:

The present invention relates to an operating system in which **documents** are **stored** in a chronologically ordered ‘stream’.

A document stream operating system and method is disclosed in which: (1) **documents** are **stored** in one or more chronologically ordered streams ...

This invention is a new model and system for managing personal electronic information which uses a time-ordered stream as a **storage** model ...

1:4-11, Abstract, 3:62-65.

Confirming this, the prosecution history explains that “[t]he requirement that a data unit be in the main stream, as recited in the amended claims, results from the inherent structure of the main stream as the **storage backbone** of the present invention.” Exh. C [‘227 FH (Paper 18)] at 227 CFH 770.<sup>2</sup> Mirror Worlds also repeatedly emphasized during prosecution that prior art references did not teach “storing the data unit stream.” E.g. Exh. D [‘227 FH (Paper 13)] at 227 CFH 670 (emphasis in original); *id.* at 673 (“Tobias, like the Gelernter Article, fails to teach or suggest any means or steps for storing the data unit streams”); *id.* at 676 (“Outlook teaches away

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<sup>2</sup> In making this statement, Mirror Worlds was distinguishing its invention from the time-ordered sequence of documents in the “primary queue” of “conventional email system.” In such a system, messages can be “removed from the queue for storage elsewhere in the computer system, for example, into separate text files.” Exh. C [‘227 FH (Paper 18)] 227 CFH 770. Mirror Worlds emphasized that “in contrast,” its invention “does not permit data units to be removed from the main stream,” because of the “inherent structure of the main stream as the storage backbone of the present invention.” *Id.*

from ... storing each data unit received by the system into data unit streams”). The emphasis on “*storing*” in both the specification and the file history demonstrates that this is what a main stream does: it *stores* the documents that are received or generated by the computer system.

Mirror Worlds’ argument to the contrary is based on its expert’s assertion that the “main stream” does not need to contain “the actual information,” but instead can use “pointers, identifying, directly or indirectly, the location of the information.” MW Opening Br. at 7 (citing Exh. 6 [Levy Decl.] at ¶¶ 28-29). Of course, this reliance on extrinsic evidence cannot trump the intrinsic record. *See, e.g. Phillips*, 415 F.3d at 1318. Especially where, as here, there is no disclosure of “pointers” anywhere in the specification or file history.

The other significant difference between the parties’ proposed constructions is that Mirror Worlds uses the phrase “*each* data unit” instead of “*every* data unit.” This ignores yet another of the express definitions Mirror Worlds provided to the Patent Office: “A ‘main stream’ is a type of steam which receives every data unit ...” Exh. C [‘227 FH (Paper 18)] at 227 CFH 765 (emphasis in original). This express definition confirms that the term should be construed to require that “*every* data unit” be stored in the main stream, as Apple has proposed.

Finally, the parties agree that the phrase “including each data unit according to the timestamp ... in the main stream” requires that each data unit in the main stream be “ordered according to the time stamp,” as Mirror Worlds puts it. The parties’ dispute regarding whether the claimed “timestamp” must be “identifying” is addressed in Section III.B below.

#### 5. “substream” (‘227 claims 1, 13 & 25)

Term	MW’s Construction	Apple’s Construction
“substream”	“a subset of data units, or documents, yielded by a filter on a stream, the filter identifying certain documents within the stream”	“a stream that is a subset of data units, or documents, yielded by a filter on a stream, the filter identifying certain documents within the stream”

The only dispute about the term “substream” is whether a “substream” is a type of stream

(Apple’s proposed construction), or can be any “subset of data units” (Mirror Worlds’ proposed construction). The only argument Mirror Worlds offers in support of its position is that including the word “stream” in the definition of “substream” is “superfluous.” MW Opening Br. at 8; *see also* Smith Decl., Exh. E [Levy Tr.] at 94:3-97:9. Yet, the claim term “substream” itself shows that it is a type of stream. The file history confirms this: Mirror Worlds expressly defined “substream” as a “type of stream.” Exh. C [‘227 FH (Paper 18)] at 227 CFH 765. The Court should adopt Apple’s proposed construction.

**B. “timestamp to identify” (‘227 claims 1, 13 & 25)**

Term	MW’s Construction	Apple’s Construction
“timestamp to identify” and “timestamp which identifies”	“a time-based identifier”	“a date and time value that uniquely identifies each document”

The parties’ dispute on “timestamp to identify” is whether the term requires that the claimed timestamps be date-and-time values that *uniquely* identify each document so that each can be distinguished from the other documents in the stream (Apple’s proposed construction), or whether it requires only a generic “time-based identifier” that Mirror Worlds and its expert concede would not have sufficient information to actually identify documents and place them in the main stream in the claimed system (Mirror Worlds’ proposed construction).

**1. Mirror Worlds Ignores The Prosecution History’s Express Definition**

A patentee’s definition controls where “the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history.” *Edwards Lifesciences*, 582 F.3d at 1334; *Phillips*, 415 F.3d at 1319. Here, Mirror Worlds has provided a controlling definition of “timestamp.” As mentioned above, in an effort to persuade the Patent Office to allow the ‘227 patent, Mirror Worlds provided an amendment to “*clarify key terms* in the amended claims” by providing “*definitions* based on the present specification.” *Id.* Among these definitions was Mirror Worlds’ explicit statement that the term



“timestamp” requires that data units (documents) be uniquely identified:

(5) A “**timestamp**” is a date/time used to uniquely identify each data unit, see page 12, lines 6-7 and page 20, lines 14-20 of the present specification. Note: a counter which overflows periodically can not be a timestamp, since the timestamp would then not uniquely identify a data unit.

Exh. C [‘227 FH (Paper 18)] at 227 CFH 765-66.<sup>3</sup> Mirror Worlds concluded by explaining that they had “indicated where in the specification key *terms are defined to more clearly express the breadth of the subject matter of the invention* and remove any ambiguities.” *Id.* This definition of timestamp reflects not only how the applicants understood the invention but also that, to be granted the ‘227 patent at all, the applicants had to expressly limit the invention in the course of prosecution. *Phillips*, 415 F.3d at 1317.

Instead of responding to these unequivocal prosecution history statements, Mirror Worlds ignores them altogether. Nowhere in Mirror Worlds’ claim construction brief is there an acknowledgement of the definition of “timestamp” in the prosecution history, let alone an explanation for how Mirror Worlds can now oppose a definition of the term it itself propounded to secure the patent. MW Opening Br. at 9-10. Mirror Worlds’ silence speaks volumes.

## 2. Both Experts Agree Unique Identification Is Required

Even if the prosecution history alone did not compel Apple’s proposed construction of “timestamp to identify,” both sides’ experts agree that a person of ordinary skill in the art would understand the claim language to require Apple’s construction.

At the outset, the claim language as a whole makes clear that the claimed “timestamp” is

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<sup>3</sup> This was not the first time the applicants emphasized and relied upon the importance of *unique* identification to the patentability of the claimed invention. In an earlier attempt to distinguish the claimed invention from the prior art, the applicants added the “timestamp to identify” limitation to the claims and explaining that “the *unique identification*, association, linkage, and storage of the data units *using a timestamp* in chronological indicators as taught by the subject invention and as recited in the amended claims is not taught or suggested by the Gelernter article or any other cited art.” Exh. D [‘227 FH (Paper 13)] at 227 CFH 653-661, 675-76, 682.

used to include each data unit in a mainstream (*i.e.*, “means for including each data unit according to the timestamp in the respective chronological indicator in the main stream”). Consistent with this, Apple’s expert has opined that a person of ordinary skill would understand that “timestamp to identify” limitations in the claims refer to “a date and time value that uniquely identifies each document.” Exh. F [Feiner Rpt.] at 7 (opinion of Apple’s expert Dr. Weiner).

Similarly, Mirror Worlds’ own claim construction expert Dr. Levy admitted in deposition that, in the claimed systems, a timestamp must be unique. While Dr. Levy attempted to salvage Mirror Worlds’ claim construction of timestamp as any generic time-based identifier, he was forced to admit that, in the claimed computer system, one of ordinary skill in the art would understand that timestamps must uniquely identify documents to create the chronological ordering that is at the heart of the claimed invention:

Q. ... And you agree that *the timestamp that’s ultimately used to identify documents needs to be unique for the documents to be placed into a mainstream, correct?*

A. *Yes.*

Exh. E [Levy Tr.] at 110:10-110:14; *id.* at 105:7-13 (Q. Okay. So what portion of -- of the computer system described by Claim 1 assigns a unique -- assigns a timestamp to uniquely identify each data unit? A. I think that’s implied to one of ordinary skill in the art, required by the necessity to create an ordering.”); *id.* at 107:16-108:11. In short, both sides’ experts agree that a person of ordinary skill would understand the claim language to require a uniquely identifying timestamp. Thus, Apple’s construction should be adopted.

**C. “archiving” (‘313 claims 1 & 9; ‘427 claims 1 & 8)**

Term	MW’s Construction	Apple’s Construction
“archiving”	“copying documents to a secondary storage medium”	“moving from immediately-accessible storage to long-term storage”

The parties’ dispute on “archiving” is whether, in the context of the Mirror Worlds patents, “archiving” means *moving* documents to a new (long term or secondary) storage

location (Apple’s proposed construction), or whether “archiving” constitutes *copying* documents to a new location while also retaining a copy in its original location (Mirror Worlds’ proposed construction). Apple’s construction should be adopted because the specification makes clear that moving, not copying, is what is meant by “archiving.” As Mirror Worlds’ expert admits, the patent’s only description of “archiving” shows that it refers to *moving* the documents, not copying them: “All documents older than some date d may be *moved* by the server from immediately-accessible storage to cheaper, long-term storage.” 10:17-19; Exh. E [Levy Tr.] at 161:14-162:16. This same specification passage goes on to explain that although *documents* are archived through this process, a *browse card* may remain in immediately-accessible storage:

When a document is archived in this way, however, the browse card of that document may remain available in immediately-accessible storage, so that the archived document appears in the regular way in the viewport.

10:18-22. If the documents that were archived were copied, as Mirror Worlds now proposes, there would be no need to retain browse cards in order to view the document and this passage in the specification would be nonsensical. The patent then provides another passage that only makes sense if “archiving” means “moving”:

Data archiving is an area where conventional electronic systems perform poorly compared to paper-based systems. ...Often, users throw out old data rather than undertaking the task of *archiving and remembering how to get the data back*. If *archiving and retrieval* of documents is convenient, old information could be reused more often.

1:60-67. Again, this passage makes no sense if archiving means “copying,” because if archived documents continue to be stored in immediately accessible storage, then document *retrieval* from the new storage location is unnecessary, because are already present. There are other similar passages that confirm that archiving is used to mean “moving” in this specification. See 5:57-65, 10:22-24 (also describing retrieval of archived documents). Thus, the Court should construe

“archiving” to have the meaning it is given by the specification.<sup>4</sup> See, e.g., *On Demand Mach. Corp. v. Ingram Indus.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006); *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318-1319 (Fed. Cir. 2006) (limiting “fuel injection system component” to “fuel filter” because it was the only disclosed embodiment of a fuel injection system component and the patent described it in explaining of the benefits of the invention); see also *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1330 (Fed. Cir. 2008).

**D. “receding, foreshortened stack” (‘313 claims 1 & 9; ‘427 claims 1, 10, 18 & 25)**

Term	MW’s Construction	Apple’s Construction
“receding foreshortened stack”	“a representation of a stack that uses perspective to create the illusion of increasing distance from the viewpoint implied by the image”	“a stack where the document representations get smaller, and appear farther from the surface of the screen, toward the bottom stack”

The issue for the Court is whether a “receding, foreshortened stack” is a stack that must be both receding and foreshortened. Both the plain language of the claims and the patent specification confirm the common-sense conclusion that it must. Apple’s proposed construction bears this out. Mirror Worlds’ does not.

As Apple’s proposed construction states, a receding foreshortened stack is a stack in which document representation are smaller (foreshortened) and appear to be farther from the screen (receding) towards the bottom of the stack than towards the top. This proposed construction is consistent with the ordinary English meaning of the terms “foreshortened” and “receding” as identifying two different (albeit related) visual effects. Exh. G [Random House Compact] (foreshorten: “to reduce or distort (parts of represented object that are not parallel to the picture plane) in order to convey the illusion of three-dimensional space as perceived by the

<sup>4</sup> Mirror Worlds’ citation to software programs that use “archive” to mean either move or copy only underscores the need to look to the specification to resolve which approach is correct in the context of the Mirror Worlds patents. See Exh. F [Feiner Rpt.] at 7.

human eye; often done according to the rules of perspective”; recede: “3. of a color, form, etc., on a flat surface) to move away or be perceived as moving away from an observer, esp. as giving the illusion of space”); Exh. H [Merriam Webster’s].

Apple’s proposed construction is consistent with the ‘227 patent’s specification, which describes the visual stream of document representations shown in Figure 1 both as forming a receding stack and as having a foreshortened angle.<sup>5</sup> 9:46-52. These document representations get smaller, and appear further from the screen, as they get closer to the bottom of the stack. *See also* Exh. I [10/28/09 ‘427 Reexamination Amendment] at 16 (Mirror Worlds’ reexamination remarks distinguishing prior art by explaining that Figure 1 discloses “a stack that recedes from lower right to upper left, and is foreshortened to show perspective, with the successive documents smaller in size.”). Apple’s construction is also supported by the file history, where Mirror Worlds distinguished the Cowart reference because it “shows an orthogonal view of windows, that is, the windows do not get smaller toward the bottom of the stack.” Exh. C [‘227 FH (Paper 18)] at 227 CFH 784.

Notwithstanding the above, Mirror Worlds proposes a construction that requires only that the stack have “the illusion of increasing distance from the viewpoint implied by the image.” MW Opening Brief at 13-14. Not only does this proposal suffer from significant ambiguity (“the viewpoint implied by the image” is nowhere defined or disclosed), but it fails to give effect to the twin requirements of the “receding, foreshortened stack” limitation. Indeed, while Mirror Worlds pays lip service to the plain meaning of these two terms (which its own definitions establish as implying two separate concepts), its proposed construction improperly conflates the

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<sup>5</sup> Mirror Worlds criticizes Apple’s proposed constructions as an attempt to limit the claims to specific examples in the specification. In fact, Apple’s citation to the specification only serves to confirm that the specification is consistent with the ordinary meaning of the limitation.

two requirements. *Id.* A “receding, foreshortened stack” has to create **both** the appearance of increasing distances **and** the appearance of three-dimensional space by shortening or shrinking the document representations. Mirror Worlds has offered no basis to disregard or merge these two requirements, and no basis for the phrase “viewpoint implied by the image.”

**E. “glance views” (‘313 claims 1 & 9; ‘427 claims 1, 8, 16, 25 & 32; ‘999 claim 1)**

Term	MW’s Construction	Apple’s Construction
“glance views”	“an abbreviated presentation of a document”	“a different graphical representation of a document that appears when a document representation is touched by a cursor or pointer and provides additional information about the document”

There is no dispute that “glance view” is a coined term that has a special meaning in the context of the patents. The specification and claim language of the patents-in-suit make that meaning clear, and Apple’s proposed construction realizes it. Mirror Worlds’ proposed construction disregards its own lexicography, and instead, requests that this Court broaden the limitation to encompass any abbreviated presentation of a document. That is improper. *See Edwards Lifesciences*, 582 F.3d at 1334; *Phillips*, 415 F.3d at 1319.

All of the asserted claims containing the term “glance views” contain substantially identical language. Claim 1 of the ‘313 patent is representative:

responding to a user-controlled sliding without clicking of the cursor or pointer over said displayed stack to display the glance view of a document whose document representation is currently touched by the cursor or pointer

As this claim language shows, the glance view is what appears when a user slides the cursor over a stack of document representations. The glance view that appears corresponds to the document representation in the stack that is currently touched by the cursor. This allows a user to quickly scan through a stack of documents by sliding the cursor along the stack to receive information, about each document at a glance.

The specification confirms this, explaining that the glance view (referred to the

specification as a browse card)<sup>6</sup> “*appears*” when the user touches a document in the stream-display with the cursor. 7:64-8:5. “The purpose of the browse card[s] [i.e. glance views] is to help the user identify a document by *providing the user some idea of the document’s contents in a small window.*” *Id.*; see also Fig. 1, 6:32-34 (“Users can slide the mouse pointer 10 over the document representations to “glance” at each document.”).

Mirror Worlds appears not to dispute that the claims require the glance view to “appear when a document representation is touched by a cursor or pointer.”<sup>7</sup> MW Opening Brief at 13, see also Exh. E [Levy Tr.] at 183:18-23 (“Q. Okay. So the glance view isn’t visible on the display until the cursor or pointer is positioned over a portion of the displayed document representation. Isn’t that right? A. That is what this claim says, yes.”).<sup>8</sup> Instead, the dispute is whether the “glance view” needs to be different from the “document representation” that is touched to make it appear. Yet even Mirror Worlds agrees that “[t]he purpose of the glance view is to help the user identify a document.” MW Opening Brief at 13. For that to be true—and for “glance views” to serve any purpose at all—the glance view must be a different graphical representation (or different instantiation) from the document representation in the displayed

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<sup>6</sup> There is no dispute that the claim limitation “glance views” refers to the “browse cards” described in the patent specification. Exh. E [Levy Tr.] at 234:1-11.

<sup>7</sup> Mirror Worlds goes so far as to call that language in Apple’s proposed construction “superfluous” of other claim language. Not so. Apple’s construction merely explains that the glance view is, by definition, the result of a user’s action with respect to a document representation in the displayed stack. In any event, even if Mirror Worlds’ were correct, there would be no basis to abandon the specification and claim language altogether and instead adopt a construction of “glance views” as merely “an abbreviated presentation of a document.”

<sup>8</sup> Interestingly, this admission came after Dr. Levy initially conceded that the glance view and the displayed document representation must be distinct and separate items on the screen, and then, after a break at the deposition, attempted to retract that testimony. Ultimately, Dr. Levy was forced to retract his retraction and again concede that the glance view is not displayed before the cursor is positioned over the document representation, thus confirming that the document representation and glance view are different. Exh. E [Levy Tr.] at 175:21-185:16.

stack, and must provide additional information that allows a user to identify a document.<sup>9</sup>

Mirror Worlds also argues that the glance view need not be different from the document representation in the stack because many document representation are partially obscured when in the stack, “so it is plainly useful, for example, to display a non-obscured version.” MW Opening Br. at 13. This argument actually supports Apple’s position. A “non-obscured version” *is* a different graphical representation that provides additional information, just as Apple has suggested. That is precisely why the non-obscured version is useful to serve the agreed purpose of the glance view—to “help the user identify a document”—where a document representation is already being displayed and touched by the cursor.

Finally, Mirror Worlds has identified no meaningful support for its position that a glance view should be limited to an “*abbreviated* presentation of a document.” Mirror Worlds ignores entirely the presence of dependent claims that make clear that a glance view need not necessarily be “abbreviated.” Dependent claims 13 and 22 of the ‘427 patent specifically add the restriction that the “*glance view comprises an abbreviated version of the respective document.*” Thus, that limitation should not be read into the independent claim, where, as here, there is no meaningful support for doing so. *See, e.g., Edward Lifesciences*, 582 F.3d at 1330.

#### **F. The Means Plus Function Terms**

Many of the parties’ claim construction disputes relate to whether various limitations are subject to 35 U.S.C. Section 112, ¶ 6 and, if so, what corresponding structure is disclosed in the patent. *See* Joint Claim Construction Statement (“JCCS”) at Exhibit B, pp. 6-7, 12-17. The

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<sup>9</sup> Mirror Worlds’ only argument to the contrary is that Apple’s construction somehow requires that the document representation and the glance view relate to different *content*. Apple has never suggested that a glance view and document representation of the same document should reflect different content, nor would that make sense.



disputed issues for many of these terms are virtually identical, and this brief addresses multiple disputed terms together wherever possible.

### **1. Legal Standards For Claims Drafted Pursuant To Section 112, ¶ 6**

Claim elements containing the word “means” and reciting a function are presumed to be in means-plus-function format and subject to 35 U.S.C. § 112, ¶ 6. *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1366 (Fed. Cir. 2008). The presumption can be rebutted only “if the claim itself recites sufficient structure to perform the claimed function.” *Id.* Conversely, when a claim element does not contain the word “means,” there is a rebuttable presumption that it is not within the scope of Section 112, ¶ 6. *TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008). The presumption can be overcome if the claim lacks sufficiently definite structure. *See id.*; *MIT v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006) (generic terms like mechanism, means, element, and device “typically do not connote sufficiently definite structure”).

For means-plus-function terms, the law is clear that the claimed function must be clearly linked to meaningful corresponding structure disclosed in the patent, and the claims are then limited to that corresponding structure (and equivalents). *Maurice Mitchell Innov., L.P. v. Intel Corp.*, 2006 WL 3447632, at \*2 (E.D. Tex. Nov. 22, 2006), *aff’d*, 2007 WL 2777968 (Fed. Cir. Sept. 24, 2007) (Exh. J); *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007). Section 112, ¶ 6 does not permit claims to be drafted in purely functional form.

### **2. Each Of The Claim Elements Drafted In “Means For” Format Are Subject to Section 112, ¶ 6**

As discussed above, claim elements drafted in “means for” format are presumed to be subject to Section 112, ¶ 6, and the burden of rebutting the presumption during claim construction falls on the patentee. As set forth herein, for the terms where this is in dispute,

Mirror Worlds has failed to meet its burden.

**a. Mirror Worlds Failed to Address, Let Alone Rebut, The Presumption That “Means For” Limitations Are Governed By Section 112, ¶ 6 For Several Terms**

Mirror Worlds’ position in the parties’ Local Rule 4-3 Joint Claim Construction Statement was that four “means for” terms are not subject to Section 112, ¶ 6:

Claim	Term
‘227:1	“means for selecting a timestamp to identify each data unit”
‘227:12	“means for generating a data unit comprising an alternative version of the content of another data unit”
	“means for associating the alternative version data unit with the chronological indicator of another data unit”
‘227:25	“means for selecting which data units are represented on the display device by selecting one of the document representations and displaying document representations corresponding to data units having timestamps within a range of a timepoint”
	“means for selecting one or more of the document representations with a pointing device so that the data units represented by the selected document representations are further displayed with a second document representation comprising an alternative version of the respective data unit”

JCCS at Exhibit B, pp. 6, 12-13, 14-15. However, Mirror Worlds’ opening claim construction brief and Dr. Levy’s claim construction report are completely silent on whether the presumption is rebutted in some way.<sup>10</sup> MW Opening Br. at 19-20, 26-27, 27-29; Exh. 6 [Levy Decl.] at ¶¶ 79, 102, 104, 108, 110. These elements should be deemed subject to Section 112, ¶ 6 because Mirror Worlds has not even attempted to meet its burden of showing otherwise.<sup>11</sup>

**b. For Other Limitations, Mirror Worlds Applies The Wrong Standard In Attempting To Rebut The Presumption**

For the remaining disputed “means for” claim elements, Mirror Worlds contends that the “means for” claim element itself recites sufficient structure to entirely perform the

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<sup>10</sup> In contrast, for the other terms that Mirror Worlds argues are not subject to Section 112, ¶ 6, both Mirror Worlds’ brief and Dr. Levy’s report at least purport to address the presumption. *See, e.g.*, MW Opening Br. at 23; Exh. 6 [Levy Decl.] at ¶ 91.

<sup>11</sup> Mirror Worlds should not be permitted to argue for the first time on reply that these terms are not subject to Section 112, ¶ 6 or that the presumption is somehow overcome.

claimed function, and thus takes the element outside of the purview of Section 112, ¶ 6. MW Opening Br. at 16, 17, 20-21, 23-28 (Sections R, S, W, X, AA-CC, EE, FF, HH, and II). However, Mirror Worlds applies the wrong legal standard. For example, Mirror Worlds proposes that the language “means for generating a mainstream of data units...the main stream for receiving each data unit received by or generated by the computer system” recites sufficient structure because the main stream itself is a data structure. MW Opening Br. at 16. More specifically, Mirror Worlds argues that, because a person of skill in the art would know how to generate an instance of a data structure that is a main stream, no further disclosure is required. *Id.* But even assuming that a main stream is structure, that structure does not disclose *how* to generate itself. This does not overcome the presumption that Section 112, ¶ 6 applies. *See Computer Acceleration Corp. v. Microsoft Corp.*, 516 F. Supp. 2d 752, 766 (E.D. Tex. 2007) (holding that a phrase that “merely restates the function” is inadequate disclosure of structure).<sup>12</sup>

Likewise and for the same reason, Mirror Worlds has not rebutted the Section 112, ¶ 6 presumption with respect to the following terms:

Claim	Term
‘227:1 227:25	“means for generating...at least one substream” » Mirror Worlds contends that a “substream” is structure
‘227:1	“means for associating each data unit with at least one chronological indicator having the respective timestamp” » Mirror Worlds contends that “chronological indicators” are structures
‘227:25	“means for associating each data unit with at least chronological indicator having a respective timestamp which identifies the data unit” » Mirror Worlds contends that “chronological indicators” are structures

MW Opening Br. at 17, 20-21 (Section S, W and X).

<sup>12</sup> Both parties experts agree that a person of skill in the art would understand that a software structure (or executable code) would be the mechanism by which a main stream is generated (or instantiated). MW Opening Br., Exh. 6 [Levy Decl.] at ¶ 64; Exh. F [Feiner Rpt.] at 15. However, both experts also agree that the software structure (or executable code) to do this is *not* disclosed by the claim language. Exh. E [Levy Tr.] at 217:16-218:9; Exh. F [Feiner Rpt.] at 15.

In short, Mirror Worlds’ overall approach is to simply restate a portion of the claimed function and call that structure. That does not overcome the presumption as a matter of law. *See Computer Acceleration Corp.* 516 F. Supp. 2d. at 766 (holding that a phrase that “merely restates the function” is not sufficient disclosure of structure). Nor does it overcome the presumption as a matter of common sense. For example, “generating .... at least one substream” is not a function that is performed simply by a “substream,” because a substream does not generate itself.

**c. Mirror Worlds’ Attempts To Rebut The Presumption For “Means For Displaying” Are Inconsistent With Case Law And Its Positions Regarding Three “Means For Displaying” Terms In The Piles Patent**

For the claim term “means for displaying alternative versions of the content of the data units,” Mirror Worlds has a slightly different argument: it asserts that “‘means for displaying’ are implicitly part of a computer system.” MW Opening Br. at 23. This is wrong as a threshold matter. Not all computers have displays; for example, servers are computers that store or organize information, frequently without a display. More fundamentally, Mirror Worlds’ position is in direct conflict with its own alternative proposed construction for this term. According to Mirror Worlds, the “means for displaying” limitation is inherently structural and thus not subject to Section 112, ¶ 6 because all computers have displays, but if the term is subject to Section 112, ¶ 6, then the corresponding structure is actually *not* a display, but rather “browse cards/glance views” and equivalents thereof. JCCS at Exhibit B, pp. 9-10. Mirror Worlds’ position is also in conflict with the positions it has taken in proposing constructions for the three “means for displaying” terms in Apple’s Piles patent. There, Mirror Worlds agrees with Apple that the “means for displaying” terms *are* within the scope of Section 112, ¶ 6 because they do not recite sufficient structure to rebut the presumption. Mirror Worlds cannot have it both ways.

### 3. “Document Organizing Facility” Is Subject To Section 112, ¶ 6

As discussed above, non-“means” claim elements that are nonetheless purely functional are, nevertheless, subject to § 112, ¶ 6. “Document organizing facility” is such a term.<sup>13</sup>

First, a person of ordinary skill in the art would not understand “document organizing facility” to refer to a particular structure or class of structures. Exh. F [Feiner Rpt.] at ¶ N. The completely generic term “facility” would include various possible means for organizing documents, including a public library, the desk of a government worker, or “any number of computer software processes and programs running on computers.” *Id.* Second, this understanding is consistent with the everyday meaning of term “facility” as a thing designed to serve a particular function, such as an “athletic facility” or a “correctional facility.” *See* Exh. G [Random House Compact] at 690 (“something designed, built, installed, etc., to serve a specific function affording a convenience or service”); Exh. H [Merriam Webster’s] at 416 (“something (as a hospital) that is built, installed, or established to serve a particular *purpose*”).

Of course, a thing described in terms of its purpose rather than as a structure cannot be a “structural” term in the context of § 112, ¶ 6. *See Mas-Hamilton v. LaGard, Inc.*, 156 F.3d 1206, 1214 (Fed. Cir. 1998) (holding that “level moving element” is subject to § 112, ¶ 6 because it was “described in terms of its function not its mechanical structure”). This is confirmed by Mirror Worlds’ proposal that “facility” would be understood by a person of skill in the art as software, specifically a “module or subsystem that provides some particular capability or facility.” JCCS at Exhibit B, p. 27; MW Opening Br., Exh. 6 [Levy Decl.] at ¶ 112; Exh. E [Levy Tr.] at 160:24-161:3. The generic phrase “module or subsystem” is not structure, so

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<sup>13</sup> Although the limitation is subject to Section 112, ¶ 6, the specification discloses no corresponding structure that performs the functions of a “document organizing facility.” Accordingly, Apple has moved for summary judgment of indefiniteness on this limitation in its Motion for Partial Summary Judgment of Invalidity for Indefiniteness, filed December 22, 2009.

Mirror Worlds’ construction confirms the everyday meaning of “facility” as merely functional. Because purely functional claiming is not allowed, “document organizing facility” must be subject to § 112, ¶ 6. *See, e.g., TIP Sys.*, 529 F.3d at 1373; *MIT*, 462 F.3d at 1354; *Mas-Hamilton*, 156 F.3d at 1214.

**4. Mirror Worlds’ Proposed Structures Of “Computer Hardware” and/or “Executable Code” Are Insufficient And Would Render The Claims Indefinite**

In fourteen of the nineteen instances where Mirror Worlds has proposed structures for “means for” elements, those proposed structures are simply: “computer hardware” and/or “executable code” for performing the claimed function. JCCS at Exhibit B, pp. 4-19. As explained in Apple’s concurrently-filed Motion for Partial Summary Judgment of Invalidity for Indefiniteness, this is insufficient disclosure of structure as a matter of law, and renders all claims with these elements invalid under Mirror Worlds’ proposed constructions.

**5. Apple’s Proposals For Corresponding Structure Should Be Adopted**

“In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform *the disclosed algorithm*.” *WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). Each of Apple’s constructions for Section 112, ¶ 6 limitations identifies computer hardware that is programmed to carry out a particular (and identified) algorithm disclosed in the specification.

For example, Apple’s proposed corresponding structure for the term “means for generating a main stream of data units...the main stream for receiving each data unit received by or generated by the computer system” is general purpose computer hardware *specifically programmed to* perform the claimed function according to the algorithmic steps disclosed in the patent: linking documents in a disclosed manner using disclosed data structures and operations.

JCCS at Exhibit B, p. 4. As another example, Apple’s proposed corresponding structure for the term “means for maintaining...substreams as persistent streams” is a general purpose computer hardware *specifically programmed to* perform disclosed steps: (1) “examining each new document that enters the main stream using search criteria...”; and (2) “add[ing] documents that match those search criteria to the appropriate stream.” *Id.* at Exhibit B, 8-9.

Indeed, for each of the fifteen “means for” elements for which a specific algorithm for performing the function is disclosed in the specification, Apple’s proposed construction consists of computer hardware and a software algorithm for performing the claim function.<sup>14</sup> See Appendix A. For each of these limitations, Apple has proposed “not the general purpose computer, but rather the special purpose computer programmed to perform *the disclosed algorithm*.” *WMS Gaming*, 184 F.3d at 1349. Thus, Apple’s constructions should be adopted.<sup>15</sup>

#### IV. ADDITIONAL DISPUTED TERMS

##### A. “data unit” (‘227 claims 1, 13 & 25)

Term	MW’s Construction	Apple’s Construction
“data unit”	“a collection of data of significance to the user that the user considers as a unit”	“an item of information of significance to the user that the user considers as a unit ( <i>e.g.</i> , an email, picture, voice mail, software program, reminder or calendar item)” <sup>16</sup>

The primary dispute here is whether a data unit must be a single *item* of information

<sup>14</sup> The remaining four limitations are the subject of Apple’s concurrently-filed Motion for Partial Summary Judgment of Invalidity for Indefiniteness.

<sup>15</sup> Insofar as Apple’s proposed constructions are not adopted, these limitations would be indefinite as a matter of law and summary judgment of invalidity is appropriate for the reasons set forth in Apple’s concurrently-filed summary judgment motion.

<sup>16</sup> Apple’s has proposed a construction of “data unit” that includes a parenthetical setting forth non-limiting examples taken from the patent specification and aimed at providing more context for the jury. Of course, to the extent the Court finds that those examples are not helpful, Apple would have no objection to a construction of the term as merely “an item of information of significance to the user that the user considers as a unit.”

(Apple’s proposed construction) or whether it can be any *collection* of data (Mirror Worlds’ proposed construction). The patent explains what is contemplated by the term “data unit” or document: “A document can contain any type of data including but not limited to pictures, correspondence, bills, movies, voice mail and software programs...reminders, calendar items and to-do lists.” As this, and other passages make clear, the “data units” are the individual items of user interest, such as emails and calendar items. Apple’s “item” construction reflects this. The problem with Mirror Worlds’ “collection of data” construction is that would include things that the patent makes clear are not within the scope of the phrase. For example, Mirror Worlds’ construction would include an Outlook .pst file—a compressed data file containing all the email in a person’s email profile—while the patent makes clear that each email is its own data unit. *See* 4:49-51; 4:16-22; Exh. C [‘227 FH (Paper 18)] at 227 CFH 779.

**B. “controlling operating system” (‘427 claims 8 & 16)**

Term	MW’s Construction	Apple’s Construction
“controlling operating system”	“an operating system that utilizes subsystems from another operating system”	“an operating system that controls another operating system”

The issue here is whether a “controlling operating system” actually “controls” another operating system. Apple proposes a construction that gives effect to the word “controlling”—a “controlling operating system” is one that controls. In contrast, Mirror Worlds attempts to read-out the term “controlling” by arguing that it is unclear what it means to “control” another operating system and thus that a controlling operating system need not “control” at all. MW Opening Br. 11. This argument disregards the language of the claim and should be rejected.

**C. “abbreviated form” / “abbreviated versions” (‘227 claims 20 & 29; ‘313 claims 1 & 9; ‘427 claims 5, 13, 22, 29 & 37)**

Term	MW’s Construction	Apple’s Construction
“abbreviated form” “abbreviated version(s)”	No construction necessary. Or “a form or version that is less	“a shortened version of the content to be displayed from



	than the full form or version.”	the data unit or document”
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Here, the parties’ dispute is whether an “abbreviated” version of a document is a shortened version of the **content** of the document (Apple’s proposed construction) or can be any version of the document that is somehow “less” than the original document, *e.g.*, a blurry or shrunken visual representation of the document (Mirror Worlds’ proposed construction).

Apple’s proposed construction is based on the plain language of the claims, and the meaning of the term “abbreviated” in ordinary English and as confirmed by the specification. Taking claim 20 of the ‘227 patent as an example, the claim language expressly requires “displaying **data** from one of the data units in **abbreviated form**.” This is consistent with both the ordinary English meaning of the word “abbreviated” and the specification, which both establish that an abbreviated version of a document is a shortened or condensed version of the **content** of the document. *See, e.g.*, Smith Decl, Exh. H [Merriam Webster’s]; *see also* 8:2-5 (explaining that the “purpose of a browse card to help the user identify a document by providing some idea of the document’s **content** in a small window”).

In contrast, Mirror Worlds argues that an abbreviated version of a document can be any version of the document that is somehow “less than the full version.”<sup>17</sup> This definition is far too broad. As Mirror Worlds’ expert acknowledged, an “abbreviated version” of his expert report would not be a version that is merely shrunken to an 8-point font. Exh. E [Levy Tr.] at 138:21-139:20. Rather, the **content** of the report would be need to be condensed. The same is true in the claims.

#### **D. “complex analysis” (‘427 claims 7, 15, 24, 31 & 39)**

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<sup>17</sup> Mirror Worlds also argues that these terms are self-explanatory, and that Apple’s construction simply “substitutes a long phrase ... for a straightforward term.” Of course, that Mirror Worlds itself has offered a long explanation of the “plain meaning” of this term belies its insistence that the term needs no construction. MW Opening Br. at 9-10. Indeed, Mirror Worlds offers no explanation for what it means to be “less than the full form or version” of a document.

Term	MW's Construction	Apple's Construction
"complex analysis"	"analysis involving the form, content and/or type of a document"	"analysis of the content of a document that allows selection of important words, pictures and/or sounds in the document"

Each of the claims where this phrase appears requires the display of a 'glance view' that "comprises important words, pictures, and/or sounds of the respective document resulting from complex analysis of the document." Apple's construction tracks this language, as well as the only description of "complex analysis" in the specification:

In another embodiment, *complex analysis* is performed on the document *contents* *so that* 'most important' words, pictures and/or sounds are presented.

8:7-10. While Apple's proposed construction reflects this disclosure, Mirror Worlds seeks to side-step it, proposing that analysis that never involves a document's contents, such as analysis of a document's "type," is sufficient to satisfy the "complex analysis" limitation. This is inconsistent with the claim language and the specification

**E. "enterprise information management system" ('999 claim 1)**

Term	MW's Construction	Apple's Construction
"enterprise information management system"	"a system that manages information for an enterprise or organization"	"a system with a client-server architecture, a multi-computer multi-node, high volume server, and a number of clients in the order of hundreds, rather than tens"

Apple's proposed construction is based on Dr. Gelernter's explanation of the nature of the inventions described in the '999 patent. When questioned, Dr. Gelernter explained that the claimed enterprise information management system is "a client server architecture with added high performance reimplementation," which includes "a multi-computer multi-node, high volume server" as opposed to a conventional small volume server. Smith Decl, Exh. K [11/5/09 Gelernter Tr.] at 285:22-293:11; *id.* at 288:1-20 (explaining that an enterprise information management system is on the "order of hundreds rather than tens" of clients); *see also* Exh. L [6/18/09 Gelernter Tr.] at 32:13-33:3. In contrast, Mirror Worlds' proposed construction runs

away from Dr. Gelernter's testimony about his understanding of the term.

**F. “archiving the documents and indicators in consistent format for selective retrieval” (‘427 claims 1 & 8)**

Term	MW's Construction	Apple's Construction
“archiving the documents and indicators in consistent format for selective retrieval”	No construction necessary. Or “archiving documents and indicators in a consistent format that enables uniform selective retrieval of the documents”	“archiving the documents and indicators in a consistent format rather than the diverse formats appearing in conventional directories and subdirectories of files”

Apple's proposed construction of this element is based on Mirror Worlds' statements to the Patent Office during re-examination of the '427 patent. There, Mirror Worlds sought to distinguish the prior art by arguing that archiving documents appearing in conventional directories and subdirectories is different from “archiving...in a consistent format” as claimed:

*There is no notion in Retrospect of storing these documents on the backup tape in consistent format....They are stored on tape in the diverse formats as they appear in volumes, subvolumes and folders rather than in consistent format....Thus archiving in Retrospect is still limited to moving files as they appear in source volumes and subvolumes or folders rather than archiving in consistent format.*

Exh. I [10/28/09 '427 Reexamination Amendment] at 15-16. Apple's proposed construction is exactly what Mirror Worlds is telling the Patent Office these claim terms mean. And this is the definition that Mirror Worlds should be limited to in enforcing its patents in this Court.

**V. CONCLUSION**

For the reasons set forth above, Apple respectfully requests that the Court adopts Apple's proposed claim constructions for each of the terms in dispute.

Dated: January 9, 2010

Respectfully submitted,

/s/ Steven C. Cherensky

Matthew D. Powers

Lead Attorney

Steven S. Cherensky

Sonal N. Mehta (*Pro Hac Vice*)

Stefani C. Smith (*Pro Hac Vice*)

WEIL, GOTSHAL & MANGES LLP

201 Redwood Shores Parkway

Redwood Shores, CA 94065

650-802-3000 (phone)  
650-802-3100 (fax)  
matthew.powers@weil.com  
steven.cherensky@weil.com  
sonal.mehta@weil.com  
stefani.smith@weil.com

Eric M. Albritton  
Texas State Bar No. 00790215  
ALBRITTON LAW FIRM  
P.O. Box 2649  
Longview, Texas 75606  
(903) 757-8449 (phone)  
(903) 758-7397 (fax)  
ema@emafirm.com

*Attorneys for Defendant and  
Counterclaim Plaintiff Apple Inc.*

## Appendix A

<b>Limitation</b>	<b>Apple's Proposed Structure</b>	<b>Support</b>
“means for generating a main stream of data units...the main stream for receiving each data unit received by or generated by the computer system”	computer hardware and software that creates a main stream by linking every existing document in a computer system according to the uniquely identifying timestamp in the document's chronological indicator using a data structure that can be examined and to the extent possible manipulated by many processes simultaneously, and that supports the block-at-the-end operation	<u>'227 Patent:</u> 2:62-3:2; 3:13-19; 13:50-58
“means for generating ... at least one substream”	computer hardware and software that runs a search of a stream using a boolean attribute-and keyword expression or a 'chronological expression' and generates another stream having the results of the search, using a data structure that can be examined and to the extent possible manipulated by many processes simultaneously, and that supports the block-at-the-end operation	<u>'227 Patent:</u> 4:48-67; 4:62-67;13:50-58
“means for receiving data units from other computer systems”	computer hardware and software for receiving data from other computer systems through electronic mail, World Wide Web, the Internet, or copying from steams in another computer system	<u>'227 Patent:</u> 3:10-12
“means for generating data units by the computer system”	computer hardware running conventional UNIX applications such as emacs, xv, and ghostview (and structural equivalents), or software that creates documents by either cloning an existing document and adding it to the main stream, or creating a new empty document and adding it to the main stream	<u>'227 Patent:</u> 4:48-67; 4:62-67; 13:50-58
“means for associating each data unit with at least one chronological indicator having the respective timestamp”	computer hardware and software that associates a separate chronological indicator with every document received or generated by the computer system and puts the uniquely identifying timestamp for that document into the chronological indicator	<u>'227 Patent:</u> 2:62-3:2; 3:13-19
“means for including each data unit according to the timestamp in the respective chronological indicator in the main stream”	computer hardware and software that adds every document received or generated by the computer system into a main stream according to the uniquely identifying timestamp in the document's chronological indicator using a data structure that can be examined and to the extent possible manipulated by many processes simultaneously, and that supports the block-at-the-end operation	<u>'227 Patent:</u> 2:62-3:4; 3:13-21  <u>'227 Certified File History:</u> 378, 668
“means for maintaining the	computer hardware and software that adds every	<u>'227</u>

main stream...as a persistent stream”	document received or generated by the computer system into a main stream according to the uniquely identifying timestamp in the document’s chronological indicator using a data structure that can be examined and to the extent possible manipulated by many processes simultaneously, and that supports the block-at-the-end operation	<u>Patent:</u> 2:62-3:2; 3:13-19; 13:50-58
“means for maintaining substreams as persistent streams”	computer hardware and software that act as a filter by examining each new document that enters the main stream using the search criteria from each substream that has been created and not destroyed and that adds documents that match those search criteria to the appropriate stream	<u>‘227</u> <u>Patent:</u> 2:62-3:2; 4:48-67; 4:62-67; 13:50-58
“means for displaying alternative versions of the content of the data units”	computer hardware and software that displays the X Window System window shown in Fig. 1, including specifically the alternative version of a document shown as 100, which was created using ‘header stripping’ to identify the first non-trivial words in a document, or using complex analysis that identifies the ‘most important’ words, pictures, and/or sounds in the document	<u>‘227</u> <u>Patent:</u> 6:30-32; 7:64-8:10
“means for archiving a data unit associated with a timestamp older than a specified time point while retaining the respective chronological indicator and/or a data unit having a respective alternative version of the content of the archived data unit”	computer hardware and software that monitors remaining disk space, and when available space is low, automatically moves all documents older than some date from immediately accessible storage to cheaper, long-term storage, after asking the user to insert diskettes or other storage media if necessary	<u>‘227</u> <u>Patent:</u> 1:60-67; 10:16-25; 10:26-33
“means for operating on any of the streams using a set of operations selected by a user”	computer hardware running software which is capable of performing any of the “new,” “clone,” “transfer,” “find,” “summarize,” copy, merge, print, and freeze operations on a stream	<u>‘227</u> <u>Patent:</u> 4:31-33; 7:1-7; 9:13-19
“means to generate substreams from existing substreams”	computer hardware running software that runs a search of a substream using a Boolean attribute-and-keyword expression or a ‘chronological expression’ and generates another stream having the results of the search, using a data structure that can be examined and to the extent possible manipulated by many processes simultaneously, and that supports the block-at-the-end operation	<u>‘227</u> <u>Patent:</u> 4:48-67; 4:62-67; 13:50-58
“means for generating a data unit comprising an	computer hardware and software that creates an alternative version of a document for use in archiving	<u>‘227</u> <u>Patent:</u>

alternative version of the content of another data unit”	that remains in the computer system when the another document has been archived	10:16-25; 6:30-32; 7:64-8:10.
“means for associating the alternative version data unit with the chronological indicator of the another data unit.”	computer hardware and software that takes the chronological indicator associated with the another document and associates it with the alternative version data unit for use in archiving	<u>‘227</u> <u>Patent:</u> 10:16-25; 6:30-32; 7:64-8:10.
“means for representing one or more data units of a selected stream on a display device as document representations ... the order of appearance of each data representation on the display device determined by the timestamp of the respective data unit”	computer hardware and software that displays the X Windows System window shown in Fig. 1 and creates the necessary document representations	<u>‘227</u> <u>Patent:</u> Fig. 1; 6:17-28; 6:29-36; 7:64-8:10

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing document was filed electronically in compliance with Local Rule CV-5 on this 9th day of January, 2010. As of this date, all counsel of record have consented to electronic service and are being served with a copy of this document through the Court's CM/ECF system under Local Rule CV-5(a)(3)(A).

/s/ Stefani C. Smith