2019-2198, -2201, -2202, -2204

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

REALTIME DATA LLC, dba IXO,
Plaintiff-Appellant,

v.

REDUXIO SYSTEMS, INC., ARYAKA NETWORKS, INC., PANZURA, INC., FORTINET, INC.,
Defendants-Appellees.

Appeals from the United States District Court for the District of Delaware in Case Nos. 1:17-cv-01635-CFC, 1:17-cv-01676-CFC, 1:18-cv-01200-CFC, and 1:18-cv-02062-CFC, Judge Colm F. Connolly

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APPELLANT'S REPLY BRIEF

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CERTIFICATE OF INTEREST

Pursuant to Federal Circuit Rule 47.4(a)(1) and Federal Rule of Appellate Procedure 26.1, counsel for Plaintiff-Appellant Realtime Data LLC certifies the following:

1. The full name of the party represented by us is:

   - Realtime Data LLC.

2. The name of the real parties in interest represented by us:

   - Not applicable. Realtime Data LLC is a real party in interest.

3. All parent corporations and publicly held companies that own 10 percent or more of the stock of the party represented by us are as follows:

   - Not Applicable.

4. The names of all law firms and the partners or associates that appeared for Realtime Data LLC in the trial court, or are expected to appear in this Court are:

   - Marc A. Fenster, Reza Mirzaie, Brian D. Ledahl, Paul A. Kroeger, C. Jay Chung, and Stanley H. Thompson of Russ August & Kabat
   - Stephen B. Brauerman and Sara E. Bussiere of Bayard, P.A.

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal are:

The following cases are pending in the U.S. District Court for the District of Delaware:

- *Realtime Data LLC v. Fortinet, Inc.*, Case No. 1:17-cv-01635-CFC
- *Realtime Data LLC v. Panzura, Inc.*, Case No. 1:18-cv-01200-CFC
- *Realtime Data LLC v. MongoDB Inc.*, Case No. 1:19-cv-00492-CFC
- *Realtime Data LLC v. Open Text, Inc.*, Case No. 1:19-cv-00394-CFC
- *Realtime Data LLC v. Kaminario, Inc.*, Case No. 1:19-cv-00350-CFC
- *Realtime Data LLC v. Nimbus Data, Inc.*, Case No. 1:19-cv-00279-CFC
- *Realtime Data LLC v. CTERA Networks, LTD.*, Case No. 1:18-cv-02017-CFC
- *Realtime Data LLC v. SolarWinds Worldwide, LLC*, Case No. 1:18-cv-01995-CFC
- *Realtime Data LLC v. Quest Software, Inc.*, Case No. 1:18-cv-01964-CFC
- *Realtime Data LLC v. Spectra Logic Corporation*, Case No. 1:17-cv-00925-CFC
- *Realtime Data LLC v. Array Networks Inc.*, Case No. 1:17-cv-00800-CFC

The following cases are pending in the U.S. District Court for the District of Massachusetts:

- *Realtime Data LLC v. Sungard Availability Services, LP*, Case No. 1:18-cv-12227-IT
- *Realtime Data LLC v. Carbonite, Inc.*, Case No. 1:17-cv-12499-IT
- *Realtime Data LLC v. Acronis, Inc. Ltd*, Case No. 1:17-cv-11279-IT

The following cases are pending in the U.S. District Court for the Northern District of California:

- *Realtime Data LLC v. Veritas Technologies LLC*, Case No. 3:18-cv-06029-SI
- *Realtime Data LLC v. Fujitsu America, Inc.*, Case No. 3:17-cv-02109-SK

Dated: April 16, 2020

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I. INTRODUCTION

As previously explained, the faces of the patents demonstrate that they provide improvements in computer technology through particularized methods of digital data compression that address specific problems and limitations in conventional data compression systems. Defendants' assertion that, as concluded by the District Court, all 159 patent claims across five patents and three distinct patent families are directed to the same abstract idea of "data manipulation—analysis, compression, decompression, and storage" relies on a stripped down, oversimplified version of the claims that simply ignores their language and the patents' claimed advances. This, of course, is improper.

To support this erroneous conclusion, Defendants repeat the same flawed arguments throughout their brief, namely that the patents utilize purportedly generic computer components, and that they claim only desired results. These arguments are contrary to fact and law and must be rejected. Contrary to Defendants' assertions, the recited components are not generic. They are specially configured to perform specific functions to achieve their stated goals of making data compression faster and more efficient. Defendants, and the District Court, simply ignore the clear language in the patents. And in any event, this Court has repeatedly held that the utilization of some generic components does not render the claims abstract. Courts must look to at the claims as a whole and as an ordered combination. Defendants'

and the District Court's attempts to analyze each limitation in isolation to determine whether each is abstract and/or inventive is clear error.

The District Court's ruling should be reversed.

II. ARGUMENT

A. The District Court Erred in Holding that the Claims Are Directed to an Abstract Idea

1. Contrary to Defendants' Assertions, the Patents Are Not Directed to Mere "Data Manipulation," But Rather Are Directed to Improved, Particularized Methods of Digital Data Compression

Contrary to Defendants' assertions, the five asserted patents—which comprise 159 claims across three distinct patent families—do not merely claim data manipulation and storage. The only possible way to conclude this is to improperly ignore the claim language and the patents' claimed advances. It is also contradicted by Defendants' own arguments. Defendants themselves acknowledge that the patents are directed to particularized methods of data compression. For example, Defendants assert that the "'728 and '203 Patents more specifically claim the compressing or decompressing of data using a compression method that is dependent on the underlying data type." RB at 25. Defendants further assert that the "'908 and '530 Patents claim using two or more compression techniques to compress and store data 'faster,'" and that the "'751 Patent combines the elements of the '728 Patent and the '908 Patent, and claims (i) the compressing of data using a compression

method that is dependent on the underlying data type, and (ii) using two or more compression techniques to compress and store data more quickly." *Id.* Even accepting Defendants' oversimplified characterization of the claims, it is clear that they are not abstract. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259 (Fed. Cir. 2014) (an "improved, particularized method of digital data compression" is not abstract).

The *RecogniCorp* case on which Defendants (and the District Court) rely is inapposite. That case concerned a method for creating composite facial images "whereby a user displays images on a first display, assigns image codes to the images through an interface using a mathematical formula, and then reproduces the image based on the codes." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017). This Court concluded that the claim was "directed to the abstract idea of encoding and decoding image data." *Id.* It likened the claimed method to "[m]orse code, ordering food at a fast food restaurant via a numbering system, and Paul Revere's 'one if by land, two if by sea' signaling system," which "all exemplify encoding at one end and decoding at the other end." *Id.* It also noted that the patent itself even described "a common technique for synthesizing single images of faces involv[ing] horizontally dividing the image of a face into bands for different features," such that "[p]aper strips containing exemplary features [can] then be combined to form a composite drawing of a face." *Id.*

In contrasting the claims at issue with cases like *Enfish*, this Court observed that "claim 1 does not claim a software method that improves the functioning of a computer." *Id.* at 1327. Indeed, "claim 1 does not even require a computer; the invention can be practiced verbally or with a telephone." *Id.* at 1328. It accordingly found that the claims were more analogous to those at issue in *Digitech Image Technologies, LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014), which "were directed to the abstract idea of organizing information through mathematical correlations." *Id.* at 1350–51. In *Digitech*, this Court explained that the claim "recites a process of taking two data sets and combining them into a single data set" simply by organizing existing data into a new form. *Id.* at 1351. "A process that started with data, added an algorithm, and ended with a new form of data was directed to an abstract idea." *Id.*

Unlike the claims at issue *RecogniCorp* and *Digitech*, Realtime's patent claims do not simply use mathematical operations to reproduce or reorganize data. Rather, they are directed to new and improved systems and methods for digital data compression using unique and particular combinations of specially-configured computer components. The patents address problems and limitations in conventional compression systems which are unique to computer technology, and, in doing so, improve the functioning of computers. More specifically, the '728 and '203 patents are directed to systems and methods for data compression using a combination of

content-independent and content-dependent encoders, and are aimed at solving prior art data dependency problems; the ’908 and ’530 patents are directed to systems and methods for accelerated data storage and retrieval utilizing lossless data compression and decompression, and are aimed at prior bandwidth limitation problems; and the ’751 patent is directed to systems and methods for providing accelerated transmission of digital data over a communication channel using data compression and decompression to effectively increase the bandwidth of the communication channel and/or reduce the latency of data transmission, and is aimed at solving prior art problems concerning latency, data redundancy, increased error rates, and bandwidth limitations.[1]

Defendants’ attempt to analogize digital data compression to “scientific notation, the use of abbreviations, and shorthand” (RB at 35) is nonsensical. Digital data compression, and the performance problems associated therewith relating to latency, bandwidth limitations, etc., simply do not exist outside the realm of

[1] In the *Carbonite* case, Judge Love correctly rejected the defendants’ reliance on *RecogniCorp*, finding that “claim 1 of the ’728 Patent is not simply encoding and decoding. Rather, it improves typical data compression by compressing the data stream through content dependent and independent data recognition, as well as a plethora of encoders to achieve its maximum compression.” Appx785. Judge Love further found the ’908 and ’530 patents go “beyond the abstract patents in [*RecogniCorp*],” as they “improve a technological process by pairing data blocks with specific techniques to achieve “an effective increase of [] data storage and retrieval bandwidth of a memory storage device.” Appx790.

computer systems. Indeed, the patents themselves expressly state that they deal specifically with limitations and problems arising in the realm of compressing "[d]iffuse digital data," which is "a representation of data that . . . is typically *not easily recognizable to humans* in its native form." Appx88 at 1:15–36 (emphasis added); Appx308 at 1:15–37; Appx244 at 1:34–54; Appx165 at 1:31–51. Moreover, this Court has expressly recognized that inventions relating to an "improved, particularized method of digital data compression" are "technologically complex" and *not abstract*. *DDR Holdings*, 773 F.3d at 1259. Under Defendants' reasoning, all patents relating to digital data compression would be ineligible for patenting, which, of course, cannot be true. Simply put, there is no human equivalent to digital data compression. *RecogniCorp* is inapplicable.

This case is far more analogous to the claims in *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017), which were directed to an "improved memory system" that configured operational characteristics of a computer's cache memory based on the type of processor connected to the memory system. Like the claims in *Visual Memory*, Realtime's patented inventions improve computer functionality and thus are not abstract. *Id.* at 1260. And just as the *Visual Memory* claims do not "recite all types and all forms of categorical data storage," *id.* at 1259—the purported abstract idea erroneously advanced by the district court—

Realtime's claims do not purport to cover all types and forms of data "analysis, compression, decompression, and storage."

Defendants' attempts to distinguish *Visual Memory* are meritless. According to Defendants, "Realtime's claims, unlike the claims in *Visual Memory*, fail to recite a specific solution and instead are directed to mere results." RB at 37. This is false. Below is a side-by-side comparison of claim 1 of the *Visual Memory* patent and claim 1 of the '728 patent, which confirms that Realtime's patent claims are *more specific*—and certainly no less specific—than the claims in *Visual Memory*.

Claim 1 of *Visual Memory* Patent	**Claim 1 of '728 Patent[2]**
A computer memory system connectable to a processor and having one or more programmable operational characteristics, said characteristics being defined through configuration by said computer based on the type of said processor, wherein said system is connectable to said processor by a bus, said system comprising:	A system for compressing data comprising:
a main memory connected to said bus; and	a processor;
a cache connected to said bus;	one or more content dependent data compression encoders; and

[2] Appx256; *see also* Appx178 (claim 14 of the '203 patent); Appx316 (claim 1 of the '908 patent); Appx96 (claim 1 of the '530 patent); Appx380 (claim 25 of the '751 patent).

wherein a programmable operational characteristic of said system determines a type of data stored by said cache.	a single data compression encoder;
	wherein the processor is configured: to analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; to perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and to perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified.

It is thus clear that, contrary to Defendants' assertions, Realtime's claims indeed recite specific solutions (e.g., analyzing the data to identify one or more parameters or attributes of the data, where the analysis is not based solely on a descriptor, and utilizing a combination of content-independent and content-dependent data encoders to perform data compression and decompression) and do not merely claim results. The mere fact that the asserted patents do not "specify the

type of compression or decompression to be performed" (RB at 37) and utilize encoding techniques known within the art ("such as run length, Huffman, Lempel-Ziv Dictionary Compression," etc. (Appx247)) is inconsequential. The claims in *Visual Memory* likewise did not specify the particular computer algorithms to be utilized by the claimed system. Moreover, the inventive aspects of Realtime's patents lie not with the particular compression algorithms utilized, but with, for example, the system's utilization of a combination of content-dependent and content-independent encoders based on an analysis of the specific content or type of data being encoded, without relying solely on a descriptor such as a file extension (the '728 and '203 patents), utilization of a plurality of different encoders, and optionally a compression descriptor, for accelerated storage and retrieval of data blocks (the '928 and '530 patents), and selecting a compression encoder based on a characteristic, attribute, or parameter of the data and utilizing a state machine to provide compressed data (the '751 patent).

Defendants also assert that "[i]n *Visual Memory*, the patent claims would actually change the performance of the computer memory system, whereas the claims of the Patents-in-Suit here only use generic, off-the-shelf standard components and do not improve the performance of those components." RB at 37. Defendants seem to argue that claims utilizing standard computer components can never be patent eligible. This, of course, is false. This Court has repeatedly rejected

the notion that the disclosure of conventional computing elements "dooms the claims." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016); *see also Visual Memory*, 867 F.3d at 1262 (a "patent's use of conventional computer components" not "fatal to patent eligibility"). Further, the components recited in Realtime's claims are not generic, but are specially-configured to perform specific and novel functions. As just one example, the processor recited in the '728 patent is specially-configured to (a) analyze data within a data block to identify one or more parameters or attributes of the data wherein the analyzing of the data within the data block to identify the one or more parameters or attributes of the data excludes analyzing based solely on a descriptor that is indicative of the one or more parameters or attributes of the data within the data block; (b) perform content dependent data compression with the one or more content dependent data compression encoders if the one or more parameters or attributes of the data are identified; and (c) perform data compression with the single data compression encoder, if the one or more parameters or attributes of the data are not identified. Appx256. Neither Defendants nor the District Court have provided any evidence or authority that this specialized functionality is routine or conventional—because it is not. And in any event, the statements in the patent specifications regarding the patents' claimed advances must be accepted as true on a Rule 12(b)(6) motion.

The proper test, which the District Court failed to apply, is whether the claims "focus on a specific means or method that improves the relevant technology." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). Where, as here, the claims do not simply add "general-purpose computer components . . . to a fundamental economic practice or mathematical equation," but rather are directed to specific improvements in digital data compression, they are not abstract. *Enfish*, 822 F.3d at 1338–39.

2. The Claims Do Not Merely Claim Desired Results; They Recite Specific Solutions Utilizing Specific Combinations of Specially-Configured Computer Machinery

Defendants cite *Affinity Labs of Texas, LLC v. Amazon.com, Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016) to support their argument that Realtime's patents merely claim desired results and are thus abstract. RB at 27. But the claims in *Affinity Labs* are nothing like the claims at issue here. The patent in *Affinity Labs* was directed to a network-based media system which system delivers streaming content from a network-based resource on demand to a handheld wireless electronic device. 838 F.3d at 1268. The representative claim recited (1) a "media managing system" that maintains a library of content, (2) a "collection of instructions" that are "operable when executed" by a handheld wireless device to request streaming delivery of the content, and (3) a "network based delivery resource" that retrieves and streams the requested content to the handheld device. The claim did not, however, recite a

specific means for performing streaming content to a handheld device—the core function of the claimed system. *Id.* The Court explained that that "at that level of generality, the claims do no more than describe a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem. The purely functional nature of the claim confirms that it is directed to an abstract idea, *not to a concrete embodiment of that idea*." *Id.* at 1269 (emphasis added). The Court further explained that the claims do not improve the functioning of a computer, but rather only added conventional components to the longstanding concept of delivering media content to an electronic device. The Court analogized the patent to the "delivery of selectable prerecorded messages to callers on demand in services such as dial-a-prayer and dial-a-joke, which were available long before the invention of cellular telephones or the Internet." *Id.* at 1270.

In direct contrast with *Affinity Labs*, Realtime's patents are confined to particular and concrete solutions to known problems with conventional digital data compression such as data dependency, among others. For example, as discussed above, the '728 and '203 patents recite, *inter alia*, a processor configured to analyze the data to identify one or more parameters or attributes of the data, where the analysis is not based solely on a descriptor, and utilizing a combination of content-independent and content-dependent data encoders to perform data compression and decompression. Realtime's patents improve the functioning of a computer by

making data compression faster and more efficient. They do not merely add computer components to a well-known business practice, as digital data compression, and the problems associated therewith, are unique to computers.

Contrary to Defendants' assertions, the recited components are not generic. The '728 and '203 patents recite a processor specially configured to analyze the data to identify the one or more parameters or attributes of the data, excluding analysis based solely on a descriptor, and to perform content dependent or content independent compression based on the analysis of the data. Appx173, Appx256. The '908 and '530 patents recite a data accelerator configured to utilize a plurality of different encoders for accelerated data storage and retrieval. Appx96, Appx316. And the '751 patent recites a state machine configured to compress data blocks based on an analysis of the specific content of the data being encoded. Appx380. But even if these could fairly be characterized as "conventional" or "generic," that still would not render the claims abstract. *Enfish*, 822 F.3d at 1338; *Visual Memory*, 867 F.3d at 1262.

Defendants' assertions that the claims do not recite "*how* the data is analyzed, stored, compressed, or transmitted" (RB at 28) are meritless. For example, Defendants argue that "the claims state the goal of 'identify[ing] one or more parameters or attributes of the data,' but do not provide the means for achieving that goal." *Id.* But the claim language makes clear that the parameters or attributes are

analyzed and identified by the claimed processor. *See, e.g.*, Appx256, Claim 1. Defendants further argue that the claims "fail to provide any detail as to how data is stored or transmitted" (and then contradict that statement in the very next sentence, citing portions from the specification explaining that the claims can be applied to various forms of memory devices and that the compressed data can be transmitted over a communication channel using protocols including RTP, RTCP, TCP/IP, etc.). *Id.* But this level of granular detail that Defendants apparently demand is simply not required under § 101, as is evident by this Court's prior decisions *Visual Memory* and *Enfish*, among many others.

Regarding the '908 and '530 patents, Defendants assert that the claims "recite that 'compression and storage occurs faster' but they do not recite how "faster" is achieved." RB at 29. This is also false. The '908 patent expressly recites a data accelerator configured to compress a first data block with a first compression technique to provide a first compressed data block, and a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block. Appx316. The '530 patent similarly recites a data accelerator configured to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique, where said first and second compression

techniques are different. Appx96. These claimed solutions are precisely what makes the compression occur faster. Defendants simply ignore this language.

Defendants also assert that "[n]owhere do the Patents-in-Suit disclose a structure, or even a specific functionality, of any encoder element." RB at 30. This assertion is again squarely contradicted by the patents themselves. Indeed, later in the very same paragraph, Defendants expressly acknowledge that, as made clear in the specifications, the recited encoders perform compression on the data utilizing compression algorithms such as run length, Huffman, Lempel-Ziv Dictionary Compression, etc. (Appx247). Any assertion by Defendants that the individual claim elements must disclose *additional* structure in order to be eligible under § 101 is not only unsupported, it is contradicted by numerous decisions from this Court. It is readily apparent when properly looking at the claims *as a whole* that they provide sufficient structure, limiting the claims to specific implementations of solutions to problems in digital data compression. *See Enfish*, 822 F.3d at 1339.

In sum, Defendants provide a series of false statements and mischaracterizations of the patents to support their argument that the claims only recite desired results. But a review of the *actual* claim language—and not just Defendants' (or the District Court's) oversimplified, stripped down versions of the claims—and the specific combinations of specially-configured components recited therein, reveals that they are simply not true.

3. The Recited State Machine of the '751 Patent Further Limits the Claims to Particularized, Concrete Solutions to Problems Relating to Computer Technology

Defendants argue that the state machine recited in the '751 patent merely provides a generic environment to carry out an abstract idea because the specification states that it can be implemented on a general purpose computer. RB at 32. To support this argument, Defendants cite to Realtime's affirmative response to the District Court's question asking whether Realtime agrees that a state machine is a generic computer component. RB at 33. This argument misses the mark, and further underscores the error in Defendants'—and the District Court's—analysis of the patents.

This Court has expressly rejected the notion that an "invention's ability to run on a general-purpose computer dooms the claims." *Enfish*, 822 F.3d at 1338. Moreover, Defendants' and the District Court's analysis of certain elements *in isolation*, such as the state machine, flies in the face of longstanding Supreme Court and Federal Circuit precedent mandating that under *Alice* Step 1, the claims must be considered *as a whole*. *Id.* at 1335. And under Step 2, the elements of the claim must be considered "both individually *and 'as an ordered combination.'" Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014) (emphasis added). Indeed, this Court has expressly held that defendants *cannot* prevail on this step simply by showing that each individual claim element was "known in the art" or conventional—which

is exactly what the District Court did here. *See BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016).

Simply put, the mere fact that a state machine may be a well-known computer component does not make the claims abstract. To the contrary, the state machine is specially-configured to perform specific functions and clearly limits the claims to particularized, concrete solutions to problems relating to computer technology, and more specifically, data compression, which are inherently not abstract.

4. Contrary to Defendants' Assertions, the District Court Improperly Parsed the Claims into Individual Components and Failed to Consider Them as a Whole

As explained in Realtime's opening brief, throughout the motion hearing, the District Court repeatedly sought admissions from counsel that *individual components* of the claims are abstract and/or generic, and even went so far as to admonish Realtime's counsel for talking about the "overall system" instead of breaking down the claims into a "list" of non-abstract components. *See, e.g.*, Appx34–35 at 26:17–27:16; Appx39–45 at 31:23–37:15; Appx43 at 35:6–22; Appx44 at 36:22–25. This was clear error, as the proper analysis requires looking at the claims as a whole. *In re Bilski*, 545 F.3d 943, 958 (Fed. Cir. 2008); *Enfish*, 822 F.3d at 1335.

In direct contravention of this clear record, Defendants assert that the District Court did in fact analyze the claims as a whole. But the only evidence pointed to by

Defendants is a statement ***by Realtime's counsel*** reminding the District Court, in light of its improper questioning about whether individual elements are abstract, that the claims must be analyzed as a whole. *See* RB at 39 (quoting Appx42 at 34:2–4). After Realtime's counsel reiterated the proper standard, the District Court proceeded with its improper analysis, and requested that counsel "take what you have just described [about the claimed system], break it down and identify for me within that summary an example of a non-abstract or inventive concept." Appx39–45.

That the District Court may have previously acknowledged the proper standard in a written opinion *from a different case* is immaterial. While it may be true that the District Court was aware of the relevant law, that does not necessarily mean it applied that law correctly to the facts of *this case*. And it is clear from the District Court's questioning at the hearing that it did not.

A. The District Court Erred in Holding that the Asserted Patents Do Not Provide Inventive Concepts

1. The Claims Recite Specific Technical Solutions to Known Problems with Conventional Digital Data Compression Systems

Defendants argue that the patent claims do not recite technical solutions because the recited processor, memory, and encoders are generic computer components. RB at 41. But as discussed above, the recited components are not generic. They are specially configured to perform specific functions in order to address known problems in the relevant art and make data compression faster and

more efficient. For example, the processor in the '728 and '203 patents is specially configured to analyze the data to identify the one or more parameters or attributes of the data, excluding analysis based solely on a descriptor, and to perform content dependent or content independent compression based on the analysis of the data. Appx173, Appx256. The data accelerator in the '908 and '530 patents is configured to utilize a plurality of different encoders for accelerated data storage and retrieval. Appx96, Appx316. And the state machine in the '751 patent—which Defendants fail to mention—is specially configured to compress data blocks based on an analysis of the specific content of the data being encoded. Appx380.

Regardless, Defendants cannot prevail on this step simply by showing that each individual claim element was "known in the art" or conventional. *BASCOM*, 827 F.3d at 1349. Even where individual elements are conventional technologies, the specific arrangement of conventional technologies can also form the inventive concept. *Id.* at 1350. Here, the inventiveness of the asserted patents lies in the specific, unconventional combinations of the specially configured components recited in the claims. As just one example, claim 1 of the '728 patent requires (a) "content dependent data compression encoders"; (b) a different "single data compression encoder"; and (c) and a processor configured to (i) "analyze data within a data block to identify one or more parameters or attributes of the data," where the "analyzing . . . excludes analyzing based solely on a descriptor"; (ii) "perform

content dependent data compression . . . if the one or more parameters or attributes of the data are identified," and (iii) otherwise "perform data compression with the single data compression encoder." Appx256.

Defendants attempt to negate the inventiveness of the asserted patents by arguing that the recited encoders utilize known compression techniques and "Realtime does not cite a new compression technique." RB at 41–42. But again, Realtime's patents do not purport to invent new compression algorithms or techniques. Rather, they are directed to new and improved data compression methods and systems that utilize unconventional combinations of computer machinery to improve the functioning of the computer.

Defendants also argue that the claims do not state "how the compressing or storing of digital data becomes 'faster.'" RB at 42. But as discussed above, this is false. Defendants simply ignore the claim language which describes exactly how this is achieved. For example, the data accelerator in the '908 and '530 patents are specially configured to utilize a plurality of encoders and compression techniques based on the data type. Defendants' assertion that the claims do not restrict how the result is accomplished (RB at 42) simply cannot be squared with the claim language. *See, e.g.*, *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1305 (Fed. Cir. 2018) (holding claims recited more than a mere result where they recited "specific steps—generating a security profile that identifies suspicious code and linking it to a

downloadable—that accomplish the desired result").

Defendants' assertion that the patents are not directed to an improvement in the functioning of a computer but are instead directed to the purported abstract idea of "analysis, compression, decompression, and storage of data" (RB at 43) fails for the same reasons discussed above. Even assuming that this is an abstract idea (Defendants fail to cite any supporting authority, and this Court has confirmed that digital data compression is not abstract), it is clear that the patent claims amount to significantly more than patents on analysis, compression, decompression, and storage of data. Defendants also attempt to downplay the benefits of the claimed inventions disclosed in the specifications, repeating the same arguments that the claims utilize generic computer components and can be implemented on various types of hardware and software. RB at 44–45. This is the wrong analysis. "While some individual limitations arguably may be generic, others are unconventional and the ordered combination of these limitations yields an inventive concept sufficient to confer eligibility without undue preemption." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1303 (Fed. Cir. 2016).

Properly analyzing the claims as a whole, in light of the specification, which must be accepted as true and construed in favor of Realtime, and considering the recited components as an ordered combination, it is clear that the claims recite specific, discrete implementations of digital data compression. The patents address

known problems in conventional digital data compression to make compression faster and more efficient. Defendants cannot simply ignore the express statements in the patent specifications and the claim language to invalidate the five asserted patents, in three distinct patent families, at the pleading stage.

2. Contrary to Defendants' Assertions, the District Court Failed to Consider the Claims as an Ordered Combination

As discussed in Realtime's opening brief, the District Court, focusing on only one claim from one asserted patent (claim 25 of the '751 patent), improperly parsed the claim into individual components and sought admissions that each component, individually, is a "generic computer component." *See, e.g.*, Appx32–34 at 24:11–26:6; Appx39 at 31:2–18 (seeking admissions that servers, processors, and state machines are each generic computer components).

Despite this clear record, Defendants assert that that the claims were in fact considered as an ordered combination. RB at 46. Not surprisingly, Defendants fail to point a single statement in the record showing that the District Court applied the correct standard and considered the claims as an ordered combination. Instead, Defendants merely state that "the District Court had the benefit of extensive briefing on this argument now raised by Realtime." RB at 46. But the mere fact that this issue was briefed does not somehow immunize the District Court from error. Nor does it

contradict the record clearly showing that the District Court applied the wrong standard.

Defendants also attempt to support the District Court's erroneous analysis by repeating the very same arguments regarding the claims' utilization of purportedly generic computer components, which fail for the same reasons discussed above. Defendants further assert that "[t]he ordering of the elements in the Patents-in-Suit is basic: information is (and must necessarily be) analyzed to identify an 'attribute' or 'parameter' before that attribute or parameter can be used to select an encoder; the encoder must compress data before that data can be stored or transmitted." RB at 46. This unsupported attorney argument is nonsensical and must be rejected. Defendants selectively analyze a subset of limitations from one claim to argue that *all* of the patent claims cannot be inventive because the analysis and identification step must occur before the selection step, which must occur before transmission and storage. This entirely misses the point of the claimed inventions. The inventive aspect of the '728 and '203 patents, for example, lies with their use of a combination of content-independent and content-dependent data compression and decompression to solve known problems relating to, *inter alia*, data dependency. That the claimed steps occur in a logical order does not somehow negate this inventive concept. Indeed, as noted by this Court, "[t]he genius of invention is often a combination of known elements which in hindsight seems preordained." *McGinley v. Franklin*

Sports, Inc., 262 F.3d 1339, 1351 (Fed. Cir. 2001). Regardless, Defendants provide no authority to support their erroneous assertion that the ordered combinations of the patent claims are "basic." Moreover, at the pleading stage, the District Court was required to—but did not—accept the statements in the specifications as true and construe the patents in favor of Realtime.

3. Contrary to Defendants' Assertions, the District Court Improperly Conflated Issues of Novelty and Obviousness, and Improperly Resolved Questions of Fact Based on Its Erroneous Conclusions Regarding Obviousness

Contrary to Defendants' assertions, the record shows that the District Court not only failed to properly consider the claims as a whole and as an ordered combination, but also improperly conflated the issues of novelty and obviousness with its analysis of whether the claims provide inventive concept. *See, e.g.*, Appx33 at 25:10–12 ("THE COURT: You are not going to tell me it's novel to have a data server implemented on one or more processors, are you?"); Appx34 at 26:1–5, 11–13 ("[Y]ou agree that the implementation of a data server on one or more processors is not novel."). And while it may be true, as Defendants point out, that the § 101 eligibility inquiry and the § 102 novelty inquiry "might sometimes overlap," this Court has repeatedly made clear that "[t]he search for a § 101 inventive concept is [] distinct from demonstrating § 102 novelty." *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016); *see also Amdocs*, 841 F.3d at 1311

("The inventiveness inquiry of § 101 should therefore not be confused with the separate novelty inquiry of § 102 or the obviousness inquiry of § 103."). Regardless, the District Court's attempts to establish that *individual claim elements* are not novel was clear error. *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter."). Defendants cannot legitimately argue otherwise.

Notably, Defendants do not even attempt to defend the District Court's improper and incorrect factual conclusions, unsupported by any evidence, that certain aspects of the claimed inventions are purportedly "obvious" and "common sense." *See, e.g.*, Appx47–49 at 39:16–41:1 (characterizing the inventions as "stating the obvious"). These statements by the District Court further underscore its failure to apply the proper standard for determining eligibility under § 101. Moreover, as explained in Realtime's opening brief, the District Court's reliance on such incorrect and improper factual conclusions regarding purported "obviousness" constitutes additional error, as "[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368–69 (Fed. Cir. 2018); *see also A*a*trix Software, Inc. v. Green Shades Software, Inc.*, 882

F.3d 1121, 1125–26 (Fed. Cir. 2018). Defendants have no response to these arguments, presumably because there is simply no way to justify the District Court's resolution of disputed issues of fact at the pleading stage.

B. At Minimum, the Prior Rulings Confirming the Eligibility of Realtime's Patents Created Issues of Fact Improper for Resolution at the Pleading Stage

Defendants' attempts to distinguish the prior rulings in *Carbonite* and *Actian*, which confirm the eligibility of Realtime's patents, are meritless. First, Defendants assert that Judge Love did not consider the '751 and '203 patents. RB at 50. But as noted in Realtime's opening brief, in *Carbonite*, the court considered U.S. Patent No. 8,717,204, which is in the same family as, and indeed shares a specification with, the '751 patent. The *Carbonite* court also considered the '728 patent, which is in the same family as, and shares a specification with, the '203 patent. Similarly, in *Actian*, the court considered U.S. Patent Nos. 7,378,992 and 8,643,513, which are in the same family as, and share a specification with, the '728 and '203 patents. Defendants fail to acknowledge these facts at all, much less provide any meaningful distinctions. Nor can they, as throughout their briefing, Defendants treat patents in the same families (and even patents that are not within the same families) interchangeably.

Defendants also argue that the prior *Carbonite* and *Actian* decisions are "not binding on this Court." RB at 50. But Realtime never argued that these prior district

court decisions are binding on this Court, or even the Delaware District Court for that matter (though they certainly are more persuasive given that, unlike the Delaware Court, those courts at least applied the correct legal standard). At minimum, however, those prior rulings show that a plausible interpretation of the patents is that the claims are eligible under § 101. In other words, these prior rulings at least created factual issues precluding dismissal at the pleading stage.

And while this is true regardless of Defendants' beliefs about the correctness of those rulings, Defendants' criticisms of those rulings are meritless. The most Defendants can muster is that encoders are known in the art (RB at 51), but again, that one particular element of one asserted claim may be known in the art is inconsequential. *BASCOM*, 827 F.3d at 1349 (Fed. Cir. 2016). It certainly is not enough to invalidate 159 patent claims across five asserted patents and three distinct patent families.

Defendants' assertions about Realtime's purported "admissions" at the motion hearing are equally meritless. RB at 51. Realtime sufficiently identified the patents' inventive concepts in its briefing and at the motion hearing. Realtime never admitted that the patents lack inventive concept, as Defendants disingenuously suggest. And regardless, whether the claims provide inventive concept is determined by the *claim language*. The *Carbonite* and *Actian* courts properly analyzed the claims and arrived at the correct conclusion that they are not abstract and that they

provide inventive concept. *See, e.g.*, Appx776–797, Appx817 (ruling that the '728, '530, '908, and '204 (related to the '751) patents are "inventive" and "directed to patent eligible subject matter" because they disclose "specific improvement[s] in computer capabilities" and "specify direct ways to fix issues in data transmission."); Appx791 ("the patents set out specified rules to lead to [faster compression] and move them past an over-simplified result-oriented patent").

C. The Cases Relied on by the District Court Are Distinguishable

Contrary to Defendants' assertions, the cases relied on by the District Court do not support its erroneous ruling. Realtime explained why they are inapplicable in its opening brief. And as further explained above, unlike the claims at issue *RecogniCorp* and *Digitech*, Realtime's patent claims do not simply use mathematical operations to reproduce or reorganize data.

Regarding *McRO*, this case actually supports Realtime's position that the claims are eligible under § 101, reiterating that claims that "focus on a specific means or method that improves the relevant technology" (here, digital data compression) are not abstract. 837 F.3d at 1314. Defendants attempt to distinguish *McRO* on the ground that Realtime's claims do not provide a "detailed rule set." RB at 53. But nothing in the Court's decision suggests that a "detailed rule set" is a pre-requisite to patent eligibility. Indeed, a review of the claim at issue in *McRO* shows that the claimed method for automatically animating lip synchronization and facial

expression of three-dimensional characters, consisting of "obtaining a first set of rules," "obtaining a timed data file," "generating an intermediate stream of output," "generating a final stream of output," and "applying said final stream of output," are no more "detailed" than Realtime's claims. *Id.* at 1307–08.

Defendants' attempt to analogize Realtime's claims to those in *In re TLI Commc'ns LLC Patent Litigation*, 823 F.3d 607 (Fed. Cir. 2016) also fails. The claims at issue in *TLI* were directed to classifying and storing images, "without any claim that the invention reflects an inventive solution to any problem." *Id.* at 612. But Realtime's patents go far beyond simply collecting and organizing information—they involve digital data compression using specific, nonconventional methods (e.g., analysis of the data not based solely on a descriptor), and require specific combinations of computer machinery specially configured to perform specific functions (e.g., encoders, data accelerators, state machines). The patents specifically identify known problems in conventional data compression systems and provide solutions to those problems. That Realtime's claims may utilize some conventional computer components does not render them ineligible.

III. CONCLUSION

The District Court's entry of judgment should be reversed, and the asserted patents should be found patent eligible under § 101. In the alternative, this Court

should reverse the District Court's denial of Realtime's request for leave to amend and direct the District Court to allow Realtime to file an amended complaint.

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CERTIFICATE OF COMPLIANCE

This brief complies with the type-volume limitation of Federal Circuit Rule 32(a). This brief contains 6,933 words, excluding the parts of the brief exempted under Federal Rule of Appellate Procedure 32(f) and Federal Circuit Rule 32(b).

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I hereby certify that on April 16, 2020, I electronically filed the foregoing with the Clerk of the Court of the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system.

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