United States District Court,
E.D. Texas, Tyler Division.

REALTIME DATA, LLC d/b/a IXO,
Plaintiff.
v.
PACKETEER, INC., et al,
Defendants.

Civil Action No. 6:08cv144

June 2, 2009.

ORDER

JOHN D. LOVE**, United States Magistrate Judge.**

This provisional claim construction order sets forth the Court's initial constructions for the disputed claim terms in the nine patents asserted by Plaintiff Realtime Data, LLC d/b/a IXO ("Realtime"): 1) U.S. Patent No. 6,601,104 ("the '104 patent"); 2) U.S. Patent No. 6,604, 158 ("the ' 158 patent"); 3) U.S. Patent No. 7,321,937 ("the "7 patent"); 4) U.S. Patent No. 6,624,761 ("the '761 patent"); 5) U.S. Patent No. 7,161,506 ("the '506 patent"); 6) U.S. Patent No. 7,378,992 ("the '992 patent"); 7) U.S. Patent No. 7,352,300 ("the '300 patent"); 8) U.S. Patent No. 6,748,457 ("the '457 patent"); and 9) U.S. Patent No. 7,376,772 ("the '772 patent"). The parties have submitted a number of claim terms for construction. Plaintiff has filed an Opening Claim Construction Brief ("Pl.Opening") (Doc. No. 238) and a Reply Claim Construction Brief ("Pl.Reply") (Doc. No. 267). Defendants separately filed responsive briefs. Defendants Blue Coat, Packeteer, 7-Eleven, ABM, ABMJ, and BAB (collectively, "Blue Coat Defendants") filed a Responsive Brief in Support of Claim Construction Pursuant to P.R. 4-5 ("Blue Coat Resp.") (Doc. No. 252), as well as a Sur-Reply to Plaintiff's Claim Construction Brief ("Blue Coat Surreply") (Doc. No. 276). Defendants Citrix, Expand, DHL, IBSA, and O'Reilly (collectively, "Citrix Defendants") filed a Responsive Claim Construction Brief Pursuant to P.R. 4-5 ("Citrix Resp.") (Doc. No. 257), as well as a Surreply Claim Construction Brief ("Citrix Surreply") (Doc. No. 277). Defendants F5 and Averitt (collectively, "F5 Defendants") also filed a Claim Construction Brief Regarding U.S. Patent Nos. 6,748,457 and 7,376,772 ("F5 Resp.") (Doc. No. 256), as well as a Surreply Claim Construction Brief Regarding U.S. Patent Nos. 6,748,457 and 7,376,772 ("F5 Surreply") (Doc. No. 275). FN1 This provisional Order sets forth the Court's initial constructions without a full analysis, which will be included in the Memorandum Opinion and Order to be issued at a later point. Despite the issuance of the instant Order, the Court reserves the right to modify these initial constructions when the full Memorandum Opinion and Order regarding claim construction is issued. The instant Order is provided to the parties in order to provide a guideline and framework from which to proceed at an earlier point in the litigation.

FN1. The F5 Defendants address the proposed constructions of the disputed claim terms contained only in the '457 and '772 patents because these patents are asserted only against the F5 Defendants. F5 SURREPLY

at 1. With respect to the remaining disputed terms, the F5 Defendants expressly adopt the proposed constructions and briefing providing by the Blue Coat and Citrix Defendants. Id.

BACKGROUND

On April 18, 2008, Plaintiff filed the instant action against Defendants Packeteer, Inc. ("Packeteer"); Citrix Systems, Inc. ("Citrix"); Expand Networks, Inc. ("Expand"); F5 Networks, Inc. ("F5"); 7-Eleven, Inc. ("7-Eleven"); ABM Industries, Inc. ("ABM"); ABM Janitorial Services-South Central, Inc. ("ABMJ"); Averitt Express, Inc. ("Averitt"); Build-A-Bear Workshop, Inc. ("BAB"); DHL Express (USA), Inc. ("DHL"); Interstate Battery System of America, Inc. ("IBSA"); and O'Reilly Automotive, Inc. ("O'Reilly"), alleging infringement of the nine asserted patents. FN2 (Doc. No. 1). The Court held a *Markman* hearing on April 9, 2009. (Doc. No. 283).

FN2. Defendant Blue Coat Systems, Inc. ("Blue Coat") was added when Plaintiff filed its First Amended Complaint. (Doc. No. 58).

DISCUSSION

The parties present the following twenty-eight (28) claim terms and phrases for construction: 1) "target storage device/data storage device;" 2) "data storage rate;" 3) "increases the effective data storage rate;" 4) "means for receiving a data stream having an input data transmission rate which is greater than a data storage rate of a data storage device;" 5) "means for compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device;" 6) "data type;" 7) "content independent data compression;" 8) "single data compression encoder"/"single compression encoder"/ "a data compression encoder"/"default encoder;" 9) "data stream;" 10) "input data stream"/"receiving a data stream;" 11) selecting resolution parameters;" 12) "lossy compression encoder compresses said data block at said selected resolution parameters;" 13) desirability factor;" 14) "data compression engine;" 15) "programmable logic device;" 16) "instantiate ... [interfaces] for operatively interfacing;" 17) "bandwidth allocation controller [for] controlling access;" 18) "compressing said received data stream using a plurality of encoders configured in parallel configuration;" 19) "second interface;" 20) "compression rate;" 21) "substantially greater;" 22) "a plurality of Lempel-Ziv encoders;" 23) "means for performing lossless compression;" 24) "plurality of encoders of an identical type;" 25) "compression type;" 26) "first parameter indicative of a compression type to be applied;" 27) "content dependent data compression;" and 28) "non-identifiable data type." FN3

FN3. The parties have also agreed to a number of constructions. PARTIES' JOINT CLAIM CONSTRUCTION AND PREHEARING STATEMENT PURSUANT TO P.R. 4-3 ("PREHEARING STATEMENT"), EXH. A.

I. "target storage device"/"data storage device"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
local memory device that receives data from the compressor	the device to which information is ultimately destined for storage

The Court finds that the proper construction of the terms "target storage device" and "data storage device" is "an identified memory device to which data is directed for storage."

II. "data storage rate"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
maximum sustained rate at which data can be written to the data storage device	maximum rate at which data can be stored on the data storage device

The Court finds that the proper construction for "data storage rate" is "maximum sustained rate at which data can be written to the data storage device."

III. "increases the effective data storage rate"

Plaintiff's Proposed Construction	Blue Coat Defendants' Proposed Construction	Citrix Defendants' Proposed Construction
increases the effective maximum sustained rate at which data can be written to the storage device by compressing and storing the data faster than the input data stream itself could be stored	time from the beginning of the compression process through the completion of storage of the data stream on the target storage device is less than the time to simply store the uncompressed data stream on the target storage device at the maximum data storage rate	increasing the maximum storage rate of a storage device by simultaneously compressing and storing the input data stream at a rate faster than the uncompressed stream can be stored in real time

The Court finds that the term "increases the effective data storage rate" is properly construed as "increases the data storage rate by compressing and storing the data on the data storage device in less time than it would take to simply store the uncompressed data on the data storage device."

IV. "means for receiving a data stream having an input data transmission rate which is greater than a data storage rate of the data storage device"FN4

FN4. The parties identified the term "means for receiving a data stream" for argument at the *Markman* hearing. PARTIES' JOINT SUBMISSION OF TERMS TO BE HEARD AT MARKMAN HEARING ("TERMS FOR HEARING") (Doc. No. 263) at 2. However, the parties dispute the term "means for receiving a data stream having an input data transmission rate which is greater than a data storage rate of the data storage device," so the Court will construe this term. *See* NOTICE OF FILING OF JOINT CLAIM CONSTRUCTION CHART, EXH. A ("CLAIM CHART") at 29-30.

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Function: receiving a data stream having an input data transmission rate which is greater than a data storage rate of a data storage device *Structure:* input data buffer or cache 15, counter 20, or encoder module 25	*Function:* receiving a data stream having an input data transmission rate which is greater than a data storage rate of a data storage device *Structure:* input data buffer 15 of the data accelerator 10

The Court finds that the means for "receiving a data stream having an input data transmission rate which is greater than a data storage rate of a data storage device" is an input data port of data accelerator 10 and equivalents thereof.

V. "means for compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device"FN5

FN5. The parties identified the term "means for compressing the data stream" for argument at the *Markman* hearing. TERMS FOR HEARING at 2. However, the parties dispute the term "means for compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device," so the Court will construe this term. *See* CLAIM CHART at 30.

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Function: compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device	*Function:* compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device
Structure: encoder module 25	*Structure:* Data compression portion of data storage accelerator 10, including encoder module 25, counter module 20, buffer/counter module 30, and compression [ratio] module 35

The Court finds that the means for "compressing the data stream at a compression rate that increases the effective data storage rate" is encoder module 25 and equivalents thereof.

VI. "data type"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
an attribute of the data	the manner in which a sequence of bits represents data

The Court finds that the term "data type" needs no construction.

VII. "content independent data compression"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
compression only applied to a given data block when the data type of the data block is not identified or that data type is not correlated with one or more encoders	compressing a particular data block of unidentified data type with each of a plurality of enabled lossless encoding techniques and comparing the compression results thereof to select the optimal encoder

"content dependent data compression"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
compression only applied to a given data block when the data	compressing the data block using an

type of the data block is identified and that data type is correlated with one or more encoders	encoder selected based on the data type of the data block

The Court finds that the term "content independent data compression" is properly construed as "compression that is applied using one or more encoders without regard to the encoder's (or encoders') ability to effectively encode the data type of the data block." Similarly, "content dependent data compression" is properly construed as "compression that is applied using one or more encoders selected based on the encoder's (or encoders') ability to effectively encode the data type of the data block."

VIII. "single data compression encoder"/"single compression encoder"/"a data compression encoder"/"wherein if one or more encoders is associated to said type, compressing said data block with at least one of said one or more encoders, else compressing with a data compression encoder"/"said data compression encoder"/"default encoder"

"single data compression encoder"/"single compression encoder"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
one data compression encoder	compression using content independent data compression

"a data compression encoder"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
one or more data compression encoders	compression using content independent data compression

"wherein if one or more encoders is associated to said type, compressing said data block with at least one of said one or more encoders, else compressing with a data compression encoder"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
wherein if one or more encoders is correlated with said type, compressing said data block with at least one of said one or more encoders, otherwise compressing with one or more data compression encoders	wherein if one or more encoders is linked through hardware or software instructions to said, compressing said data block with at least one of said one or more encoders, else compressing using content independent data compression

"said data compression encoder"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
a data compression encoder referred to in claim 69	compression using content independent data compression

"default encoder"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
an encoder used automatically in the absence of a	compression using content independent

designated alternative data compression

The Court finds that the terms "single data compression encoder" and "single compression encoder" are properly construed as "one data compression encoder." The term "a data compression encoder" is construed as "one or more data compression encoders." The term "wherein if one or more encoders is associated to said type, compressing said data block with at least one of said one or more encoders, else compressing with a data compression encoder" is properly construed as "wherein if one or more encoders is correlated with said type, compressing said data block with at least one of said one or more encoders, otherwise compressing with one or more data compression encoders." The term "said data compression encoder" is properly construed as "a data compression encoder referred to in claim 69," and the term "default encoder" is properly construed as "an encoder used automatically in the absence of a designated alternative."

IX. "data stream"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
one or more data blocks transmitted in sequence	a contiguous stream of data blocks

The Court finds that the proper construction for "data stream" is "one or more data blocks transmitted in sequence."

X. "input data stream"/"receiving data stream"

"input data stream"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
one or more data blocks transmitted in sequence where the transmission of the sequence is not initiated by the receiver	a contiguous stream of incoming data blocks

"receiving data stream"

Plaintiff's Proposed Construction	Blue Coat Defendants' Proposed Construction	Citrix Defendants' Proposed Construction
one or more data blocks transmitted in sequence where the transmission of the sequence is not initiated by the receiver	receiving a contiguous stream of data blocks	a contiguous stream of incoming data blocks

The Court finds that the proper construction for "input data stream" is "one or more input data blocks transmitted in sequence," and the proper construction for "receiving a data stream" is "receiving one or more data blocks transmitted in sequence."

XI. "selecting resolution parameters"

Plaintiff's Proposed Construction	Citrix Defendants' Proposed Construction

selecting the number of pixels in an image, the number of samples in a second of audio, and/or the number of bits per sample for audio or for images	selecting the number of pixels in an image

The Court finds that the proper construction for "selecting resolution parameters" is "selecting the number of pixels in an image, the number of samples in a second of audio, and/or the number of bits per sample for audio or for images."

XII. "wherein said first lossy compression encoder compresses said data block at said selected resolution parameters" FN6

FN6. The parties identified the term "lossy compression encoder compresses said data block at said selected resolution parameters" for argument at the *Markman* hearing. TERMS FOR HEARING at 2. However, the parties dispute the term "wherein said lossy compression encoder compresses said data block at said selected resolution parameters," so the Court will construe this term. *See* CLAIM CHART at 50-51.

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
wherein said first lossy compression encoder compresses said data block according to selected number of pixels in an image, number of samples in a second of audio, and/or number of bits per sample for audio or for images	wherein said first lossy compression encoder compresses said data block to achieve the selected number of pixels in an image

The Court finds that the proper construction for "wherein said first lossy compression encoder compresses said data block at said selected resolution parameters" is "wherein said first lossy compression encoder compresses said data block according to selected number of pixels in an image, the number of samples in a second of audio, and/or the number of bits per sample for audio or for images."

XIII. "desirability factor"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
a user or system specified factor that indicates the desirability of using a specific encoder. Desirability factor does not include compression threshold.	an a priori user specified factor that takes into account any number of user considerations including, but not limited to, compatibility of the encoded data with existing standards, data error robustness, or any other aggregation of factors that the user wishes to consider for a particular application that is appended to each encoded data block and that is used to calculate a figure of merit for each encoded data block

The Court finds that the proper construction for "desirability factor" is "an a priori user specified factor that takes into account any number of user considerations including, but not limited to, compatibility of the encoded data with existing standards, data error robustness, or any other aggregation of factors that the user wishes to consider for a particular application."

XIV. "data compression engine"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**

hardware, software and/or firmware that compresses and/or decompresses data or is programmed to compress and/or decompress data	hardware, software, or firmware in the DSP or processor of the data storage controller that compresses and/or decompresses the data

At the hearing, the parties were able to reach agreement as to the proper construction of "data compression engine." REALTIME DATA AND F5'S JOINT NOTICE OF AGREEMENT TO CLAIM TERM (Doc. No. 287) at 1-2. Therefore, the Court will adopt the following construction for "data compression engine:" "hardware in, and/or software and/or firmware executed by the digital signal processor or processor of the data storage controller that compresses and/or decompresses data."

XV. "programmable logic device"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
a collection of programmable logic elements that can be configurably interconnected	configurable hardware programmed after power-on

The Court finds that the term "programmable logic device" is properly construed as "a digital hardware component that is reconfigurable."

XVI. "instantiate ... [interfaces for] operatively interfacing"

"instantiate"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
implement	automatically determine the system environment and configure the local system within that environment

"operatively interfacing"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
connecting or coupling to provide a pathway for the transmission of data	enabling bi-directional communication between two separate devices

The Court finds that the proper construction for "instantiate" is "represent" and the proper construction for "operatively interfacing" is "providing a communications channel or pathway between the data storage controller and the data storage device."

XVII. "bandwidth allocation controller ... for controlling access"

"bandwidth allocation controller"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
a mechanism that allocates bandwidth	a hardware device [or mechanism] for proportioning limited bandwidth in such a way as to optimize the use of available resources and the rate of data transferred between the disk and the host

"controlling access"

Plaintiff's Proposed Construction	
arbitrating among requests for access	allocating access to cache memory

The Court finds that the proper construction for "bandwidth allocation controller" is "a mechanism that allocates bandwidth," and the proper construction for "controlling access" is "allocating access to cache memory."

XVIII. "compressing said received data stream using a plurality of encoders configured in parallel configuration"/"parallel configuration [of a plurality of encoders]"

"compressing said received data stream using a plurality of encoders configured in parallel configuration"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
using more than one encoder, in parallel configuration, to concurrently compress at least parts of the received data stream	using more than one encoder to concurrently compress the same data stream

"parallel configuration [of a plurality of encoders]"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
more than one encoder, in parallel configuration, to concurrently compress data	more than one encoder, in parallel configuration, to concurrently compress data from a data stream

The Court finds that the proper construction for "compressing said received data stream using a plurality of encoders configured in parallel configuration" is "using more than one encoder to concurrently compress the same data stream," and the proper construction for "parallel configuration [of a plurality of encoders]" is "a configuration [of a plurality of encoders] which concurrently compress the same data stream."

XIX. "second interface"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
second interface	an interface which is physically distinct from the first interface and is between the data storage controller and the host system

The Court finds that the term "second interface" does not require construction.

XX. "compression rate"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
amount of input data a compressor can compress per unit of time and	indefinite OR rate at which data

amount of compressed data a compressor can output per unit of time	is output from the compressor

As will be further detailed in the Court's Report and Recommendation regarding Defendants' Motion for Summary Judgment of Invalidity for Indefiniteness ("Indefiniteness Motion") (Doc. No. 247), the Court finds that the term "compression rate" is not indefinite and is properly construed as "compressor throughput as a measure of the amount of input data a compressor can compress and make available for storage per unit of time at a given compression ratio."

XXI. "wherein said first bandwidth is substantially greater than said second bandwidth" FN7

FN7. The parties identified the term "substantially greater" for argument at the *Markman* hearing. TERMS FOR HEARING at 3. However, the parties dispute the term "wherein said first bandwidth is substantially greater than said second bandwidth," so the Court will construe this term. *See* CLAIM CHART at 64.

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
wherein said first bandwidth is sufficiently greater than said second bandwidth such that applying compression methods would be beneficial	indefinite

As will be further detailed in the Court's Report and Recommendation regarding Defendants' Indefiniteness Motion, the Court finds that the term "wherein said first bandwidth is substantially greater than said second bandwidth" is not indefinite .FN8

FN8. Defendants did not offer a proposed construction for this term, relying solely on their Indefiniteness Motion. BLUE COAT RESP. at 11-12. Having resolved the dispute regarding whether this claim term is indefinite, the Court declines to adopt a construction at this point. Although Plaintiff has proposed a construction, Defendants have not set forth a position on the issue of the proper scope of this term. Should the parties determine that a dispute as to the scope of this term remains, the parties may submit further briefing regarding their proposed constructions and arguments in support thereof.

XXII. "plurality of Lempel-Ziv encoders"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
more than one encoder, each employing a method from the Lempel-Ziv family of compression methods	indefinite

As will be further detailed in the Court's Report and Recommendation regarding Defendants' Indefiniteness Motion, the Court finds that the term "a plurality of Lempel-Ziv encoders" is not indefinite and is properly construed as "a plurality of encoders which implement a compression methodology for dictionary-based lossless data compression, wherein a dictionary contains any data sequence that has already been used to build the dictionary contents, wherein a pointer to an earlier entry in the dictionary contents indicates a data sequence, and wherein either a combination of address to already coded dictionary contents and sequence length is stored or only an index to the dictionary is stored." FN9

FN9. Defendants did not offer a proposed construction for this term, relying solely on their Indefiniteness Motion. BLUE COAT RESP. at 14. Having resolved the dispute regarding whether this claim term is indefinite, the Court finds that it is can adequately and appropriately adopt a construction for this term based on both the parties' arguments in the briefing and at the *Markman* hearing.

XXIII. "means for performing lossless compression"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Function: performing lossless compression *Structure:* encoder module 25 using any lossless compression method such as Run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression	*Function:* performing lossless compression *Structure:* Run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression

The Court finds that the means for "performing lossless compression" is using lossless compression that is one or more of Run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression and equivalents thereof.

XXIV. "plurality of encoders of an identical type"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
more than one encoder, each employing the identical compression method	multiple encoders that employ the identical compression algorithm

The Court finds that the proper construction of "plurality of encoders of an identical type" is "multiple encoders that employ the identical compression algorithm."

XXV. "compression type"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
compression method	lossy or lossless compression

The Court finds that the proper construction for "compression type" is "lossy or lossless compression."

XXVI. "first parameter indicative of a compression type to be applied"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
an attribute that indicates which compression method to apply	any recognizable data token or descriptor that indicates whether to apply lossless or lossy compression

The Court finds that the proper construction for "first parameter indicative of a compression type to be applied" is "any recognizable data token or descriptor that indicates whether to apply lossless or lossy compression."

XXVIII. "non-identifiable data type"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
data type that is not identified	data type that cannot be identified

The Court finds that the proper construction for "non-identifiable data type is "a data type that cannot be identified."

CONCLUSION

For all the foregoing reasons, the Court sets forth the foregoing constructions on a provisional basis. The Court reserves the right to modify these provisional constructions when a full Memorandum Opinion and Order on the disputed claim constructions is issued.

So ORDERED.

APPENDIX A

U.S. PATENT Nos.6,601,104*;* 6,604*,* 158*;* 7,321,937*;* 6,624,761*;* 7,161,506*;* 7,378,992*;* 7,352,300*;* 6,748,457*; and* 7,376,772

Claim Language	Patent/Claim Number	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Construction
target storage device	'104 patent, claims 1, 13, 25	local memory device that receives data from the compressor	the device to which information is ultimately destined for storage	an identified memory device to which data is directed for storage
	'158 patent, claims 1, 9			
data storage device	'772 patent, claims 1, 13	local memory device that receives data from the compressor	the device to which information is ultimately destined for storage	an identified memory device to which data is directed for storage
	'457 patent, claim 18			
data storage rate	'104 patent, claims 1, 13, 25	maximum sustained rate at which data can be written to the data storage device	maximum rate at which data can be stored on the data storage device	maximum sustained rate at which data can be written to the data storage device
	'158 patent, claims 1, 9			
increases the	'104	increases the	*Citrix Defendants:*	increases the data

effective data storage rate	patent, claims 1, 13, 25	effective maximum sustained rate at which data can be written to the storage device by compressing and storing the data faster than the input data stream itself could be stored	increasing the maximum storage rate of a storage device by simultaneously compressing and storing the input data stream at a rate faster than the uncompressed stream can be stored in real time	storage rate by compressing and storing the data on the data storage device in less time than it would take to simply store the uncompressed data on the data storage device at the maximum sustained data storage rate
	'158 patent, claims 1, 9		*Blue Coat Defendants:* time from the beginning of the compression process through the completion of storage of the data stream on the target storage device is less than the time to simply store the uncompressed data stream on the target storage device at the maximum data storage rate	
means for receiving a data stream having an input data transmission rate which is greater than a data storage rate of the data storage device	'104 patent, claim 13	*Function:* receiving a data stream having an input data transmission rate which is greater than a data storage rate of a data storage device	*Function:* receiving a data stream having an input data transmission rate which is greater than a data storage rate of a data storage device	an input data port of data accelerator 10 and equivalents thereof
		Structure: input data buffer or cache 15, counter 20, or encoder module 25	Structure: input data buffer 15 of the data accelerator 10	
means for compressing the data stream at a compression rate that increases the effective data storage rate of	'104 patent, claim 13	*Function:* compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device	*Function:* compressing the data stream at a compression rate that increases the effective data storage rate of the data storage device	encoder module 25 and equivalents thereof

the data storage device				
		Structure: encoder module 25	*Structure:* Data compression portion of data storage accelerator 10, including encoder module 25, counter module 20, buffer/counter module 30, and compression [ratio] module 35	
data type	'761 patent, claims 1, 2, 3 '506 patent, claims 1, 5, 6, 7, 8, 41, 42 '992 patent, claims 1, 4, 7, 8, 9, 11, 12, 20	an attribute of the data	the manner in which a sequence of bits represents data	data type
	'300 patent, claims 19, 21, 23, 24, 42, 46, 47			
content independent data compression	'761 patent, claim 1	compression only applied to a given data block when the data type of the data block is not identified or that data type is not correlated with one or more encoders	compressing a particular data block of unidentified data type with each of a plurality of enabled lossless encoding techniques and comparing the compression results thereof to select the optimal encoder	compression that is applied using one or more encoders without regard to the encoder's (or encoders') ability to effectively encode the data type of the data block
single data compression encoder/single compression encoder	'506 patent, claims 1, 27, 86, 87, 88, 89, 90, 96, 98	one data compression encoder	compression using content independent data compression	one data compression encoder
said data compression encoder	'506 patent, claim 81	a data compression encoder" referred to in claim 69	compression using content independent data compression	a data compression encoder referred to in claim 69
a data compression	'506 patent,	one or more data compression	compression using content independent data	one or more data compression encoders

encoder [FN10] claim 69 encoders compression

FN10. While the parties consistently dispute the meaning of this term in their briefs, it does not appear in the Claim Chart.

default encoder	'992 patent, claims 12, 15, 20	an encoder used automatically in the absence of a designated alternative	compression using content independent data compression	an encoder used automatically in the absence of a designated alternative
wherein if one or more encoders is associated to said type, compressing said data block with at least one of said one or more encoders, else compressing with a data compression encoder	'506 patent, claim 69	wherein if one or more encoders is correlated with said type, compressing said data block with at least one of said one or more encoders, otherwise compressing with one or more data compression encoders	wherein if one or more encoders is linked through hardware or software instructions to said data type, compressing said data block with at least one of said one or more encoders, else compressing using content independent data compression	wherein if one or more encoders is correlated with said type, compressing said data block with at least one of said one or more encoders, otherwise compressing with one or more data compression encoders
data stream	'761 patent, claims 1, 17, 21 '506 patent, claims 69, 86 '104 patent, claims 1, 2, 13, 25 '300 patent, claims 24, 28, 47, 51 '158 patent,	one or more data blocks transmitted in sequence	a contiguous stream of data blocks	one or more data blocks transmitted in sequence

	claims 1, 6, 9, 14			
	"7 patent, claims 17, 18, 19, 20			
input data stream	'761 patent, claims 1, 17	one or more data blocks transmitted in sequence where the transmission of the sequence is not initiated by the receiver	a contiguous stream of incoming data blocks	one or more input data blocks transmitted in sequence
	'506 patent, claims 1, 16, 17, 21			
receiving a data stream	'104 patent, claims 1, 13, 25	receiving one or more data blocks transmitted in sequence where the transmission of the sequence is not initiated by the receiver	receiving a contiguous stream of incoming data blocks	receiving one or more data blocks transmitted in sequence
	"7 patent, claim 17			
	'158 patent, claims 1, 9			
selecting resolution parameters	'300 patent, claims 19, 42	selecting the number of pixels in an image, the number of samples in a second of audio, and/or the number of bits per sample for audio	selecting the number of pixels in an image	selecting the number of pixels in an image, the number of samples in a second of audio, and/or the number of bits per sample for audio or for images

		or for images		
wherein said lossy compression encoder compresses said data block at said selected resolution parameters;	'300 patent, claims 19, 42	wherein said first lossy compression encoder compresses said data block according to selected number of pixels in an image, number of samples in a second of audio, and/or number of bits per sample for audio or for images	wherein said first lossy compression encoder compresses said data block to achieve the selected number of pixels in an image	wherein said first lossy compression encoder compresses said data block according to selected number of pixels in an image, the number of samples in a second of audio, and/or the number of bits per sample for audio or for images
desirability factor	'300 patent, claim 36	a user or system specified factor that indicates the desirability of using a specific encoder. Desirability factor does not include compression threshold	an a priori user specified factor that takes into account any number of user considerations including, but not limited to, compatibility of the encoded data with existing standards, data error robustness, or any other aggregation of factors that the user wishes to consider for a particular application that is appended to each encoded data block and that is used to calculate a figure of merit for each encoded data block	an a priori user specified factor that takes into account any number of user considerations including, but not limited to, compatibility of the encoded data with existing standards, data error robustness, or any other aggregation of factors that the user wishes to consider for a particular application
data compression engine	'772 patent, claim 1, 13, 14	hardware, software and/or firmware that compresses and/or decompresses data or is programmed to compress and/or decompress data	Hardware, software or firmware in the DSP or processor of the data storage controller that compresses and/or decompresses data	hardware in, and/or software and/or firmware executed by the digital signal processor or processor of the data storage controller that compresses and/or decompresses data
	'457 patent, claim 18			
programmable	'772	a collection of	configurable hardware	a digital hardware component

logic device	patent, claims 1, 3, 5, 13, 15	programmable logic elements that can be configurably interconnected	programmed after power-on	that is reconfigurable
	'457 patent, claim 18			
instantiate	'772 patent, claims 1, 13	implement	automatically determine the system environment and configure the local system within that environment	represent
	'457 patent, claim 18			
operatively interfacing	'772 patent, claims 1, 13	connecting or coupling to provide a pathway for the transmission of data	enabling bidirectional communication between two separate devices	providing a communications channel or pathway between the data storage controller and the data storage device
	'457 patent, claim 18			
bandwidth allocation controller	'772 patent, claims 1, 13	a mechanism that allocates bandwidth	a hardware device [or mechanism] for proportioning limited bandwidth in such a way as to optimize the use of available resources and the rate of data transferred between the disk and the host	a mechanism that allocates bandwidth
	'457 patent, claim 18			
controlling access	'772 patent, claims 1, 13	arbitrating among requests for access	allocating access to cache memory	allocating access to cache memory
	'457 patent, claim 18			
compressing said received data	"7 patent, claim 18	using more than one encoder, in	using more than one encoder to concurrently compress the	

stream using a plurality of encoders configured in parallel configuration		parallel configuration, to concurrently compress at least parts of the received data stream using more than one encoder to concurrently compress the same data stream	same data stream	
parallel configuration [of a plurality of encoders]	'772 patent, claim 14	using more than one encoder, in parallel configuration, to concurrently compress at least parts of the received data stream	more than one encoder, in parallel configuration, to concurrently compress data from a data stream	a configuration [of a plurality of encoders] which concurrently compress the same data stream
second interface	'772 patent, claims 1, 13	second interface	an interface which is physically distinct from the first interface and is between the data storage controller and the host system	second interface
	'457 patent, claim 18			
compression rate	'104 patent, claims 1, 2, 13, 25	amount of input data a compressor can compress per unit of time and amount of compressed data a compressor can output per unit of time	Indefinite OR rate at which data is output from the compressor	compressor throughput as a measure of the amount of input data a compressor can compress and make available for storage per unit of time at a given compression ratio
	'158 patent, claims 1, 9			
wherein said first bandwidth is substantially	"7 patent, claim 17	wherein said first bandwidth is sufficiently greater	Indefinite	

greater than said second bandwidth		than said second bandwidth such that applying compression methods would be beneficial		
plurality of Lempel-Ziv encoders	"7 patent, claim 20	more than one encoder, each employing a method from the Lempel-Ziv family of compression methods	Indefinite	a plurality of encoders which implement a compression methodology for dictionary-based lossless data compression, wherein a dictionary contains any data sequence that has already been used to build the dictionary contents, wherein a pointer to an earlier entry in the dictionary contents indicates a data sequence, and wherein either a combination of address to already coded dictionary contents and sequence length is stored or only an index to the dictionary is stored
means for performing lossless compression	'104 patent, claim 24	*Function:* performing lossless compression	*Function:* performing lossless compression	using lossless compression that is one or more of Run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression and equivalents thereof
		Structure: encoder module 25 using any lossless compression method such as Run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression	*Structure:* Run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression	
plurality of encoders of an identical type	"7 patent, claim 19	more than one encoder, each employing the identical	multiple encoders that employ the identical compression algorithm	multiple encoders that employ the identical compression algorithm

		compression method		
compression type	'158 patent, claims 1, 6, 9	compression method	lossy or lossless compression	lossy or lossless compression
first parameter indicative of a compression type to be applied	'158 patent, claim 1	an attribute that indicates which compression method to apply	any recognizable data token or descriptor that indicates whether to apply lossless or lossy compression	any recognizable data token or descriptor that indicates whether to apply lossless or lossy compression
content dependent data compression	'761 patent, claim 1	compression only applied to a given data block when the data type of the data block is identified and that data type is correlated with one or more encoders	compressing the data block using an encoder selected based on the data type of the data block	compression that is applied using one or more encoders selected based on the encoder's (or encoders') ability to effectively encode the of the data block
	'506 patent, claims 1, 5, 6, 7, 8, 9, 10, 11, 41, 42, 43, 86, 87, 88, 89, 90, 98			
non-identifiable	'992 patent, claims 1, 8, 11	data type that is not identified	data type that cannot be identified	a data type that cannot be identified

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