

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

RIVERBED TECHNOLOGY, INC.; DELL INC.;)	
HEWLETT-PACKARD ENTERPRISE CO.; HP)	CASE IPR2016-00972
ENTERPRISE SERVICES, LLC; TERADATA)	PATENT 7,415,530
OPERATIONS, INC.; ECHOSTAR)	
CORPORATION; AND HUGHES NETWORK)	CASE IPR2016-01002
SYSTEMS, LLC,)	PATENT 9,116,908
PETITIONERS)	
)	
VS)	
)	
REALTIME DATA LLC,)	
PATENT OWNER)	

ORAL DEPOSITION OF
CHARLES D. CREUSERE, PH.D.

January 19, 2017

Reported by:

Ronald R. Cope

Job no: 17930

TransPerfect Legal Solutions

1 ORAL DEPOSITION OF CHARLES D. CREUSERE,
 2 PH.D., produced as a witness at the instance of the
 3 Patent Owner, and duly sworn, was taken in the
 4 above-styled and -numbered cause on January 19, 2017,
 5 from 9:03 a.m. to 2:30 p.m., before Ronald R. Cope, a
 6 CSR in and for the State of Texas, Registered
 7 Professional Reporter and Certified Realtime Reporter,
 8 reported by machine shorthand at the Renaissance Hotel,
 9 900 E. Lookout Drive, Richardson, Texas 75082, pursuant
 10 to Patent Owner Realtime Data LLC's Notice of Deposition
 11 of Charles D. Creusere, Ph.D., and the provisions stated
 12 on the record.
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1 A P P E A R A N C E S (Continued)
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 9 EXHIBITS REFERRED TO
 FROM PREVIOUS DEPOSITION(S)
 10 NUMBER PAGE
 11 Exhibit Declaration of Charles D. 7
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 not given)
 12
 13 Exhibit 1001 United States Patent 7,415,530 34
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 15 Exhibit 1002 Declaration of Charles D. 10
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 16 Exhibit 1005 United States Patent 5,247,646 108
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1 CHARLES D. CREUSERE, PH.D.,
 2 having been first duly sworn, testified as follows:
 3 EXAMINATION
 4 BY MR. NOROOZI:
 5 Q. Good morning, sir.
 6 A. Good morning.
 7 Q. You're here to testify today as to both the
 8 '530 and '908 patents, correct?
 9 A. Yes.
 10 Q. And specifically with respect to opinions that
 11 you've set forth in your declarations in IPR proceedings
 12 as to those patents, right?
 13 A. That is correct, yes.
 14 Q. Now, both of the Claim 1s of the '530 and '908
 15 patents require a data accelerator, true?
 16 A. That is correct, yes.
 17 Q. And the data accelerator in both of the
 18 Claim 1s of the '530 and '908 patents has to compress at
 19 least two data blocks, right?
 20 A. I believe so. Let me just take a quick look at
 21 that.
 22 Q. And for the record, you're taking a look --
 23 A. Yes.
 24 Q. -- at one of your declarations?
 25 A. Yes. The declaration for the '530 patent.

1 MR. NOROOZI: And so we'll mark that as an
 2 exhibit with the same exhibit number as it has in the
 3 proceeding.
 4 A. And your question -- could you repeat the
 5 question again with respect to Claim 1?
 6 Q. (BY MR. NOROOZI) With respect to Claim 1 of
 7 both of the '530 and '908 patents, the data accelerator
 8 has to compress at least two data blocks, right?
 9 A. Yes. It says specifically, "Said data stream
 10 includes a first data block and a second data block."
 11 Q. Okay. Now, the two data blocks in both
 12 Claim 1s of both patents must be compressed using two
 13 different compression techniques, right?
 14 A. That is my understanding of the -- of both the
 15 '530 patent and the '908 patent.
 16 Q. And when we talk about "compression
 17 techniques," that's the same thing as compression
 18 algorithms, right?
 19 A. Yes. Compression techniques, in my
 20 understanding, is the same -- is synonymous with
 21 compression algorithms.
 22 Q. The data accelerator in both Claim 1s of the
 23 '530 and '908 patents must also compress and store the
 24 two data blocks faster than those same two data blocks
 25 would be stored in received or uncompressed form, right?

1 MR. SOMMER: Object to form.
 2 A. Okay. I'm going to -- just to compare, I'm
 3 going to look at my deposition (sic) from the '908
 4 patent as well because the language is a little bit
 5 different in those two, in the claims in the two
 6 patents.
 7 Q. (BY MR. NOROOZI) And I just want to clarify
 8 for purposes of the deposition: Do you understand that
 9 you're not supposed to take any cues or draw any hints
 10 as to how you should answer my questions based on
 11 whether or not your counsel objects?
 12 A. Yes. Yes. No. Yes, I understand that.
 13 Q. Okay. So --
 14 A. Okay.
 15 Q. -- why don't we read back my question, and then
 16 we can take the answer from there.
 17 Well, I just I want to make sure it's
 18 going to go on the record again, so let me just put it
 19 on the record again. Withdrawn.
 20 The data accelerator in both Claim 1s of
 21 the '530 and '908 patents must also compress and store
 22 the two data blocks faster than those same two data
 23 blocks would be stored and received in uncompressed
 24 form, right?
 25 MR. SOMMER: Object to form.

1 A. That -- that is my interpretation. The claims
 2 language in the two Claim 1s are a little bit different.
 3 In the Claim 1 for the '530 patent, it specifically
 4 says -- let's see -- a data stream is received by the
 5 said data accelerator in received form. The said data
 6 stream includes a first and second block. And then it
 7 says the said data stream is compressed by the data
 8 accelerator to provide a compressed stream by
 9 compressing the first data block with a first
 10 compression technique and second data block, second
 11 compression technique, so --
 12 Let's see. And then -- then we go down to
 13 claim -- what we label Claim -- or what I label Claim I,
 14 I should say: "Said compression storage occurs faster
 15 than said data stream is able to be stored."
 16 So by -- in my understanding, then said
 17 data stream includes a first and second block, and the
 18 said data stream thus is stored faster than could be
 19 stored in the received form; therefore, the first data
 20 block are stored faster.
 21 The other claim is more explicit. In
 22 Claim 1 in the other patent, that's more explicit;
 23 whereas, it specif- -- it says -- it does not use the
 24 word "data stream." It says specifically -- it says,
 25 "Wherein the first" -- what I'm labeling Claim F in my

1 deposition (sic) for the '908 patent, it says, "Wherein
2 the first and second data stream blocks are stored on
3 the memory device, and the compression and storage
4 occurs faster than the first and said (sic) data blocks
5 are able to be stored on the memory device in
6 uncompressed form."

7 So I would -- I would -- I would agree
8 with that, though the language is a little bit
9 different. I would agree with your statement.

10 Q. (By MR. NOROOZI) Now, in answering my
11 question, you were also looking at your declaration with
12 respect to the '908 patent, right?

13 A. That is correct.

14 MR. NOROOZI: And so we'll mark that as an
15 exhibit with the same exhibit number that it has in that
16 proceeding.

17 Q. (BY MR. NOROOZI) So I want to ask you a few
18 more questions about the "faster than" limitation of the
19 Claim 1s and how they work within the claim.
20 And -- withdrawn.

21 For purposes of both of the Claim 1s of
22 the '530 and '908 patents, the "faster than" limitation
23 requires the compression of both data blocks using two
24 different techniques, plus the storage of those same two
25 compressed data blocks occur faster than those two data

1 That's very clear. And I would -- so I would also agree
2 that because the limitation that -- let's see -- said
3 compression and storage occur faster than said data
4 stream is able to be stored on memory device in received
5 form, that implies, along with the earlier statement in
6 Claim 1, those two together imply that two different
7 compression algorithms are used on two different blocks
8 or can be used, I should say, on two different blocks
9 and that the -- that the sum total of this process must
10 allow for compression fast -- compression and storage
11 that is faster than storage of uncompressed data alone.

12 Q. (BY MR. NOROOZI) I just want to clarify if
13 there was an aspect of what I articulated that you
14 disagree with so that we make any of those issues clear
15 on the record. So let me break it down, if I could,
16 step by step. Withdrawn.

17 Do you agree that the "faster than"
18 limitation of Claim 1 of the '530 and Claim 1 of the
19 '908 sets up a comparison with respect to two data
20 blocks that compares the time it would take to store
21 those two data blocks in uncompressed form versus the
22 time it would take to store those two data blocks after
23 compression and storage, right?

24 MR. SOMMER: Object to form.

25 A. I believe that -- that this limitation in the

1 blocks could be stored without any compression
2 techniques or algorithms being applied to them, right?

3 MR. SOMMER: Object to form.

4 A. Could you restate your question? It was rather
5 long.

6 Q. (BY MR. NOROOZI) Sure. And the reason it's
7 long is I'm trying to make sure that we're kind of
8 capturing all the limitations that go with the "faster
9 than" limitation in one place. Are you with me on that?

10 A. I am, yes. Yes.

11 Q. Okay. So for purposes of both Claim 1s of the
12 '530 and '908 patents, the "faster than" limitation
13 requires the compression of both data blocks using two
14 different techniques, plus the storage of those same two
15 compressed data blocks occur faster than those two data
16 blocks would be stored without any compression
17 techniques or algorithms being applied to them, right?

18 MR. SOMMER: Object to form.

19 A. Well, I'm not sure that that's -- that's
20 completely true in exactly how the claims statement -- I
21 would -- I would agree that Claim 1, each of these
22 Claim 1s taken a whole -- taken as a whole apply --
23 requires that two different data compression blocks are
24 applied to Block Number 1 and Block Number 2.

25 I would agree with the claim as a whole.

1 claim says that -- that it must be possible to compress
2 these two data blocks and to store them in less time
3 than it would take to store those same two data blocks
4 in an uncompressed form.

5 Q. (BY MR. NOROOZI) Okay. And when you say "it
6 must be possible," you understand there's a difference
7 between method claims and system claims, right?

8 A. Yes.

9 Q. And with respect to the method claims, the
10 limitation must actually be met, right?

11 A. Right. Sorry. I --

12 MR. SOMMER: Object to form.

13 Give me time to object.

14 THE WITNESS: Okay. Sorry.

15 A. Yes. It's -- this is -- this is a claims
16 limitation that must be met. So what I should have said
17 is I should have said to meet the requirements of the
18 claim that the two blocks -- the compression and storage
19 of those two blocks must result in a faster overall
20 storage time than storing those two blocks uncompressed.
21 So that is a limitation that must be met for the
22 limitation of this claim to be fulfilled.

23 And I -- I apologize if I -- if I
24 misstated.

25 Q. (BY MR. NOROOZI) No apology is needed. Thank

1 you, though, for clarifying that.
 2 Now -- withdrawn.
 3 For purposes of the "faster than"
 4 limitation of both of the Claim 1s of the '530 and
 5 '980 -- '908 patents, the resulting faster than storage
 6 must occur on the same storage device, right?
 7 MR. SOMMER: Object to form.
 8 Q. (BY MR. NOROOZI) Why don't I rephrase that and
 9 see if I can make it even clearer. Withdrawn.
 10 When we're talking about the "faster than"
 11 limitation of the Claim 1s of the '530 and '908 patents,
 12 and specifically talking about the storage aspect of the
 13 two data blocks in those Claim 1s, those two data blocks
 14 need to be stored on the same storage device, right? On
 15 one storage device?
 16 MR. SOMMER: Object to form.
 17 A. The claim language is "memory device," but that
 18 certainly could -- could be equated to a storage device.
 19 Q. (BY MR. NOROOZI) And with respect to the rest
 20 of my question, do you agree that for purposes of the
 21 "faster than" limitation, the two data blocks in
 22 question need to be stored on a single storage device or
 23 memory device?
 24 A. I agree that the claim says that a memory
 25 device is -- it says specifically "data accelerator is

1 comparison with respect to storing two uncompressed data
 2 blocks and two compressed data blocks, right?
 3 MR. SOMMER: Object to form.
 4 A. A comparison. Well, I mean, they certainly --
 5 the limitation clearly states that -- that -- clearly
 6 states two cases, and it gives a condition under which
 7 one case, storage -- compression and storage must be
 8 faster than the other case. So -- so I -- I think that
 9 that would -- by most people's definition, that would be
 10 a comparison, so, yes, I would agree with you.
 11 Q. (BY MR. NOROOZI) Now, for purposes of that
 12 comparison, the storage device or the memory device is a
 13 constant factor as between what happens with the two
 14 uncompressed data blocks and what happens with the two
 15 compressed data blocks, right?
 16 MR. SOMMER: Object to form.
 17 A. There is only one memory device referenced here
 18 and it is referenced consistently, so I would agree that
 19 that should be viewed as a constant factor.
 20 Q. (BY MR. NOROOZI) And so that means that the
 21 storage speed capabilities of the system at issue in the
 22 Claim 1s of the two patents is also a constant for
 23 purposes of the Claim 1s of the patents, right?
 24 MR. SOMMER: Object to form.
 25 A. Yes. So that -- so that the claim -- this

1 coupled" -- "is coupled to memory device," and it says
 2 in what we've -- what I've labeled Claim -- part C of
 3 Claim 1 of the '530 patent, and then it says that
 4 compressed stream is stored on said memory device. So,
 5 yes, I would agree that that -- that since the
 6 compressed stream is composed of two blocks, I would
 7 agree that those two blocks are stored on the same
 8 memory device.
 9 Q. And as I think you just said, the storage
 10 device on which the two data blocks are stored has to be
 11 the same one that would otherwise store the two
 12 uncompressed data blocks, right?
 13 MR. SOMMER: Object to form.
 14 A. According to Part I, said compression and
 15 storage occurs faster than said data stream is able to
 16 be stored on memory device in received form, so
 17 certainly with respect to Claim 1 of the '530 patent,
 18 that is -- that is correct.
 19 If I look at the other patent, on the
 20 memory device, the other patent -- what I've labeled
 21 Limitation G in Claim 1 of the other patent also says
 22 essentially the same thing. So to answer your question,
 23 yes.
 24 Q. (BY MR. NOROOZI) The Claim 1s of the two
 25 patents, the '530 patent and '908 patent, set up a

1 limitation of Claim 1 -- I would agree with you that the
 2 limitation of Claim 1 then is relative to the specific
 3 memory device being evaluated. So you're -- you're
 4 contemplating a specific memory device, and then you are
 5 making that comparison.
 6 Q. (BY MR. NOROOZI) And similarly, the transfer
 7 speed capability from the data accelerator to the
 8 storage device is also constant for purposes of the two
 9 Claim 1s of the '530 and '908 patents, right?
 10 MR. SOMMER: Object to form.
 11 A. I would ask you to clarify that. What transfer
 12 speed are you referring to?
 13 Q. (BY MR. NOROOZI) I'm talking about the
 14 actual -- so -- withdrawn.
 15 When we talk about the storage speed
 16 capabilities, we're talking about some kind of a data
 17 write per amount of time rate, correct?
 18 A. For instance, a bandwidth, number of bits per
 19 second, is that what you're referring to?
 20 Q. Yes.
 21 A. Okay.
 22 Q. And so there's also -- withdrawn.
 23 And there's some limitation that all disk
 24 drives have as to how quickly they can write, for
 25 example, right?

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