

Marvell's Motion For Judgment On Laches [Dkt. 802]

May 2, 2013

**United States District Court
Western District of Pennsylvania
Civ. No. 2:09-cv-00290-NBF**

**Marvell Technology Group, Ltd.
Marvell Semiconductor, Inc.**

Legal Standard: Laches Bars Pre-Suit Damages

- A finding of laches bars CMU from recovering pre-suit damages. *A.C. Aukerman Co. v. R.L. Chaides Const. Co.*, 960 F.2d 1020, 1041 (Fed. Cir. 1992) (*en banc*).
 - As a result of CMU’s laches, the verdict should be reduced to no more than **~\$86 million** (excludes pre-suit damages (at least \$535 million) and foreign sales (\$549 million))
 - CMU estimates pre-suit damages of at least \$535 million (Dkt. 569 (CMU Opp. to Marvell’s MIL No. D11 (Failure to Mark))
 - Ms. Lawton’s “Second Update” to her expert report (at 5) provides the following chart estimating accused chips imported into the U.S. and Ms. Lawton’s associated royalty computation.

March 6 - YE 2003	2004	2005	2006	2007	2008	2009	2010	2011	Jan - July 2012	Total
16,526,143	83,031,317	182,531,849	234,469,832	263,826,099	290,061,526	311,909,588	362,628,830	378,284,886	215,010,472	2,338,280,542
14.08%	14.08%	14.08%	14.08%	14.08%	14.08%	14.08%	14.08%	14.08%	14.08%	14.08%
2,327,361	11,693,220	25,705,785	33,020,161	37,154,376	40,849,086	43,925,927	51,068,669	53,273,496	30,279,718	329,297,799
\$ 1,163,680	\$5,846,610	\$12,852,892	\$16,510,080	\$18,577,188	\$20,424,543	\$21,962,964	\$25,534,335	\$26,636,748	\$ 15,139,859	\$ 164,648,899

- Since the lawsuit was filed in the beginning of March 2009, taking 5/6 of the royalty from year-2009, plus the royalties through July 2012 equals ~\$86 million. The remaining damages (\$1.17 billion minus pre-suit damages (\$535 million), less post-filing U.S. imports (\$86 million) equals \$549 million in foreign sales.

Legal Standard: The Laches Presumption

- The laches elements include: (1) the plaintiff delayed in filing suit an unreasonable length of time after the plaintiff knew or reasonably should have known of the defendants **“potentially infringing activities,”** and (2) the delay resulted in material prejudice or injury to the defendant. *Wanlass v. General Elec. Co.*, 148 F3d 1334, 1337 (Fed. Cir. 1998)
- A delay exceeding six years is categorically **presumed to be unreasonable, inexcusable, and prejudicial.** *Aukerman*, 960 F.2d at 1035-36.

Legal Standard: The Duty Of Reasonable, Diligent Inquiry



“[W]here the question of laches is in issue, the *plaintiff is chargeable with such knowledge as he might have obtained upon inquiry*, provided the facts already known by him were such as to put upon a man of ordinary intelligence the duty of inquiry.”

Johnston v. Standard Mining Co., 148 U.S. 360, 370 (1893).



“The case law charges plaintiff with such knowledge as it might have obtained on *reasonable, diligent inquiry*.”

Rockwell Int'l Corp. v. SDL, Inc., 103 F.Supp.2d 1192, 1199 (N.D. Cal. 2000)

- The expansiveness of a patentee's claims (e.g., to raise the supposed royalty rate as high as possible), including allegations that there was no alternative to the defendant's use of the patented technology are relevant to laches.
 - See, e.g., *Comcast Cable Commc 'ns Corp. v. Finisar Corp.*, 2008 WL 170672, at *4 (N.D. Cal. 2008).
 - **“*Finisar’s damage study essentially argues that Comcast could not offer any marketable form of digital television without violating the patent in suit. This contention is made to raise the supposed royalty rate as high as possible.* Under Finisar’s expansive view of the matter, Finisar has no excuse for being unaware that Comcast was allegedly infringing back in 1998”**
 - “As Finisar’s expert, Roy Griffin, stated: I don’t know what you do if you didn’t implement [Comcast’s system] in this manner, in the ’505 patent manner. If there is a way of doing that, I don’t know what it is . . .”
 - **“*If Finisar’s own expert could not come up with a noninfringing alternative, at the minimum Finisar should have been aware of circumstances that might lead it to believe that Comcast’s system was infringing.*” *Id.***

16 Q Dr. Bajorek, speaking in the context of the accused
17 technology, would you very briefly, just a couple points, sum
18 up your must-have opinion.

19 A It's the only technology we know of that combats media
20 noise of the type that was impeding progress in the industry.
21 The industry demanded it. Marvell had bet on a different
22 approach, the iterative decoding. The iterative decoding
23 failed. Marvell had no choice but to incorporate what the
24 industry wanted, which was the CMU technology, into its chips.

12/4/12 (Bajorek) Tr. at 140:16-24

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To Justify Its Billion Dollar Damages Theory, CMU Told The Jury It "Saved the Hard Disk Drive In the US And Solved the Media Noise Problem"

9 Now, as to damages, remember that Marvell sold
10 billions and billions of chips according to counsel, using
11 CMU's invention, our property. CMU and its partners invested
12 hundreds of millions of dollars starting back in 1983. They
13 helped save the hard disk drive in the US and they solved the
14 media noise problem, this 90 percent problem, for all time.
15 And for all this effort, CMU and the inventors have gotten
16 nothing.

17 Let's go to the slide on Page 99. Fifty cents a
18 chip. They sold 2.34 billion chips. And each chip had an
19 operating profit of \$2.16. The evidence in this case shows
20 that Marvell would have gone out of business without the MNP.
21 It's the CMU invention that saved them. They wouldn't have
22 gotten a design win without it.

12/20/12 (CMU Closing) Tr. at 172:9-22

To Refute Marvell's Noninfringement Position, CMU Told The Jury Suboptimality Is Irrelevant To Infringement

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1 And they say: Ah, we don't do this; we do this, and we're
2 suboptimal so we don't infringe.

3 Well, what they again refuse to tell you and we had
4 to get on cross examination, that this line right here is
5 still the CMU invention. And who confirmed that? Dr. Blahut
6 confirmed that. Can a suboptimal version of optimal patented
7 technology still infringe? And then, question: Right, but
8 suboptimal doesn't enter into the analysis at all, does it?
9 No. He admitted it. Suboptimality — or what they call
10 suboptimality is irrelevant to infringement.

11 And Dr. McLaughlin confirmed that, too. Is a
12 suboptimal Kavcic detector still a Kavcic detector? Answer:
13 Yes. It's still infringing.

12/20/12 (CMU Closing) Tr. at 134:1-13

Before Discovery and Reviewing Any Marvell Confidential Information, CMU Told The Court That Its Technology Was “Standard Across The Industry”

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Case 2:09-cv-00290-NBF Document 33 Filed 07/17/2009 Page 1 of 22

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

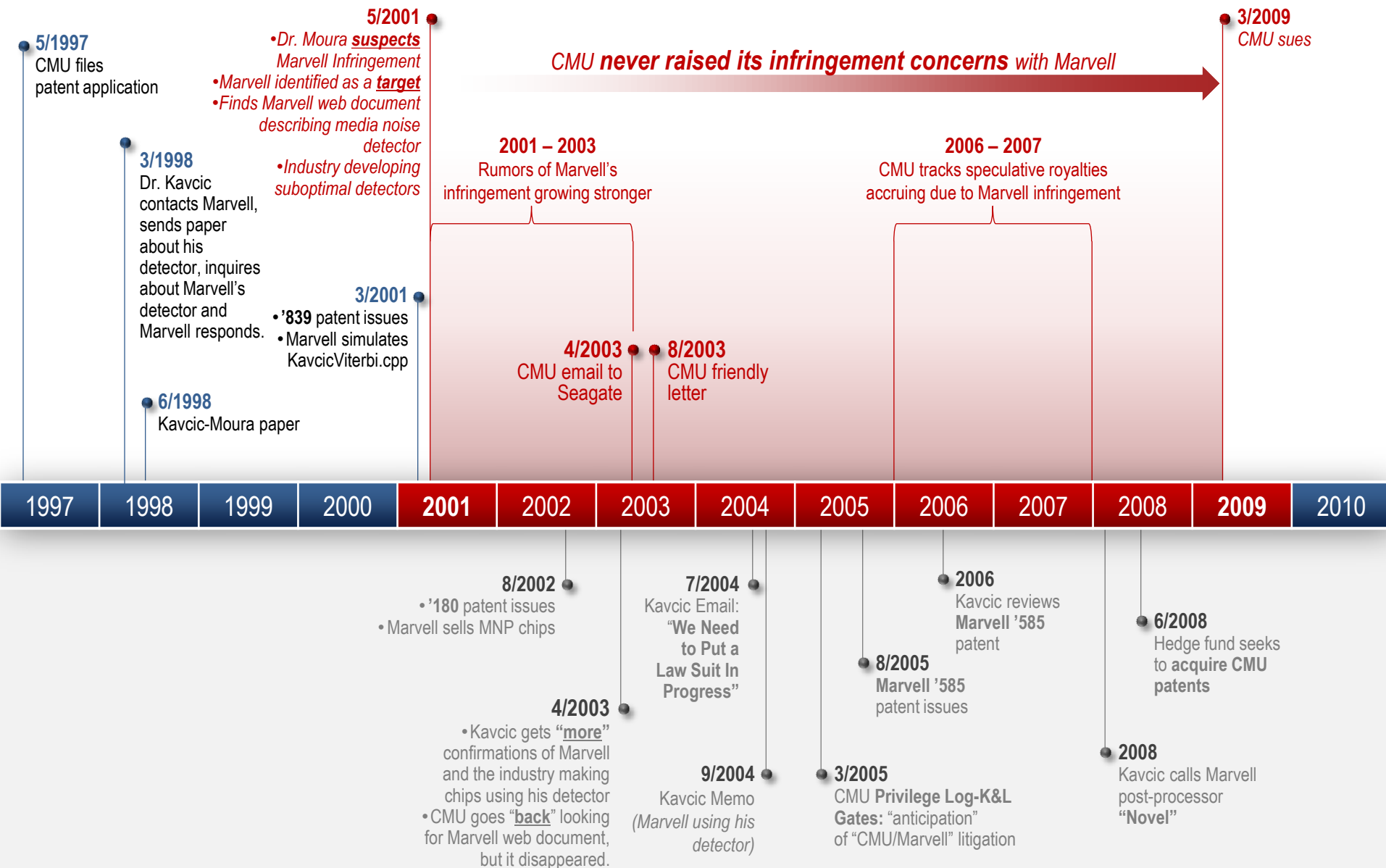
As disclosed in their patents, Drs. Kavcic and Moura invented systems and methods that for the first time allow the data “read” circuits to understand and account for the real world noise conditions found on hard disk drives, thus permitting the bits of data to be read more accurately. By properly accounting for this noise, the Kavcic and Moura inventions have made it possible to store data more densely packed onto magnetic disks. This breakthrough technology was developed under the sponsorship of the DSSC and is now believed by CMU to be standard across the industry.

Douglas B. Greenswag (admitted *pro hac vice*)
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David T. McDonald (admitted *pro hac vice*)
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Fax: 206.623.7022

July 17, 2009

PI-2207673 v3

Dkt. 33 (CMU Opp. To Motion to Transfer), at 5



In 1998, Dr. Kavcic Wrote to Marvell, Sent Them A Paper About His Detector, And Asked About Marvell's Detectors

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From: kavcic@penguin.ece.cmu.edu
Sent: Sunday, March 8, 1998 1:06 AM
To: Nersi Nazari
Cc: kavcic@ece.cmu.edu
Subject: detector chip, job?

Hi Nersi,

Somebody told me last week at our annual DSSC review here at Carnegie Mellon that Marvell has a detector that implements some of the approaches I suggested in my talk here. It is also in GLOBECOM 98 paper I sent you. Is there a write-up regarding this detector.

Also, I am going to graduate soon (May) and am on the look for jobs. Is Marvell hiring by any chance. Please let me know. My resume and downloadable publications are on my web page. The URL is

<http://www.ece.cmu.edu/afs/ece/usr/kavcic/.home-page.html>

Thanks
Alek

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Subject: detector chip, job?

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Somebody told me last week at our annual DSSC review here at Carnegie Mellon that Marvell has a detector that implements some of the approaches I suggested in my talk here. It is also in GLOBECOM 98 paper I sent you. Is there a write-up regarding this detector.

Also, I am going to graduate soon (May) and am on the look for jobs. Is Marvell hiring by any chance. Please let me know. My resume and downloadable publications are on my web page. The URL is

<http://www.ece.cmu.edu/afs/ece/usr/kavcic/.home-page.html>

Thanks
Alek

DX-1023

Two Days Later, Marvell Responded That It Was Not Working On A Media Noise Detector, "Yet"; And Welcomed Him To Interview

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From: kavcic@penguin.ece.cmu.edu
Sent: Tuesday, March 10, 1998 12:41 PM
To: Nersi Nersi
Subject:

Hi Nersi,

Thanks for the

I browsed through that would fit in an engineer, 'char processing eng classified as 'se of experience. I think I can do

I would be real on your part. A on

<http://www.ece>

Hope to hear fr

Alek

Alek,

As far as I know we are hiring a (marvell.com) between your q

Nice to hear fr

Regards,

Nersi

Alek,

As far as I know our **we do not have a product in line of your work, yet.** Yes, we are hiring and I'll read your resume on the web. Please visit our web site (marvell.com) and look at our openings. I think there may be a very good match between your qualifications and our needs.

Nice to hear from you. Keep in touch.

Regards,

Nersi

MSI 4082525

Confidential Attorneys Eyes Only Information

MSI 4082525

At Trial, Dr. Kavcic Explained That He Had Sent Marvell
A Paper About His Detector As A "Lead-In" To A Job Interview

14 Q Well, if we look at the information about DX-4, it
15 says: Submission to GLOBECOM '98. And this is about the
16 subject matter of the patents in suit here, right?

17 A Some of the ideas expressed in the patents are also in
18 here, in this paper.

19 Q And the patents hadn't been issued at this point in
20 time, correct?

21 A Correct, sir.

22 Q And you understood if you sent the paper to Marvell,
23 they were free to use the information that was in the paper in
24 their business. Right?

25 A No, sir. No. No, not. Because this was already filed
1 for a patent, and nobody is free to use something that is
2 without a license if it's filed and then ultimately patented.

3 Q And --

4 A But I was sending this to Dr. Nersi Nazari because I
5 wanted him to know what I was working on as a lead-in to
6 providing me an interview, because I was looking for a job.

11/30/12 (Kavcic) Tr. at 118:14-119:6

In 2001, CMU Learned Of Industry-Wide Efforts to Develop Suboptimal Detectors

José Moura Memo

May 16, 2001



“how are they working around, and are there ways to work around the patent patent is optimal s/n; **people are working on suboptimal**, suggesting ways around simplifying for ideas of work but **adding little bells and whistles**; people are trying to get around either because of patent or simpler solution. optimal implementation is complex...”

May 16/2001

Casay; Horatio

Bob White

Bryam; Alek (by phone)

identify licenses ~~before~~ before patenting usually, unpatented - not disk manufacturers since they don't manufacture chips, except IBM, but

buy for s/n, ~~collect~~ collect from FMC as w/

chips

did TI

be so (f)

SI Logue

off 10% of

Master - w/

even though

we should

chip near

want the

Master a

of SSC.

Only over

IBM are

Alek: tech specific is disk ^{drive} ~~drive~~ drive is/was; what I hear of disk manufacturers over and over is that disk drives will be made more generalized -

how are they working around, and are there ways to work around the patent

patent is optimal s/n; people are working on suboptimal, suggesting ways around simplifying for ideas of work but adding little bells and whistles; people are trying to get around little because of patent or simpler solution.

Optimal implementation is complex; for

example, say you have 1024 filters (maybe

Viterbi or Turbo detectors) each one is house

with a FIR filter - so need 1024 filters, too

complex; but we can group

part a little - if interested, send broadcast

go on record to every company that

comprehensive list that makes or buys

include - ~~ref~~ patent no, name, availability

on request

Head of R&D

or CTO, or general Council

Industry - work together, one company goes for

22 Q Okay. Now, let's go back briefly to your notes. You

23 identify Marvell as a target in 2001, right?

24 A Yes.

11/29/12 (Moura) Tr. at 92:22-24

May 16/2001

Casey; Horatio
Bob White
Bryan; Alek (by phone)

Identify licensees ~~before~~ before patenting
usually parties interested - not disk manufacturers since
they don't manufacture chips, except IBM, but
buy from: Intgr. Circuit, **Marvell**, TI, Lucent, Infineon,
STMicroelectronics
FTC as well, and any other company that makes
chips
did TI leave the business (chip manufacturing) or may
be so for

SI Logic, **Marvell**, Lucent, Linnis Logic (laying
off 10% of workforce).
Master - market freeze
Even though disk manufacturers don't make their chips
we should contact them.
Chip manufacturers will make them ^(regardless of interests) whatever they
want them to do.
Master & Lucent should have some license agreement
w/ SiLCC.
Only ones necessary at time of disclosure was
IBM need Seagate

May 16/ 2001

Casey; Horatio

Bob White

Bryan; Alek (by phone)

Identify licensees (sic) before patenting
usually why parties interested – not disk
manufacturers since they don't manufacture chips,
except IBM, but buy from: Integrated Circuit,
Marvell, TI, Lucent, Infineon, STMicroelectronics ...”

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Dr. Moura Testified That Back In 2001, People Were Just Claiming Ways To Try To Avoid Licensing CMU's Patent

3 Let me ask the question again: Back in 2001, before
4 this lawsuit was filed, eight years before this lawsuit was
5 filed --

6 A Yeah.

7 Q -- you noted that people were working on suboptimal
8 solutions which suggested ways around the patent. Right?

9 A People were claiming to work; people were claiming,
10 these are rumors.

11 Q Where does it same claiming? Point -- point to me,
12 please, where it says people are claiming.

13 A If you go back at the top, it says I hear. I hear
14 people saying this, and I know it's the optimal solution; I
15 know they are simply claiming ways of trying to avoid to
16 license our patent. That's all.

11/29/12 (Moura) Tr. at 85:3-16

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Dr. Moura Testified That In 2001, CMU Heard Rumors And "Suspect[ed]" Marvell's Use of CMU's Technology

14 Q Did you believe, sir, in 2001 that Marvell was using
15 your technology?

16 A I think the rumors were much stronger in 2003 than in
17 2001.

18 Q I'm -- did you believe in 2001 that Marvell was using
19 your technology?

20 A And I'm answering you, we heard rumors; the rumors
21 became stronger as time went on.

22 Q I'm not asking about rumors, sir. I'm asking you just
23 for your view. Did -- did you believe in 2001 that Marvell
24 was using your patent?

25 A That's an answer that is not a yes or no. You are --
1 you hear things and you speculate. Is this true? Is it --
2 how do we know? I don't know, someone says. Do you -- do you
3 have concrete proof? I don't. So I cannot answer to you no
4 or yes. But I cannot say either way, yes or no. I suspect.

5 Q You had a suspicion in 2001 that Marvell was using your
6 technology.

7 MR. GREENSWAG: Objection, mischaracterizes his
8 testimony.

9 THE WITNESS: This is nothing -- I'm hearing rumors.
10 I have no idea what to do with the rumors. So the best thing
11 to do is hope that they will come to their senses and license
12 our patent that just came out.

11/29/12 (Moura) Tr.
at 96:14-97-12

In 2001, CMU Searched The Web For Evidence Of Marvell's Infringement, Found A Web Document, But It Disappeared

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24 In 2001 did you do anything to investigate whether
25 Marvell was using your patent?

1 A As I told you, we went -- somewhere in that time frame
2 we approached Dr. White, and we also did a search on the web.
3 We looked at some documents; the documents disappeared. We
4 had -- we were -- we were trying to -- to see what's going on.

11/29/12 (Moura) Tr. at 97:24-98:4

From: Aleksandar Kavcic.
To: Jose' M. F. Moura.
Cc:
Bcc:
Subject: RE: patent.

Sent: 4/5/2003 11:34 PM.

OK. Let me know when we should teleconference.

Alek

Aleksandar Kavcic
kavcic@deas.harvard.edu
John L. Loeb Associate Professor of the Natural Sciences
Division of Engineering and Applied Sciences
Harvard University
33 Oxford Street
Cambridge, MA 02138, USA
fax: 1 (617) 496 6404
http://www.hrl.harvard.edu/~kavcic/kavcic.html

> -----Original Message-----

> From: Jose' M. F. Moura [mailto:moura@ece.cmu.edu]
> Sent: Saturday, April 05, 2003 9:07 AM
> To: Aleksandar Kavcic
> Subject: Re: patent

> Alek

> this is great, I will pursue it from this end.
> Jose'

> Aleksandar Kavcic wrote:

>> Jose',

>>> Today I got two more independent confirmations about what the
>>> building in their next generation chips. Direct quotes:

>>> a) "They are now building chips to tackle media noise"

>>> b) "Alek, the chip vendors are building chips EXACTLY as you said
>>> in your autoregressive noise paper"

>>> I cannot tell you who told me because these people asked to remain
>>> anonymous. The companies who are building the chips are:

>>> 1) Hitachi (they may have inherited IBM's patents and license
>>> agreements, and IBM supported DSSC throughout)
>>> 2) Agere (they were previously Lucent, and I am not sure
>>> if they supported DSSC)

Confidential

From: Aleksandar Kavcic
To: Jose' M. F. Moura
Subject: RE: patent
Date: 4/5/2003

Today I got two more independent confirmations about what the industry is building in their next generation chips. Direct quotes:

- a) "They are now building chips to tackle media noise"
- b) "Alek, the chip vendors are building chips EXACTLY as you said in your autoregressive noise paper"

I cannot tell you who told me because these people asked to remain anonymous. The companies who are building the chips are:

- 1) Hitachi (they may have inherited IBM's patents and license agreements, and IBM supported DSSC throughout)
 - 2) Agere (they were previously Lucent, and I am not sure if they supported DSSC)
 - 3) Marvell (they definitely did not support DSSC)
 - 4) ST Microelectronics (I am not sure if they are actually building signal-dependent detectors, but we may have to check. However, ST Microelectronics does not have a large market share anyhow)
- > Alek

DX-212

14 | Q Did you believe, sir, in 2001 that Marvell was using
15 | your technology?

16 | A I think the rumors were much stronger in 2003 than in
17 | 2001.

11/29/12 (Moura) Tr. at 96:14-17

In Response, CMU Went Looking Back For The Marvell Web Document, But It Had Disappeared

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19 Q So is it your opinion, sir, that back in 2003, in this
20 e-mail, you were -- you and Dr. Kavcic were speculating that
21 Marvell was using your patents back then?

22 A We are not speculating. We are hearing rumors that
23 these things are happening. Look at what it says: Today I
24 got two more independent confirmations about what the industry
25 is building in their next generation chips. Direct quotes.
1 They are now building chips to tackle media noise. Alek, the
2 chip vendors are building chips exactly as you said in your
3 autoregressive noise paper.

4 So this is people that are in the know, we assume, that
5 are telling us. We didn't look at your circuits. You
6 didn't -- actually, that's interesting, because more or less
7 at this time or maybe sometime earlier we looked on the web.
8 The web is already available at that time, as you know. And
9 we figured there was a marketing document sometime on the web
10 that mentioned exactly things like this and there was a paper.
11 And then when we tried to recover those things, those things
12 disappeared from the web.

13 Q So you don't have those papers, do you?



DX-212,
4/5/2003 Email from Dr. Kavcic

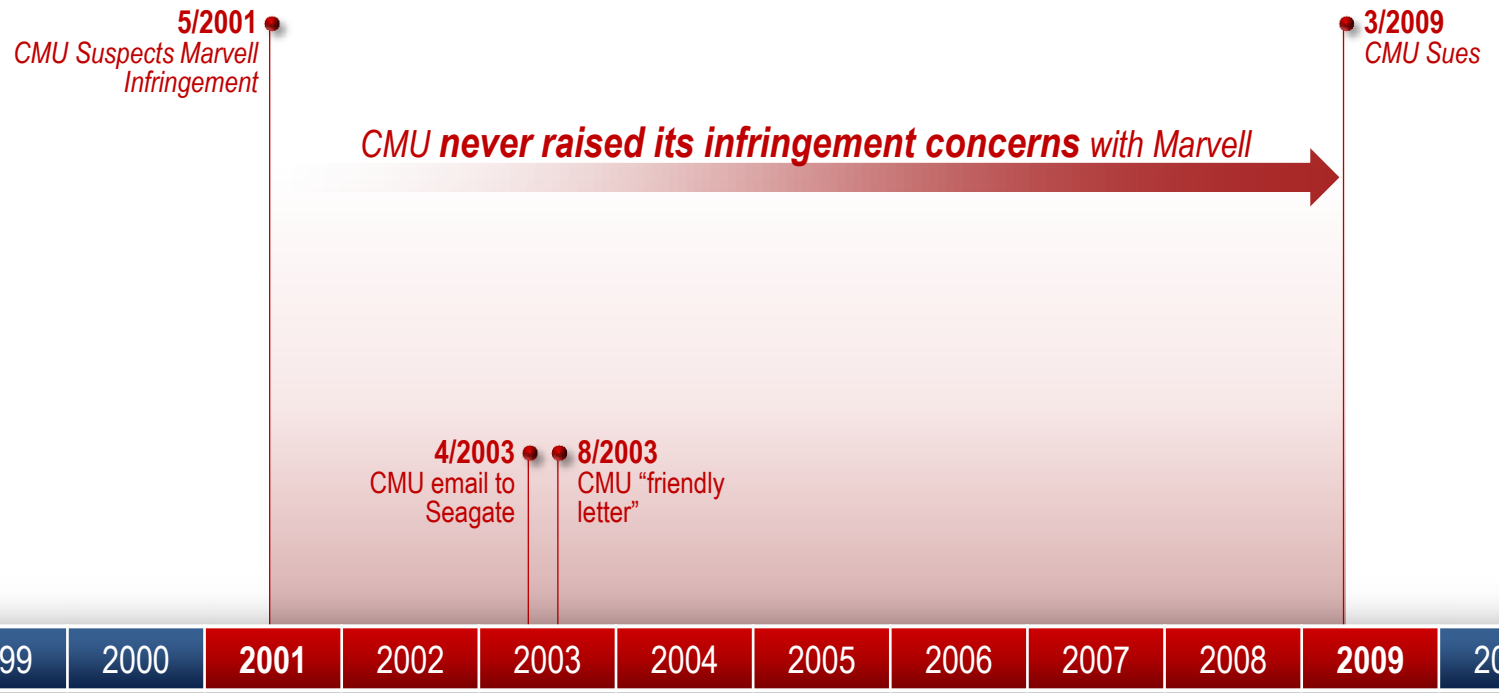
14 A Unfortunately not.

15 Q So when you say here you're going to pursue it on your
16 end, did you do any investigation of Marvell's technology back
17 in 2003?

18 A For example, this I just told you. We went looking
19 back for your materials; they had disappeared from the web.

11/30/12 (Moura) Tr. at 94:19-95:19

CMU Did Not Display Reasonable Diligence Under The Circumstances



- During its 8 year delay, CMU sent a single email to Seagate and a “friendly” form letter to the industry, including Marvell. CMU never followed up on the “friendly” letter.
- These two steps fall **far short of reasonable diligence** commensurate with the expansiveness of CMU’ s claims.

Rockwell Int’l Corp. v. SDL, Inc., 103 F.Supp.2d 1192, 1199 (N.D. Cal. 2000) (collecting cases);
Comcast Cable Commc ’ns Corp. v. Finisar Corp., 2008 WL 170672, at *4 (N.D. Cal. 2008).

From: Jose' M. F. Moura.
To: Alek Kavcic.
Cc:
Bcc:
Subject: [Fwd: Fwd: Re: Kavcic-Moura algorithm].

Sent: 4/13/2003 12:27 PM.

fyi.

----- Original Message -----

Subject: Fwd: Re: Kavcic-Moura algorithm
Date: Sat, 12 Apr 2003 12:57:54 -0400
From: Bob White <white@ece.cmu.edu>
To: moura@ece.cmu.edu, raw@cmu.edu, cmahler@cmu.edu, hmendez@ece.cmu.edu

Gentlemen,
This suggests we continue on the path we discussed at our meeting.

B

Mark,

You may recall a year or so ago I was trying to get our sponsors who make drives to consider pushing the Kavcic-Moura algorithm dealing with correlated media noise with their channel-chip vendors.

At Intermag Alex heard rumors that several chip suppliers are in fact developing chips that employ this algorithm. Is there any way you could help us confirm these rumors?

Confidential

CMU 00113078

DX-214

DX-214

Dr. Kryder Recommended Sending The Patents To Chip Makers Stating "They May Be Violating That Patent"

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From: Jose' M. F. Moura
To: Alek Kavcic
Cc:
Bcc:
Subject: [Fwd: Fwd: Re: Kavcic-Moura algorithm]

Sent: 4/13/2003

fyi.

----- Original Message -----

Subject: Fwd: Re: Kavcic-Moura algorithm
Date: Sat, 12 Apr 2003 12:57:54 -0400
From: Bob White <white@ece.cmu.edu>
To: moura@ece.cmu.edu, raw@cmu.edu, cmahler@cmu.edu, hmendez@ece.cmu.edu

Gentlemen,
This suggests we continue on the path we discussed at our meeting.

Bob

>X-Sieve: cmu-sieve 2.0
>Subject: Re: Kavcic-Moura algorithm
>To: white@ece.cmu.edu
>Cc: Dee Frazzini@seagate.com
>X-Mailer: Lotus Notes Release 5.0.8 June 18, 2001
>From: Mark.H.Kryder@seagate.com
>Date: Fri, 11 Apr 2003 22:22:13 -0400
>X-MIMETrack: Serialize by Router on SV-GW1/Seagate Internet(Release
>5.0.11 [July 24, 2002] at
> 04/11/2003 09:05:01 PM
>
>Bob,
>
>We are not aware of anyone utilizing the claims in the Kavcic-Moura patent;
>although channel vendors may well be working in the area of designing
>detectors for signal dependent noise. Even before Kavcic and Moura filed
>their patent, there had been work by others on signal dependent noise.
>Hence, their patent does not read on every implementation of channels that
>are designed for signal dependent noise. To really answer the question of
>whether their patent was being used or not, one would have to carefully
>look at the claims in their patent and then look, very carefully at how the
>channel chips being manufactured were implementing their detection
>algorithms. That is not easy to do.
>
>What you might want to do is send the patent to relevant people in each of
>the channel vendors making them aware of the patent and indicating that, if

From: Mark.H.Kryder@seagate.com
Date: Fri, 11 Apr 2003 22:22:13 -0400
X-MIMETrack: Serialize by Router on SV-GW1/Seagate Internet(Release
5.0.11 [July 24, 2002] at
04/11/2003 09:05:01 PM

Bob,

We are not aware of anyone utilizing the claims in the Kavcic-Moura patent; although channel vendors may well be working in the area of designing detectors for signal dependent noise. Even before Kavcic and Moura filed their patent, there had been work by others on signal dependent noise. Hence, their patent does not read on every implementation of channels that are designed for signal dependent noise. To really answer the question of whether their patent was being used or not, one would have to carefully look at the claims in their patent and then look, very carefully at how the channel chips being manufactured were implementing their detection algorithms. That is not easy to do.

What you might want to do is send the patent to relevant people in each of the channel vendors, making them aware of the patent and indicating that, if they are building channel chips that incorporate algorithms for signal dependent noise, they may be violating that patent, and if they are not, they may want to consider designing a chip based upon that patent. In either case, they may be interested in obtaining a license to that patent. If they are using something claimed by the patent, this may cause them to take a license, because, as I understand the law, they are liable for considerably higher damages if they knowingly use your patent after you have notified them of it.

Mark

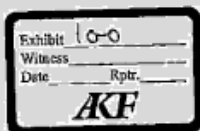
DX-214

DX-214

Confidential

Case 2:09-cv-00290-NBF Document 876-5 Filed 05/03/13 Page 25 of 46

Rather Than Raise An Infringement Concern As Dr. Kryder Recommended, CMU Sent Only A “Friendly Letter” To Avoid Triggering Declaratory Judgment Jurisdiction



Innovation Transfer Center
Carnegie Mellon University
4615 Forbes Avenue, Suite 302
Pittsburgh, PA 15213
Phone: 412-268-4387
Fax: 412-268-7395
Email: cmahler@cmu.edu

Carl Mahler
Senior Project Manager

August 5, 2003

Dr. Pantas Suta
Chief Technical
Marvell Semiconductor
700 First Ave.
Sunnyvale, CA

Dear Dr. Sutar

It has come to
months there h
sensitive adapt
data storage an
the very first p
United States p
6,438,180 B1.
letter.

CMU has a lon
research to the
these patents if
industrial part
allow these con
equitable terms that benefit all the parties involved.

If you find the attached patents to be of interest, please feel free to contact me at the address given above so that together we can further investigate whether you would find it attractive to license CMU's proprietary technology.

Sincerely,

Carl P. B Mahler, II

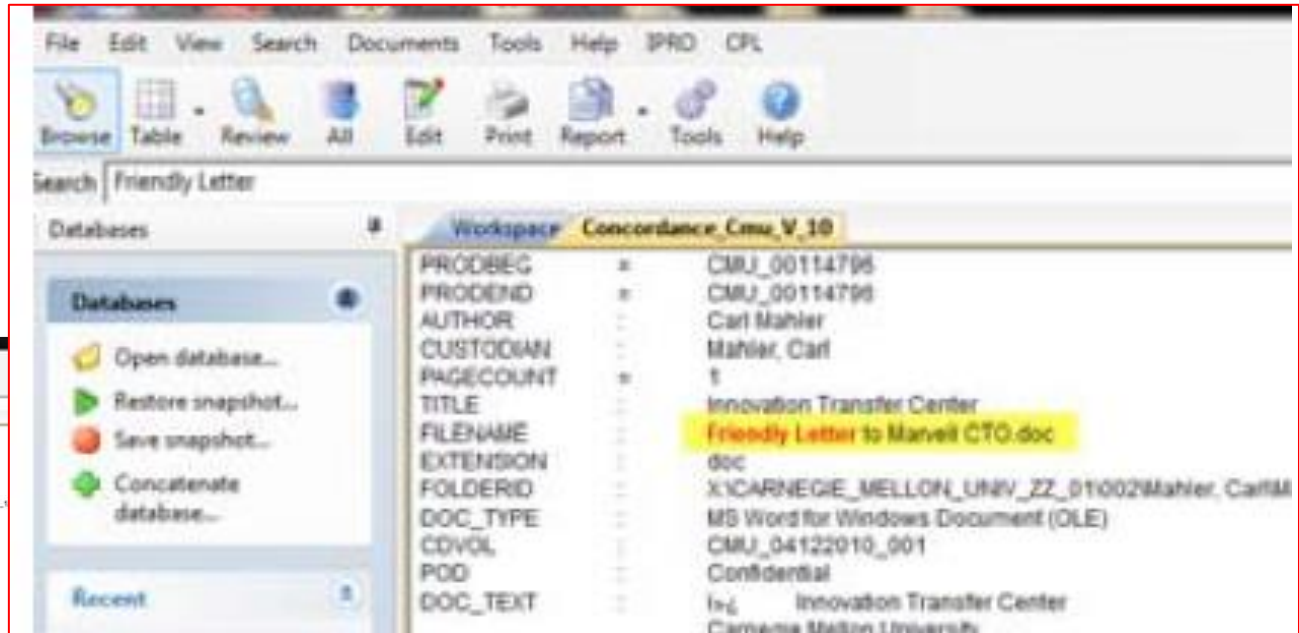
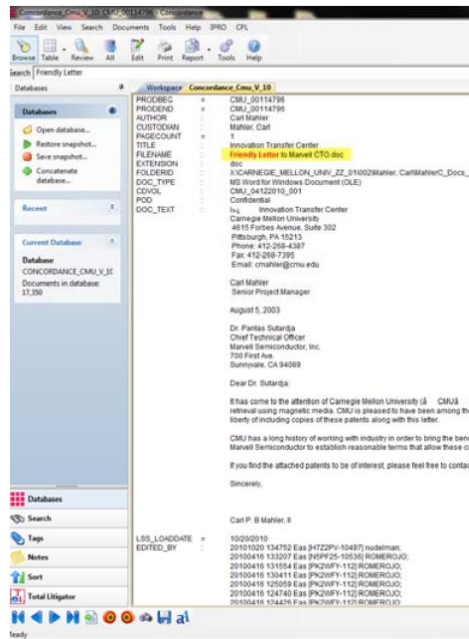
CMU has a long history of working with industry in order to bring the benefits of its research to the public and I would be happy to work with you to negotiate a license to these patents if that would be of interest to you. It is CMU's intention to work with industrial partners such as Marvell Semiconductor to establish reasonable terms that allow these companies to manufacture products covered by our patents on clear and equitable terms that benefit all the parties involved.

If you find the attached patents to be of interest, please feel free to contact me at the address given above so that together we can further investigate whether you would find it attractive to license CMU's proprietary technology.

P-422 (Dkt. 854, Milowic Decl. Ex. A (screenshot of the metadata for P-422, show Mr. Mahler titled the filename as “*Friendly Letter* to Marvell”).)

Rather Than Raise An Infringement Concern As Dr. Kryder Recommended, CMU Sent Only A “Friendly Letter” To Avoid Triggering Declaratory Judgment Jurisdiction

Case 2:09-cv-00290-NBF Document 876-5 Filed 05/03/13 Page 26 of 46



P-422 (Dkt. 854, Milowic Decl. Ex. A (screenshot of the metadata for P-422, show Mr. Mahler titled the filename as “*Friendly Letter* to Marvell”).)

Case 2:09-cv-00290-NBF Document 876-5 Filed 05/03/13 Page 27 of 46

In 2004, Before The Introduction of Perpendicular Recording, Dr. Kavcic Wrote That “All Major Read Channel Manufacturers” Including Marvell Use His Detector In Their Chips

- CMU now claims it could not have known of Marvell’s potentially infringing activities because of Marvell’s supposed “policy of secrecy,” and that its technology only became an industry standard in 2005 with the introduction of perpendicular recording.
- But in a 2004 memorandum, Dr. Kavcic stated that “***all major read channel manufacturers***,” including Marvell, use a form of his detector in their read channel chips.

2) Detectors for Magnetic Recording Channels

The work that characterized my Ph.D. thesis is the formulation of the optimal signal detector for the magnetic recording channel that is sensitive to intersymbol interference, the data-dependent character of the noise and signal nonlinearities. Of all my work so far, this has made the biggest impact in the magnetic recording industry. **All major read channel manufacturers (Agere, Marvell, ST-Microelectronics) utilize a form of the detector I proposed in their latest generations of read channel chips.**

Initial attempts to formulate the optimal detector were clumsy. I first formulated the detector in a matrix form [C34, J17]. Later I realized that a more elegant (and computationally more efficient) formulation could be given in terms of filter banks [C33, J15]. This implementation was patented [P1]. Ties to Gauss-Markov processes, the Cholesky factorizations of covariance matrices, and autoregressive models were presented in [J14]. The symbol error rate analysis using union bound techniques was presented in [C36]. Extensions of this work towards soft-output detectors (which are

11

KAVCIC002266

Dkt. 802-3 (Milowic Decl., Marvell’s Motion on Laches)
at KAVCIC 002266

Confidential

From: Aleksandar Kavcic. Sent: 7/6/2004 1:42 PM.
 To: Jose Moura.
 Cc:
 Bcc:
 Subject: need to talk to you.

Jose,

I have been trying to get in touch with you. I need to talk to you about two things:

- 1) The patent - we need to put a law suit in process
- 2) I need to write a letter for Amir Asif, and need a sample. Can you give me a sample of a letter you wrote for someone else.

Please give me a call at
(617) 669 4359

Alek

 Aleksandar Kavcic
 John L. Loeb Associate Professor of Natural Sciences
 Division of Engineering and Applied Sciences
 33 Oxford Street
 Harvard University
 Cambridge, MA 02138
 fax: (617) 496 6404
 web: <http://hrl.harvard.edu/~kavcic/kavcic.html>



DX-246

CMU Had Retained K&L Gates Regarding The "CMU/Marvell Litigation"

- CMU's privilege log shows ***K&L Gates was retained as outside counsel in March 2005 regarding the anticipated "CMU/Marvell litigation," before Marvell's patent issued*** (in August 2005):

P-CMU 0006480 - P-CMU 0006486	3/10/2005	Attorney-Client Privilege / Work Product	Email thread prepared in anticipation of litigation and for purposes of seeking and providing legal advice re: CMU/Marvell litigation	Towle, Holly - K&L Gates - Outside Counsel	Dively, Mary Jo - CMU - Attorney
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Dkt. 812-2 (Carnegie Mellon University's Revised Privilege Log, 7/22/2010 at p. 72);
 801-1 (Milowic Decl. in Support of Marvell's Motion to Compel or to Review In Camera of Documents Withheld by CMU that are Relevant to Laches, at Ex. B)

January 2006: CMU Tracked Potential Royalties From Marvell

- Despite continued silence, CMU assessed annual royalties of \$2 million against Marvell, and stated:
 - *“We need to strategize and make a decision.”*
 - *“Possible Start of \$ [money in:] 2007”*

	A	B	C	D	E	F	G	H
1	Highly Speculative Income Streams v1.0 1-16-06							
2								
3					Expected Ann.	Key		Possible
4	Technology	Company	Licensed?	Economic Terms	Royalties	Hurdle	Status	Start of \$
5	SmartCube	Psychogenics	Y	Under re-negotiation. 5.1% of income for services (r to 2.0% in	\$6,500,000	Approval by FDA of psychoactive drugs	Five candidate drugs already identified;	2009
19								
20								
21	Microvelcro			\$375k up to 1% r				
22	Infomedia			one				
23				one				
24							and make a decision	
25		Microsoft	N	one-time	\$ 2,000,000.00	Possible Infringement	See above	2007
26		Google	N	one-time	\$ 2,000,000.00	Possible Infringement	See above	2007
27	NIAI	Appto?	N			Possible Infringement	We need to strategize and make a decision	2007
28	Hard Disk Head Noise Reduction	Marvell	N		\$2,000,000.00	Possible Infringement	We need to strategize and make a decision	2007
29								

Marvell

We need to strategize and make a decision 2007

To This Point, There Had Been No Investigation Into Potential Infringement

20 Q So now we're in January of '06. Right?

21 A Yes.

22 Q And so we've heard that there has not been an
23 investigation, right?

24 A There has not been an investigation.

(12/5/12 Tr. (Wooldridge) at 213:20 – 24).

By 2008, The Inventors Had Concluded CMU Would Not File Suit And “The Only Way Out” Was To “Push For A Release” Of The Patents

Case 2:09-cv-00290-NBF Document 876-5 Filed 05/03/13 Page 32 of 46

From: Alek Kavcic. Sent: 6/3/2008 1:38 PM.
To: Astro; Charles Colla; Jose' M F Moura.
Cc: Ivo Stivorc.
Bcc:
Subject: RE: patent numbers.

Hi Astro,

The issue of the some consortium (Center) have the the patents are invention. This i

However, none

- Marvell

- LSI

- ST Microelectr

- Infineon

- Link-A-Media

had supported t
infringers have r

A potential way out is if CMU could release the patents to the inventors, under provisions that the new owners must honor existing license agreements, i.e, the companies that already have the rights to the patents will retain the rights. I am not sure if this can be done, but I think that this is the only way out. The reality is that CMU will be very reluctant to do anything with these patents in the future, so the only way out, in my opinion, is to push for a release.

Best regards

Alek

A potential way out is if CMU could release the patents to the inventors. under provisions that the new owners must honor existing license agreements, i.e, the companies that already have the rights to the patents will retain the rights. I am not sure if this can be done, but I think that this is the only way out. The reality is that CMU will be very reluctant to do anything with these patents in the future, so the only way out, in my opinion, is to push for a release.

Best regards

Alek

DX-306

A 2008 Email From A Hedge Fund Manager To CMU Shows That The Inventors Had Expressed Their Concerns To Him About CMU's Laches

Case 2:09-cv-00290-NBF Document 876-5 Filed 05/03/13 Page 33 of 46

From: Alek Kavcic. Sent: 6/3/2008 1:38 PM.
To: Astro, Charles Cella, Jose' M F Moura.
Cc: Ivo Stivoric.
Bcc:
Subject: RE: patent numbers.

Hi Astro,

The issue
some cont
Center) ha
the patent
invention.

However,

- Marvell
- LSI
- ST Micro
- Infineon
- Link-A-M

had supp
infringers

A potentia
new owne
rights to th
the only w
in the futur

Best regar

Alek

From: Astro [mailto:astro@cerebellumcapital.com]
Sent: Tuesday, June 03, 2008 9:29 AM
To: Charles Cella, Jose' M F Moura, Alek Kavcic

Confidential

CMU 00101548

DX-306

Jose Moura is a EE prof at CMU and I know him well because he is the husband of Manuela Veloso, a CS prof at CMU who was my thesis advisor when I did my Ph.D. at CMU. He mentioned to me recently that he and an old student of his (Alek Kavcic) filed two patents about 10 years ago that they would like to see CMU be more active about and that it is clear CMU is not going to get more active about. Particularly, it seems that the 6 year anniversary of putting some companies on notice that they think are the most likely infringers is coming up in about 1 year. Obviously, after 6 years elapses, the opportunity to do anything about the patent with any of the folks who were sent letters (it was Carl at TT that sent the letters back in mid 2003) is gone. Anyway, I mentioned to him what we've done with Zivio in terms of taking on some patents that CMU has decided not to pursue and after talking to the other inventor, Alek, they are potentially interested in having CMU release the two patents to them so they could give them to Zivio and hopefully Zivio could pursue these companies and get some money for the inventors (and CMU of course). FWIW, when Carl left, the patents were put with Rob. The details of those two patents are:

DX-306

- CMU contends that it could not have known of Marvell's potential infringing activities before discovery. But CMU's own documents disprove this claim:
 - CMU's privilege log shows that K&L Gates had been retained, even before Marvell's patent issued, and was communicating in anticipation of litigation regarding the CMU/Marvell litigation.
 - Dr. Kavcic's memorandum authored before Marvell's patent issued states that all major read channel makers, including Marvell are using his detector.

Delay Is Not Excused By Confidentiality, Where There Was A Failure To Inquire

- *Ronald A. Smith & Assocs. v. Hutchinson Tech. Inc.*, No. 01-03847, 2002 WL 34691677 (N.D. Cal. Aug. 16, 2002) (Alsup, J.) (granting summary judgment on laches; thereafter court entered stipulation and order of voluntary dismissal)
 - Like here, Smith Associates developed suspicions of potential infringing activities more than 6 years before filing its lawsuit, and tried to excuse its delay by arguing: “[D]ue to Hutchinson’s trade-secrets policy, it had no means to acquire more information on Hutchinson’s potentially infringing activities.” *Id.* at *8.
 - The Court expressly rejected this argument: “Significantly, Smith Associates **proffers no evidence to demonstrate that its investigative efforts were impeded or thwarted by Hutchinson’s trade-secret policy**. Indeed, on this record, Smith Associates **did not pursue its investigation far enough in 1995 to receive such a denial of information or access.... Smith Associates can not now complain that it would have been denied confidential information or access to inspect Hutchinson’s equipment since it, in fact, never attempted to secure either in 1995.**” *Id.* at *9.

Delay Is Not Excused By Confidentiality, Where There Was A Failure To Inquire

- *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 679 F.Supp.2d 512 (D. Del. 2010)
 - Like here, Rexam argued: “[T]here was no way to be certain that Crown was employing the methods claimed in the ’839 Patent because the documents, information and equipment that will show that Crown is in fact infringing the methods claimed in the ’839 Patent are in the possession, custody and control of Crown.” *Id.* at 523.
 - **The Court expressly rejected this argument:** “[I]t is undisputed that Rexam **never directly communicated** with Crown concerning the ’839 patent prior to filing its counterclaim and that Crown’s denial of infringement occurred three months after that filing. **Few patentees begin infringement actions armed with admissions of infringement. Had Rexam made an inquiry of Crown, Rexam may have obtained information about Crown’s methods. Had Crown refused to provide any information, Rexam could have used such a denial as further ground for bringing suit.** *Eastman Kodak* does not dictate that this court avoid attributing to Rexam constructive knowledge of Crown’s alleged infringing activities.” *Id.* at 525

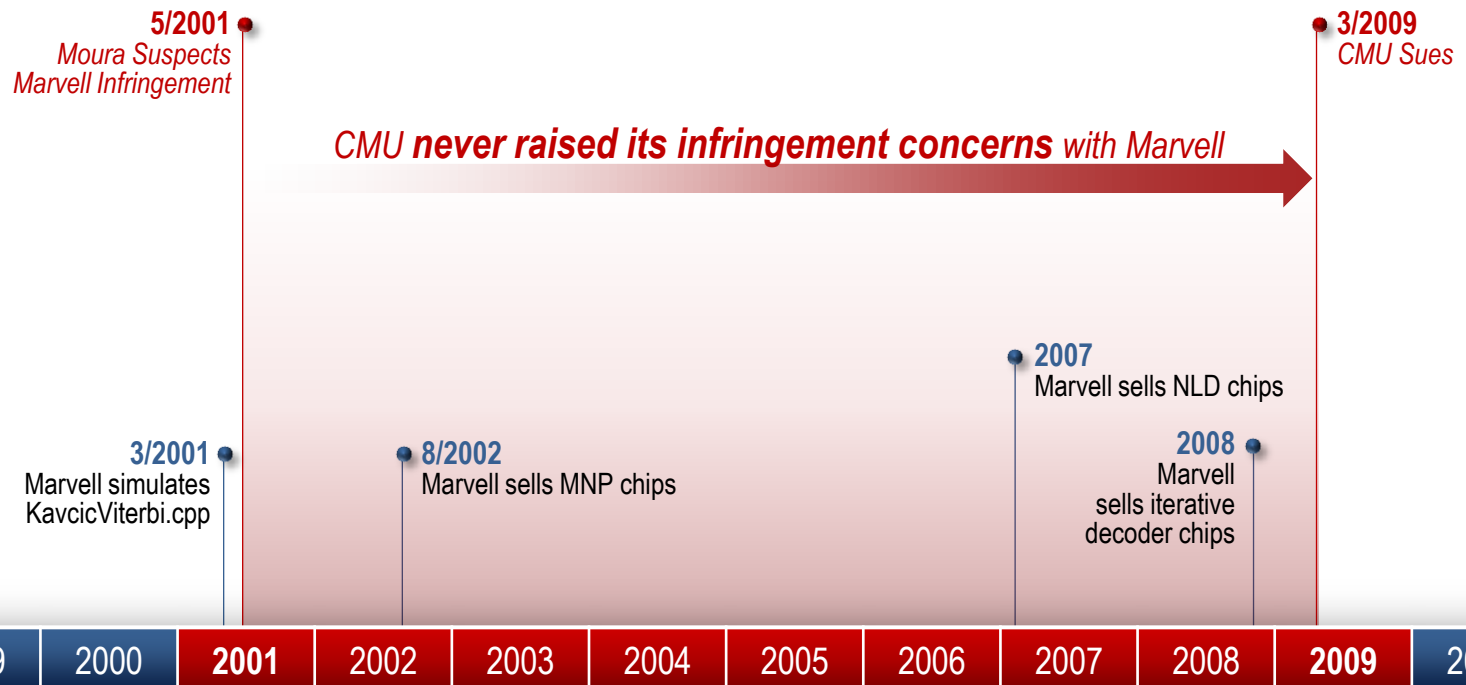
Eastman Kodak and *Ultimax* Do Not Support CMU's Position

- Unlike CMU, Eastman Kodak made diligent inquiry by raising its concerns of infringement.
 - The Federal Circuit noted that the district court had “specifically found that Goodyear did not show that Zimmer knew or should have known of its alleged infringement [d]ue to Goodyear’s policy of secrecy for the alleged infringement **and its denial of infringement upon inquiry.**” *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1559 (Fed. Cir. 1997).
 - Thus, the Court held: “the trial judge properly examined the defendants’ action in maintaining secrecy **and denying the alleged infringement** as evidence of Zimmer’s lack of constructive knowledge.” *Id.* at 1559.
- CMU relies on the Federal Circuit’s *dicta* in *Ultimax* to argue constructive knowledge is improper when infringement is secret.
 - But CMU fails to note that on remand the district court found laches **despite the patentee’s inability to reverse engineer the accused product**, because the patentee should have known of the defendant’s potential infringement (based on his past work at the defendant on the cement). *Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 856 F. Supp. 2d 1136, 1153-54 (C.D. Cal. 2012).

The Evidence Shows Marvell Would Have Shared Information With CMU

- CMU attacks a straw person by arguing Marvell would not confess to infringement. Of course, Marvell has maintained then and since that it does not infringe ***under the law***. But the relevant question is whether Marvell would have shared ***underlying factual information*** sufficient to show its ***“potentially infringing activities,”*** had CMU appropriately inquired by raising its infringement concerns in 2001.
- As to ***that***, the record shows that Marvell ***would have shared*** with CMU (Affidavit of Sutardja at ¶¶ 13-14), just as Marvell repeatedly and readily did under analogous circumstances:
 - In ***March 1998***, Marvell did respond to Dr. Kavcic’s inquiries about its detector development.
 - In ***January 2002***, Marvell voluntarily made a ***full disclosure***, slated for public availability, of its post processor approach to the PTO through its provisional patent application; ***Dr. Kavcic then pointed to Marvell’s patent as proof of infringement.***
 - Marvell shared confidential information about its circuits with its competitor Freescale pursuant to an NDA in the context of licensing negotiations and in the face of infringement allegations. (Dkt. 802-1 (Sutardja Affidavit), at ¶ 14.)
 - Marvell entered into licensing agreements with IBM and Agilent in the 2003 timeframe in response to inquiries and discussions from those parties.

Laches Is Presumed



- A delay exceeding six years is categorically ***presumed to be unreasonable, inexcusable, and prejudicial***. *Aukerman*, 960 F.2d at 1035-36.
- There are “***few cases indeed in which a lengthy period of unexcused delay escaped a laches finding because of proof of want of injury.***” *CHISUM ON PATENTS* § 19.05[2][c][iii].
- CMU has not produced evidence excusing its delay or showing the absence of prejudice.

CMU's Delay Has Resulted in Prejudice

- “Economic prejudice may arise where a defendant and possibly others will suffer the loss of monetary investments or incur damages which **likely would have been prevented by earlier suit.**” *A.C. Aukerman Co. v. R.L. Chaides Const. Co.*, 960 F.2d 1020, 1033 (Fed. Cir. 1992) (*en banc*).
- “Evidentiary, or ‘defense’ prejudice, may arise by reason of a defendant’s inability to present a **full** and fair defense on the merits due to the **loss of records, the death of a witness, or the unreliability of memories of long past events.**” *Id.*
- “[A] party **need not identify with precision what evidence it is now unable to offer** in his defense in order to show evidentiary prejudice...To require more would set an insurmountably high standard.” *Odetics, Inc. v. Storage Tech. Corp.*, 919 F. Supp. 911, 922-23 (E.D. Va. 1996), *laches not contested on second appeal*, 185 F.3d 1259, 1272 (Fed. Cir. 1999).

- The *en banc Aukerman* opinion requires a finding of economic prejudice where a patentee chooses to intentionally lie silently in wait watching damages escalate:

“The courts must look for a *change* in the economic position of the alleged infringer during the period of delay. . . On the other hand, **this does not mean that a patentee may intentionally lie silently in wait watching damages escalate** . . . particularly where an infringer, **if he had had notice**, could have switched to a noninfringing product.” *A.C. Aukerman Co. v. R.L. Chaides Const. Co.*, 960 F.2d 1020, 1033 (Fed. Cir. 1992) (*en banc*).
- Here, CMU did just that. Rather than raise its infringement concerns with Marvell and risk triggering declaratory judgment jurisdiction, CMU chose to lie silently in wait tracking its potential damages.

- Had CMU sued **before Marvell and its customers designed the NLD circuitry into their chip and hard drive designs, respectively**, common business sense suggests that Marvell likely would not have invested in NLD in the manner that it did. (Dkt. 844 (Marvell Opp. to CMU's Motion to Strike, at 5-8.)
 - *Lautzenhiser Techs., LLC v. Sunrise Med. HHG, Inc.*, 752 F.Supp.2d 988, 1004 (S.D. Ind. 2010) (“What is more, **common sense suggests that Defendants would have modified their business strategies if they came under suit for infringement.**”).
- After the NLD feature was included in the chip and HDD designs, it became much more difficult to re-design the chip circuitry without diverting significant resources to the effort. (Affidavit of Zining Wu at ¶¶ 20-25)
- Marvell likely would have invested and developed its technology differently had CMU sued Marvell in 2001 – 2007, notified Marvell of its intent to enforce its patents against Marvell, or obtained a judgment against Marvell in 2003-2007 (Affidavit of Zining Wu at ¶ 20; Aff. of S. Sutardja at ¶ 15).
 - Marvell substantially increased its research and development expenses from 2001 to 2009. (Affidavit of S. Sutardja at ¶ 6).
 - Marvell's investments in research, development, and production of MNP's, EMNP's, and NLV/NLD's increased from 2004-2009. (*Id.* at ¶ 7).

- CMU cites to *State Contracting*, *Hearing Components*, *Gasser Chair*, and *Meyers* to argue there can be no economic prejudice where the evidence shows that defendants would not have acted differently had they been sued earlier.
- Each of these cases are inapposite for the same reasons. *First*, none involve a fact pattern, as here, where had Marvell been sued earlier, it could have avoided incorporating an improved accused technology (NLD) in its next generation product design, but after having done so, any re-design would have been significantly more difficult.
- *Second*, unlike here, each case involved threats of infringement **prior** to the litigation followed by no change in the defendants conduct. Here, CMU never raised a claim prior to this lawsuit.
 - In *State Contracting*, the patentee **raised its infringement concerns** with the defendants within 2 to 4 years of the patent's issuance. (Marvell Reply at 6 n.10)
 - In *Hearing Components*, the patentee **threatened** Shure with a lawsuit. 2009 WL 3760290 (Appeal Brief at 49).
 - In *Gasser*, the plaintiff repeatedly raised its concerns of infringement with the defendant, including warning and **threatening** that it would pursue legal action. *Id.* at 772.
 - In *Meyers*, the patentee **raised infringement claims** directly with ATC (Asics Tiger Corp., subsidiary of Asics) before bringing suit. *Id.* at 1305.

- CMU did not produce any of Dr. Moura's lab notebooks, emails, and other substantive writings dated in the critical years of 1996-2000 showing his contributions to the inventions and Dr. Moura admitted that his materials were lost during a move of his office. (See, e.g., 11/29/12 Tr. (Moura) at 121:19 – 122:2.)
- Dr. Kavcic's 1996-2000 documents were lost, including his 1998 emails to Marvell and all other emails concerning his media-noise detector work. CMU claims that Dr. Kavcic's documents would have been purged upon leaving CMU in 1998, but cannot account for Dr. Kavcic's 1998-2000 Harvard and personal emails.
- The lead prosecuting attorney repeatedly admitted that he had no memory of the patent prosecutions. (Dkt. 854-5, Marvell Reply, (7/21/10 Dep. of Parks at 6:2-8, 40:1-41:19, 50:14-24)).
- Witness memories faded and were no longer fresh, including Dr. Kryder's and Dr. Wooldridge's. (See Dkt. 804 (Marvell Brief) at 17-18.)
- Marvell's expert witness, Dr. Jack Wolf, a pioneer in this area of technology, passed away before trial.

CMU Cannot Excuse Its Lack Of Diligence Based On Marvell's Supposed Willfulness



“Willful infringement, by itself, is insufficient to preclude application of the laches defense.”

Odetics, Inc. v. Storage Tech. Corp., 14 F. Supp. 2d 800, 806
(E.D. Va. 1998) (collecting cases)



“A plaintiff must prove that “the infringer has engaged in particularly egregious conduct [that] would change the equities significantly in plaintiff’s favor.”

A.C. Aukerman Co. v. R.L. Chaides Constr. Co., 960 F.3d 1020, 1033 (Fed. Cir. 1992) (*en banc*)

CMU Cannot Excuse Its Lack Of Diligence Based On Marvell's Supposed Willfulness

- Here, there has been no willful infringement, much less “particularly egregious conduct” sufficient to preclude a laches defense.
- **By the end of 2001:** Marvell had evaluated Dr. Kavcic’s optimal theoretical detector, found it too complex to implement, and developed its own patentably distinct, suboptimal detector. Marvell openly sought and obtained a patent on it, and disclosed even the KavcicPP name in its provisional application.
- **Over the next 8 Years:** Marvell made significant investments into developing, improving, and selling the chips CMU now claims infringe its patents.
- **During the same time:** CMU sat idly, year after year, watching potential damages rack up. CMU’s pre-suit damages should be barred by laches.