In the Supreme Court of Ohio

Crutchfield, Inc.,	:	
	:	Case No. 2015-0386
	:	
Appellant,	:	
	:	Appeal from the Ohio
v.	:	Board of Tax Appeals
	:	
Joseph W. Testa, Tax Commissioner of Ohio,	:	
	:	BTA Case Nos. 2012-926,
Appellee.	:	2012-3068, 2013-2021

JOINT MOTION TO SUPPLEMENT THE RECORD ON APPEAL – EXHIBIT A

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BEFORE THE OHIO BOARD OF
TAX APPEALS
STATE OF OHIO

EXHIBIT
A

CRUTCHFIELD, INC.,

Appellant,

V.

JOSEPH W. TESTA,
TAX COMMISSIONER OF OHIO,

Appellee.

CASE NOS.: 2012-A-926
2012-A-3068
2012-A-2021

Oral deposition of

PROFESSOR ERIC GOLDMAN, taken at the law offices of Hangley Aronchick Segal Pudlin & Schiller, One Logan Square, 27th Floor, Philadelphia, Pennsylvania, on Thursday, October 16, 2014, commencing at approximately 10:13 a.m., before Joanne Rose, a Registered Professional Reporter, Certified Realtime Reporter and Notary Public, pursuant to notice.

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PROFESSOR ERIC GOLDMAN

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COURT REPORTER: Are there any stipulations for the record?

MR. BERTONI: We should talk. There are stipulations that have been exchanged regarding the expert qualifications. I know that.

MR. FAUSEY: Yes.

MR. BERTONI: Where do we stand on that?

MS. MESIROW: Marty just made a very minor edit. It's fine with me.

MR. BERTONI: Okay. So we have a series of stipulations as to the testimony from our expert witnesses, their qualifications, and so forth. We don't have a copy of it with us, but this is subject to that stipulation.

Is that acceptable?

MR. FAUSEY: Yes. Correct. We agree with the stipulations. We just haven't signed them yet, so...

MR. BERTONI: And this

testimony is not an ordinary deposition. The testimony that's going to be taken today is in lieu of appearance at trial and is going to be used for that purpose.

Professor Goldman will be the first witness as part of our case in chief.

That will be followed by testimony from two experts retained by the State of Ohio as part of their opposing case.

And then we reserve the right to call Professor Goldman in rebuttal at the end of those two depositions.

Is that acceptable?

MR. FAUSEY: Yes. We may recall one or two of our witnesses as well, if necessary.

MR. BERTONI: Okay. So that there may be surrebuttal.

MR. FAUSEY: Yes.

PROFESSOR ERIC GOLDMAN,

having been duly sworn, was examined
and testified as follows:

DIRECT EXAMINATION

BY MR. BERTONI:

Q. Good morning.

Can you please state your full name for the record.

A. Eric Goldman.

Q. And, Mr. Goldman, what is your current occupation?

A. I'm a professor at Santa Clara University School of Law.

Q. And how long have you worked at Santa Clara University School of Law?

A. Since 2006.

Q. And your current title, is it a full professor? Assistant? What is the nature of it?

A. I'm a full professor. I also have some administrative duties. So I'm co-director of the school's High Tech Law Institute.

Q. And are you tenured?

A. Yes.
Q. And prior to becoming a tenured professor, did you work at that law school in an untenured capacity?
A. I did. For the first year and a few months that I was at Santa Clara.
Q. And prior to going to Santa Clara in a teaching position, what did you do?
A. Prior to Santa Clara, I was a professor at Marquette University in Milwaukee.
Q. And tell me about your educational background, and then I'll have a few more questions about your jobs.
What's your educational background?
A. I received my Bachelor's degree in economics and business in 1988. And I received my Juris Doctor and my Master's of business

administration from UCLA in 1994.

Q. Okay. And upon graduating from law school -- where you had both a JD and an MBA; is that correct?

A. Correct.

Q. -- what was your first job?

A. I worked at a law firm, Cooley Godward, in Palo Alto, California.

Q. And what kind of law firm is that?

A. It's a Silicon Valley technology law firm.

Q. And in connection with your work at that law firm, did you work on matters involving the Internet?

A. Yes. And, in fact, by the time I left, almost a hundred percent of my practice was focused on Internet law.

Q. And how long were you there?

A. I was there until 2000.

Q. And then from there, where

did you go?

A. I worked two years as a general counsel of an Internet company called Epinions, E-p-i-n-i-o-n-s, .com.

Q. And in connection with your work for Epinions, did you handle Internet-related legal questions?

A. Exclusively.

Q. And Epinions, can you give me a brief thumbnail of what kind of work they did, what kind of business?

A. It was a consumer review website similar to Yelp or TripAdvisor.

Q. And did they have their own website?

A. Yes.

Q. And did they have agreements with Internet retailers?

A. Yes. So some of the revenue was generated from advertisers, including Internet retailers who advertised on the site.

Q. And from there, you went to teach; is that correct?

A. Correct.

Just to clarify, I had been an adjunct instructor as well, while I was a practicing lawyer.

So I actually started teaching in the spring of 1996 as an adjunct, but my first full-time teaching job was in 2002 at Marquette.

Q. Okay. And so you went from Epinions to Marquette?

A. Correct.

Q. And then from Marquette to the Santa Clara University School of Law; is that correct?

A. Correct.

Q. Thank you.

I'm going to just give you a couple of rules in the deposition. This is unlike a courtroom. If you do need to take a break to go to the bathroom, or collect yourself, if you

get tired, just let me know and we can take a pause.

I'll just make sure that we're not in the middle of a question. Let's finish whatever question is on the table before doing that.

Also, it's important to let me finish the question before you answer so the court reporter can take down both the question and answer.

And if there's anything I'm asking you that you're unclear about, just you can ask me to clarify, and I certainly will.

Professor Goldman, what is the nature of the expertise that you bring to bear in this case?

A. So I teach and research in the area of Internet law, advertising law, and intellectual property.

And in order to do my work in both Internet law and advertising law, I both studied the legal rules

applicable in those fields, as well as the underlying business and technology that is used in the industry.

So the expertise I'm bringing to bear is my understanding of the Internet and advertising law communities -- or the Internet and advertising industries and -- and how things work in that community and how that would affect Crutchfield's operations.

Q. Now, in the course of your work as a professor and as part of your work at the High Tech Law Institute, do you have occasion to consult with people with scientific knowledge or engineering knowledge relating to the Internet?

A. Yes. As well as part of my ordinary daily information flows include both legal information, as well as technical and industry information.

Q. And have you given expert testimony prior to today?

A. Yes. In -- with respect to Ohio's tax practices, I have also given testimony in the L.L. Bean and Newegg cases.

Q. Now, in preparation for your testimony, did you have occasion to review the parties' discovery responses in this case?

A. Yes.

Q. And that includes documents that were produced?

A. Yes.

Q. And Interrogatory answers, is that also included?

A. Yes.

Q. And did you review any depositions?

A. Yes.

Q. Which depositions did you review?

A. I reviewed two. And I want to make sure I state the name

correctly. It's in the expert report. I believe it was --

Q. Was one Richard Stavitski?

A. I couldn't even begin to say that name.

Q. And the other, Jay McCartney?

A. Yes.

Q. And did you do any investigating besides reading the discovery materials?

A. I did two things. First, is that I did my own review of the websites, Internet Archive, Archive.org, and took a look at how the websites operated at two periods of time, near the beginning of the tax period and near the end of the tax period.

I also had an interview with a variety of people where I asked them questions about their practices.

Q. These were people who

worked for Crutchfield?

A. Yes. Thank you.

Q. And did Crutchfield place any limits on your questions or investigation?

A. No.

Q. And did you have a full and complete opportunity to conduct an investigation in this case as you saw fit?

A. Yes.

Q. And you mentioned the tax period. Is that period July 1, 2005 through June 30, 2012?

A. I have been unclear about that. I thought there was a break or a discontinuity in the tax period, but that may have been my misunderstanding.

In all cases, I focused both on the beginning date as the July 1, 2005 and the June 30 of 2012 as the scope of my inquiry.

Q. And do you believe that

your inquiry was sufficient to get an understanding of the facts necessary for your opinion during the period that I've just laid out?

A. Correct.

Q. At the conclusion of your investigation did you discover any physical presence of Crutchfield in the State of Ohio?

A. No.

Q. And what constitutes a physical presence to your mind based on your expertise?

A. I was looking for whether there were personnel, real property, or personal property located in Ohio.

Q. And you found none of those?

A. Correct.

Q. And have you ever heard of the term "virtual presence"?

A. I have seen reference to the phrase "virtual presence," including, I believe, at least in one

of the other expert reports that was submitted by the State of Ohio, but I don't have a definition of that term.

Q. Is it a term that's used in connection with any of the work that you do?

A. I can't recall ever seeing anyone use that term in a precise manner.

Q. Do you have a general understanding of what it means?

A. I would assume it's an antonym of physical presence. That it's some opposite of physical presence by virtue of it being virtual as opposed to physical. But I --

Q. As in the nature of virtual reality versus reality. Is that fair?

A. Yeah. In the Internet context, we often talk about the distinction between the physical and the virtual, and we do treat them as

antonyms, that they cannot be simultaneously both things.

Q. And did you arrive at a conclusion as to whether Crutchfield had a virtual presence? Was that something you tried to figure out?

A. I don't understand the terminology, so that was not on my inquiry list. And I don't know how I would render an opinion about something being virtual presence because the term would not be self-defining.

Q. Okay. I want to talk now about marketing communications.

Part of what you do and part of what you study involves marketing on the Internet; is that correct?

A. Correct.

Q. Does it extend to other kinds of marketing?

A. Yes. So, for example, I co-authored a casebook on advertising

law and we approach the subject as a technology agnostic inquiry.

We're interested in how people advertise and that can range anywhere from billboards to handbills, to television and radio advertising, to the Internet.

From our perspective, those are just different modalities and they're all equally interesting to us.

Q. Does that also include in-person solicitation and peddling, that sort of activity?

A. Yes.

Q. And you mentioned that they all have some common function. What is that common function?

A. The point of advertising is to -- let me restate that.

Different advertisers have different objectives. In the commercial sphere, advertising is almost always exclusively about

trying to make -- to increase profits.

So the goal at the end of the day is to increase profits. Advertising is a medium or a mechanism by which the advertiser can educate consumers, call their attention to things and try and get them to spend more money with them.

Q. Are there common characteristics to these various channels of marketing?

And is it fair to call them channels? Is that something you're familiar with?

A. I used earlier the term "modality." But the idea is that there are many different media by which an advertising communication can be disseminated.

It can be disseminated orally. It can be disseminated in writing. It can be disseminated electronically. And the commonality

is always about the goal. The goal in the commercial sphere is to make more money.

The modalities make a difference because sometimes it's easier or more effective to reach different communities of potential consumers using different modalities.

Q. And these various advertising channels, are you familiar with the difference between mediated and unmediated communications with potential customers?

A. Yes.

Q. Can you describe that for us?

A. Yes. So, in an ordinary conversation, like the one we're having between you and me right now, there's no technology that's helping my words reach your ears.

This is an unmediated conversation, because we're having it

directly with each other without the help of any additional technology. But many advertising and marketing communications are sent through a mediated format.

There's some third party, or series of third parties, that are helping move the communication from sender to recipient, and to relaying the message so that it reaches its destination, and I would call those the mediated communications.

Q. And can you give us categories of mediated communications and what the method is for transmittal of information?

A. Let's talk about a couple of examples. In order for me to send promotional postal mail, I have to use the postal system. So the postal system acts as the delivery mechanism to get an advertisement from sender to recipient.

If an advertiser is doing

telemarketing, they need to use a telephone system, and all the hardware and software associated with it to move the communication from sender to recipient.

If someone is doing promotional e-mail marketing, they have to use their computers and software in order to generate and send the e-mail, as well as all the Internet access providers who are going to transmit the communication.

Q. And in connection with those mediated communications, are there requirements for there to be certain facilities on either end of the communication to permit them to take place?

A. It depends on the nature of the medium. So, for example, with postal mail, the technology required is, effectively, there needs to be some box where the postal mail is going to end up, your mailbox.

But with respect to things like telemarketing or Internet marketing, you're going to need more sophisticated equipment in order to receive the incoming stream of electronic pulses and convert them into something that's audible or viewable.

Q. And so the recipient of the communication, let's say it's a consumer, would have to have certain technology available to allow an incoming communication to be transferred to them; is that right?

A. Right. In other -- in every mediated communication there's some technological assumptions that are required to be fulfilled for the mediation to work.

With things like postal mail, the mediation technology is pretty crude.

With electronic or broadcasted media or telephone

communications, the technological requirements are substantially higher.

Q. And in connection with a mediated communication like that, what are some of the -- let's focus on the telephone.

Well, actually, let's just pull back.

Is there a difference between digital and analog in terms of mediated communications? Is that something you're familiar with?

MR. FAUSEY: I'm going to just object.

He hasn't been qualified as a technology expert.

MR. BERTONI: Well, I'll ask some supporting questions.

MR. FAUSEY: Sure.

BY MR. BERTONI:

Q. In connection with your work as a professor, have you had occasion to consult with others with

expertise in technology on the difference between analog and digital communications?

A. Yeah. Analog versus digital is a classic Internet question. Because -- because we're always interested in what level of accuracy the information being communicated, and you get different results between digital and analog, for example. So we run into the question regularly.

Q. And in connection with that distinction, what does a -- what does digital communication mean?

A. So digital communication takes whatever communication, whether it's text or video or audio, and converts it into zeros and ones. It converts it into a digital format that that makes it movable as if it were any other kind of digital file.

Q. And what is the mediation, what is the physical mediation for

digital information? Is it wires? Is it wireless?

Are there different ways to communicate digital information?

A. Wired and wireless would cover pretty much the full universe. Of course, you can also move it in by moving the medium on which it's stored.

So you can send a CD, for example, that would be a third option.

Q. Okay. So the CD could store some digital content and you could send it to an end user?

A. Correct.

Q. I recall AOL, a company that I'm not sure does much of this anymore, sending out CDs with digital information in them.

Is that one example of using a physical medium to transmit digital information?

A. Yes.

Q. Now, in connection with the transfer of information, we talked about each side having certain technology.

What does the technology have to do on the receiving end in order for the message to get through to the consumer?

And we'll focus on digital information.

A. I'm sorry. Could you rephrase that question. I don't think I fully understood that one.

Q. Sure.

You indicated that there's some equipment, some device or otherwise, on the consumer end of the communication that is needed to receive digital information.

What happens on the consumer side? What does that equipment do?

A. The equipment receives the digital information, the series of

zeros and ones, and then will convert it to an output. That output could be a visual display, if it's something that's visual.

It could be an audio output. It could send the zeros and ones into a format that could be sent through speakers.

So the technology that's receiving the incoming stream of digital information is converting it for whatever output is attached to that machine.

Q. And what does the consumer have to have at their disposal to allow that to happen? What equipment? What software?

What does the consumer need to have?

A. So they will need the actual hardware itself. They will need usually some software that will be resident on the hardware.

They will need to have an

Internet connection, if it's being -- if the information is coming over the Internet. And they'll have to have electricity for all of that.

Q. Okay. And information could come wirelessly as well; is that correct?

A. Yes. So it could be sent over a dedicated wire. It could be sent via a form of radio signals. The receiving technology can be configured to handle it depending on what hardware/software is available.

Q. Can it be done by satellite?

A. Yes.

Q. And can it be done by cellular network?

A. Yes.

Q. And so, then piece one is there needs to be some ability to pipe the data into a person's residence, for example. And we've talked about what those are.

And then there needs to be a device with software. And what kind of device?

A. Any kind of device. Maybe you could rephrase that question.

Q. Yes. I mean, I don't want to drag this out unnecessarily. There was a time when only a computer could do this.

But are there things other than computers now that can access the Internet, for example?

A. Yes. For example, many people are now using mobile devices. They're using their cell phone or their iPad as technology to enable them to consume content from the Internet.

Q. And that can include cellular communication of data?

A. It could be sent over any of the mechanisms, whether it's dedicated Internet connection, wireless Internet connection,

cellular connection, a satellite connection.

Q. What is a router?

A. A router is hardware that's been configured to help gather information that's coming from the Internet and then move it into a place that's more readily consumable by some client machine.

So it's a choke point or an intermediary to help mediate the conversations between the rest of the Internet and a network on the other side.

Q. And routers, can they serve any specific size of audience? In terms of users of a router, is there a size range that you're familiar with?

A. No.

Q. Could an entire building use a single router?

A. Yes.

Q. And there's something

that's been referred to in the various expert reports here. It's called an IP address.

What is an IP address?

A. In order for digital communication to be sent to the right computer, that computer has to be uniquely identifiable among all the other computers that are connected to the network.

And the IP address acts as the unique identifier for a particular computer on the Internet, so that the digital communications can be sent to that computer uniquely.

Q. And what happens in the case of a router? Does the IP address get assigned to the router or to the individual computers?

A. I don't think I have a single answer to that question. I think that in some cases the router will have an IP address and then it

will act as the only visible point to the external network.

And in other cases, the router will not have any IP address and the individual users will all have their own IP addresses that will be visible to the rest of the network.

I think you could configure it in each of those two ways, and yet, other options.

Q. And would it be possible, based on an IP address, to know whether it's assigned to a router or a computer?

A. I think it would be possible to make some guesses. There may be circumstances where we could infer that an IP address was being used as a -- for a router that was masking computers that were part of a network behind that router.

But I don't think we could do so -- we could -- I don't believe

we could make that determination definitively.

Q. Now, one of the things that has come up is whether IP addresses are associated in any way with the geography.

What's your understanding of that?

A. IP addresses are allocated in blocks to various users of IP addresses. These could be Internet access providers. These could be corporations. These could be the government.

And it is possible to figure out the geography of the registrant of a block of IP addresses.

So I can go to a tool where I can put in an IP address and it could tell me who is the registrant of that, and it will tell me their geographic location, a mailing address or a physical address.

In some cases, that will be highly dispositive. That organization is not likely to have a location anywhere else or have users outside of their location.

So, for example, the block of IP addresses assigned to Santa Clara University are probably going to be used only by people who are located on campus at that time.

In other cases, IP addresses may be registered to an organization that might have a national, or even global footprint, all using that block of IP addresses on a shared basis. In that circumstance, the geography would not be easily determined of any particular user.

We would know the registrant, but there may be no correlation between the location of the registrant and the location of the particular user at a particular

time.

Q. And as an example, I did an experiment at my hotel room using an AT&T network and I went online.

There's functionality to run a geographic location of an IP address; is that right?

A. There's services available for free where they'll tell you where they think you're located.

Q. And it may be where the register is located or it could be where the computer itself is located? One doesn't know?

A. It's hard to tell. So, for example, I have Comcast at home. And when I've used these IP checkers or IP address checkers, they almost always tell me that I'm located on the other side of the bay, about 20 or 30 miles away.

And I believe that's where the cable head end is located and so they think I'm there.

Q. Well, when I checked the AT&T IP address that would have been given to my computer, it showed a location in Wichita, Kansas.

How do you explain that?

MR. FAUSEY: I'm going to object to that.

You can ask him a hypothetical. You can ask him a question like that, but you're testifying at this point.

BY MR. BERTONI:

Q. All right. So, let's say, hypothetically, you sign on with a network and it shows a geographic location for the server, the IP address, whatever that number signifies in a distant location. Is that possible, 500, 600, 1,000 miles away?

A. Absolutely. In fact, it can occur in a variety of different ways. But in some cases, the only thing we know is the location of the

Internet access provider and they may be providing services on a national basis.

It could be that all of the people using that network will look like they're in the location of that registrant.

This was a very common phenomenon a while ago when so many users were using America Online, AOL, your example from earlier, where whenever people would check the IP addresses of the users there, they would be told that they were located in Virginia, because that's where AOL's main server bank was located.

Q. Now, one of the things we talked about in mediated communications is, there is a infrastructure of sorts between one end of the communication and the other. And I think you mentioned the U.S. mail as being one.

What is the mediated --

what is the infrastructure that's used with telephone calls, if you know?

A. We have an entire --

MR. FAUSEY: And I'm going to object again.

This is --

MR. BERTONI: He's already testified that he's familiar with these various modalities, but I'll ask it a different way.

I'll withdraw the question.

MR. FAUSEY: I'll let him answer. But I just want -- for the record, my objection is that he's been offered as an expert in Internet communications and marketing, not as a structural engineer in telecommunications networks.

MR. BERTONI: I'll withdraw the question.

BY MR. BERTONI:

Q. What is the technology that lies between two communicators using

the Internet? What is the infrastructure?

A. So they will have each -- each person who is communicating will have a computer or some other mobile device. They will each have their own Internet access provider.

Someone who is connecting their computer to the rest of the Internet. Then between those two Internet access providers, we have no idea what route or path their conversations will take.

Usually, there's a series of upstream Internet access providers that have all agreed to work with each other. So we know the two endpoints. We know that there's a thing called the Internet between them.

We know there's a variety of Internet access provider agreements that enable all of those Internet access providers to talk to

each other, but we don't know beyond that exactly what path it's going to take.

Q. And in terms of -- is that different than other modes of communication in terms of that not knowing the path?

A. Well, think about the postal system, for example. We may not have any sense about what transit route our postal communication is going to follow when we send --

MR. FAUSEY: I'm going to object.

MR. BERTONI: You can object for the record.

Go ahead.

THE WITNESS: When we send a letter, we don't know if it's going to go on a truck or on airplane. We don't know what route the truck would take.

So it's entirely possible that we wouldn't know the details

behind the communication in other modalities.

BY MR. BERTONI:

Q. Now, in terms of that discussion we just had about the various uncertainties about postal transmission, is that something that you had occasion to look into, research, and study in connection with your work?

A. It comes up as part of understanding how postal communications work, as understanding how telephony works. In order to be able to understand the ability to market within each of those media, we have to understand some basic technological attributes of them.

Q. In essence, returning to the Internet as the focal point, what is -- are there things that someone can do to trace the path of a communication through the Internet to see where it might go?

A. Yeah. It is possible. But it's not something that is readily available to most Internet users.

Q. And can that path vary from moment to moment depending upon factors that exist out in the network?

A. Yes. And, in fact, that's one of the beauties of the Internet, is that the network self-adjusts to deal with demand for network capacity.

So, from moment to moment, depending on who's trying to use the Internet and where, the network self-configures differently in order to be -- to move communications as efficiently as possible.

Q. What do you mean by self-configure?

A. The entire architecture of the Internet looks for whoever has -- looks for the servers with the greatest capacity and tries to take

advantage of their extra capacity.

So, as part of the ordinary operations of the Internet, if servers are too busy, they will signal to their neighboring servers, I can't handle anymore, stop trying me, and then automatically another server can step into the place.

Q. Is there software that is out there that handles that kind of intermediation?

A. It's built into the fundamental technology of the Internet. The underlying assumption is that the Internet --

(Brief interruption.)

THE WITNESS: The Internet was architected with the assumption it would determine where the communications would go without any extra software.

But services like Akamai, for example, have been designed to try and expedite that process,

optimize it more than the ordinary infrastructure would provide.

BY MR. BERTONI:

Q. And in optimizing it, do they take into consideration factors that might be outside of the ordinary optimization process?

A. I don't know if I have enough understanding of all the different attributes they use to optimize. So I think I'm uncomfortable opining upon that.

Q. So we've talked about the Internet and the infrastructure that mediates between two computers.

Now, in connection with an ordinary consumer going to visit a commercial website, and let's use Crutchfield as an example, what is the computer on Crutchfield's side? Is there a name for it and how does it work?

A. Crutchfield will operate a series of servers in, typically, what

we might call a data center, where they will store all the data they want to make available to their users, and then they'll connect that to the Internet.

Q. And explain to me now the process. Let's say I want to visit Crutchfield's website.

Can you walk us through how, as a consumer, I would do that.

A. So I would use whatever hardware I have in my hand, whether it's my desktop computer, my laptop computer, my mobile device, and I would initiate a connection to the Internet.

I would then enter into my browser software the destination, something like Crutchfield.com.

Q. Now, the destination, is that an address that's used for a particular server?

A. In this case, I'm referring to it as a domain name. Or sometimes

we talk about it as a URL.

Q. Okay. And tell me, what is a URL?

A. A URL is a specific pathway on the Internet, a specific destination. It may be more specific than the Crutchfield.com domain name. It might be a specific location under that domain name.

Q. Now, when you type in the URL, does it then enter the Internet in the same fashion we talked about, that there's no knowing how it gets to the end, but it gets there based upon the -- however that Internet -- the Internet decides which path for it to take?

Is it the same sort of undifferentiated sort of transmission?

A. Right. So I know who is providing my Internet access in a particular point in time. And on the other end, I know that there's a

Crutchfield data center with servers I'm trying to reach, and it's possible that I might even know what Internet access provider they're using to connect to the Internet.

Everything in between that is indeterminate when I first initiate the request. And it might change from request to request.

Q. And so the consumer inputs the web address and they input it into a web browser; is that correct?

A. Correct.

Q. And a web browser is what?

A. It's software that is designed to send and receive digital information, or packets of information, as we would call it.

And then to be able to put it together in a way that the user can see, hear, and experience the content.

Q. It takes the stream of ones and zeros and converts them to

something? Is that what it does?

A. That's part of it, yeah.

Q. And what else does it do?

A. Browsers can do a number of things. But the main thing it does is, it will help the users computer initiate requests for the -- to some remote destination on the Internet, and then process the data that comes back and display it on the user's computer, so the user can see or hear it.

Q. Now, there are a couple of concepts and terms that I want to go over with you briefly.

One is cookies. What's a cookie?

A. A cookie is a string of data that a server can store on a user's computer. It can put it into a file that's managed or operated by the browser software.

Q. So does the server send the cookie in digital form across the

Internet? Is that how it works?

A. Yes. So the server will tell the user's browser software I would like to store this string of data on the user's computer.

Q. And the software, the browser, has to accept that data?

A. Correct. So a browser could be configured to reject all cookies, for example. And so the user could simply say I will not accept any of these strings of data whoever requested and sent them.

Q. In connection with your review of materials in this case, did you happen to review the Crutchfield privacy policy that existed during the audit period?

A. I did.

Q. And did it provide any information about cookies and how they work?

A. It did reference that cookies were used as part of the

website.

Q. And did it indicate that consumers --

MR. FAUSEY: I'm going to object.

We're talking about a seven-year span. I think there were several privacy policies. So do we have a document that you can --

MR. BERTONI: Well, I'm going to ask him --

BY MR. BERTONI:

Q. Did all the privacy policies that you reviewed provide information to consumers about their power to prevent cookies from being sent to their computer?

A. So I would need to double-check that. My recollection was that cookie language hadn't changed from privacy policy to privacy policy, but I would need to double-check that.

Q. Okay. We can do that. And you'll be coming back as a rebuttal

witness and perhaps it will be topical then as well.

So that the cookie is sent in and a browser -- and the user of the computer, the person who operates the browser, can set the browser not to accept cookies; is that your testimony?

A. Correct.

Q. And how, in fact, do they do that? How do you set the browser not to accept cookies?

A. Typically, it would be a single setting that is part of the configuration options for the browser software.

There would be an option that would say, Please reject all cookies, and so it would be a check box option for the user.

Q. Is there a reason why a consumer would not want to stop cookies being placed on their computer?

A. Could you rephrase that question, please.

Q. Yeah.

Are there benefits to a consumer in allowing a cookie to be stored on their computer, in connection with Crutchfield, for example?

A. Yes. So cookies serve a variety of different purposes. In many cases, they're a way for the server to remember that it's interacted with this person before and maybe to remember specific pieces of data about the person that they've seen before.

And, therefore, the cookie can actually help the user either to not have to reinput new information or to have some other form of personalization of their experience, so that they're getting more of what they want and less of what they don't.

Q. Now, when a cookie is placed on a computer, is that part of the initial communication between an end user and Crutchfield, does a cookie get placed?

A. Typically, a cookie would -- or cookies would be set on the initial visit. Cookies could also be set later depending on what the user chooses to do.

Q. Okay. And does the cookie identify a computer or an individual user, in that initial setting of the cookie at the beginning of the communication?

A. It identifies the particular software browser -- I'm sorry -- browser software. So, if that browser software is shared by multiple individuals, the cookie may not distinguish between those multiple individuals all sharing the software.

Q. And that can be true in a

household or in a public place as well, where there's one computer being used by multiple people?

A. Yeah. The household is the best example. A family may share a computer and they may all use the same browser software and, therefore, all be subject to the same cookie settings.

In public settings, it's also possible, though, many public computers are configured so that they don't allow one user to have the same experience as the previous user.

They automatically reset certain aspects of the computer to prevent the kind of scenario you're describing.

Q. Okay. And there's also something called cache. Do you know what cache is?

A. Yes.

Q. What is that?

A. There are different types

of cache or caches. There's a cache that's on an individual user's computer. It's a way for the user's computer to store some of the files that it's seen before locally on the computer itself.

So the next time that the user seeks to access that particular destination, the computer can grab the file from the hard drive, rather than going and getting a fresh copy from the Internet.

There's also caches that can be done at the server level. So a server or a router that's serving multiple users might choose to cache information at that level.

So that the next time another user in the network seeks that file, the delivery can be made from the server having stored it locally, rather than having to go and get a fresh copy over the Internet.

Q. Okay. And in terms of

cache, do you know, do browsers generally preset an amount of cache that they will accept in terms of content obtained online?

A. That's a configurable option. Users can typically decide how much space they're willing to allocate to a cache.

Q. Do browsers typically come preset with an amount of cache they will accept?

A. Yes.

Q. And that's not zero, is it?

A. No.

Q. It's usually some amount, correct?

A. It could be anywhere from unlimited to a defined amount. But it would be extraordinary for that to be preset at zero.

Q. And the consumer does have the ability to change that amount of cache, correct?

A. It's another option. Just

like we talked about how users can reject some or all cookies, users can increase or decrease the size of the cache that they're willing to accept.

Q. And can consumers purge cache from their computer?

A. Typically, they should be able to go and purge individual items or the entire cache.

Q. Can they do that with cookies also?

A. Yes.

Q. And when it comes to cache, why would a consumer want to have cache on their browser?

A. Caching has, at least, two principal benefits. First, it can make the browsing experience seem faster to the user.

By going to a locally stored file, rather than obtaining a new file, the file may appear to be delivered faster to the user. So it looks like that experience is going

faster.

The other advantage is that it saves bandwidth. So by not having to go and get a fresh copy of the file, the user doesn't consume as much bandwidth.

And there may be reasons why users would prefer to manage the amount of bandwidth they're using.

Q. So, for example, if you have a cell connection that has a data limit, would having cache reduce potentially the amount of data that you're getting over the cellular line?

A. Yes. So a cache could help someone stay within their data plan, for example, by not having to continuously grab the exact same file and use that as part of the data.

Q. Now, when it comes to the individual consumer, their computer, and their browser, does Crutchfield own either of those things based upon

your investigation?

A. I'm sorry. Ask the question again, please.

Q. So I'm a consumer, and, let's say, I'm in Ohio, and I access the Crutchfield website from a computer and browser in my home.

Are you aware of whether Crutchfield owns the computers and browsers used by Ohio customers?

A. Crutchfield would not own either the user's computer or the browser software that a user uses to access their website.

Q. Does Crutchfield provide customers with the browser or do they obtain it elsewhere?

A. Users would obtain it elsewhere.

Q. Can Crutchfield delete the cache on a user's computer?

A. Crutchfield can set its servers to signal to its users what it would like to cache or not cache.

Whether the user's computer honors those instructions is up to how the software is configured.

Q. And --

MR. FAUSEY: Just for the record, I don't think he answered your question.

BY MR. BERTONI:

Q. Well, can Crutchfield remotely delete a user's cache or cookies?

A. It could send instructions that it would like a file not to be cached. I'd have to think more carefully about whether it could be doing that retroactively.

Q. Okay. And when a consumer decides to visit Crutchfield, it initiates contact with the Crutchfield server?

A. Yes. So, in order for a web browser to access a server, it has to initiate a request of that server.

Q. And the request then gets received by the server, and what does the server then do?

A. Typically, the server would respond to that request by delivering whatever information was requested.

If someone went to Crutchfield.com, Crutchfield's home page, then Crutchfield would interpret that as a request to deliver the HTML and associated files with its home page.

Q. When it delivers that information in response to the consumer's request, the consumer can then click links on a page that's delivered, and what happens then?

A. So we talked about navigating a website. And a user can view a page, see that there are links on that page, and then choose to explore one or more of those links.

When they click on a link, that initiates another request to the

server for whatever files or content is available at the terminus of that link.

Q. So, in essence, there is one part of the communication stream, which is the customer asking for information, correct?

Clicking on a link, putting in an address, asking the server to provide information, correct?

A. Yeah. So putting a URL into the browser software's address line or clicking on a link, are both different ways of sending requests to servers.

Q. Okay. And in return, the server then responds to those requests, however made?

A. Yes.

Q. And in connection with that communication, occasionally information is collected from customers regarding orders that might be placed?

A. I'm sorry. I didn't understand that question.

Q. Yes. Let me rephrase it.

Sometimes when you go on the web, you place an order for a product and there are lines to enter information, and then you send that information to the server.

Is that right?

A. There can be an order field or an order page that has fields of information for the user to input, and when users input and submit that page, that information is transmitted to the server.

Q. And the information that's transmitted to the server goes across the very same Internet we talked about, there's no predicting what path it will take, but it will end at the server?

A. That would be the most logical scenario.

Q. Are there any other means,

besides these forms to enter, that you can think of, the entry of an address or the clicking of a link that a consumer can communicate with the server?

A. We're talking about web browsing software and that has certain technological assumptions. There may be other ways for people to contact a server, other protocols or other types of software, but those would be exceptional cases.

Q. Now, in connection with your work in investigating Crutchfield and looking at the facts, were you aware of any of Crutchfield's marketing activity that targeted, specifically, residents of the State of Ohio as opposed to anywhere else?

A. No.

Q. Were you aware of any of their Internet marketing activities that had content that was tailored to

residents of the State of Ohio?

A. No.

Q. How about regionally; any content on the Internet that was regionally tailored to residents of any particular states, say, in the Midwest?

A. No. Crutchfield did have communications that were targeted to people in Virginia that were based on their retail presence there.

And they did have information about shipping that was based on their estimate of how long it would take to ship to a particular region.

Q. But when it came to things like Internet e-mails that Crutchfield sent, did it send e-mails based upon the geographic location of the recipient?

A. Not to my knowledge. Except -- I'm sorry -- except with respect to Virginia residents for

promotions of their Virginia retail stores.

Q. Based upon your investigation, are all of Crutchfield's servers located outside of Ohio?

A. Yes.

Q. And have you given consideration in connection with your work as to whether cookies, the Internet cookies that we've been talking about, constitute something physical?

A. It's my position that cookies --

MR. FAUSEY: I'm going to just object to that as beyond his expert knowledge.

MR. BERTONI: Well, I'll set a foundation for it.

BY MR. BERTONI:

Q. In connection with your work at the High Tech Law Institute and your work as a professor and your

prior experience as general counsel for an Internet company and work in a law firm, do you understand the legal issues surrounding cookies?

A. Yes.

Q. And do you understand the technological issues surrounding cookies, what they are, how they work, et cetera?

A. Yes.

Q. And do you have an opinion, based upon all of those experiences, as to whether cookies are physical?

MR. FAUSEY: Same objection.

THE WITNESS: It's my position that cookies are not physical property, and, therefore, don't act as a physical presence or don't have a physical presence when they're sent.

BY MR. BERTONI:

Q. One of the issues as a layperson in looking at the web,

there appear to be a lot of conventions in using a computer that appear to have analogs to what might happen in the physical world, like when you drag files to the trash can and empty the trash can.

Do you use comparisons between what goes on in web communications to physical activities like that, and how helpful are those?

A. It's very common for people trying to understand the online world to look for offline analogies, to look for things that they deal with in the physical world and try and extrapolate from those appearances to online behavior or online activities.

I personally am not a fan of them and I discourage my students from using those offline analogies. In part, because I think that often there are some very critical differences in the physics of the interactions, or in other attributes

about the offline world, that don't lend themselves to analogizing to online behavior.

Q. And in connection with those analogies, is it part of your curriculum to walk students through those analogies to determine whether they are apt or inapt and to provide examples?

A. Yeah. Typically, it comes up in a legal case I'm teaching my students where I show the judge's offline analogy and then we spend a part of the class time destroying it.

Q. Now, in connection with your work in marketing across media and the textbook that you researched and wrote, do marketers collect information about their customers in the various channels?

A. Yes.

Q. And does the kind of information collected differ from channel to channel?

A. Every marketer would like to know everything about their actual and prospective customers. But the different media by which marketing communications are sent have different properties that allow greater or lesser insight into the people receiving the message and taking action upon that.

Q. Can you give me an example of the different kinds of information that can be obtained from different channels?

A. I'll give you one example. It is impossible for someone who sends postal mail to know if the recipient has actually opened the postal mail.

When the envelope is torn open, there's no signal that's sent back to the sender to let them know that the envelope was opened.

So that information about open rates is something that's simply

not available to the marketer.

Q. Is it available or anything comparable available to it in other channels?

A. Yes, possibly. Certainly, a telemarketer will know what percentage of their phone calls were actually answered by a live human.

Or in the case of an e-mail sender, it's possible for an e-mail sender to know what percentage of recipients actually opened the e-mail.

Q. And is information collected about consumers outside of the communication channel that goes on in a marketing effort?

A. If marketing people can figure out ways of learning more information about their customers, not directly from their interactions, but through third-party channels, they will be interested in exploring that.

Sometimes it's not profitable to do so, but it's certainly an option that is worth exploring.

Q. And why do they do that?

A. The whole point of marketing is to help encourage customers to transact with the advertiser.

So the more you understand what people are looking for, the more you understand the value proposition that will motivate them, the more successful you'll be at actually getting them to transact with you.

MR. BERTONI: I'd like to mark as the first exhibit. It's an expert report of Professor Goldman.

MR. FAUSEY: Can we go off the record for just a second?

MR. BERTONI: Sure.

(Discussion off the record.)

(Exhibit Appellant 1 was

marked for identification.)
BY MR. BERTONI:
Q. We've just marked as Appellant's 1 your expert report. I'd like you to identify this.
A. This is my expert report.
Q. Okay. And can you confirm that, in fact, you wrote that report and it accurately reflects your conclusions as apply to this case?
A. I can confirm that.
Q. Okay. And I want to turn to Page 2. And, under My Opinions, the first opinion is that "Crutchfield did not perform any online activities nor did any third parties perform online activities in Ohio on its behalf."
And, to the best of your knowledge, that remains an accurate recounting of your opinion based upon the facts that you examined, correct?
A. Yes. Although you didn't quote it precisely.

Q. Well, quote it precisely for me, then. Why don't you say it out loud.

A. It says, "Crutchfield did not perform any online activities in Ohio."

Q. Oh, okay.

A. That's the part you missed.

"Nor did any third parties perform online activities in Ohio on its behalf."

Q. And if you turn to the next page, your second opinion. Can you read that into the record.

A. "Crutchfield did not own any physical property in Ohio as a result of its online activities. None of Crutchfield's electronic communications with Ohio residents constituted physical property."

Q. And, as we sit here today, does that continue to be your opinion in this matter based upon your investigation and analysis?

A. Yes.
Q. Can you read your third conclusion.
A. "Crutchfield's online marketing did not impose any greater burdens on or require any greater benefits from Ohio state resources than traditional types of offline marketing. The state resources provided to facilitate Crutchfield's electronic communications with Ohio residents were negligible."
Q. And does that continue to be your opinion today based upon your investigation and analysis?
A. Yes.
Q. And can you explain for us the reasoning behind that conclusion.
A. On opinion three?
Q. Yes, on opinion three.
A. The reasoning is that the Internet is provided -- that Internet access is provided almost exclusively by private providers.

So, in order for the Internet to operate properly in Ohio, it's operated on the network that is generated by private providers, not the state.

And as a result, the state provides very little contribution, if any, to the operation of the Internet, unlike the other types of physical infrastructure that's required to move offline communications.

For example, in order to move postal mail, we would need to have a physical infrastructure for the movement of physical goods that is non-existent in the online context.

MR. FAUSEY: I'm going to object to foundation.

You can continue.

BY MR. BERTONI:

Q. And is that conclusion based upon information that you've

obtained in connection with your research and teaching at the law school where you currently are a professor?

A. It's based on my general understanding of how the Internet works and who's providing Internet access, and based on my understanding of the other types of modalities of marketing communications where different resources are required.

Q. And you've previously engaged in investigations of these issues in performance of your work as a professor?

A. Correct.

Q. And in teaching your classes, this is information of a kind with which you teach various classes on Internet at the law school?

A. It's part of our general understanding of the different advertising media and what research

is required to make them succeed.

Q. Okay. And I want to turn back to question (sic) two. There's one follow-up that I had about it.

Explain why electronic communications don't constitute physical property based upon your analysis and investigation.

A. I start with the premise that physical property is real property or chattel. So it's either real property or personal property that's movable.

And electronic communications don't fit into either bucket. They're not real property. They're not a point on the sphere of the earth. Nor are they movable physical -- I'm sorry -- movable personal property in the sense of cars or computers. Hardware that has a physicality to it.

So the fact that Crutchfield had electronic pulses

that were moving over an electronic network doesn't have any attribute of physical property.

Q. Now, when those pulses are stored in some location, explain how that happens and how that relates to the question of whether something is physical or not.

A. When a user accesses Crutchfield's website, the Crutchfield servers will respond with a web page. That web page will be resident, at minimum, on the user's computer's RAM.

Q. And what is RAM?

A. Ram is random access memory. It's short-term storage as opposed to a hard drive, which is designed for longer term storage.

Q. And when you turn off a computer does the RAM content disappear? Is that --

A. Typically, the RAM content will disappear. It's flushed when

you power down. It's often flushed in other circumstances, even without powering down.

Q. Okay. There are tools --

A. They're a short-term memory for --

Q. There are tools that consumers can use to flush the RAM?

A. Yeah. Although it's often as simple as simply when you leave one web page to go to another, some data may be exited from your RAM.

Q. Okay.

A. So the delivery of the web page from Crutchfield servers to a user's computer creates a file that's being stored, either temporarily or on a longer term basis, on a user's computer.

But the storage of those electronic signals doesn't create -- have any physicality to it. It doesn't create a physical item. It's simply a reshuffling of electrons on

a physical item that the user owns him or herself.

MR. FAUSEY: And, again, for the record, I'm going to object to his qualifications to provide that nature of testimony.

MR. BERTONI: Okay.

BY MR. BERTONI:

Q. And the information you just provided about how information is stored in RAM and on hard drives, is that information that you obtained in the ordinary course of your work, including by consulting with experts in these various fields to provide you with a basis for understanding Internet technology?

A. This is part of having worked with Internet computer hardware and computer software companies for over 20 years.

Q. And are you aware of any authority for the proposition that digital information is physical, any

authority, opinions, that you would rely upon for that proposition?

A. I think that the conclusion that electronic files can be physical property is contested across a wide range of legal doctrines. So I'm aware that people are asking that question in a variety of different formats.

Q. Okay. And let's turn to --

MR. FAUSEY: Objection.

He didn't answer your question.

MR. BERTONI: Well, I think he did.

MR. FAUSEY: He's your witness, so...

MR. BERTONI: I think he did, so...

BY MR. BERTONI:

Q. Let's turn to conclusion number four. Can you read that aloud.

A. "Crutchfield's online

marketing did not geographically target Ohio as opposed to any other state or country. Crutchfield did not customize or personalize its online marketing for Ohio residents due to their state residency."

Q. And does that opinion continue to be true today based upon all of your research and understanding of Crutchfield's operations?

A. Yes.

Q. Can you now turn to opinion five and can you read that for the record.

A. "Cookies are not software. Cookies are data files that can be processed by software programs but the data files themselves do not constitute software. Cookies do not constitute physical property."

Q. Can you tell us today, is this your opinion, the opinion you currently hold, based upon all of

your expertise and investigation?

A. Yes.

Q. And can you read now paragraph six.

A. Do you want me to read the whole thing?

Q. Just read the initial sentence.

A. Okay. "Online marketing is not analogizable to marketing by a door-to-door inhome salesperson for the following reasons."

Q. And you've listed a series of reasons.

And do those reasons remain true today based upon your analysis and investigation?

A. Yes.

Q. And there is some expectation that the experts for the State of Ohio may attempt to make this analogy and I will reserve for rebuttal, as necessary, your response to those specific points.

And I'd like you to look at the final paragraph, Bases For My Opinion.

And is what's stated there true and reflective of the generalized bases for your opinions you've given today?

A. Yes.

MR. BERTONI: I have no further questions on direct.

THE WITNESS: Okay.

MR. FAUSEY: Can we take five?

MR. BERTONI: Sure.

(A break was taken from 11:24 a.m. to 11:39 a.m.)

CROSS-EXAMINATION

BY MR. FAUSEY:

Q. Good morning, Professor Goldman.

A. Hi.

Q. So we've spoken before. I think a lot of ground you understand because we've gone over some of it

before. So, hopefully, we can move through this relatively quickly.

I'd like to talk a little bit about your qualifications. What are your academic degrees?

A. I got a Bachelor's degree in economics business and then I got my law and business degrees.

Q. So you don't have an engineering degree?

A. Correct.

Q. And you don't have an information sciences degree?

A. Correct.

Q. You're not an IT information sciences guy, right?

A. I don't understand the academic boundaries well enough to classify myself in or out of that. I do keep up with that literature fairly regularly.

Q. And your knowledge of technology comes from the intersection of that technology with

the law; isn't that accurate?

A. I am a law professor by occupation, so I'm interested in questions related to the law.

But I also keep up with industry and technological trends, not only as part of my academic research, but as part of my personal interests as well.

Q. But, professionally, you are a lawyer, you are a law teacher, and that's how you interact professionally with this type of technology?

A. That's who pays the bills.

Q. So that's a yes?

A. I think I explained that, as a matter of professional and personal interest, I have interests well beyond legal questions.

Q. Okay. All right. Well, I'll move on.

So I believe on direct you testified that you looked at the

discovery that was conducted in this case.

Is that correct?

A. Correct.

Q. I'm just confirming because I didn't see it in Page 5 of your report the basis for your opinion that you reviewed the document discovery in this case.

A. My apologies. I thought that was in there. But I can see why you're uncertain about that.

So, yes, I did look at the discovery materials that were supplied. I reviewed them as part of my research. And I apologize.

Q. And you saw there was hundreds of pages of documents exchanged in this case?

A. Yes.

Q. And you reviewed those documents?

A. Yes.

Q. Okay. All right. Just

sticking with the basis for your opinion for a while.

I believe you testified that you spoke to certain employees at Crutchfield. Is that correct?

A. Yes.

Q. And who were they?

A. If you want, I can pull my notes. There were six or seven people on the phone call. So I'd have to refresh my memory about who was on that particular call.

Q. Okay. So was there one call or more than one call?

A. There was one call.

Q. Okay. Do you remember approximately how long that phone call was?

A. I want to say it was two and a half or three hours.

Q. And you led the phone call?

A. Yes.

Q. So what sort of questions did you have for Crutchfield's

employees during that phone call?

A. I asked about the personalization, geographic customization of the website. I then asked about the online marketing efforts that they engaged in, what they did.

And then I probed about the specific personalization and geographic targeting of each of the different items that they were doing. And then I asked some about their offline marketing as well.

And part of the website and online advertising included asking about some of their mobile practices as well.

Q. Okay. With regard to offline advertising, what sort of topics did you cover with them?

A. Principally about their catalog marketing.

Q. Okay. And did you discover whether or not Crutchfield uses

catalog marketing to reinforce other types of marketing?

For instance, is there a promotional code you could enter on a catalog online? If you receive a paper catalog, could you then enter a discount code online?

A. I don't recall if I asked that question.

Q. Okay. Any other types of cross-channel marketing efforts that you were aware of during your conversation?

A. I'm sorry. Could you ask that question again.

Q. Sure.

So what I mean by cross-channel is, we've talked about catalog sales, phone sales, and Internet sales.

Are you aware of any instances where those one or more -- excuse me -- two or more of those might be used in a single marketing

effort?

A. I don't think I asked specifically about that, but I assumed it. I assumed that, in many cases, the catalog marketing was designed to spur online advertising.

We talked about efforts that they use to spur people to go into their retail stores. So I had assumed that there was cross-channel activity. And I don't recall probing specifically into how they thought about that.

Q. Okay. In your work as a professor of marketing and law, is it typical that you would use media in that way, cross-channel, so to drive customers to a website, for instance, from print material?

A. It would be typical. Not everyone does that, but certainly that's a known expected outcome from advertising.

Q. And so how would that work?

I mean, what would that look like, if I -- in the typical -- in the typical case?

A. If you have a physical retail store, you need to drive people into that store.

Q. Sure.

A. So you would choose to advertise through radio advertising, TV advertising, mail advertising, leaflets, billboards. All trying to drive people into the physical store.

Q. And would the same be true of a retailer's website? So would you try to drive people to a website through postal mail, television commercials, and that sort of thing?

A. Yes. Although offline advertising to drive people into online stores doesn't always work as well. So doing radio to try and get people to go to a website is not normally considered to be all that effective.

Q. What about paper catalogs; are those used effectively to drive people to websites?

A. They can be part of a promotional activity; not that you expect people to order from the catalog, but you use that as a way of reminding them to go check out what's available online.

Q. And in your review of Crutchfield's practices, did they use paper catalogs in the way you've just described?

A. And I apologize. I don't think I asked that question specifically.

I had assumed that having people go online from the receipt of paper catalogs was one of the expected payoffs from doing the catalog marketing. So I didn't explicitly ask them that.

Q. Okay. Sticking with paper catalogs for a minute.

Did you ask whether Crutchfield engages in any efforts to customize its catalogs in any way by any sort of segmentation?

A. I did.

Q. And what did you find out?

A. That they do some segmentation, but I was surprised at perhaps how little they did, that it was fairly coarse segmentation.

That they would make distinctions, if I recall correctly, between the car and the home merchandise, that they would have catalogs that would be segregated on something as light as that.

But the segmentation was actually a little bit less than I would have expected in most catalog marketing.

Q. Okay. And just to be clear, so you're saying a consumer might receive a car audio catalog as opposed to a home audio catalog?

A. Correct.
Q. Did you ascertain and find out how would Crutchfield determine who to send those catalogs to?
A. I don't recall if I asked the question as cleanly as that. But it was clear it was based on their expectations about which catalog was more likely to produce sales.
So, if someone had a track order, for example, of ordering one class of goods, it seemed clear that that would be a basis on which they might receive a more skewed catalog.
Q. And did you say a track -- somebody had a track record? If they had a track record of ordering certain goods; is that what you said?
A. Correct.
Q. How would Crutchfield find out whether or not someone had a track record of ordering a particular category of goods?
A. Again, something I didn't

get into a great deal of detail on. But they would have a customer record for their customers, so they would be able to track order histories for individuals.

Q. When you say order history, do you know whether they track individually sales from catalog versus telephone versus online?

A. I don't recall asking that question.

Q. But you are aware that they have some record of customers' previous purchase histories?

A. Correct.

Q. And that they then use that data to send rough segmentation -- roughly segmented catalogs to certain customers?

A. Yes, perhaps among other attributes.

Q. What other attributes did you observe?

A. So I didn't get into all

the different mechanisms, and some of it wasn't clear.

For example, to the extent that they would use mailing list houses, the mailing list houses might have their own algorithm about recommending particular customers or not, and that would not be transparent to Crutchfield.

Q. Okay. And just to unpack that a little bit, for the record. What's a mailing house?

A. A mailing house would be some central repository of mailing addresses where the operator of that database would know some things about the person in a co-op environment.

For example, they would actually get data from all of the participating catalog marketers. They would all share data.

And then the co-op would then be able to figure out these are people who are transacting with this

other vendor, they're more likely to transact with the person who is asking for a list.

Q. So that would allow a retailer, who is a part of that co-op, to then send their catalog to a person who would be more interested in their goods?

A. That would be the guess. Whether it's actually true or not is part of the secret sauce of each co-op. And it would be the gamble or the economic risk that the catalog marketer would take in trying to figure out if they could generate new customers.

Q. But that's their hope, right? I mean, that they're reaching someone who would be interested in their product?

A. Always the hope of every marketer.

Q. Okay. And that would be the intent of entering into a

cooperative agreement like that, wouldn't it?

A. Correct.

Q. And outside of the cooperative agreement, there's also third parties who do this on their own, for lack of -- in contrast with the cooperators; is that correct?

A. There may be list brokers who generate a list, not because they've aggregated from all their customers, but through some other channel of acquiring data.

Q. And in your review of this matter, did you find that Crutchfield used cooperative information -- I'm failing on the term that we've been using here -- but these sort of cooperative databases?

A. My understanding is that they did.

Q. And what about the third-party databases?

A. I don't recall now. I'd

have to go and check my notes on that.

Q. And in your review of the records, do you recall whether those cooperative and third-party databases were limited to catalog marketing or whether they also touched other areas of marketing?

A. I don't recall any situation where the catalog mailing list operations bled over into other marketing channels. But I don't know how specifically I asked that question.

Q. Okay. Well, let me ask a slightly different question, which is, we've discussed cooperative databases and third-party databases for paper catalog distributions, sort of mailing lists, is there a similar industry for electronic data? So for e-mail lists or customer data of that sort?

A. Yes. There are a variety

of different ways that an online e-commerce site can acquire data about customers that it could be used, either for proactive marketing, like e-mail, where you initiate the conversation with the customer, or with knowing more about someone who comes to the website.

I don't recall, however, now if they were using any of the list broker analogs for purposes of e-mail marketing, for example.

Q. Okay. What about customer data warehouses; does Crutchfield maintain its own customer data warehouse?

A. My understanding is that it does.

Q. Okay. And do you know whether Crutchfield has agreements, other than the direct mail -- or the mailer agreements that we've previously discussed, to share the data warehouses with any third

parties?

A. I don't recall that.

Q. Okay. Or if they purchase data from any other data warehouse?

A. I think I'd want to be more specific about what we're referring to.

When it comes to online contacts, for example, analytics might very well serve that purpose. They had several different analytics vendors over the years.

So I'm not sure I understand your question well enough to be precise about the answer to that.

Q. Well, I was -- let me be very specific.

Are you aware of a company called Wiland Direct?

A. I saw the contract referenced in the materials that were produced.

Q. Okay. Do you know what

Wiland does?

A. I believe they're a co-op. That was my understanding. When I looked at it, that they fit into the co-op box.

Q. Okay. And is that a co-op for sort of the catalog mailing data or for electronic sort of customer information?

A. When it came up, we only talked about it in the context of catalog marketing. I don't know if there was other aspects of the relationship.

Q. Okay. So you mentioned analytics.

In your review of this, you found that Crutchfield contracts with third parties to perform analytics on their behalf?

A. Yes.

Q. And do you remember some of those companies?

A. I remember one of the main

ones was Coremetrics. And now, at the moment, I have to remember which ones were at which time elsewhere.

Q. Right. Because we were covering a broad period, so they may have used different ones for different time periods.

So, Coremetrics in providing analytics, do they also -- does Coremetrics also, to your knowledge, maintain its own data warehouse?

A. I don't think I understand that question.

What do you mean by a data warehouse, then?

Q. So we discussed that Crutchfield itself has a data warehouse.

Well, you're familiar with data warehouse. How would you describe a data warehouse?

A. A data warehouse is a pretty broad concept. So I would

think about it as any repository of information about users.

And I think the answer, emphatically, would be, yes, Coremetrics has a repository of information about users. To what purpose or to what end, is not clear to me.

And so --

Q. Okay.

A. -- normally, when we -- when we talk about data warehouses, you might mean something more specific than that very general concept.

Q. And why might a company, such as Crutchfield, have a data warehouse?

A. The data warehouse is just another extension of these customer records that we discussed. That they are trying to figure out who is ordering from them, who might order from them, and try and figure out how

to reach them better.

Q. And what sort of information -- did you look at what sort of information Crutchfield stores in its data warehouse about customers?

A. No.

Q. What sort of information could be collected?

MR. BERTONI: Objection. Calls for speculation.

MR. FAUSEY: He's written papers about the collection of customer data.

MR. BERTONI: Well, I mean, you're asking -- I want to make sure what kind could be collected --

MR. FAUSEY: Sure.

MR. BERTONI: -- by anyone --

MR. FAUSEY: Yes.

MR. BERTONI: -- or by Crutchfield?

MR. FAUSEY: Yes.

MR. BERTONI: By anyone? That, I don't have an objection to, but blurring the distinction between what Crutchfield did and could have done.

MR. FAUSEY: Point taken. Point taken.

BY MR. FAUSEY:

Q. So, during this time period, anybody with a data warehouse, what type of information could they have collected in that data warehouse?

A. We could -- that could take a while to answer. So let me try and chunk it up a little bit.

Q. Sure.

A. They could collect information from their direct interactions with users. So they could watch users' activity on their website, and then try and figure out attributes of those users based on their activity on the website.

They could collect information from people who place orders, and that would include all the kind of ordering information, the street address, the ship to, billing information, as well as what they ordered.

And then there could be information that's acquired from third parties that's fed back into the data warehouse.

So it wasn't collected directly by the e-commerce site from the users by observation or from users by self-reporting, but collected by a third party. And that could be unlimited. It's an infinite possibility at that point.

Q. Okay. And I appreciate that. That gives me -- I think we can talk more specifically now.

So when you say collect data from website activity, you're talking about a user's behavior on a

given web page?

A. Actually, possibly from web page to web page, where they went from point to point to point, how long they took in going, so what things they click on or interact with.

Q. Okay. Well, you'd agree that you could use -- you could collect data from a customer's activity on a particular website or from their activity from website to website?

Is that accurate?

A. Sorry if I wasn't precise about that.

An e-commerce website can collect information about users' activity in the confines of that website. So, from the moment they arrive, to the moment they depart, and everything in between.

Ordinarily, they would not be able to see that person's activity

anywhere else on the Internet. So that person could be doing an identical shopping session on their competitor, but they would have no idea that that was taking place.

Q. Okay. And why wouldn't they know that that's taking place?

A. There wouldn't be any technological mechanism to capture that information. There's no reporting back feature that the e-commerce retailer, one, would be able to then have the user's computer or the competitor feed that information back to it.

Q. And is that typically done through cookies, that sort of tracking?

A. I'm sorry. I don't understand. I just -- I think I just said they couldn't do it.

Q. Right.

A. So I --

Q. Correct. Correct.

And I'm saying, so when a user visits a given web page, and the server issues a cookie to the customer's computer, to the customer's browser, is that cookie -- can that cookie be used to track the consumer's activity on that particular web page?

A. Yes. The cookie can be a part of the way of uniquely identifying that user from all the other users simultaneously and then seeing what they've done.

You don't have to use cookies to do that. There are other technologies that would enable it. Two cookies are the most common way in which someone would be tracked from point to point to point within the confines of a website.

Q. So did you find any evidence that Crutchfield tracked data on its own website from users, as we've discussed here?

A. I found evidence that they use cookies, and my understanding is that was helpful in them trying to do some analytics about what their users were doing.

Q. And were you able to determine whether Crutchfield collected information regarding customers' activity on Crutchfield's own website?

A. Yeah. All my remarks were related only to what was taking place on the Crutchfield website.

Q. And is that also known as clickstream data or are we talking about something else there?

A. Clickstream data would be one of the key pieces of that. You could take a snapshot of information based on a single user's visit to a page.

You'll still learn information about the user based on visiting one page, but then if you

watch that user move from page to page, you can gain additional information. That's called clickstream data.

Q. And so, in your review, did Crutchfield collect clickstream data from consumers that visited its website?

A. I didn't ask that question specifically. I assumed that to be the case. The analytics information that they received would possibly have been predicated only on the ability to monitor clickstream data.

Q. Okay. Now, you talked about tracking a consumer's behavior on a competitor's website or on other web pages other than the vendor's own.

How is that typically accomplished?

A. That's hard to do, because, effectively, you have to then have the user agree that you can track

their behavior on there, and install software that would allow that to be done, or you have to have some third party's help to let you look over their shoulder when they're interacting with that website to see what they're doing.

So that's a much more difficult challenge and one that is done less frequently.

Q. And do you know, on your review of this case, whether Crutchfield contracted with third parties to perform that activity for them?

A. We did talk about remarketing or retargeting where there would be efforts to reach consumers who had been to the Crutchfield website, left Crutchfield's website and gone somewhere else.

But Crutchfield was able to recommunicate with them on these

other places based on their ability to send advertising to them.

My understanding is that it was not a particularly successful technique for Crutchfield. So they tried it; it wasn't all that great. It's not clear that it was a key strategy for them.

Q. Okay. And with regard to analytics companies, such as Coremetrics, are they able to gather data about -- and this is not with regard to Crutchfield. This is a general question.

Are they able to gather data about consumers' activities across the Internet generally?

A. They should be able to do so. It depends, in some cases, on the agreements they've had with their customers when they set their cookies. The customers could tell them don't track my users anywhere else.

And a third customer could say, send a cookie and once you see that cookie on other websites, you'll now know that was the same person.

Q. And do you know whether or not Coremetrics or other analytics' companies collected data in that way for Crutchfield?

A. I don't know.

Q. All right. I think the second data collection that you mentioned was from ordering.

And by that, you mean when a customer actually places an order for a product on a website?

A. Correct.

Q. Okay. And what type of information does a company obtain in that context?

A. I didn't look that closely at it. At that point, in my mind, this was not dissimilar to the questions that we would have about catalog marketing.

And so I thought whatever the e-commerce equivalent to catalog marketing, they're going to end up being effectively the same, and so I didn't see that as particularly relevant.

Q. Okay. Setting Crutchfield aside, what information do companies generally obtain when a customer orders something from them?

A. They would need shipping information, they would need billing information, and they would need to know the actual items ordered.

It's possible to ask yet additional information or to do other kinds of cross-marketing to try and get other things ordered by the customer, but each of those are not required in order to actually to order.

You need the billing, shipping, and product order information. Those are

non-negotiables.

Q. And, typically, do companies also collect the e-mail address from the person placing the order?

A. Typically, today, yes.

Q. What about during this time period?

A. You know, I'd have to go back to 2005. That was a long time ago. And I don't know if every e-commerce site was collecting e-mail addresses at that time.

But, certainly, by now it's shocking if you wouldn't give an e-mail address. In fact, I, as a buyer, typically, want communications sent to me by e-mail as opposed to physical mail.

So, in some cases, the consumer actually would prefer it.

Q. And then the data -- I'm sorry. I just want to make sure I was clear on this.

You don't know for certain what types of data Crutchfield would collect from when a customer places an order?

A. No, I didn't try to place an order. Of course, it would have been to an old version of the website, which wouldn't have been honored. And I didn't interview them about that specifically.

Q. Okay. Do you know whether Crutchfield marketed via e-mail during that time period?

A. They did.

Q. And do you know whether they used their own data warehouse for those e-mail addresses or whether they purchased those e-mail addresses, or cooperatively?

A. And I apologize. That's one of the things I said I now can't recall. If they did end up ever buying an e-mail list from third parties, I don't recall that.

Q. All right. Do you know whether Crutchfield delivered e-mail to customers themselves or used a third party to deliver the e-mail?

A. I don't recall if I asked that question.

Q. And did you ask whether Crutchfield personalizes or customizes its e-mail marketing in any way?

A. I did ask that question. I asked both questions, yeah.

Q. Okay. And what did you learn about whether Crutchfield personalizes e-mail in any way?

A. If I recall correctly, they did reference geography in the shipping information saying we can get this shipped to you in the following time period.

They did some remarketing via e-mail where they said, we saw you didn't place the order, would you please come back and place the order.

And I believe there were the personalization -- or I'm sorry -- the unique deliveries of e-mails for the people who were in Virginia for the Virginia retailers -- for the Virginia retail store.

Q. And so, with regard to shipping, an e-mail might include a shipping quote; is that --

A. It would say something. If I recall, the headline was something to the effect of, get this in two days or get this in three days.

Q. I see.

So Crutchfield used geography in customizing that offer?

A. If it knew it.

Q. Okay. And then, with regard to remarketing, so if someone looked at an item but didn't purchase it, is that when Crutchfield would send an e-mail, or in a similar context?

Is that your understanding?

A. I'd have to go back and double-check if it was that they looked at the item, or if they had put in the order in their shopping basket, and then didn't close out the shopping basket.

Q. So it could be abandoned cart items or it could have just been something you viewed?

A. I'd have to double-check which of the two it was.

Q. And then you said with Virginia, Crutchfield was opening a retail establishment, is that correct, or opened a retail establishment?

A. My understanding is that they had two different retail stores and they would do some local promotion to drive traffic to the local stores.

Q. And then, in doing so, they would target people who were in the geographic region of those stores?

A. They would target only a subset of the Virginia population.

Q. Okay. And do you know how they determined whether someone was within that subset of Virginia population?

A. I don't think I asked that question.

Q. What about with regard to shipping; do you know how Crutchfield determined the time for shipping that it could offer to customers by its e-mail?

A. For the people who had given them shipping information, that information would be part of the customer file.

I don't recall if anyone else got it, and I don't know what information they did to -- they used to close the dots on that.

Q. So now we've talked about collecting data from website activity, collecting data from

orders.

I want to talk about collecting data from third parties. We have talked some about that already I think. Right?

A. Yes, we have.

Q. Is there anything, other than what we've already talked about, that you observed where Crutchfield collected data from third parties?

A. I apologize. That question covers so many different scenarios --

Q. Sure.

A. -- I'm not sure I know how to answer it properly.

Q. Okay. Well, I think you've already testified that you're not aware whether Crutchfield contracted with third parties for customer data.

Is that correct?

A. For buying customer names --

Q. Right.

A. -- or customer leads, I

don't -- I don't recall the answer to that.

Q. All right. So I did want to talk some about in your opinions.

Opinion two where you testified that Crutchfield did not own any physical property in Ohio.

I want to unpack that phrase, "physical property," a little bit. I want to understand what you mean when you say physical property in this opinion.

A. Okay. So I think I mentioned this with Mr. Bertoni.

So, in my mind, I was looking for -- in the context of physical property, I'm looking for real property or chattel. And by chattel, I was looking for movable personal property.

Q. And in coming up with your understanding of the phrase "physical property," did you look at any legal precedent or cases that discussed

physical property in relation to electronic data?

A. I didn't go out and affirmatively do legal research on this question. As I mentioned, this question is a common one in Internet law. So it's a question that we've been aware of for a couple of decades.

Q. And when you say it's a question that we've been aware of, the question of whether electronic data constitutes physical property is a question in the legal community at this point?

A. It's been raised. I don't think that there's a lot of people who really believe that it constitutes physical property or they have such a generous definition of physical property. I don't know where the boundary ends.

So this is a fairly common issue that we struggle with in

Internet law, interpreting the words in the new context. And so that's what I mean by it being an issue.

Q. Okay. But there are those in the legal community that you're aware of, including possibly courts, that have said that electronic data can be physical property?

A. There are a lot of different legal tests that would reference either property or some physical attribute, and that question has come up many times.

There have been a few cases that might suggest what you've held. I don't know how persuasive I would find those cases, but certainly the issue has come up.

Q. And I understand it to be your opinion, as you stated here, that electronic data is not physical property, and as you've testified to.

All I'm really asking about is whether you're aware of other

legal precedent or instruction that references or that finds that electronic data is physical property?

A. Yes. And, as I said, I didn't organize that legal research. So I'm working on my memory of what I've seen over the last two decades. And I apologize. I don't have cites at the top of mind.

So there have been I think a couple of cases that might suggest that.

I'm sorry. Can I just take a quick break?

MR. FAUSEY: Yes, sure. Absolutely.

MR. BERTONI: Go off the record.

(A break was taken from 12:16 p.m. to 12:17 p.m.)

BY MR. FAUSEY:

Q. Have you looked at the area of tax with regard to whether electronic data is considered

physical property?

Have you looked at decisions regarding state tax laws, for instance?

A. In the ordinary course, I would see tax cases occasionally. I don't look at them directly.

For example, in California, we have a rule that says that electronic delivery of files is not subject to state sales tax. And so that's a topic that has been of particular interest in the California community.

That would be an example of something that would come up in my ordinary course of looking at Internet law.

Q. Sure.

Was that rule or reaction to a lawsuit or to a court decision?

A. That rule predates me. So I don't actually know where it came from. But it's been around while --

a long time. I think it's a 1980s style rule.

So we'll have to talk about what people what people were thinking about in the '80s.

Q. And are you aware of cases in the area of personal property tax that have held that software, for instance, is tangible personal property?

A. I've seen some of the cases that have referenced that.

Q. And you don't agree with them?

A. Software is a tricky concept, because, historically, it's been delivered on a tangible medium.

Q. Okay.

A. So, in order for the customer to get the software, they had to get a physical delivery of an object that stored the software.

And so the jurisprudence has gotten I think more confusing as

we've been able to unbundle the chattel from the intangibles. That's why California's rule is actually nice and clean.

If you can unbundle the chattel from the intangibles, you don't get taxed on the intangibles. You only get taxed when you deliver a tangible good.

So I haven't looked to see if those legal rules have evolved with the divorcing of the intangibles from the chattel.

Q. And just for purposes of the record, when you say intangibles and chattel, by intangible, you mean the electronic pulses that are received and effect a change on the hard disc of the customer?

A. Yes. Thank you.

Q. Okay. And by chattels, you mean the delivery method of CD or whatever?

A. The movable personal

property. In this case, the storage device that actually contained those electronic bits.

Q. And are you aware of cases that have held that even without the chattel, that software, that intangible, can still be tangible personal property?

A. I apologize. That, I have not looked at recently. So it wouldn't surprise me if that's the case, but I haven't tracked that literature closely.

Q. Okay. Let's move off of that.

I believe earlier there was some testimony about IP addresses. And it was your testimony that IP addresses are purchased in blocks. Is that accurate?

A. They're allocated in blocks.

Q. Allocated in blocks.

A. In fact, they're not

supposed to be purchased at all. But they're assigned in chunks.

Q. And that the IP address is then -- reflects the physical location of the purchaser or the person who has been allocated those IP addresses?

A. There will be a database that will tell you who is the person, the registrant of that block of IP addresses, and that registrant's geographic address should be available for public inspection.

Q. Okay. It's likely that the IP address, though, actually reflects the geographical area of the machine that it's assigned to; isn't that correct?

A. That's true at the global level, because IP address blocks are allocated across continents in blocks. So it would be weird for a U.S. company to have a block assigned from the European registrar, that

would be odd.

But within the subcontinent level, the geographic proximity is less correlated.

Q. It's less correlated, but it's still -- isn't it true that it's still more likely to be accurate than to be inaccurate?

And when I say "accurate," I mean in close proximity to the actual location of the hardware.

A. I'm sorry. Would you try that question again.

Q. Sure.

A. Thank you.

Q. You've testified that IP addresses are assigned to the person to whom they're -- or IP addresses are assigned to the location of the person to whom they're allocated.

And my question is --

A. I'm sorry. That's not quite precise.

Q. Okay.

A. I apologize for jumping in.
Q. No, please.
A. But I just want to be clear.
Q. Yes.
A. It is possible to determine the geography of the registrant of a block of IP addresses.
Q. Okay. All right. I think I'll move on. Let's move on.
Okay. When you talked about delivery of electronic data, how the Internet works essentially, you used the phrase a series of upstream access provider agreements that allow servers to talk to each other. Is that accurate?
Am I accurately representing your testimony?
A. Yes.
Q. What do you mean by "access provider agreements"?
A. So I'm using the term "Internet access" as the connection

between someone's computer and the rest of the Internet. There's some vendor who creates that technical capacity for the computer to share data with the rest of the Internet. I call that person an access provider.

Every access provider has an agreement with at least one other access provider that allows their data, the data from their system to reach some other part of the Internet.

The big access providers all have agreements with each other. They all have agreed to trade data with each other. And so there's no top to that. There's no single point. It's a ring of agreements.

And then from that ring of agreements, come lots of agreements from people who have agreed with the people who are part of that ring, and then ultimately down -- all the way

down to the end users.

Q. Okay. And so a company like Crutchfield, are they in that ring or rink that you described?

A. I would assume not. I would assume Crutchfield has an Internet access provider who may or may not be part of that ring.

In fact, it's probable that Crutchfield has several Internet access providers, some of whom may be part of the ring and some of whom may not.

Q. And so with regard to the ring, are those servers located geographically throughout the United States?

Would you expect to find servers throughout the United States?

A. Yes.

Q. And probably in Ohio?

A. I don't -- wouldn't make any distinction between Ohio and any other state. So whether they're in

Ohio or not, it's hard to know really. They would be throughout the country dispersed.

Q. So not any more or less likely to be in Ohio than anywhere else?

A. Agreed.

Q. And are you familiar with content delivery networks?

A. A little bit.

Q. And do you know -- so what's your understanding of a content delivery network?

A. My understanding of content delivery networks is that large customers who want to speed up the perceived access to their service can use content delivery networks to store parts of their web service closer to the user, so that the user feels like they're having a faster experience.

The content delivery networks also have the benefit of, by

distributing the location of the files, possibly being more resilient to distributed denial-of-service attacks.

Q. Okay.

A. So that there's not a single target. If a bad hacker is trying to take a site offline, it might be that they would have to attack a lot of different targets and that might make a denial-of-service attack more difficult.

Q. But why use a content delivery network, instead of just going through your Internet provider and then going into the ring, as you described previously?

I mean, other than the -- is there anything other than the benefits you've just described?

A. The other benefit is that so much of the distributor denial-of-service risk, if you just had a spike of usage, if all of a sudden Kim

Kardashian tweets, I buy everything from Crutchfield and, you know, all the Kim Kardashian fans decide that it's time to go crash the Crutchfield server, you could have better load balancing if you distribute your network so that you could handle that spike.

Q. Okay. So capacity, kind of?

A. It's actually about the spikes than it is about the overall average capacity. It's probably a little less important about the average usage rate, but how do you deal with the fact that there might be this weird spike?

And if you have only one pipeline and only one data center, then the spike might overwhelm the capacity at that point in an unexpected way.

Q. Do you know whether Crutchfield contracted with any --

I'm terrible with terms right now -- content distribution network during this time period?

A. My understanding is that they had an agreement with Akamai.

Q. And do you know where Akamai's servers are?

A. No. And, in fact, I don't think that they want people to know the specific location of their servers. That they are somewhat general in their phrasing about where the servers are.

Q. Why would that be?

A. You know, that's a good question, actually. They could view it as a trade secret, that if people knew where their servers were located, that it would make it easier for their competitors to countermove, or that the hackers could better figure out how to attack them. But I don't really know.

Q. One thing you've talked

about was how to initiate a request for information from a server. And I think you identified entering the URL of the website that you want to visit or clicking a link.

Are there other ways to request content from a server?

A. We're talking about within the context of a web browser as opposed to other different protocols?

Q. Okay. Yes. Right. So let's make that clear.

So when you were providing that testimony, were you only talking about web browsers?

A. I believe at the time we were talking in the context of web browsing.

Q. Okay. So with web -- in the context of web browsers, a customer can enter a URL or click a link.

Are there any other ways to request content from a server?

A. (No response.)
Q. Now, let me narrow that.
Are there any methods that a consumer can take action to request content from a server other than that?
A. I'm not sure that I can easily define the universe. And, for example, a user who visits a web page may have triggered a script within a page that would make a call on somebody's server.
Did the user initiate that? I'm not sure about the grammar on that. It's not because they went to the URL of the person delivering the page, it's not because they clicked on a link, and yet, it still would cause data to be delivered.
I'm also hedging because you mentioned -- you excluded the other ways that the server might be able to deliver content to a user.
Q. Right.

A. If they've had the opportunity or the ability to already be there, then they've set up some kind of callback feature.

So I'm hedging because I'm not sure I've -- that fully exhausted all the different ways in which data might go from server to user even at the user's direct request.

Q. So, isn't it the case that if a consumer enters a given URL and to request that web page, the server may direct the user's computer to other places on the Internet as well, in order to gather information for that web page?

A. When a user goes to a web page, the server will deliver back a set of instructions. Some of those instructions will be, tell the software I'd like to have the following outcomes.

The instructions might also be, there's more content or more

material that was necessary to complete this page, go get it from these other third-party sources.

Q. Okay. All right. So let's move off of the customer taking action, web browser.

And let's look at are there any sort of automatic ways in which a server could -- or without action -- let me rephrase.

Is there a way a server can access a user's web browser without action from the consumer?

A. Phrased the way you've asked the question, I think the answer is no, in the context of web browsing. An e-mail would be an alternative to that or an RSS feed might yet be a different mechanism entirely.

But once there's been a relationship between the user and the server, there could be instructions that the server sent that says,

please come back on an automated basis and gather additional information from me.

Q. And do you know whether Crutchfield employed that kind of software during this time period?

A. Which software?

Q. That would instruct the user's web browser to come back to Crutchfield or to get data from Crutchfield sort of automatically or periodically.

A. I can't think of any off the top of my head. But ordinary operations of things like JavaScripts might very well fulfill that standard.

And it's possible that they had, as part of a regular routine website, some implementations that, nevertheless, accomplish that outcome.

Q. All right. I'll move on from that. And ask you about how a

user requests data from a server in the mobile environment.

So we've discussed clicking a link and entering a URL in the web browsing environment.

Is it different in the mobile environment at all?

A. It can be. Users have two primary mechanisms for obtaining information via mobile device.

One is that they can use the browser software that's optimized for a mobile platform, but functionally is indistinct from the web browsing software, or users can install apps on their computer, which are software that is custom developed by the app manufacturer, that will enable conversations between the mobile device and the destination without the mediation of web browsing software.

Q. And I should have asked this earlier. So I don't think

there's any dispute that Crutchfield had a website that used source code or some set of instructions to render its web page on users' web browsers; is that correct?

A. By definition, a web server must have some kind of coding that tells web browsing software how to render a page.

Q. And, to your knowledge, did Crutchfield have a mobile version of its website during this time period?

A. I believe the answer is yes.

Q. And that, as you've described, would be the same page only optimized for viewing on a mobile device?

A. Correct. In other words, web browsing software has certain parameters, mobile browsing software might have different parameters, and so you may want to build the page differently.

Q. And then what about apps; did Newegg have -- I'm sorry -- did Crutchfield have any mobile apps during this time period that you're aware of?

A. I believe that they had a mobile app during the tax period.

Q. Okay. With regard to -- you provided some testimony about consumers' browsers interacting with the server. And I believe it was your testimony that it is the customer who owns the computers.

Was it also your testimony that it's the customer that owns the browsers?

A. I don't remember exactly how I worded my answer to that. The user would almost certainly license the browser software from the browser software manufacturer.

Q. So who owns the browser software, then?

A. The mobile browser

manufacturer who would be the owner of the software and the mobile browser software user would be a licensee of the software.

Q. And in the web context, who owns the web browser if it's Firefox or Internet Explorer?

A. If it's Internet Explorer, I believe Microsoft is the owner of the software.

Q. All right. So what about with a mobile app; who owns the app?

A. The app would be owned or licensed by the service that's trying to have the app installed on the user's mobile device.

So it's possible that the -- an e-commerce site could create an app where they created it homegrown and they would own the intellectual property rights to that.

Or it could be that they outsourced the development of that app. At which point, then they may

only be a licensee of the rights to the app.

Q. With regard to Crutchfield's app, mobile app, did you determine whether or not Crutchfield produced that at home or if they outsourced it?

A. I'm pretty sure that they outsourced the development of the app.

Q. And would they have any -- would someone who outsourced the development of an app have any intellectual property rights in that app?

That's a big question, I know.

A. There are so many overlapping intellectual property rights in any particular piece of code, that there could be many owners of intellectual property rights.

If the app used the e-commerce website's trademark, then

the e-commerce website would still retain ownership of the trademark.

As for the copyright, the code itself could be a work for hire and owned by the site requesting the work to be done, or the copyright could remain exclusively with the developer, the third-party developer. But there could still be components that were supplied by the e-commerce site.

Q. Sure.

A. So it is a big question, and one without a single answer.

Q. Okay. But you don't know for sure whether Crutchfield has the copyright to their mobile app during this period?

A. I did not take a look at that.

Q. All right. So let's stick with the idea of ownership of software and back that out sort of to the browser context.

I believe you testified that a server delivers a set of instructions to the browser to render the web page. Is that an accurate statement?

A. Yes.

Q. And would you characterize those instructions as software?

A. They could be software or they could be content. The HTML code will tell the browser how it wants the page to be laid out, and there could also be delivery of an image that is displayed with instructions, show this image at the following size and at the following resolution.

Q. Okay. And with regard to those images, is it possible to have intellectual property rights in those images?

A. Yes.

Q. And do you know whether, during this time period, Crutchfield had intellectual property rights to

images that were delivered to the users' web browsers?

A. I didn't ask that question.

Q. Is it likely in your opinion?

A. It depends. The product shots where people take pictures of the products they're selling are usually eligible for copyright protection.

But the product shots might be made by the manufacturer, they could be made by the retailer, or they could be made by a freelancer, so it's not easy to guess in advance who would own those product shots.

Q. It's not always clear. But what about if the image is Crutchfield's logo, for instance, a trademark logo?

A. We try not to talk about copyrights in trademark logos that actually crosses the stream.

Q. Right. Sure.

A. So --
Q. So, let's say trademark, instead.
Would they have trademark rights to an image that would be delivered to a web user's browser?
A. Yes.
Q. And I'm sorry. I cut you off there. If you wanted to clarify something, feel free.
A. I think it's fine. Thank you.
Q. Okay. So we talked a little bit about images. Let's back it up to the code.
Are there intellectual property rights in the HTML code?
A. There can be.
Q. And so who would own those intellectual property rights?
A. If we talk about copyright as opposed to, say, patent rights or possibly trade secret rights, then it depends on who did the coding and

what agreements governed that work.

It could be anywhere from the retailer owning the HTML coding their site to getting third-party licenses from predeveloped software, to having someone do custom-developed software for them that they might own or that they might obtain the license to.

Q. But, in any case, it wouldn't be the user?

A. The user would not have any copyright in the HTML code that was delivered to them by a server.

Q. What about would they have any other intellectual property rights in HTML code delivered by a server?

A. They would not have any patent rights, trade secret rights, trademark rights.

Q. During your review of this case, did you determine whether any of the code delivered by

Crutchfield's server were trademarked or copyrighted or patented by Crutchfield?

A. I didn't look specifically at what IP rights might apply to the code that they use.

Q. Do you know whether they produced that code themselves or whether they outsourced it?

A. I didn't ask that question. It almost certainly would be a mix of all that, and possibly more.

Q. Would a company ordinarily obtain IP rights over HTML code that it produced itself?

A. If the company created it through its employees in the scope of their employment, they would be -- the company would be the owner of the copyrights produced by the employees.

Q. And if an employee left the company and improperly took that code with them, they could be liable for that?

A. There could be a trade secret misappropriation question if the material was covered by a trade secret. Taking the copyrighted code would not ordinarily be a problem, unless they then used it in a way that violated the copyrights.

You're shaking your head the way I shake my head at tax law.

Q. There's a lot there. There's a lot there. So it's one of those where it could be dangerous if you know a tiny bit, but not good.

Okay. Sorry. Okay. So we're shifting gears again.

You testified for a while about Crutchfield's privacy policies. I'm going to ask you to look at what we've marked Tax Commissioner's Exhibit 38.

MR. FAUSEY: And let me get copies for everybody here.

MR. BERTONI: We can go off the record for a minute.

(Discussion off the record.)
BY MR. FAUSEY:
Q. So, if you'll turn into the -- past the expert report in 38 into the Appendix, you'll see Mr. Soltani's resume.
And then the next page at the top left it says 4-12-2014. It's a printout from the Internet Archive.
A. My apologies. There are several pages dated 4-12-2014.
Q. Right. Just the first one.
A. Yes. Okay.
Q. And I will represent to you that this is a print-off from the Internet Archive off Crutchfield's privacy policies from June 15th, 2006.
And I'll let you have a look at it and tell me if it looks similar to the policies that you reviewed, if you recall.
A. Yes. It looks similar.

Q. And so earlier when you were testifying about cookies and your review of Crutchfield's privacy policies, it would have included a review of a policy like this?

A. Yes.

And I apologize. I do want to reiterate. We had talked about this in a previous conversation, that the Internet Archive jumps around on dates.

And so even if I looked at a date in -- this is 2006. I don't actually recall if I looked in 2006. I think it was in '05. But I jumped around.

So the chance I looked at the exact same version of this document is low just by the nature of Internet Archive.

Q. Sure.

This particular page --

A. Correct.

Q. -- at this particular day,

it's low that -- it's a low probability that you would have.

But, I guess my question is, whether this -- and you'll see that there are a few other similar printouts, at least two more, from different dates, if whether these look generally consistent with the privacy policies that you reviewed?

A. Yes.

Q. Okay. So turning to the first page that we were on. And this is dated June 15th, 2006. It's titled Crutchfield, Our Privacy Policy.

If you'll go to the -- under the heading Personal Information Collected By Crutchfield, the third paragraph down, it seems to indicate that Crutchfield does use cookies.

That's correct, right?

A. Yes.

Q. And that the last couple

sentences there seem to indicate that you can visit the website without the cookie, but it will -- but the website will not be able to offer personalized services.

Is that correct?

A. Yes.

Q. Okay. And is that consistent with your review of Crutchfield's use of cookies in this case?

A. Yes. Although I wasn't granular in my conversation about what other personalized services.

Q. Okay.

A. It was clear that the person could not consummate the order if they turned off the cookies. I was not clear what other things might have been covered by that particular phrase.

Q. Okay. So you don't know what's included in the personalized services?

A. Above and beyond being unable to place an order, no.

Q. But you do know that you couldn't place an order from Crutchfield without the cookies?

A. Yes.

Q. All right. That's all I have on that document.

And you talked about the benefits to a customer from having cookies stored in their web browser or on their machine.

Are there benefits to the retailer to having a consumer store a cookie?

A. Yes.

Q. What are those benefits?

A. At minimum, it means that they can uniquely identify a user from all the other users. So they know that this is a person that's different from all other users.

And then, in theory, they can keep track of that user from

point to point and still remember this is the same person I saw at a previous instance.

Q. And is that -- that's useful for marketing purposes?

A. It can be useful for marketing purposes. It could be useful just for preserving a particular type of view of their website, to make sure the website looks the way that the user wants it to look, so that the user is having a better experience.

Q. And do you know whether Crutchfield customized their website based on cookies to each particular user?

A. To each particular user, the answer is no, I don't believe they did. But there were a variety of different tools that people could use to interact with the website and that would be situations where they might have a more personalized view.

Q. Okay. Could you describe those situations a little bit.

A. For example, they had a wizard that allowed people to input a variety of choices about what they were looking for and then the site would drive them towards the particular set of options that met their needs.

Q. And when a customer returned, would that new page load automatically or would they be directed to enter that information again?

A. I don't recall if that was stored in a cookie. I don't know that it was retained.

Q. Any other ways that the website was customized based on customer data?

A. I'm trying to think of other ways and, at the moment, I'm drawing a blank.

Q. Okay. Back to the benefits

to the retailer of having cookies, beyond marketing and beyond customization of the web page, I believe you testified that -- I'm sorry. Scratch that.

So let's move on to cache.

We talked about storage of items in cache. And in the context of storage of items in cache, I believe it was your testimony that that benefits consumers to store parts of the website in their cache.

A. Yes.

Q. And, in part, because it makes the website load faster on subsequent visits?

A. Correct.

Q. Is that a benefit to the retailer as well?

A. Yes.

Q. Why?

A. At minimum, it reduces their bandwidth costs, and it also makes their site appear faster, which

is a benefit that users value.

Q. And just to be clear for the record, the user's cache resides where physically?

A. It will reside on their hard drive.

Q. In their hard drive on their computer in their living room, or whatever room the computer is in?

A. Wherever their computer is.

Q. Okay. Now, is there any other business use for storage of cached information?

A. Could you ask that question again, please.

Q. Sure. We were talking about -- and this will be my last one before lunch.

So we were talking about the benefit to business to storing certain information in the customer's cache. And we talked about the speed of delivery and the bandwidth cost.

Can you think of any other

benefits to the retailer?
A. Yeah, there could be. Although those are the two main benefits by far. The other benefits would be exceptional.
MR. FAUSEY: All right. Let's take a lunch break.
(A break was taken from 12:58 p.m. to 1:48 p.m.)
BY MR. FAUSEY:
Q. So do you have your report in front of you?
A. Yes, I do.
MR. FAUSEY: We've marked that as Appellant's Exhibit 1 previously?
MR. BERTONI: Yes.
BY MR. FAUSEY:
Q. So I'd like to go through a couple of the items in your report.
If I can ask you to turn to Page 2, under your first opinion, one. The paragraph underneath the paragraph that starts with one.

In the second sentence you say, "An Ohio user visiting Crutchfield's website submitted an automated request for information to Crutchfield's servers," and in parentheses "(or servers operated on Crutchfield's behalf)" closed parenthesis, "which were located outside of Ohio."

Did I read that correctly?

A. Yes.

Q. Isn't it the case that you don't really know where the servers are?

A. We know where the data center is located.

Q. But we talked today about content distribution networks. We talked about, as you described it, the ring that forms the basis for the Internet.

Isn't it the case that we don't know for sure that their servers are located outside of Ohio?

A. The Internet access provider network is not relevant to the definition of a server. So that's an apples and oranges comparison.

Q. Okay.

A. As for the content delivery network, we don't know where the data is located.

Q. So it's possible that it could be in Ohio?

A. It is possible that there were Akamai content delivery network nodes in Ohio.

Q. Turning to Page 3 in your second -- under the paragraph that starts with the number two.

The second sentence says that "None of Crutchfield's electronic communications with Ohio residents constituted 'physical' property."

Any reason why you put quotation marks around the word

"physical"?

A. We had talked before about the intellectual property issues with the electronic communications, but that's distinct from physical properties. So I was trying to make a distinction about the physicality of the interest as opposed to the other kinds of interest.

Beyond that, there's no good reason for the quotes, except they look pretty.

Q. But I think your testimony today, as we've discussed prior to our lunch break, established that Crutchfield's electronic communications may contain some property, just not physical property, in your opinion.

Is that accurate?

A. If you're referring to intellectual property?

Q. Yes.

A. Yes. There's all kinds of

intellectual property rights that may be overlaid on top of electronic communications.

Q. Okay. And do you know whether Crutchfield's mobile app is copyrighted?

A. I don't know. I would assume that there are copyright interests in it. I don't know how to parse who owns each piece. It would be a more complicated question to answer.

Q. Okay. And I think we discussed before the break that there may be some cases from some jurisdictions that hold that electronic data can constitute physical property, but you disagree with those decisions?

A. I'd have to go back and look at whether they used the term "physical," and if that term was based on statute, based on common law, based on the interpretations

from some other source.

So I don't know that there was a conclusion that they were physical property. It may be that they were viewed as taxable property and that may or may not be the same thing.

Q. Okay. So you're not conceding that there are cases that hold that electronic data can be physical property?

A. I apologize. I didn't take a look at those cases in preparation for this.

Q. Okay.

MR. FAUSEY: I want to check something here if you'll indulge me for just a second, everybody.

BY MR. FAUSEY:

Q. Do you still have the binder in front of you with the Tax Commissioner's documents?

A. I do.

Q. Would you turn back to Exhibit 38.

And we previously looked at the privacy policies that were contained at the end of Exhibit 38.

Can I ask you to turn past those privacy policies to a page from the Internet Archive from June 13, 2006. It appears to be Crutchfield's home page.

You're there?

A. One moment, please.

Q. Sure.

A. Okay.

Q. All right. Let's see. Can you turn to one that's dated June 13th, 2012.

MR. BERTONI: 2012? I don't think I have one 2012. I got June 13th, 2006.

MR. FAUSEY: It looks like this (indicating).

MR. BERTONI: Okay.

MR. FAUSEY: You need to go

a few more pages in. A couple more.

MR. BERTONI: Okay.

BY MR. FAUSEY:

Q. And I will represent to you that this is a print-off from the Internet Archive of Crutchfield's home page from the period June 13, 2012.

And you testified, I believe, that you reviewed Internet Archive pages from Crutchfield's website. Is that correct?

A. Correct.

Q. Does this look consistent with the pages you saw there?

A. I looked at different times, again, than perhaps this.

Q. Sure.

A. But this looks like a Crutchfield home page.

Q. And do you see on the second page there, in the black box at the bottom, where it says, "Copyright 1996 to 2012, Crutchfield

New Media, LLC"?

A. I do.

Q. And it says, "All rights reserved," and it says, "Crutchfield is a trademark of Crutchfield New Media, LLC."

A. Okay.

Q. Does that mean anything to you?

A. It doesn't mean a lot. I don't personally use copyright notices. I don't find them all that insightful, but it's a declaration that there may be copyright material on this page or somewhere buried in the website.

The statement about the trademark is more of a declaration of Crutchfield's position. It doesn't mean a lot to me either, except to tell me that they think they have a trademark.

Q. And did you review Crutchfield's mobile site from this

time period as well?
A. I did not.
Q. Okay. Would it surprise you that there's a similar -- would it surprise you to learn that there's a similar statement on their mobile site?
A. No.
Q. All right. So turning back to your report. I'm going to ask you to turn to your paragraph numbered three on Page 3 of your report.
A. (Witness complies.) Okay.
Q. And you and I have gone through some of these questions before, so we'll go through them again.
A. Can we just cut and paste that transcript into there? That way I'll know I've said exactly the same thing.
Q. I'm not trying to catch you on anything. It's just my crib sheet here.

So did you do a quantitative analysis of the state resources involved in delivering catalogs?

A. I did not.

Q. And are you familiar with the Ohio systems for financing roads?

A. No.

Q. Are you familiar with the taxes or special taxes that may be involved in road financing?

A. No.

Q. How about garbage disposal in Ohio; do you know who pays for that?

A. No.

Q. Mail delivery, other than the post office; do you know how that's handled?

A. No.

Q. What about telecommunications infrastructure; did you do a qualitative -- I'm sorry -- a quantitative study on the

cost to provide telecommunications infrastructure in Ohio?

A. No.

Q. And do you know what telecommunications infrastructure, in fact, Ohio provides?

A. Not in any specificity.

Q. So when you qualified the difference between the burden on state resources in catalog delivery versus the Internet, are you speaking simply in the context of the delivery of electronic media?

A. Yes.

Q. But you don't know whether Ohio spends a substantial amount on telecommunications infrastructure?

A. I don't have numbers.

Q. And do you know what state agencies are involved in regulations of the telecommunications infrastructure?

A. With respect to Ohio specifically, I do not.

Q. Okay. And if a user in Ohio wishes to view a website, does that require the use of resources in the state?

A. We discussed how in order for a user to access a website, they would need a computer, hardware and software, and Internet connection.

They would have to have those on their person or at their fingertips in order to be able to do so.

Q. And so, presumably, some infrastructure for delivery of the media, delivery of the electronic signal?

MR. BERTONI: Whether there is or isn't infrastructure? I'm not sure.

BY MR. FAUSEY:

Q. It's required, right? So some infrastructure for delivery of an electronic signal is required?

A. There needs to be a --

Internet access providers who are helping to move the data from point to point.

Q. And that involves some built infrastructure, cables, antennas, whatever, whatever that may be?

A. Correct.

Q. And also requires electric, right?

A. Yes.

Q. Now, what happens if -- we talked about speed is good. The delivery of a web page quickly is good.

What happens if a website is delivered slowly?

A. Users are frustrated if they experience an above-average delay in the delivery of a web page.

Q. And so, if an Internet connection is too slow, would that result in a poor shopping experience?

A. It can, yeah.

Q. Would that cost -- ultimately cost the retailer a sale, potentially?

A. It may.

Q. All right. I think that's all I have on that.

On opinion four, on Page 3 of your report, the second sentence of the paragraph numbered four, says, "Crutchfield did not customize or 'personalize' its online marketing for Ohio residents due to their state of residency."

Did I read that correctly?

A. Yes.

Q. If we crossed out the phrase "due to their state of residency," would it be correct -- would you still stand by that statement?

Would you say that Crutchfield did not customize or, quote, personalize, quote, its online marketing for Ohio residents?

A. At that point, we would have to talk about all the different types of customization or personalization they were doing across all their users.

And we had discussed some of that earlier where there might be circumstances that might be considered a customization or personalization across all their user base.

So it would be a harder statement to defend, in part, because I'd have to think more carefully about whether those customizations or personalizations would apply here.

Q. Okay. So it's possible that Crutchfield did customize or personalize its online marketing for Ohio residents?

A. Yes.

Q. Just not due to their state of residence?

MR. BERTONI: Just so it's

clear -- I'll ask on redirect.

THE WITNESS: We gave the example of the remarketing or retargeting, if Crutchfield was using that technique, and there were Ohio residents in the pool, then they might very well have gotten those communications.

BY MR. FAUSEY:

Q. Okay. All right. On your opinion number six, that goes from Page 3 to 4, you spent some time differentiating online marketing to a door-to-door inhome salesperson. Correct?

A. Yes.

Q. And on Page 4 in the third bulleted paragraph down, you state that, "an inhome salesperson can gather an impressive amount of highly sensitive data about a customer simply by observation: The customer's street address; whether or not the customer is at home; the

customer's gender and age; the customer's sense of fashion and grooming practices," and it continues.

Did I read that accurately?

A. You used the word "customer" and I used "consumer," but that's not a material difference.

Q. Okay. Yes.

Okay. So isn't it correct that online retailers can also gather an impressive amount of highly sensitive data about a consumer?

A. As I mention in my report, online marketers can get sensitive information. It might be different than the data that's available to an in-person salesperson.

And it may be harder to obtain simply by observation. It may require voluntary disclosures on the part of the user.

Q. All right. Can I ask you to turn to --

MR. FAUSEY: Actually, could we go off the record for just a minute.

MR. BERTONI: Sure.

(Discussion off the record.)

BY MR. FAUSEY:

Q. I would ask you to take a look at Tax Commissioner Exhibits 44 through 49.

And off the record we've agreed that if those are documents that you authored and recognize, that we don't need to separately lay a foundation for each of them.

MR. BERTONI: Yeah. I mean, they are what they -- if they are what they appear to be, then we'll stipulate to their authenticity, as to that, not their relevancy or...

MR. FAUSEY: Okay.

THE WITNESS: (Witness reviews documents.) I didn't read

them with care, but they look like documents I have authored.

BY MR. FAUSEY:

Q. Okay. And can I ask you to turn to -- specifically to Exhibit 47.

A. Okay.

Q. And this appears to be a paper titled Data Mining and Attention Consumption.

Are you familiar with this one?

A. Yes.

Q. And you wrote this paper?

A. Yes.

Q. Okay. Now, we were previously talking about the type of information that's available to online retailers.

And I'd like to walk you through Pages 3 and 4 of your paper here.

The final paragraph, on Page 3, says, "A hypothetical

situation illustrates how data aggregation and sorting, without use, lacks any meaningful consequences. Assume a data controller aggregates the following data about data subjects into a database" --

MR. BERTONI: Which page are we on?

MR. FAUSEY: I'm on 3 here.

MR. BERTONI: Okay.

BY MR. FAUSEY:

Q. "Assume a data controller aggregates the following data about data subjects into a database: Social Security numbers, birth dates, addresses, gender, race, sexual orientation, and HIV status."

You'd agree that that's highly sensitive information, wouldn't you?

A. It could be.

Q. And that's data available to online retailers?

MR. BERTONI: Objection.

No foundation.

Data can be acquired from various subjects, voluntarily or involuntarily. It's data.

Is it available for collection? Presumably, if someone is willing to give it to them. So I'm not sure I understand.

MR. FAUSEY: Okay. Well, I'll move on.

BY MR. FAUSEY:

Q. Your point is, in this paper, if I understand it, that the harm is not in the aggregation of the data, it's in misuse of the data. Is that accurate?

A. Correct.

Q. Can I ask you to turn to Page 2 of this document.

And do you see the heading, two, "Data mining is an inchoate activity"?

You say, "Data mining is a term of art. Although the term 'data

mining' is often treated as a term of art, it actually has multiple definitions. To understand the term, we need to understand a bit about database operations as illustrated in the following figure."

And then you've got a figure there with three boxes: aggregate, source, and use.

Can you walk us through what you mean by data mining and how we're using these categories to explain data mining?

A. Just to clarify --

Q. Sure.

A. -- the three boxes are aggregate, sort, and use.

Q. Okay. Sorry.

A. And I was interested in data mining as the combination of aggregating data and then the real mining occurs when you sort it, when you try to create some kind of structure around an aggregated set of

data.

And I distinguished that from then, actually, acting upon or using that data. So, for me, data mining was the process of looking for patterns or extracting information from a database.

Q. Okay. So what's involved in aggregation of data?

A. Obviously, with a three-box figure this is a highly abstracted diagram.

Q. Sure. Yeah.

A. Aggregation can come from direct self-reporting. It can come from observation. It can come from acquiring data from third parties who have gathered it using one of those means or others.

Q. And in your review of Crutchfield's operations, did you find that Crutchfield aggregates customer data?

A. Yes.

Q. All right. And then what do you mean by sort?

A. Sort, in this case, is to do some kind of way of structuring the data so that you can extract particular chunks of it.

That could be done based on something as simple as a keyword search or it can be done based on having headings in a database where there are fields of data, and then you can extract a particular set of records that have the same field in them.

Q. Is that the same as data analytics?

A. Just like data mining is a term of art, but not really. Analytics is a term of art, but not really. So analytics is a way of trying to put some intelligence to raw datasets. So, in that sense, it's similar.

But analytics might simply

be a reporting function, as opposed to actually trying to answer a particular question that someone is going to act upon.

Q. In your review of this case, did you find that Crutchfield sorts or employs third parties to sort customer data?

A. Yes.

Q. And what do you mean by use, the use of customer data?

A. Use is to take some action, to do something with the data. In the context of this article, I was especially focused on delivering marketing material to prospective or actual customers.

So, in that case, that would be the type of use. But it could be something completely different. It could be the decision whether or not someone is creditworthy enough to transact with.

Q. And in your review of this

case, did you find that Crutchfield uses customer data, as you've described here?

A. Yes.

Q. Now, let me back up a step and ask you, in your review, did you learn about some of the ways that Crutchfield sorts customer data?

I know you probably asked about whether they sort by geography.

A. Yes.

Q. And what did you learn with regard to that?

A. I learned that they didn't do much of it where geography was the key determinate in deciding whether or not to deliver a marketing communication or to customize the material that was delivered based on that communication.

We talked some about some of the Virginia local activities, for example. So that would be an example where geography played a pretty

important role. But I didn't find a whole lot else beyond that.

Q. Did you find any other -- or did you discover any other ways that Crutchfield was sorting customer data?

A. It's such a broad question that I'm not sure I would even be able to fully answer that. But I don't know that I was asking the right questions even to elicit that, because there are so many different ways they would do it.

Some of that I infer, just based on what I would assume makes sense, based on the two -- the input and the output.

But I didn't ask comprehensively give me a list of all the different ways in which you sort your customer database to deliver or customize marketing communications.

Q. All right. I think we can move on from this document.

Before we move off of it, let me ask about sorting. On Page 3 of this paper, there's -- the third paragraph down starts, "Once data is aggregated a data controller can sort it in a variety of ways, such as, (1) using personally identifying information as criteria (or not), (2) systematically or on an ad hoc basis, and (3) using rudimentary criteria (e.g., provide every mailing address we have) or very sophisticated criteria, (e.g., every Wisconsin resident who purchased wool sweaters on a Friday evening during the last month)."

So did I read that correctly, first of all?

A. Yes.

Q. So did you, in your review of Crutchfield's facts and circumstances, determine whether Crutchfield was using personally identifying information as a criteria

to sort data?

A. I believe that's a restatement of some of the questions we've asked earlier.

Q. Okay.

A. So, for example, did they remarket to people who abandoned shopping carts? They would use e-mail addresses as part of delivering that.

The catalog marketing would also necessarily involve looking at potentially personal information -- personally identifying information as part of sorting the database.

Q. And I guess the last question, and then I'll move off of this, is, in terms of the very sophisticated criteria you mention here, you gave as an example every Wisconsin resident who purchased wool sweaters on a Friday evening.

Did you find any examples of Crutchfield using sort of

sophisticated criteria to sort data?

A. I don't think I found anything unusual about the way that they sorted the data.

Q. All right. Anything -- did you find that they were sophisticated about the way they were doing it?

A. On an impressionistic basis, I thought that Crutchfield was pretty smart. I thought they had a pretty good handle on how to communicate with their customers.

But I don't think they did that last rung where they were doing something that blew me away, where I was amazed that they were doing it and no one else would be doing that.

Q. Okay.

MR. FAUSEY: I think I'm about done.

Just give me one more second to go through my notes.

(There was a pause in the proceedings.)

MR. FAUSEY: That's it for me.

Thank you for your time.

MR. BERTONI: I have some redirect.

I'll try to be brief.

REDIRECT EXAMINATION

BY MR. BERTONI:

Q. There was a brief set of questions about the degrees that you have. I mean, special mention was made of engineering and information sciences, and I believe your answer was that you did not have degrees in those areas.

Is that right?

A. Correct.

Q. In the course of your work, do you consult with individuals on a regular basis who have science, engineering, and information sciences degrees?

A. Yes.

Q. And do you rely upon that

information in the work that you do?
A. Yes.
Q. And in connection with your review and opinions given here, did you rely upon information gleaned through those sources to assist you in understanding Crutchfield's activities and to reach the opinions you've asserted here?
A. Those interactions are part of my general knowledge and understandings, and I deployed that background in doing my work for Crutchfield.
Q. Okay. And when you were talking about driving customers to retail stores using online or advertising on the radio or television, does Crutchfield have any retail stores in Ohio?
A. Not that I'm aware of.
Q. And are you aware of any -- well, let me ask you this question. There was some attention being

focused on Crutchfield New Media, LLC.

Do you recall that name?

A. That was in the footer of the web page that we looked at.

Q. Do you know whether that's a separate company from Crutchfield, Inc.?

A. I did not ask that question.

Q. Okay. We were talking about the various sources of data that can be obtained from the individual consumer, from third parties.

Does Crutchfield use that kind of data to mail catalogs as well?

A. It could.

Q. And in the industry, is it typical to use data about the customer to determine what to put in a catalog, for example, a physical catalog?

A. I'm sorry. Which industry?
Q. In the direct marketing industry, do direct marketers who promote by catalog rely on similar kinds of information about consumers to determine what to put in catalogs and how often to promote, for example?
A. These are all part of the marketing generally. So catalog marketers, at least the successful ones, tend to be pretty sophisticated about that.
Q. So data analytics applies to any number of marketing channels, it's not specific to one?
A. Every marketer wants to know more information about their customer. They're always looking for reliable sources. So every marketer does some form of analytics about how they're doing.
Q. Do you know whether Crutchfield mails catalogs based upon

geographic criteria?

A. My understanding is that they do national distributions of their catalogs. So they don't separately target any geography for receipt of catalogs.

And that there may be customized versions of the catalogs for Virginia residents to promote the retail store.

Q. Apart from that, you're not aware of any geographic customization?

A. No.

Q. And if a customer did not -- if a customer disabled cookies, did that inhibit them or prevent them from placing an order through another channel, by phone, for example, or mail?

A. No.

Q. So that it is possible that the disabling of cookies might make it more difficult or impossible to

order online, but that wouldn't prevent a customer from ordering another way, correct?

A. Correct.

Q. And we talked about cookies and there was some confusion I had about what a cookie does in terms of identifying a user.

Does it identify a user or does it identify a specific machine, a computer?

A. It identifies the browser software.

Q. Okay.

A. So, if a cookie has been placed in Google Chrome, that cookie won't be read by Microsoft Internet Explorer. So it identifies the use of a particular software on a particular machine.

Q. So, if you get a cookie and it tells you that the visitor who has that cookie comes back, does it tell you that the same computer and

browser came back or whether a specific person came back?

A. It will tell you that this particular browser software is returning.

Q. Okay. And it doesn't tell you whether or not it's the same person who's using that software?

A. That's correct.

MR. BERTONI: I have no further questions on redirect.

THE WITNESS: I believe that would be characterized as brief.

(Witness excused.)

(The deposition concluded at 2:26 p.m.)

WITNESS CERTIFICATION

I hereby certify that I have read the foregoing transcript of my deposition testimony, and that my answers to the questions propounded, with the attached corrections or changes, if any, are true and correct.

_____ _____

DATE PROFESSOR ERIC GOLDMAN

_____

PRINTED NAME

File # 11270

Crutchfield, Inc.
vs.
Joseph w. Testa

CERTIFICATE OF SERVICE

This is to certify that a true copy of the foregoing Joint Motion to Supplement the Record – Exhibit A was sent via the Court's electronic filing system and by U.S. mail to counsel of record for Appellee Tax Commissioner, Daniel W. Fausey and Christine T. Mesirow, Assistant Attorneys General, State of Ohio, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215–3428, on this 21st day of May, 2015.

s/ Edward J. Bernert
Edward J. Bernert (0025808)
One of the Attorneys for Appellant
Crutchfield, Inc.