EXHIBIT 3

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

DISPLAYLINK CORPORATION, a Washington corporation,

Plaintiff,

vs. No. 5:07-CV-01998-RMW

MAGIC CONTROL TECHNOLOGY, CORPORATION, a Taiwanese corporation,

Defendant.
_____/

AND RELATED CROSS-ACTION
_____/

Videotaped Deposition of
PAUL S. MIN, Ph.D.
January 8, 2008

Pages 1-186
Reported by:
SHARON LANCASTER
CSR No. 5468

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APPEARANCES: (Continued)

WING, HARTMANN & GIBBS, PLC, 2033 Gateway Place, Suite 500, San Jose, California, Telephone: (408) 451-3935, represented by RICHARD F. CAULEY, Attorney at Law, appeared as counsel on behalf of Defendant and Counterclaim Plaintiff MCT, Corp.

ALSO PRESENT:

GENE FRYE, Videographer

BE IT REMEMBERED that, pursuant to the laws governing the taking and use of depositions, and on Tuesday, January 8, 2008, commencing at 12:42 p.m. thereof, at the offices of Wilson, Sonsini, Goodrich & Rosati, 601 S. California Boulevard, Palo Alto, California, before me, SHARON LANCASTER, a Certified Shorthand Reporter in the State of California, personally appeared

PAUL S. MIN, Ph.D.,

called as a witness by the Plaintiff/Cross-Defendant, who, being by me first duly sworn, was examined and testified as is hereinafter set forth.

WILSON, SONSINI, GOODRICH & ROSATI, 8911 Capital of Texas Highway North, Westech 360, Suite 3350, Austin, Texas 78759-8497, Telephone: (512) 338-5423, represented by BRIAN A. DIETZEL, Attorney at Law, appeared as counsel on behalf of Plaintiff and Counterclaim Defendant Displaylink Corporation.

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TUESDAY, JANUARY 8, 2008 12:42 P.M.

PROCEEDINGS

THE VIDEOGRAPHER: Good afternoon. We are now on the record.

This is the beginning of Video No. 1 of the deposition of Dr. Paul Min, taken by the plaintiff, in the matter of DisplayLink Corporation vs. Magic Control Technology Corporation and related counterclaims, in the U.S. District Court, Northern District of California, San Francisco Division, Action No. 5:07-CV-01998-RMW, held in the offices of Wilson, Sonsini, Goodrich & Rosati, located at 601 South California Avenue, Palo Alto, California, on January 8th, 2008. And the time is approximately 12:42 p.m.

The Court Reporter today is Sharon Lancaster, in association with Shari Moss & Associates. My name is Gene Frye. I am a certified legal videographer and notary, in association with Mediaxcellence.

If there are no stipulations, will all counsel please state your appearance for the record.

MR. DIETZEL: Brian Dietzel for DisplayLink.

Wilson, Sonsini, Goodrich & Rosati.
MR. CAULEY: Richard Cauley, Wang, Hartmann & Gibbs, for Magic Control Technology.
THE VIDEOGRAPHER: If there are no stipulations, will the Court Reporter please swear in the witness.

PAUL S. MIN, Ph.D.,

having been first duly administered the oath, under penalty of perjury, testified as follows:

EXAMINATION

BY MR. DIETZEL:

Q. Okay, Dr. Min. We just spent three or four hours going through the same routine, so you're familiar with the process.
Again, my name is Brian Dietzel. I'm with Wilson, Sonsini, Goodrich & Rosati, representing DisplayLink Corporation in this case.
Can you please state your full name, home and business address for the record, please.

A. My name is Paul Seungkyu Min, spelled S-E-U-N-G-K-Y-U. Last name spelled M-I-N. My home address is 53 Arundel Place, A-R-U-N-D-E-L, Place, Clayton, C-L-A-Y-T-O-N, Missouri 63105.
My business address is Department of

Electrical and Systems Engineering, One Brookings Drive, B-R-O-O-K-I-N-G-S, Drive, Campus Box 1127, St. Louis, Missouri 63130.

Q. Thank you. I'm going to go through some admonitions real quickly. We heard these earlier.

A. Okay.

Q. You're aware of the significance of being under oath?

A. Yes, I do.

Q. The same consequences as being at trial, correct, in a courtroom. Okay?

A. Yes.

Q. There is a protective order in place. Not that it should matter here, since we're going to be talking about things in the general art --

A. Mm-hmm.

Q. -- of the '788 patent. So that should not be an issue, but -- so that shouldn't limit what you can tell me today.
Of course, you're entitled to a clear question. I'll do my best to start with those. But if you don't understand anything I'm asking, please ask me to clarify.

A. Okay.

Q. You're aware that we can amend the

transcript later as needed, subject to possible statements at court?

A. Okay.

Q. We'll take breaks, if you need one. This will probably go, as Mr. Cauley did earlier, every hour, hour and 15 minutes, something along those lines.

A. Okay.

Q. Feel free to ask if you need to step out.
You are aware that the answers need to be oral?

A. Okay.

Q. Then, of course, we want to try to avoid talking over one another. We don't have the delay between here and the U.K., so that should help us a little bit there.
And You understand that you're here testifying today on behalf of MCT and yourself?

A. That's correct.

Q. And you understand that you're here today to give testimony on the issues of background and claim construction for the '788 patent; is that correct?

A. That is correct.

Q. Very good. Okay. I will start much as Mr. Cauley did.

THE WITNESS: Excuse me one second. Sharon, am I supposed to see something going on here? (Referring to the electronic real-time transcript.)
(Remarks off the record.)
MR. DIETZEL: We'll start by introducing Exhibit 1, which is the CV of Dr. Min.
That's a copy for you.
(MIN Deposition Exhibit No. 1 was marked for identification.)

BY MR. DIETZEL:

Q. Do you recognize Exhibit 1, Dr. Min?

A. Yes.

Q. What is it?

A. I do.
This is the latest version of my professional CV.

Q. And by "latest," how recently has it been updated?

A. I believe perhaps a couple of months ago. I don't recall exact date, but thereabouts.

Q. Does your CV accurately depict your qualifications?

A. I believe so.

Q. Does it accurately depict your academic experience?

A. Yes, it does.
Q. Does it accurately depict your work experience?
A. Yes.
Q. Does it also include a complete list of any articles and publications to which you are attributed authorship?
A. I believe that is correct.
Q. So are you aware of any updates that you might need to make to this today between the last time you updated it and the time of our deposition now?
A. Not as far as I'm concerned, no.
Q. Okay. Beginning with your latest degree, can you briefly walk me through your educational background.
A. Yes. The latest degree -- the last degree I received is a Ph.D. in electrical engineering in 1987 from the University of Michigan in Ann Arbor. And there, I have worked on certain electronic system that does a diagnosis and detection of sensors and actually is something that is very typical in the electrical engineering Ph.D. thesis at the time.
Q. And before your Ph.D.?
A. I received a master's degree in electrical

engineering from the same department, same school. And my coursework there was communication, control, electronics, something more broader than -- you know, much more narrowly focused to Ph.D. work than after.
Q. Prior to your master's degree, you earned a B.S. in electrical engineering?
A. Yes. In the same department, same university.
Q. Are there any degrees that you have that aren't listed on your CV?
A. Any post-high school?
Q. Post-high school. Yes, sir. Sorry.
A. No, there is none.
Q. How about any post-high school education that might be relevant to the technology of the '788 patent?
A. I believe my CV that you have here in front of you, and myself also, accurately reflects my background in that regard.
Q. Okay. Thank you.
Do you have any legal training?
A. I do not have any legal training.
Q. Moving to your work history, your professional background, can you summarize your employment history starting with the position you're

currently in now.
A. Yes. I am currently associate professor in the department of electrical and systems engineering with the Washington University in St. Louis. I joined this department, with a different name, 17 years ago; it was just called electrical engineering at the time.
In 1990, I went through the tenure process, got promoted from assistant to associate and then changed the name of the department. So now I'm an associate professor in the department of electrical and systems engineering.
Prior to that, I spent three years at Bellcore. And now it's called Telcordia Technology, I believe. Telcordia, T-E-L-C-O-R-D-I-A. Telcordia Technology. I'm not sure exact legal name of it. It just changed recently. I was there for three years and working on communication networks and equipment that went into different communication networks and data centers and so forth.
While I'm being a professor at Washington University, I've also started a couple of companies over the past ten years. I held different positions in those two companies. The name of companies are listed in -- also as part of my professional

experience. One of them being Erlang Technology, and the other one being MinMax Technologies. I held different positions in technical and managerial positions in these two companies. And I've also done some consulting work with different companies and organizations, some of which is listed in this CV.
Q. At Erlang Technology --
A. Yes.
Q. -- that you mentioned, what kind of products are associated with Erlang?
A. Erlang Technology is a company that provides solutions for the Internet industry and some telecom industry as well. So we make software and some chipsets and some board solutions, and so forth, for those industries. And I been doing that for eight -- almost nine years now in the company.
Q. With respect to Erlang, did any of your work there involve universal serial bus?
A. Not working on that developing standard or product, per se. But, you know, USB, the universal serial bus, is so widely used, and, you know, you always deal with certain connections that involves USB or, you know, HDDV-15, which VGA plugs are made of. So...
Q. And MinMax Technology, what kinds of

products or services were made there?
A. MinMax Technologies. The product there was strictly a semiconductor chip for switching a chipset for communication equipment.
Q. Your CV -- strike that.
What would you say is your area of technical expertise?
A. All my professional career, I have always worked on electronics-related area. So I made chips, which is a major component in electronics. And before making chips, I made systems, electronic devices, boxes.
So I've worked always in the area of electronics. Now, application area has been different from time to time. Initially, I worked in the control and automotive area. That's back in '80s. And since coming to Bellcore, because of the company being in Internet and telecom industry, my focus has shifted to much more so communications area. And more recently, I have done a lot of areas -- a lot of work in computing application as well.
Q. Your CV states that you have expertise in switching, network performance analysis and control, wireless communication, Internet security, network

management, basic development. Is that accurate?
A. Yes.
Q. Are there any areas of expertise that you would add to this list here?
A. I would just make a note that the expertise as I mentioned to you in application areas. But underlying skill that I developed all along apply to all of these areas has been electronic systems and design.
Q. Okay. Which of these areas of expertise mentioned on your CV here relate to USB?
A. Switching, for example. You know, USB is not exactly, you know, specific to switching. But certainly I was -- I have been making switching equipment. And whenever you build the equipment of the complexity, you know, that typical switches employ, the interfaces and connectors are always an issue.
And another -- you know, for example, another is when you build any type of electronic devices with, say, CPU in it -- and these days the CPUs have built-in USB driver, and they almost assume that certain communication will be done through USB port. So, you know, not knowing USB is just not something that you can be, you know, whenever you

work in electronics and computer communications area.
Q. Are there any other areas that you think would relate to USB?
A. ASIC development, obviously. You know, in ASIC development, USB. The core for IPs, you know. Most foundries provide them, so we can provide built-in macros for USB connections. So these are almost to second nature to people who do any kind of work in computer and communications-related area.
Q. Any others that you would include?
A. Most -- I can, you know, name the names, but, you know -- for example, in Internet security work, a solution that we provided was built on what is called a PCI form factor small card that can be actually plugged into the backplane of a PC, as we heard from Dr. Jones this morning. And PCI is very commonly used backplane technology for computers.
So in that and USB connections to that board was also designed in. And, once again, it's almost too ubiquitous for all applications in electronics systems development or solutions. So, you know, for me to say that, you know, a certain one out of this would be more limiting than necessary.
Q. Would you have similar comments if I asked you the same question with respect to VGA?

A. No. I think my comments would be somewhat different in VGA.
VGA is, as the name says, related to the display technology. So display technology, also VGA terminal, the device, the display device. So it's really something that we use, because every time you interface with a computer, you need to be able to see it in front. So VGA is something that we are -- someone like myself, and myself specifically, you know, are so familiar in using and knowing what it is than actually having to work on it. So that would be my comment.
Q. The last question, I think, here: Of the areas of expertise listed here, and even the general expertise that you discussed earlier, which of these areas would you say is most relevant to the technology of the '788 patent?
A. I would say ASIC development and some switching work that I have done in the past. Those two would be perhaps most relevant.
Q. Very good. Okay.
In your academic career either as a student or your time as a professor, assistant professor, in roles you have taken in teaching others, are there courses that you teach on USB or VGA?

A. Not on those topics. But those topics would be mentioned and covered and -- for example, I'm teaching a course in transmission engineering. I mean, I have taught it. And in those classes, I talk about different electrical technology and communication. So, you know, we mention those, and, you know, we talk about in different detail.

Q. Your CV lists quite a few publications and things that you have been involved with. You're apparently a pretty prolific writer.

Which, if any, of those either papers, the patents, any of the documentation that's mentioned in your CV -- do any of them describe or disclose USB-to-VGA converters?

A. Not specifically. And I can tell you the reason.

These publications are academic publications that are peer reviewed by the peers and aimed for publication in prestigious conference or journals. And the standard practice in those conferences or the journals is that, you know, we don't talk about standard implementation, certain implementation between, you know, one standard and another standard. Those are more technical publications that might happen inside a corporation or in the context of a

patent, like the way the '788 patent is written.

Q. Do you know offhand if any of those -- any of your papers listed in your CV patent applications, any of the documents, describe USB?

A. Hmm. Allow me one second. (Witness reviewing document.)

There are some more industrial conferences that I may have attended in the past, and some of those papers may be talking about the issues similar at that level, although I cannot recall exactly whether or not I mentioned USB or VGA as, you know, possible choices of technology.

Q. So other than what is mentioned in your CV in Exhibit 1, is there any other academic or professional experience that you have that you think relates to the technology of the '788 patent?

A. Not on top of my head right now.

Q. Let's move on to another area, and that is: How did you become to be an expert witness for MCT in this litigation?

A. Actually, Mr. Cauley's firm contacted me. I think Mr. Cauley knew about me because I was an expert witness for a different case just before this. It's listed here in my CV under litigation support experience.

Oh, wait a minute. Oh, this is not listed here. I'm sorry. I apologize.

But just to conclude it, perhaps this CV was something that you obtained for -- prior to that ITC investigation.

MR. CAULEY: Yes.

THE WITNESS: There, I was just involved -- I will correct my statement that I made earlier. There needs to be one extra litigation support experience.

BY MR. DIETZEL:

Q. Okay.

A. Which was, I was an expert witness for the case, ITC case between Aton, Aton Corporation -- I'm not sure if that name is correct -- but Aton versus a whole bunch of companies, which include the firm that Mr. Cauley represented, RATOC?

MR. CAULEY: Yes.

THE WITNESS: RATOC, R-A-T-O-C. And I was the technical expert for that case.

At that time, I didn't really work with Mr. Cauley at all. In fact, I didn't know him. He -- his firm -- the company that he was representing at the time was a co-defendant with the company that I was hired for doing expert witness. So I guess he

knew about me. And that's -- I suspect that's how he found me. Although I don't know what else he did to find me.

BY MR. DIETZEL:

Q. So you guys were on the same side, but just not working with the same defendant or --

A. Yeah.

Q. -- respondent?

A. That's right. I didn't know -- I didn't know him or his firm at all.

Q. What was the technology at issue in that ITC investigation?

A. KVM switch; keyboard, video display and mouse. But there we talk about a lot, you know, USB port and, you know, HDVD-15 port. That's HDVD-15. HDVD-15 port and, you know, PS/2 port and all different type of ports.

MR. CAULEY: Brian, I'll get you the actual name of that case.

MR. DIETZEL: Okay. Please.

BY MR. DIETZEL:

Q. While we're on your litigation support experience, let's go ahead and cover real quickly the Broadcom v. Qualcomm.

A. Yes.

Q. Is that the one that is currently going on, that seems to be making a lot of news recently?
A. I believe -- I don't -- I haven't really spoken to the attorney since the trial and my part was over. The part that I served as a witness was in May of last year, 2007, when I testified. And the verdict came down, and I have not been involved in the case at all after that.
Q. Okay. What was the technology at issue there?
A. It was dual mode communication applied to a CDMA network that Qualcomm was selling and promoting.
Q. In the Avaya v. Mitel Networks, Mitel Networks?
A. I'm not really sure if I need to even list there because I didn't really testify or anything. But it was -- it was about the unifying messaging system, and, you know, you can have a fax, e-mail, voicemail coming into one system and display on your form or computer.
Q. Yes. I've written a few patent applications for that technology way back when.
Okay. Do you recall when you were first engaged by Mr. Cauley and MCT in this litigation?
A. Not exact date, but about two months ago.

Q. About two months ago?
A. Yes.
Q. So that would have been before the December 14 -- before December 14th?
A. I think that's correct.
Q. So it would be early November?
A. Yeah.
Q. You said you hadn't worked with Mr. Cauley and Wang Hartman before; is that correct?
A. That is correct.
Q. Have you worked with MCT in the past?
A. No.
Q. Do you know anyone at MCT?
A. No.
I'm sorry. I'll qualify that last statement. I don't know who is working at MCT. I may know somebody, but I'm not aware.
Q. Okay. Thank you.
When Mr. Cauley contacted you about participating in this litigation, helping Wang Hartman and MCT in this litigation, did he give you a description of the nature of this case?
A. I believe I received a patent from Mr. Cauley -- Mr. Cauley's colleague actually, and then I read it. And it was -- you know, a patent is

not very long. So I understood the topic pretty well, but I didn't really understand the specific nature of the litigation. And it was over the past few weeks or two since the first contact by Mr. Cauley's colleague that I began to understand what the litigation was about.
Q. Mr. Cauley's colleague that contacted you, do you remember who that was?
A. Erick Wolfe. I believe he spells it E-R-I-C-K.
Q. You're here today to testify about claim construction of certain disputed terms in the '788 patent.
Have you done any other investigation or expert analysis on behalf of MCT for this litigation besides your claim construction efforts? For example, have you investigated DisplayLink's products, their operation?
A. No, not particularly. I have some documents that were forwarded by Mr. Cauley. But I haven't really -- other than reading it for my own broad understanding, I really haven't spent too much time, you know, just to delve into a detail to be able to do analysis. Not yet, actually.
Q. The documents that you mentioned Mr. Cauley

providing you, were those marketing documents? Would those be technical documents?
A. I believe there was one document that was pretty extensive, a description of a chip datasheet. I don't recall the exact number. It was a product datasheet for one of the products that DisplayLink's chipset was. Once again, I didn't really have a chance to look through the whole detail of it.
Q. And you don't recall what product it related to?
A. It was one of the chipsets that DisplayLink makes.
Q. Do you have anyone working with you on this case that assists you in your investigation, things along those lines, other than --
A. Other than attorneys?
Q. Yes, sir.
A. No.
Q. The three litigations that you mentioned before, did you participate in the claim construction process in each of those?
A. Not the Broadcom vs. Qualcomm case. I was not part of that. But the ITC case, I was.
Q. And what was the extent of your participation in that?

A. I was involved from the beginning, I guess. We talked about all the terms, and then we made a proposal. And then, of course, the other party also made a proposal as to what that was going to be. And we argued why one is more suited versus not.

And, as I understand it, you know, the process in district court is a different form, the ITC case, and we didn't have what they call the Markman hearing in ITC. So we end up not deciding on, you know, which is the right definition or interpretation until when the judge basically handed down a verdict.

Q. From your work on the ITC case, and then the Avaya case, are you familiar with the concept of the hypothetical "person of ordinary skill in the art"?

A. Yes.

Q. And what is your understanding of -- I guess, do you have an understanding what the general definition of or how they describe the person of ordinary skill in the art?

A. For this '788 patent?

Q. Well, not for that. But just the general concept of what a person of ordinary skill in the art is?

A. I think so. I don't mean to be legally

correct on this, but it's just my understanding.

To me, that -- what that person should be is -- those persons should be the target of this patent disclosure. So when the person reads the patent and the claims and specifications together, the person has sufficient background to understand what the inventor meant and what inventor is also protecting.

MR. DIETZEL: All right. At this time, I will introduce U.S. Patent 7,203,788.

(MIN Deposition Exhibit 2 was marked for identification.)

BY MR. DIETZEL:

Q. Okay. Do you recognize this document, Dr. Min?

A. Yes, I do.

Q. So if it's okay with you, we'll refer to this as Exhibit 2, the '788 patent, as we have been doing earlier today.

Have you read the '788 patent?

A. Yes.

Q. Did you understand the '788 patent?

A. Yes.

Q. In view of your understanding of the '788 patent, what would you say is the relevant art of the

'788 patent? Or how would you describe the relevant art of the '788 patent?

A. Relevant art, the field of art is, I would say, USB technology and computer peripherals and electronic system design. And those would be the field of art for this patent.

Q. In your opinion, what kind of person would be one of ordinary skill in the art of the '788 patent?

A. I believe one of ordinary skill in the art would have a bachelor of science degree in electrical engineering, computer science, computer engineering, and for this particular patent, maybe a year or two of experience in industry to appreciate the value of this technology in the practical sense: Why would inventor develop something like this? What is the purpose of doing this? And, you know, some of those commercial and business issues that the fresh out of school student would not particularly appreciate. So it takes maybe a year or two to do that.

Q. You said may have a year or two of experience in the industry. Which industry --

A. Electronics industry.

Q. Okay. How familiar would this person of

ordinary skill in the art need to be with USB?

A. To understand this patent as the person read it, not much.

Q. So would you say they wouldn't have to see the -- they wouldn't have to have seen the USB spec before reading the '788 patent to understand?

A. No. Because the spec doesn't really relate to any details about USB spec.

Q. A similar question with respect to VGA. How familiar would they need to be with VGA?

A. Not much, other than the fact that the VGA is commonly used as the USB is.

Q. Would you say they would need to have any knowledge or awareness of the USB/VGA standards organizations?

A. I'm not sure if I understood your question. Could you say a little differently?

Just aware of the existence of those organizations or the part of it?

Q. I guess maybe a better way to ask it: Would they need to have any familiarity with the USB or VGA standards bodies to be considered a person of ordinary skill in the art?

A. No, not necessarily.

Q. What did you do to prepare for today's

deposition?
A. I read the patent, and I read some part of prosecution history. I must confess that I didn't read it entirety, word for word, for the prosecution history. And I read the joint claim construction proposal that I received a few days ago. And I spent a couple hours yesterday with Mr. Cauley and his colleague. That was it.
Q. You said you read some parts of the prosecution history. Do you remember which parts in particular you read? Is it just sort of random samplings?
A. No. Just glancing through and see which parts were relevant. Because there were a lot of, you know, respondents going back and forth. So those parts that I didn't feel was so important for me to understand, I kind of skipped over. But, you know, I can't tell you exactly. But I was just trying to find the major points.
Q. Do you recall if you read the office action rejections that came from the USPTO?
A. Not specifically in all detail. But, you know, I have nine patents of my own, so I know how the USPTO initially question your claims, and then they will always conditionally reject and ask for

your responses. And, you know, I know that process pretty well. So I believe I have seen some of that, but I do not recall all the details.
Q. Okay. Have you seen the products at issue in this litigation?
A. I have not seen the product yet.
Q. So then you haven't operated any of the accused products?
A. No.
Q. You haven't reverse engineered any of the accused products?
A. No.
Q. Other than one specification that you mentioned earlier as having been received from Mr. Cauley --
A. Mm-hmm.
Q. -- do you have any other documents concerning the accused products in this case?
A. About the accused products. I have a lot of documents. There was several binders full. But I didn't really spend any time on much of it. I've seen -- I flipped it over, and Mr. Cauley was kind enough to send all these documents for me to just have as a reference. But I haven't really used it for this particular process. There may have been

others, but I don't recall if there is.
Q. So if you have them, you're not aware of it yet. You haven't gotten to those?
A. No.
Q. Do you recall having to refer to anything outside the patent to either arrive at or support the claim construction positions in the joint claim construction statement that you were mentioning earlier?
A. I'm trying to recall whether or not I actually used the USB2.0 spec, the standard document. I may have glanced through, once again, just so that I'm clear on certain details of that. But they were not the source of all my interpretation.
Q. You said you may have referred back to the USB specification. Can you recall if there was a particular term at issue that may have prompted you to at least consider referring to the USB spec?
A. Right. So I looked at and see if USB2.0 spec actually had a signal format defined for display devices, for example. Because I wanted to make sure that there was not any standard way of a communicating display signal.
Another one, maybe I wanted to know if a VGA type of device, display device was one of the target

devices through any means possible in USB2.0 spec. I just wanted to make sure that there was no special provision for it. Just making sure that -- I didn't think so, but I just wanted to make sure that that was not the case.
Q. Okay. Moving on to the terms at issue in this litigation. Were you involved with the selection of terms to be construed?
A. No, I was not.
Q. Were you involved with developing the initial constructions for the terms that are --
A. Yes, I was.
Q. So can you describe to me how that process went? Did Mr. Cauley or one of his colleagues send you a list of terms at issue?
A. Yes. I received basically a table with one side listing all the terms that the two parties decide to disagree, or maybe to construe the meaning of. And then Mr. Cauley and his colleague asked me to provide interpretation based on my understanding as a person of ordinary skill, which I provided.
Q. In developing the constructions that you proposed back to Mr. Cauley and his colleagues, what documents did you refer to?
A. I think I used the patent for most -- mostly.

In fact, I'm trying to think if there was any time that I used anything else. I think I looked at one of the textbooks, communication textbook, just to make sure that the IEEE defined the bridge devices had some special meaning. I teach IEEE chip communication classes, you know, so I had those textbooks right there, so I just looked at it. But I didn't really use any text out of there.

I tried to interpret the terms that were -- terms and phrases that were given to me. Number one, basically just reading the claims and see if some of the terms were just well understood, and if not -- and that was -- and after that process is done, I went back and make sure that what I have interpreted is consistent with what's written in the specification.

And as you recall, in this joint claim construction proposal, I have a very little extrinsic evidence that I could provide. I just did it mostly based on my experience and understanding of what the patent really means.

Q. So you don't recall ever asking for more documents from Mr. Cauley or his colleagues?

A. I have not done that at all.

Q. You mentioned you reviewed portions of the

file history for the '788 patent. Do you recall if you reviewed any of the cited references?

A. No. Actually none.

Q. None?

A. No. I mean, when I first received the whole binder full, I just flipped through just to make sure what was in there. There was some patents. I assumed that some of those might be the prior art listed on the patent or some of them might be. But I'm not really aware of specifically, you know, which ones that I have to see to come up with any definitions, and so forth.

Q. Have you seen DisplayLink's preliminary invalidity contentions in this case?

A. No, I have not.

Q. Did you refer to any other MCT patents at any point in time?

A. No. This is the only patent that I know from MCT.

Q. You mentioned looking at communications textbooks that you had from one of your classes.

A. Mm-hmm.

Q. Do you recall locating any other documents or extrinsic evidence that you thought relevant to the claim construction process?

A. No.

Q. Have you met with anyone at MCT?

A. No. Once again, I don't know anybody who is there. As far as I'm aware, I have not met anybody. But there might be some people that work for MCT that I don't know but I might have met.

Q. Well, I was asking just in relation to this, Have you met any.

A. No, I have not.

Q. Sorry. I should have been more clear. I apologize.

Are you familiar with MCT's products, by any chance?

A. No, not -- I -- you know, I can't say I am.

Q. So before we move forward, for the terms that are in dispute --

A. Mm-hmm.

Q. -- you're here today, prepared to discuss your constructions and your support therefor; correct?

A. That is correct.

Q. And then for the terms in dispute, are you prepared to discuss why DisplayLink's proposed constructions are inaccurate or --

A. Yes, I am.

Q. Okay. Do you have an understanding of how MCT defines the terms at issue in this litigation?

A. I'm sorry. Could you repeat that question?

Q. Do you have an understanding of how MCT defines the terms at issue in this litigation?

A. I am trying to understand your question.

MR. CAULEY: It's just a setup question, right?

MR. DIETZEL: Yes.

MR. CAULEY: I think he's referring to this.

THE WITNESS: Oh, okay.

I mean, I have provided all the preliminary and the interpretation of all the terms myself. So certainly I know what the terms mean in this part of this joint proposal. But I wasn't sure if your question is, How do you actually pick those terms to be discussed. That, I don't know.

BY MR. DIETZEL:

Q. I understand. It's probably a poor question. I shouldn't have wasted your time with it.

I'll introduce the Joint Claim Construction Statement.

(MIN Deposition Exhibit 3 was marked for identification.)

BY MR. DIETZEL:
Q. Have you seen Exhibit 3 before today?
A. Yes, I have.
Q. Regarding the constructions -- MCT's constructions that appear in this document and those that you originally proposed and shared with Mr. Cauley and his colleagues, are there any differences between the constructions for each of the terms, that you can recall?
A. No. I believe these are the terms that I have provided the constructions for. Yeah, I mean these are my constructions. I believe, as far as I can tell, word for word, I think these are the constructions of the claim phrases that I have proposed.
Q. Okay. Referring to Exhibit 3, the Joint Claim Construction Statement, at the bottom of page 3 we have a disputed term, "display device."
A. Yes, I see it.
Q. Prior to getting involved with the MCT-DisplayLink litigation, did you have an understanding of the definition of the term "display device"?
A. Yes, of course.
Q. What was that?

A. A display device literally is what it says here: Electrical signal, converting that to images that we can see.
And I listened to Dr. Jones this morning regarding his statement about images -- just having the image without displaying it. You know, he was doing some investigation on the image processing without really displaying.
But, to me, as a person of ordinary skill in the art, without doing all this -- even Dr. Jones mentioned this morning that a person of ordinary skill in the art is a digital systems architect, and he is not a person who does the imaging investigation or anything.
The electronic persons would say "image." It just means it's actually what is being displayed. And, you know, we're not going to have an image without being displayed in any -- you know, without being displayed.
So I understood what Dr. Jones was saying earlier on. But that's where the -- exactly what is being said here, at least to the person of ordinary skill in the art.
Q. Would you characterize your construction here as the plain and ordinary meaning?

A. I believe so, yes.
Q. Is it correct to say that you believe the construction here is the correct construction in view of the '788 patent disclosure?
A. Yes, I believe it is.
Q. Your construction here is: "Device that converts electrical signals to images."
A. That is correct.
Q. Do you contend that any electrical signals can be converted to images?
A. Any electrical signal can drive a display device. What results as an image may or may not make any sense. It's no worse than driving an iPod with a data file, for example. Some sound will come out, obviously, because it's an electrical signal that drives the speaker, but what comes out may or it may not make any sense.
What I meant here is, in the context of displaying something, what drives a display device is an electrical signal of some kind. In this case, it happens to be the VGA signals. And that VGA signal, which is electrical, which we cannot see, is converted by the display device so we can see it as image. And that's really what I meant by display device being a device that converts the electrical

signal to image.
Q. You would agree that the phrase "electrical signals" is pretty broad?
A. Yes, it is actually a very broad term.
I didn't really say that imaging has to be something that makes sense. If you put the electrical signal to a display device, something will show, because it's an electrical device. If you drive that device with a signal, then something will show. It may or may not be something that is useful, but something will show.
The display device does not have intelligence enough to distinguish what it is displaying makes sense to the human user. But it will still display. So, you know, we don't need to limit the signal to -- just to give the signal that is comprehensible by a user or a human being.
Q. Do you contend that a person of ordinary skill in the art would consider -- If reading your construction, how would a person of ordinary skill in the art define "electrical signals"?
A. Electrical signal has a really plain and ordinary meaning. Electrical signal is just a current -- C-U-R-R-E-N-T -- electrical current moving over a conductor. That's an electrical signal. And

that's what drives the display device.
Q. Okay. You're familiar with Ethernet, the network?
A. Sure.
Q. Electrical signals travel down the Ethernet wires; correct?
A. That is correct.
Q. So do you have a display -- is it possible to have a display device that converts Ethernet signals to an image?
A. The Ethernet signal -- what is the best way to say this here.
Ethernet signal obviously is not meant to be an image. It doesn't really correspond to an image that we can see it and understand, the human being, that is, because it's the bit stream, ones and zeros. And that has nothing to do with image. It is probably some kind of a file that is being -- or the packet that is being transported between the two ends of that communication over the Internet.
If you were just to put that signal to a display device, something may flicker on the screen. And, as I said, it may not make any sense. It probably wouldn't make any sense. It's like, you know, connecting the output of your data transmission

carry a signal on them that is an electrical signal?
A. That's correct.
Q. You wouldn't drive a display device with an analog telephone signal, would you?
A. I wouldn't do that.
Q. I'm not sure if I asked this before, but is it your position that all electrical signals can be converted to an image by a display device?
A. I'm trying to answer that question in a most concise manner without really going into all this lecturing.
As long as the electrical signal stays within the range of electrical limit -- for example, you wouldn't want to put 115-volt electrical signal to a display device that expects a 5-volt signal, for example. It would blow. Or you wouldn't want to put negative 10 volt when the display device expects zero to 10.
I mean, you wouldn't want to do that. If you do it, the display device would not know what to do outside of the range that it is expecting. And as long as you put a signal or signals in the range that display device expects, then display device will do something with it. And that being converting that signal into image corresponding to that, whether it

to an iPod to play that as a music. I mean, it may not make any sense.
But the role of a display device is not to decide whether or not something makes sense between these two. The role of display device is to convert whatever comes in to the image that is based on whatever the signal is. And to a person of ordinary skill in the art would know that the display device does not have a role in deciding what is right or wrong in terms of displaying to a person. What comes in will be displayed, and that's what it is.
Q. Would a person of ordinary skill in the art try to drive a display device with an Ethernet signal?
A. Of course not. You know, there -- I mean, maybe for fun, but not as a -- something that, you know, would promote their professional path.
Q. An additional example of an electrical signal would be a radio wave. Do you agree?
A. The radio wave would be electromagnetic signal. It would not be electrical signal.
Q. Do you characterize light waves as electromagnetic as well?
A. That, too, is electromagnetic.
Q. Copper wires coming in for an analog phone

makes sense to the person who is viewing it is not what display device decides. It will just do it. So any electrical signal that's meeting the range of all voltages that is expected from the display device, it will display.
Q. I don't want to beat this horse too long.
A. Mm-hmm.
Q. So there is not a single electrical signal that you can send to a display device that won't -- that falls within the voltage parameters of the display device that you were just discussing, that will not result in an image of any form being displayed?
A. I think, generally speaking, what you said is correct. As long as the voltage lies between the range that display device expects, the display device will display something.
Q. So going to the support you mentioned -- or cite here in the Joint Claim Construction Statement, Exhibit 3 for a display device being a device that converts electrical signals to images.
A. Mm-hmm.
Q. I want to step through each of these and see if you can show me where this is supported by the patent itself, which I believe are all the citations

here. So looking at the abstract --
A. Okay.
Q. -- can you show me what language in here supports your construction?
A. It doesn't really say any specifically what display device is from that particular paragraph. And I think what is being stated here as intrinsic is that the construction of that display device is a device that converts electrical signals to images.
Having that thought as your definition and reading this part of the patent itself, it is consistent -- this definition is consistent in the context of all the abstracts and all the lines that is quoted. And, you know, this patent is really not about display device. It is -- display device is a target of this invention, really. So it doesn't really talk about what it is.
Q. Looking at the abstract --
A. Okay.
Q. -- what electrical signals are mentioned here as being applied to or received by the display device?
A. It talks about VGA signal.
Q. Does it talk about any other electrical signals being applied to or received by the supply

device?
A. In this particular case, no.
Q. What about lines at 1 -- column 1, lines 5 through 28?
A. Yeah, once again, the display signal -- the electrical signal is in the form of VGA signals.
Q. And at column 1, lines 9 through 10, it mentions a VGA display device, does it not?
A. Mm-hmm. Yes, it does.
Q. Column 1, line 20 through 21, I believe it mentions VGA signals --
A. Yes.
Q. -- to the display device. Correct?
A. That's correct.
Q. Does it mention any other electrical signals being applied to a display device in column 1, lines 5 through 28?
A. No. In fact, throughout the entire patent, there is no mention of any other type of a display device other than VGA.
Q. Okay. Would you say all display signals are electrical signals?
A. You mean outside of the -- in general or in the context of this patent?
Q. In the context of this patent.

A. It would be electrical signal, yes.
Q. What about in general?
A. In general, I think -- you know, signal, of course, is something very broad. You can have a smoke screen that's the signal, and then you can project it on the screen. And, you know, there may be others.
Q. Certainly, all electrical signals are not display signals.
A. That is correct.
Q. Can you tell me if the '788 patent -- or let me strike that and start over.
The '788 patent describes a USB-to-VGA converter; correct?
A. That is correct.
Q. And then as we discussed in many instances, if not all instances, in the patent itself it talks about sending the VGA signals that result from the USB-to-VGA conversion onto a display device.
A. That is correct.
Q. Do you recall any portion of the '788 patent where it discusses converting the VGA signals that result from the conversion into some other format, some other signal format?
A. No.

Q. Can you look at column 4, lines 33 through 35. That discusses the direct supply of VGA signals to the display device; correct?
A. Give me just one minute to figure out the exact context of what this is.
Okay.
Q. The question was: That mentions the direct supply of VGA signals to a display device, correct, column 4, lines 33 to 35?
For the record, "The VGA controller 20 is coupled to the display control circuit 320 for direct supply of VGA signals to the display device 300."
A. I think -- I think the statement in this case is where the claimed invention is actually part of the display device itself. So the circuitry that converts the USB to VGA is actually part of that display controller that is located inside of the display device itself.
So in that context, what it says here is the VGA signal is directly supply. I think what the specification means here is all the conversion is done inside of that display device so that we don't really have to worry about the interface. I believe that's what is -- what the specification implies.
Q. So this is the USB-to-VGA converter

implemented within the display device itself, as opposed to just simply external, in between --
A. Yes.
Q. -- the host or whatever the source of the display signals are in the display device?
A. Right. I think you can see that from Figure 6 that 300, which is the display device itself, contains actually 100, which is the converter. So the converter is actually part of the display device.
Q. So within the context of the '788 patent, you agreed that all display signals are electrical signals?
A. Yes.
Q. Within the context of the '788 patent?
A. Yes, that's correct.
Q. However, you also agreed that all electrical signals are not display signals.
A. Not all electrical signals are meant to be display signal.
Q. Okay. How is one to determine what electrical signals are included within your construction for display device?
A. The electrical signal that forms within the range of electrical voltages that display device

expects. So, you know, you wouldn't want to put 1000-volt signal to -- in a display device. It will just blow them. And so the electrical signal -- what I meant by that here is those signals that forms the level of voltages that -- within the range of what is expected by a display device. As long as you have those constrained, the display device will display something. Not necessarily anything useful or even comprehensible, but it will display something.
Q. You stated earlier that the '788 patent discloses only VGA signals; correct? It doesn't disclose an alternative form of display signal.
A. That is correct.
Q. Regarding the display device, does the '788 patent disclose anything other than a VGA?
A. No.
Q. Thank you.
Turning to DisplayLink's proposed construction for display device, which is --
MR. CAULEY: Are we at a good time for a break? I think we're at about an hour 20.
MR. DIETZEL: Yes. Let me just finish this up real quick, if you don't mind.
MR. CAULEY: Okay. I thought you were going to another term.

MR. DIETZEL: Oh, no. Sorry. I was just going to have him critique our position real quick.
MR. CAULEY: Oh. Go ahead.
BY MR. DIETZEL:
Q. So DisplayLink's construction for display devices, electronic devices, for visually representing VGA signals. What about that construction is incorrect?
A. I wouldn't say this is incorrect. I think a display device is not, you know, just visually representing VGA signal. A VGA signal happens to be the one that is within the context of this patent. So that's okay.
But I don't think it's incorrect, per se. But I would have said it a little differently the way -- you know, the way that I have said it here. Visually representing is like images. And the signal itself is a VGA signal. And the device is electronic device; therefore, it processes electrical signals. So, you know, they are not too different in this particular case.
Q. Other than the support that is mentioned here, your list of intrinsic evidence here, do you have any other evidence to support your construction as being the proper construction for this term?

A. No. I think just being a person of ordinary skill in the art and having worked in electronics area for the past 30 years, that's really where my construction really came about.
MR. DIETZEL: All right. Why don't we go forward with the break.
MR. CAULEY: All right. Thank you.
THE VIDEOGRAPHER: The time is approximately 2:01 p.m. We are now off the record.
(Brief recess taken.)
THE VIDEOGRAPHER: The time is approximately 2:20 p.m. We are back on the record.
BY MR. DIETZEL:
Q. One last question on display device before we move on.
I think I had left off asking you if you had any additional intrinsic evidence to support your construction. You responded to that.
But I wanted to ask if there was any additional evidence that you wanted to rely on other than the intrinsic evidence that is cited in the Joint Claim Construction Statement for MCT to contradict DisplayLink's proposed construction.
A. Once again, I'm not contradicting what DisplayLink has constructed. Certainly the -- what

DisplayLink proposed is part of what is being proposed here. I just have a little more broad -- which does not preclude having VGA signal. But, you know, can be much more general.

Just looking at the term "display device" by itself, I don't think there was anything else that I really needed to determine what the claim terms would mean.

Q. Okay. Very good.

In Exhibit 3, the Joint Claim Construction Statement, would you mind turning to page 5, please. And I think I would like to discuss the two terms listed there, I guess, in the middle of the page, technically the first one being the bridge dot, dot, dot issuing FIFO control signal, and then the next one being to receive USB based display signals in the FIFO manner, essentially.

Before we do that, I would like to ask a couple questions real quick. Is it your understanding that -- you said you have some patent experience of your own back and forth between the PTO and understand the process.

A. Mm-hmm.

Q. So is it your understanding that the invention in a patent is defined by the claims;

correct?

A. That is correct.

Q. And then drilling down a little further, the scope of the claims is defined by the terms within the claims themselves; correct?

MR. CAULEY: Objection. Form.

You can answer.

THE WITNESS: I'm trying to understand that question.

I'm not really sure if I am qualified to answer that question in legal way. The claims has terms and phrases that are put together for one of ordinary skill in the art to understand what it means. If that's what you are referring to, then I would agree with you. But I would not be able to tell you what that means in a legal sense.

BY MR. DIETZEL:

Q. I understand.

So each part of the claim must be given meaning, and that's part of this Markham process; correct?

MR. CAULEY: Objection. Form.

THE WITNESS: Right. Does every term has to have a meaning? Can some of them be -- I understand that some of them could just mean ordinary -- plain

and ordinary meaning, right?

BY MR. DIETZEL:

Q. But that would still be a meaning; correct?

A. Oh, okay.

Q. Even if it's plain and ordinary.

A. Yes.

Q. Okay. Turning to Claim 1 of the '788 patent, particularly going to column 5, line 1 up there that says the element "a bridge disposed external to the computer."

A. Yes.

Q. So starting at -- I guess it's about line 2, after the comma, says, "The bridge receiving the bus control command and issuing a first-in-first-out control signal to the USB controller to receive the USB based display signals from USB controller in a first-in-first-out manner."

A. Right.

Q. That portion of Claim 1 covers the two terms we're going to be discussing now.

A. Mm-hmm.

Q. Looking at this language we just read from Claim 1, do you agree that the bridge is required to issue a first-in-first-out control signal and to receive USB based display signals from the controller

in a first-in-first-out manner?

A. I mean, that's what the claim limitation states.

Q. Okay. And turn specifically to the control signal. The claim says "a first-in-first-out control signal."

A. Mm-hmm.

Q. And then the manner in which it receives data, it says at line 7, it is to receive display signals "from the USB controller in a first-in-first-out manner"; correct?

A. That's -- I mean, that's what the limitation states.

Q. Do you agree that issuing -- strike that. Start over.

Do you agree that the issuing mentioned in line 4 and the "to receive" mentioned at the end of line 5, beginning of line 6, are two different operations within the context of Claim 1?

A. Yes.

Q. Is it your understanding that the operation of issuing is an affirmative act by the bridge?

A. Could you clarify what you mean by "affirmative act."

Q. Let me see if I can --

MR. CAULEY: Belatedly, objection to form.
BY MR. DIETZEL:
Q. Another way to state it might be, it's the bridge itself that has to issue the FIFO control signal, the first-in-first-out control signal, according to the language of Claim 1; correct?
A. I'm pretty sure have to do that.
Q. And the bridge has to receive the USB based display signals from the USB controller in a first-in-first-out manner according to the language in Claim 1; correct?
A. I'm not sure what you mean by "bridge has to." I believe this is describing a sequence of operation. Bridge issues some augment which is stated here as a first-in-first-out control signal. And as a result of that or the consequence or the -- related to that action, the bridge will receive.
You used the phrase "have to" or "has to." I'm not sure if that's a correct statement. But bridge will receive it that is sent by -- something that is sent by the USB controller.
Q. Okay. MCT's proposed construction for the claim term -- it's about line 12 on page 5 of the Joint Claim Construction Statement, Exhibit 3.
A. Okay.

Q. This is the element "the bridge...issuing a first-in-first-out control signal to the USB controller." MCT's instruction is, "The bridge... generating electrical signals representing a time sequence control signal to the USB controller."
A. Mm-hmm.
Q. Can you tell me what is meant by "a time sequence control signal"?
A. It means the bridge requests the receipt of the display data, in this case, to be sent in the proper order, time order. So the display signal has a time order starting from the certain pixel location wrapping around.
And if it's associated with a motion, of course there is a frame-by-frame time limit. So there is a sequence of those data, the information associated with the display.
And the first-in-first-out control signal, to me, is to receive those data in a proper sequence as in like the first, to the second, to the third and so forth, to the display device to display in sequence how the ordinary display device -- including the VGA display device -- work. That's really what I mean by "time sequence control signal."
Q. You're familiar with last-in-first-out that

Dr. Jones mentioned earlier today?
A. Yes, I am aware of that. Certainly, this is not what I meant by that. I meant, you know, the -- I understand what the stack operation is. You put it on the stack, and then you push it and pop it. So in this case, your sequence is actually reversed over that stack.
But the last-in-first-out stack does not always reverse the entire thing. It will reverse in certain segments until the stack becomes empty, and then you start again. So it's not even like proper time sequence, as Dr. Jones mentioned. It is only doing that single operation of a stack going deep and then becoming empty again. During that period of time, the sequence will be reverse. But in the long scale of things, it's not time reversed.
Q. Do you contend that last-in-first-out is not a time sequence control?
A. No, not in the overall display signals plan of operation.
Q. And why is that?
A. Well, stack is finite. So if you push it in, the stack will be full. Then you can't put in anymore at that point, and so you have to start taking it out.

So let's say 1 at the bottom, 2, 3, 4, 5 to 10, say, so 10 is at the top. So you build a stack from 1 to 10 and then you take it out, 10, 9, 8, 7, 6, all the way to 1. And then what do you do next?
Suppose your stack is beginning to fill again, 11, 12, 13, 14, 15, 16, and then take it out, 20, which is at the top in this case, 20, 19, 18, 17. So look at the sequence of the packet. It will be 10, 9, 8, 7, 6 to 1 and then go to 20, 19, 18, 17 to 11. So that is not a time sequence.
Q. Why is that not a time sequence?
A. Because the sequence is not continuous. I mean, you know, it's somewhat random. And the example that I just gave you is a nice example. For example, where, you know, it fills up all the way and then emptied all the way. What if you filled it just a little bit and then take it out and then start filling again; it can go up and down this way. Then there is no predictable way of determining what the time sequence is.
Q. So what part of a time sequence limits your construction to be something that would not include LIFO?
A. The sequence to me -- to me, the time sequence means it is order according to the sequence

in time.
Q. So you have given the example you gave a while ago.
A. Mm-hmm.
Q. But let's stick with the first portion of the example, where you said you've got ten slots --
A. Okay.
Q. -- and you're processing last-in-first-out.
A. Okay.
Q. So you deposit one, you deposit two, all the way up to ten --
A. Yes.
Q. -- and then you start taking stuff out.
A. Yes.
Q. Then it's 10, then it's 9, then it's 8 that comes off first.
A. Yes.
Q. Is that not a time sequence control?
A. Oh, doing that small portion, that first ten packets, it happened to be ordered backward. But what happens after that?
The time sequence for here, it means it's the entire time period during this device is in operation. So you cannot just have a small portion of it time sequence and not the rest of it.

Q. Where does your construction say that a time sequence is the entire time period?
A. Electrical signal is a continuous signal; it continues forever. You know, in the scheme of things, "forever" means duration of the interaction.
The electrical signal comes one after another continuously, and that's how the display device works. You don't just send small, like ten packets and stop and say I sent it in LIFO.
Q. There is a beginning and an end to --
A. Right.
Q. -- most, if not all, transactions; correct?
A. Oh, sure. But, you know, you cannot -- in a LIFO transaction, during the beginning to the end, in any reasonable amount of display of signal being transmitted, you will not have time signals intact.
Q. That's because you're assuming memory limitations?
A. Memory is limited. It's not assumption. It's a fact. Every memory is limited.
Q. It's not possible to have a memory that would hold an entire transmission from beginning to end?
A. It depends on how short the transmission is.
Q. Exactly.

A. But it's not just -- let's say -- let's say you want to display your display device for, say, one second, just one second. I mean, I don't know why anybody would do that. But let's say just display for one second. Even the earliest version of VGA, the IBM, the one that Dr. Jones mentioned earlier, the a 640 by 480. That's the resolution. And each pixel can be, you know, 16 -- 16 different colors or -- you know, as I said. Then we are talking about several mega -- mega -- maybe several megabits or megabytes. I don't have a, you know, calculator. So it's a substantial amount of data for just one-tenth of a screen. And you do that, say, 70 times or 60 times during the second, and that's how it's done.
So even for one second, that's a lot of data, a lot amount of information. I don't think you are going to put that in a LIFO, for example. Not to mention even ten seconds or in a minute. So putting display signals in a LIFO would make no sense. Or in that matter, any active memory that you want to display on.
Q. Do you agree that a last-in-first-out is not the same as first-in-first-out?
A. I agree with that. Of course.
Q. So even based on the limited examples that

we discussed earlier, granted some of them may be extremes, may be -- I won't say impossible, but wouldn't commonly be implemented in industry. But it is possible to have a transaction burst that fits within a last-in-first-out organized memory, where it fits from beginning to end so that that is taken out in the time sequence you described earlier, one through X, and then it comes off X back down to one.
A. Mm-hmm.
Q. So that LIFO process, based on what I understand you telling me earlier, would fall within a time sequence that you have included in your constructions here?
A. When I say "time sequence," I meant the ordering in a proper ordering. That's really what I meant.
But if you want to include the reversed time sequence for LIFO transactions, that would be reversed time sequence. I didn't really imply -- or the person of ordinary skill in the art, when we say "time sequence," it means properly ordered timing. You know, that really was not what I was implying by "time sequence" at all.
Q. You say "properly ordered timing." How is properly ordered timing determined? Does that not

depend on your application?
In some applications, LIFO may be a proper ordered timing. In some applications, FIFO may be a proper ordered time. Is that not correct? I should say in general.
A. So it says it's issuing a first-in-first-out control signal to USB controller to receive the USB-based display signal. I mean to a person of ordinary skill in the art, the display signal as -- and especially in the context of a VGA, which is the further limitation down the stream -- it just means starting from the top, from the left to right, how the VGA screen would be painted by pixel by pixel. So to a person of ordinary skill in the art, it's very clear terminology when you say "proper sequence." It's one pixel at a time from left to right, top to bottom. And that's what the sequence is.
Q. So that's the way we should interpret generating electrical signals representing a time sequence control, is -- let's see if I can get your language -- one pixel at a time from left to right, and then top to bottom on the display?
A. Well, once again, what I meant here is, when you say "time sequence," that is understood as a

person of ordinary skill in the art would read this claim limitation.
Q. Would you say FIFO is -- the concept of first-in-first-out is well known in the industry?
A. Of course, yes.
Q. How long has FIFO been around? Do you know?
A. It certainly predates me.
Q. It seems like they're fairly old. Correct?
A. Mm-hmm.
Q. In your opinion, does the '788 patent redefine the term FIFO, or first-in-first-out?
A. No.
Q. So it's plain and ordinary meaning to anyone dating from before your time, even getting into --
A. Yeah. Let me -- just to clarify one thing, though. I think FIFO as a device is not what is meant here, I don't believe. I believe it's just FIFO as an algorithm.
Q. Sort of memory management concept rather than --
A. Not even memory. You can have a FIFO as a -- you know, any operation. It doesn't have to be electronic operation. Even, you know, it could be, you know, somebody coming to a motor vehicles office, you know, standing in line.

I don't think FIFO here is meant to be a device -- the memory device FIFO, the buffer, as Dr. Jones was alluding to this morning. I think it's broader than that. It's just the algorithm or the order that -- you know, the sequence of transaction -- using once again his word -- be honored according to that time sequence. There is really nothing that says here talking about buffer or memory.
Q. In the intrinsic evidence you cite for each of these two disputed terms, I believe it's the same for both of them.
A. Yes.
Q. Is there any of that intrinsic evidence that defines -- strike that. Start over.
Is first-in-first-out redefined as a time sequence in any of the intrinsic evidence that you cite here?
A. Not intrinsically. First-in-first-out would be a term that is well understood by, you know, a person of ordinary skill in the art.
Q. Would you say that first-in-first-out is self-defining?
A. I'm not sure. I'm not sure if, say, my ten-year-old daughter would understand what

first-in-first-out means. I think she may have an idea of what it is. But I think first-in-first-out is a term that is used widely among the people who would be a person of ordinary skill in the art.
Q. The portion of your construction the bridge generating -- or sorry. Strike that.
The portion of your construction generating electrical signals, can you explain what you mean there?
A. I was trying to interpret what issuing means. What does issuing whatever this is control signal means.
To me, the issuing signal to another electrical device, which in this case is USB controller, is generating an electrical signal representing the first-in-first-out control, which is, as I mentioned before, telling the time sequence control signal. So that's really what I meant by that.
Q. So an example of generating electrical signals would be creating a command packet and sending it down a pathway --
A. Yeah, that's right.
Q. -- from the bridge --
A. Right.

Q. -- of the USB controller, for example?
A. Everything is really electrical signal. And, once again, electrical signal that is, you know, acceptable in this -- I mean, it's implied that we're not doing anything outrageous like any electrical signal, but something that is expected by USB controller.
Q. But expected to be received by the USB controller?
A. In the format, that is.
Q. Okay. Turning to DisplayLink's construction for each of these two terms. Is it your opinion that DisplayLink's construction is inaccurate?
A. I think -- I think there is some inaccuracy associated with what is being said here.
If you look at USB message passing scheme, there is a -- what is being sent, there is no guarantee. Let me repeat that.
What is being sent from a device, the sending device, there is no guarantee that it is going to be received by the receiving device. And USB specs specifically says how to deal with all these error conditions. So what is being received by the receiving endpoint is not necessarily in a proper order or timing that is to be displayed as a part of

the display signal.
So as I read this specification -- I'm sorry -- the claims, and knowing what this device is all about, to display the signal in a way, the first-in-first-out is really associated with the signal itself, not really by what is happening at the USB controller. The USB controller may or may not get the proper display signal in the order, and there might be some missing and there may be some things that are not quite correct in terms of both communication between the host to USB controller. And those are not really captured properly by just to the order USB controller is received. That is really not the most important thing in terms of constructing a proper display signal. The proper display signal is really the order of the pixel-by-pixel information, which was really what was sent from the host computer. That's really more important thing.
So I would have to say that the order in which it was received by the USB controller is really not an accurate statement for what the bridge is supposed to do in terms of getting the data in.
So, you know, the way I said it is a time sequence; that is, time sequence is not necessarily what is happening on the USB controller. It is a

time sequence associated with the display data itself. We want those data to be received in order.
Q. But it's a particular time sequence, as you've said more than once. You want -- frame 1 to frame 60 are coming across or from the upper left-hand down to the lower right-hand corner of the display. If data is coming across either in that order or in some other order, you want to extract from the USB controller in the order from upper left-hand corner to lower right-hand corner.
A. Yeah.
Q. That's how the display works; correct?
A. Yes, that's right.
Q. So that's the proper -- that's the timing sequence to which you refer?
A. That's correct.
Q. Okay. So it's not necessarily a generic timing sequence, it's the -- I guess it's the timing sequence bound by the requirements of the target device, the display device.
A. That is correct.
Q. Because if I recall correctly, it doesn't sound like you disagree that read broadly, last-in-first-out can mean a time sequence.
A. No, that's not what I meant at all. I mean

I agree with you, what you just said.
Q. Okay. Other than the intrinsic record that you cite for each of those two terms and your knowledge as a person of skill in the art, your understanding of FIFO, display device technology, display technology generally, is there any other intrinsic or extrinsic evidence on which you relied to support your construction for these two terms we're discussing?
A. No.
Q. And as far as your position that DisplayLink's proposed construction for these two terms is imprecise or inaccurate, your support for that -- is that the same as your support for why your constructions are proper?
A. Yes.
MR. DIETZEL: Why don't we take a quick break.
THE VIDEOGRAPHER: This concludes Videotape No. 1 in today's deposition. The time is approximately 2:55 p.m. We are now off the record.
(Brief recess taken.)
THE VIDEOGRAPHER: The time is approximately 3:04 p.m. This is the beginning of Videotape No. 2 of the deposition of Dr. Paul Min on January 8th,

2008. We are now on the record.
BY MR. DIETZEL:
Q. Okay, Dr. Min. I would like to refer you to page 4 of Exhibit 3 of the Joint Claim Construction Statement. The term I want to discuss is the only one that appears there, and that's "bridge."
A. Mm-hmm.
Q. The MCT construction for this particular term is: "Device that converts electrical signals between different domains in the form understood by the receiving domains, through which each signal travels over a fixed path."
A. Mm-hmm.
Q. Do you believe that to be the correct construction?
A. I believe it is.
Q. And on what do you base your opinion that that is the proper construction?
A. First of all, as Dr. Jones this morning concurred, "bridge" is a term of art in many different ways. And by that, I mean a person of ordinary skill in the art knows what a bridge is in general and applies that general knowledge to the specific situation that the bridge is disclosed here. And based on that ground, I believe that what we have

proposed here, as shown in the second column -- I'm sorry, the third column under MCT's proposed construction is the correct one.
Q. Okay. So outside of the '788 patent, how would you define the term "bridge"?
A. Bridge has many meanings. Of course, you know, bridge could be, you know, bridge over the troubled water, or anything. Right? So --
Q. In the electronics industry, then. How about that.
A. Even within the electronics industry, it could have a communication bridge. You know, I think Dr. Jones alluded to some aspect of that this morning as well.
Or it could be bridges just converting between two different parts of electrical domain or -- so "bridge" just means there is a certain conversion between two or more different segments that are connected by the bridge. So it carries over that general meaning of a bridge, the structure bridge, into the electrical systems domain, but it gets specialized depending on the application.
Q. You said a certain conversion between two or more different segments.
A. Domain, yes.

Q. So can you explain to me what you mean by "segments" or "domains," as you stated?
A. Yes. The bridge sits in between one side -- let's just give an example, you know, just having two domains only, from Domain A and Domain B. You could have more than that. But let's say just we are concerned -- we are concerned with two domains, Domain A and Domain B.
Domain A has certain electrical signal scheme that it uses to exchange information, data, processing, whatever the test that it needs to perform. And then Domain B, say, have its own.
And the bridge, it will perform a function that in case if Domain A needs to work with or communicate with Domain B, or vice-versa, the bridge will perform the conversion process, so that whatever A is requesting or needs to be performed for A is understood by the B domain. That's what really bridge is doing for the case of two domains.
Q. In the context of the '788 patent, what are the domains?
A. We have a domain of a USB and domain of a VGA. So we have two domains, starting from USB side to the VGA side. Okay?
Q. Are there any other domains mentioned other

than USB and VGA in the '788 patent?
A. Not in the '788 patent.
Q. Would you define VGA as a bus protocol?
A. VGA is -- I mean, you know, bus could mean so many different things. And bus in general is a -- first of all, you have to have a -- the conductors lay in the straight linear direction, so it's stretching out. And bus also has addressing scheme, because a bus allows more than one device to be attached. So when electrical signal is assigned to a bus, it not only has to say what to do, but also has to say who is going to do it by telling addressing scheme.
And VGA is really not a bus. Because what is being attached on the other side is just terminal. It doesn't really have an address; it's just where the endpoint is.
So this definition, VGA being the bus on the other side, as proposed by the DisplayLink is actually incorrect. Because, you know, it doesn't have to be bus. I mean, the VGA is really not a bus on the other side. Although, within the domain between the VGA controller to bridge could be a bus, because it's internal to the invention that is being described. But it doesn't have to be.

Q. Certainly, in a VGA controller there are signals transmitted along media; correct?
A. You mean VGA controller transmits out or to VGA controller something is being transmitted?
Q. Even within the VGA controller, signals are transmitted as they are processed.
A. Right. So this was one of the issues that Dr. Jones this morning was talking -- describing. He was saying that inside of any device, there is all kinds of electrical signals being passed along. And, therefore, you know, you don't know where those electrical signal is going to go and so forth. Perhaps he was thinking electrical signal at a much, much too low of level.
Here we are talking about -- and if you see -- let me just give you an example. When I say "electrical signal," that is really -- the electrical signal is associated with like a message level. It's a pretty high-level term that I'm trying to use here. And I think my interpretation is quite consistent in that regard. So we're not talking about, you know, small microscopic electrical charges going back and forth between two nan gates within the -- you know, we're not talking about that.
We're talking about the signal that contains

that's what is being described throughout the patent.
The patent does not go into the level of the microscopic gate and transistor level. The patent talks about functional block level. And a person of ordinary skill would not extract or extrapolate the description that is in the patent claims language, as well as the specification, would not think from there to, Oh, what does nan gate inside interface would do? That's really not going to happen by the person -- a person of ordinary skill in the art.
Q. So if I understand you correctly, an example of what you're saying is, you've Box A, Box B, and maybe they are connected by a PCI bus. So a person of ordinary skill in the art is only going to worry about how the PCI transmission is going to go forward, the electrical signal -- how it's going to be packaged across whatever media is in between your two endpoints.
A. Well, I mean, that's not exactly what I meant. What I was just describing to you right now was, if a patent describes the flow of data at a level that is the functional block diagram level, like how this patent 79 -- '788 patent describes, as a person of ordinary skill would read the patent, the person would stay at that level to understand the

the information or some functional information being transmitted between different functional blocks. That's really, you know, what is being described as my proposed construction.
Q. Okay. But your proposed construction, everywhere you use "electrical signal," it doesn't say that that is at a transaction level or at a message level.
Like the plain and ordinary meaning of electrical signals, as you just mentioned, can be the little pulses that go between nan gates down at the transistor level, the logic level. It's your testimony just above says that that's not really what you were talking about; you were talking at a higher level.
A. Let me try to answer the question.
I'm, of course, speaking on behalf or from a point of view by a person of the ordinary skill in the art. When that person sees the block diagram where the arrows are shown here, here is one arrow going to a block and coming out of that block. And that person of ordinary skill would not really be worried about, you know, nan gate creeping up or down. The person would be considering, at the level that I'm addressing, which is at a block level. And

same level as the patent is being described, he -- the person would stay at that level.
The person would not, you know, go into the level like, Okay, what does the transistor inside of that 54 will do? Would that be charged up, charged down? The person would not do that. And that's why the patent needs to be read in the context of the claims language as well as the specification. And from there, one can decide what level it is being described. And the way that I have interpreted it, the different claim phrases, I believe is consistent with the level that is being described.
Q. Well, the patent talks about USB, it talks about VGA, it mentions PCI, it mentions AGP.
A. Mm-hmm.
Q. Which are all bus level sort of protocols, except for the VGA, which you just mentioned is not really probably a bus topology --
A. No.
Q. -- like PCI, AGP and USB are. Those are all --
A. That's right.
Q. -- standard processes. You've got media connecting two points. And PCI, AGP, USB all have a packet form that goes along with it.

A. Yes.
Q. And it sounds like what you're describing, for example, in the '788 patent, you've got a host system that's got a USB controller and a USB output on it. You've got the USB-to-VGA converter of the invention that is external to the host system. Those are connected by a USB wire.
So if I understand what you're telling me now, the electrical signals that one would think of, if they were worried about what is happening in between the host and the USB-to-VGA converter over the USB link to the USB media, would be at the USB level. It wouldn't be at what is going down each of the four wires, the D-plus, D-minus.
A. I mean, this is not exactly like where I can draw the line in between. I mean, there might be the USB level and then D-plus, D-minus, as you mentioned. And then, you know, there might be other level.
But the extreme, really, down here is clearly not the case, such as, you know, which transistor is being charged up and down. I mean certainly we know that is not what this patent is about. And I think the person -- as the person reads the specification and the claims language would have a general understanding, and then I think the general

understanding would be at a block diagram level.
Here in the figure we look at the USB controller. And then inside of the bridge device in the figure -- Figure 2, for example, of the '788 patent, it's got smaller block inside of one of the elements of the invention, which is USB-to-VGA converter. So here, you know, the patent talks about -- in fact -- in the claims language as well as in the specification -- some of the specific form of data.
So we're talking about that level where the information is being exchanged between the different blocks of the invention, not inside of a small part of a block and what the transistor would do inside of that. There is really no basis for worrying about at that level, because the patent really does not talk about that.
Q. I understand.
But your terminology, "electrical signals" --
A. Is between the blocks, once again.
Q. But the plain and ordinary meaning of electrical signals includes everything that you just described all the way to the signals that Dr. Jones was talking about this morning, in between nan gates,

because those are certainly electrical signals.
But once you put all of that -- and based on your description now and put all of that in the context of the '788 patent, you're saying electrical signals has this additional meaning, which brings it up higher than logic electricity that Dr. Jones was talking about.
A. Yes, that's correct. That is correct.
Q. What would you say is the difference between domains and interface standards, the domains being used in your construction and the interface standards of DisplayLink's?
A. There is nothing that says the bridge has to connect between two interface standards. Okay? That's what the -- a construction by DisplayLink. It says different interface standard.
The bridge doesn't have to work between the two standards. It could be bridge within somebody's own circuitry. And, in fact, if I look at the patent carefully here, what is shown in Figure 1, inside of that USB-to-VGA converter, the block 10 and 20 is connected by the 30 -- the bridge in between.
Just reading the patent, we know that between USB port, which is part of a host computer the block 200 and the USB controller, which is part

of a USB-to-VGA converter, which is labeled as block 10 -- between those two, yes, you have to talk in standard USB, because that's what USB connection is.
And also between VGA controller 20 to display device 300, you have to be VGA signal at that point because that's, once again, the standard.
But there is nothing that says between 10 and 30, which is the USB controller, and bridge needs to be standard; there is no mentioning that signal has to be a standard signal. It just has to convey the USB based display signal. But the interface does not have to be standard. In fact, it would be expensive to meet standard inside of one's own product. Why would anybody comply to a standard inside of one's own product?
There is nothing -- the patent says in the claims language or specification that says interface between 10 and 30, which is the USB controller and bridge, and then also interface between the bridge and the VGA controller has to be any kind of standard. It could be completely proprietary, to make the device more reliable and cheaper.
So my objection here is -- one of the objections here is based on the fact that it calls for different interface standard. It doesn't have to

be.
Q. So you're reading into standards something like a USB, a PCI, an AGP. Is that what you're reading as interface standard?
I don't see why interface standard here wouldn't include what you just mentioned, if you say a proprietary communication protocol in between blocks.
A. I wouldn't call that a standard. I mean, the word "standard" here has a meaning. "Interface standard," it's a term of art. When one says "interface standard," it means what you just said.
Q. Something that's been adopted by the industry?
A. Exactly.
Q. Okay. The portion of MCT's construction "through which each signal travels over a fixed path," can you show me where in your citations of intrinsic evidence this is a limitation to be associated with the disputed term bridge?
A. First of all, before even I go to intrinsic evidence, bridge is different from router or switches. I think Dr. Jones has also mentioned that this morning as well.
Bridge means it's a connection between the

control flow that will go between these blocks and it kind of disappears as a -- the control ends at that point.
There is nothing that says the control signal going into the bridge and finishing it there is not a proper description under the term -- let me see -- the "convert." The "convert" means the bridge will take in the signal and do something to it, and then -- and sending it out to VGA controller nothing. That's also conversion as well.
So what I meant here is that for each of type of signal, each signal -- when I say "each signal" it means the signal is a continuous stream that keeps coming. Right? It's a display signal, USB based display signal that keeps coming that each signal that continues will continue to be traveling over a fixed path. That signal, continuous signal, will not change path during the period of that transmission. That's what bridge is. Bridge does not do any decision on where that same signal should be routed at any given point in time.
And that's a -- that's a -- that's a term that is well understood by a person of ordinary skill in electronics, communication, computer. I think that the bridge just means that. Therefore, the

two or more sections or domains or, according to him, bus or whatever. There is no decision of a routing made in bridge. What he said, Dr. Jones said, was there is some routing done because of all those electrical signals being at a much lower level than the block diagram level.
As an example, if you look at Figure 2, the data signal -- okay? So this dotted line of the box 30 is the bridge. Okay? The bridge connects between the USB controller 10 and VGA controller 20. All of the display signals that comes in through 10 into the bridge 30 goes out to 20. It just gets appropriately prepared so that the VGA controller 20 can make the display device which will come after the VGA controller to display. All of the signal comes in, gets properly converted or translated and then goes to VGA controller. I think that's -- you know, that's pretty obvious. So that's for the display signal.
The control signal, actually, as Dr. Jones mentioned, some of the control signal is really for communicating to certain functional block inside of the bridge. For example, that first-in-first-out controller to a USB controller, back, I guess, further going to a USB host, there is a certain

signal that comes over the bridge would not have any header processing, would not do any header processing.
Q. Then you included this portion of the construction, the "through which each signal travels over a fixed path" to ensure bridge is differentiated from the routers and the switches that you mentioned earlier?
A. That's correct. Yeah, that's right.
Q. And that's based on what someone of ordinary skill in the art would define a bridge, Because it doesn't have that functionality in it.
A. Right. I think Dr. Jones this morning mentioned that as well.
Q. So within the bridge itself, is there a fixed path within the bridge?
A. For type of signal, yeah. The control signal, I think is specified very clearly in the claims language. There is a FIFO control signal going from the first-in-first-out controller to the USB controller, USB controller issuing a bus command, and there is DMA signals going from the USB controller to the display at the firmware interface.
It's spelled out precisely as to what these signals are. There is no choice by which that

these type of signal would take a different path in a different point in time based on some condition.

Q. Can there be different paths within the bridge; let's say some data comes across encrypted, some comes across decrypted -- or I guess unencrypted rather, to be more precise.

A. Those would be two different types of signals. If signal format is different, then they are two different types of signals.

So if the signal is coming in and before -- initially, that first part of the signal is going through, the bridge will be configured so that it knows exactly what that transaction is; in other words, okay, you need to decrypt it and do whatever you need to do, and then start sending. So beginning from the first bit of that data, it will stay in that path.

Q. But at some point it has to make a decision, does it not? If you're getting -- you know, we've got a USB link coming into the bridge, right?

A. Yes.

Q. Or we've got get a path between the USB controller and the bridge. So if encrypted data comes from the USB controller to the bridge over that same path, later some decrypted data or unencrypted

Q. So in my example, then, would a device that included that functionality, that received that packet, made a determination whether it needed decryption or some further processing, would that device then not be a bridge because it would include routing capabilities?

A. Once again, if a signal is coming in as decrypted -- I'm sorry -- encrypted or not encrypted -- that's probably a better terminology -- then, before that signal is sent, the bridge will be configured. It's probably not the bridge that will make the decision. The host computer will have to tell that the signal is encrypted or decrypted -- encrypted or not encrypted. Because the bridge has no way of knowing what that is unless the source tells the bridge; the source of that signal tells the converter, saying this is encrypted data.

The converter will just act upon however it is being configured, and that's not a real-time operation. The real-time operation is for a stream of a signal, the bridge will make a decision as to where it needs to send. And that's not what's happening here.

Q. What I'm taking from what you're explaining to me is that you agree that a bridge would not be a

data may come across?

A. That's why I put the adjective "each signal." I'm not talking about just the signal being all the way through. It's called "each signal." So when that format changes, it's a different signal.

Q. Okay. So the different signal comes in, nonetheless, when it's received by the bridge, the bridge will determine whether or not it needs to be decrypted or whether it's unencrypted data and can just be proposed; correct?

A. No. No.

Q. So that would be a routing --

A. No, no. Either -- No. I think the routing is a real-time operation. Okay? The routing switching, these are real-time operations. So to do routing, that means you're making a decision on where to route in real time.

The operation you just mentioned is a configuration. It's more like a configuration process: telling the bridge what to do in the beginning of the session, or beginning of the transmission. You configure the bridge, and then the bridge -- it's converter bridge in that way permanently during that period of the signal being active.

device that would make a decision whether or not to decrypt a received batch of data. For example, you have whatever other further processing needed by the device. We're using the example of unencrypted and encrypted data.

So if we're talking about -- we've got a box, you know, we've got our USB controller, we've got a link to a box out the other side; VGA data goes to a VGA controller.

If I send encrypted data into that box, that box then checks the data to determine whether or not it's encrypted, and then if it's encrypted, sends it down one path, if it's not encrypted, sends it down another path. Obviously, the one path being decryption for further processing, the other path being whatever magic happens to produce the signal to go out the other side of the box. That that box would then not be characterized as a bridge. All of that transaction could be performed in real time, the packet comes in, analyze it, decide which way it goes.

A. I want to be more precise here.

Bridge would not inspect data that is coming in on a packet-by-packet basis by looking at the header. Bridge would not do that. Okay?

The bridge works on the stream of signal. Okay? If a packet comes in continuously, belonging to that same stream, it will do the same forwarding according to a path that is set. It does not make decision on which way it needs to do it.

Now, if the path is associated with a different processing, the bridge would not perform that packet-by-packet function. And that is a worse-stated function of a bridge; the bridge will not do that. The bridge will just forward the same stream of a signal to the same path at all times.

Q. So is it correct to say that the bridge has -- at a high level it has one purpose, and that's to take in something packaged according to Domain A, convert that to Domain B and then pass it out onto domain -- or to Domain B, whatever that may be?

A. That's right.

Q. And nothing else. So it looks at -- if it comes out packaged in protocol XYZ and it needs to go into protocol ABC, that's what it does; it takes in XYZ, changes everything it needs to to put it in ABC protocols, and then sends that out the other side?

A. Well, once again, I want to be clear that there is a difference between bridges and routers and switches, the difference being one that makes a

real-time routing decision. Okay? Meaning the path decision. The bridge would not change the path of the signal traveling in the real time. That does not preclude doing anything else. That's okay. That's not what differentiates bridge from switch and router. What differentiates bridge from switch, router and those communication devices is a presence or absence of real-time routing decisions.

The bridge could have, as an additional function, you know, encryption or decryption. That is okay. That is not what differentiates bridge from router or switch. So when we say bridge in a specific way, "bridge," that means it has no routing function.

So that's really what I meant by a fixed path. This does not preclude doing anything else. I mean, you can do whatever else you want. But you just cannot change the path in real time.

Q. Explain to me what you mean by the "path" again.

A. The "path" means on a functional block level. Because that's what this patent is about; this patent is all about at a block, functional blocks, all the diagrams, and so forth.

On a functional block level that is stated

in the patent, a stream of signals -- or in this case maybe if it's a bus, it can be a bundle of signals that are bundled together -- a stream of a signal or signals bundled together will travel over a fixed path. That path is known precisely, it doesn't change; it always goes into that path as long as that signal is active. Now, if you turn it back on and you configure that bridge again to do something differently, you can do so. But while that signal that I just mentioned to you is being transmitted in an active session, it stays on.

Q. So in a switch or the router scenario, or devices that you were discussing as being different from a bridge, those would look at something in the packet and then make a decision.

A. Right.

Q. It doesn't need to go down one, two, three or four?

A. That's correct.

Q. So something that makes that sort of decision falls into the switch or the router category probably, but not the bridge category?

A. That is correct. That's what differentiates bridge from the switching mode.

Q. Okay. I think before we went down that

discussion, I was asking which of your citations to the intrinsic record requires this through which -- or not requires -- discloses this each signal travels over a fixed path.

A. Right. I think in the context of explaining the operation of a bridge circuit, I think it starts from column 2, line 40, and it says, "Also referring to FIG. 2, the bridge 30 comprises..." from there on all the way to, let's say, column 3, line 44, it talks about different -- a block within the bridge.

And if you look at it there, it's very clear that each type or each signal type has a precise path so the display data will come down from the USB controller to the first-in-first-out controller and then pass along to display interface conversion device to VGA controller. That's the path for the display information itself.

And then there is a control related to the DMA access. That comes to USB controller to firmware interface to display interface, which will act upon and batch it from the first-in-first-out controller.

So for each type of signal or each signal, it has a precisely known path, and that is disclosed fully in those sections that I just mentioned to you. There is no "ifs" and "buts," really. That's what