# EXHIBIT A

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS
SKYHOOK WIRELESS, INC.,
Plaintiff,
vs. Case No.: 1:10-cv-11571-RWZ
GOOGLE, INC.,
Defendant.
_____
GOOGLE, INC.,
Counterclaim-Plaintiff,
vs.
SKYHOOK WIRELESS, INC.,
Counterclaim-Defendant.
_____

VIDEOTAPED DEPOSITION OF ANTHONY S. ACAMPORA, Ph.D.
San Diego, California
Thursday, September 22, 2011
Volume 1

Reported by:
Claire A. Wanner
CSR No. 12965, RPR
Job No. 172844

APPEARANCES:

For Plaintiff:
Irell & Manella LLP
BY: SAMUEL K. LU, ESQ.
BY: LINA F. SOMAIT, ESQ.
1800 Avenue of the Stars, Suite 900
Los Angeles, California 90067
310.277.1010

For Defendant:
Bingham McCutchen LLP
BY: ROBERT C. BERTIN, ESQ.
2020 K Street NW
Washington, DC 20006
202.373.6000

Also Present: Daniel Payan, Videographer
Mark Zavislak, Google
Jennifer Polse, Google



UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS
SKYHOOK WIRELESS, INC.,
Plaintiff,
vs. Case No.: 1:10-cv-11571-RWZ
GOOGLE, INC.,
Defendant.
_____
GOOGLE, INC.,
Counterclaim-Plaintiff,
vs.
SKYHOOK WIRELESS, INC.,
Counterclaim-Defendant.
_____

Videotaped deposition of ANTHONY S. ACAMPORA, Ph.D., Volume 1, taken on behalf of Plaintiff, at 402 West Broadway, Suite 900, San Diego, California, beginning at 9:07 a.m., and ending at 5:41 p.m. on Thursday, September 22, 2011, before Claire A. Wanner, Certified Shorthand Reporter No. 12965, RPR.



I N D E X

WITNESS: Anthony S. Acampora, Ph.D.

EXAMINATION PAGE
BY MR. LU 7

E X H I B I T S

MARKED FOR PLAINTIFF PAGE
Exhibit 1 Document entitled "United States Patent No.: US 7,414,988 B2" dated August 19, 2008; 20 pages 8
Exhibit 2 Document entitled "United States Patent No.: US 7,433,694 B2" dated October 7, 2008; 20 pages 8
Exhibit 3 Document entitled "United States Patent No.: US 7,305,245 B2" dated December 4, 2007; 20 pages 8
Exhibit 4 Document entitled "United States Patent No.: US 7,474,897 B2" dated January 6, 2009; 14 pages 8
Exhibit 5 Document entitled "Declaration of Anthony S. Acampora., PH.D." dated September 14, 2011; 66 pages 8
Exhibit 6 Document entitled "Exhibit 1" dated September 14, 2011; 48 pages 8
Exhibit 7 Document entitled "Declaration Of Susan Baker Manning In Support of Google Inc.'s Motion For Summary Judgment Of Indefiniteness And, In The Alternative, Opening Claim Construction Brief" dated September 14, 2011; six pages 22

(Index Continued)
Exhibit 8 Document entitled "Exhibit 7" dated September 14, 2011; four pages 72



San Diego, California; Thursday, September 22, 2011
9:07 a.m. - 5:41 p.m.

THE VIDEOGRAPHER: Good morning. Here begins Media No. 1 of the deposition of Anthony S. Acampora, Ph.D., in the matter of Skyhook Wireless, Incorporated, versus Google, Incorporated.

This case is in the United States District Court, District of Massachusetts, and the civil action number is 1;10-CV-11571-RWZ.

Today's date September 22nd, 2011. The time is 9:08 a.m. This deposition is taking place at Sarnoff, 402 West Broadway, Suite 900, San Diego, California 92101. This deposition is taken on behalf of the plaintiffs. The videographer is Daniel Payan, appearing on behalf of Sarnoff Court Reporters & Legal Technologies, located in San Diego, California.

All present, please take notice that as a part of videotaping of this deposition, very sensitive high-quality microphones are being used. If anyone present wishes to make a statement off the record, they should state that they are going off the record and gain concurrence from all parties. The videographer will then stop recording. All recorded comments made by anyone present during this deposition will be



assumed to be on the record and will be transcribed.

Would counsel at this time please identify yourselves and state whom you represent.

MR. LU: Samuel Lu of Irell & Manella for Skyhook Wireless.

MS. SOMAIT: Lina Somait, Irell & Manella for Skyhook Wireless.

MR. BERTIN: Robert Bertin with Bingham McCutchen for Google.

MS. POLSE: Jennifer Polse of Google.

MR. ZAVISLAK: And Mark Zavislak of Google.

THE VIDEOGRAPHER: Thank you. At this time the court reporter may swear in the witness.

ANTHONY S. ACAMPORA, PH.D.,
having been administered an oath, was examined and testified as follows:

EXAMINATION

BY MR. LU:

Q. Good morning, Dr. Acampora.

A. Good morning.

MR. LU: Before we begin, I think I want to take care of a little bit of housekeeping. I have some exhibits that I'd like to mark.



Exhibit 1 will be U.S. Patent No. 7414988.

(Exhibit 1 was marked.)

MR. LU: Exhibit No. 2 will be U.s. Patent No. 7433694.

(Exhibit 2 was marked.)

MR. LU: Exhibit No. 3 will be U.S. Patent No. 7305245.

(Exhibit 3 was marked.)

MR. LU: Exhibit No. 4 will be U.S. Patent No. 7474897.

(Exhibit 4 was marked.)

MR. LU: Exhibit No. 5 will be a document entitled, "Declaration of Anthony S. Acampora, Ph.D."

(Exhibit 5 was marked.)

MR. LU: And Exhibit 6 will be a document that is labeled Exhibit 1, which I will represent to you is an Exhibit 1 attached to the declaration of Anthony S. Acampora, Ph.D.

(Exhibit 6 was marked.)

BY MR. LU:

Q. So Dr. Acampora, could you please state your full name for the record?

A. Anthony Acampora.

Q. And what is your present business address?

A. I have two. I'm professor of electrical

one of the defendants in one of these multiple-defendant matters. But I was not engaged by Google, as near as I can recall, in any of these matters.
Q. So in connection with this matter, how much are you being paid?
A. $600 an hour, which is my customary rate.
Q. And to date how much have you billed?
A. Ballpark estimate, about $20,000. That might be a little bit on the high side, but that's -- that's probably a good estimate.
Q. Okay. Ballpark, what percentage of your total annual income comes from consulting as an expert witness?
A. Well, that's varied over the years. But if you're asking --
Q. Presently.
A. -- presently, 60 to 70 percent.
Q. And how much have you made over the past two years in terms of expert witness consulting -- ballpark?
A. Well, I don't want to assume that you mean paid to my consulting company as opposed to paid to me in salary from my consulting company.
Q. Well, how is your consulting company



structured, first of all?
A. It's a C corporation.
Q. Okay. And who's the owner of the consulting company?
A. My wife and I are co-owners.
Q. So let's break that question into two.
How much money has your corporation received in the past two years from expert consulting work that you have done?
A. Ballpark figure, it's probably been 1.5 to $1.6 million.
Q. And that's for both --
A. That's over a two-year period.
Q. -- over a two-year period?
A. Yes.
Q. Okay. And how much have you been paid personally from your corporation for the work that you've done on behalf of that corporation relating to expert consulting work?
A. Okay. So I'm taking that question to mean, what was I paid in salary from my corporation over the past two years. And it's probably in the range of $600,000.
Q. How much has your wife been paid from the corporation over the past two years?



A. Under $100,000.
Q. So please describe what you've done since you've been retained by Mr. Bertin's firm in connection with this litigation?
MR. BERTIN: I'm just going to state on the record that Dr. Acampora is being offered as a witness on claim construction.
MR. LU: So noted.
THE WITNESS: I read the patents. I read the prosecution history. I had numerous telephone conversations with Mr. Bertin. I attended a face-to-face meeting with Mr. Bertin and Mr. Lebar, and I prepared my report -- my declaration.
BY MR. LU:
Q. Okay. Did you speak to any individuals other than the employees at Google and the employees at Bingham that you've identified today in connection with your work on this matter?
A. No.
Q. Did you do any prior art searches in connection with your work on this matter?
A. No.
Q. Did you look at any Google products or services in connection with your work on this matter?
A. No.



Q. Did you look at any Skyhook products or services in connection with your work on this matter?
A. No.
Q. Have you heard of the patent in suit prior to your work on this matter?
A. No.
Q. Had you heard of Skyhook Wireless prior to your work on this matter?
A. No.
Q. Had you -- were you aware of Google location services prior to your work on this matter?
A. In passing, yes.
Q. And what do you mean by "in passing"?
A. Well, I know that they're -- as an example, on my iPhone I could -- or on my laptop -- I can certainly go to Google map. But my awareness of any location services that might be provided by Google are -- are -- are -- are really not any deeper than that.
Q. Now, Dr. Acampora, I assume that you received a copy of a subpoena asking you to appear here today for the deposition, correct?
A. I was aware there was such a subpoena, and I actually saw that subpoena yesterday.
Q. And were you -- did you see a second subpoena -- or perhaps the same subpoena -- directed

towards asking you to produce documents in connection with your expert declaration?
A. I did yesterday. But I was informed earlier -- I believe it was earlier this week -- that I was to produce all of the material I relied on, which I did.
Q. Okay. And what were the -- the materials that you relied on, those were produced to Mr. Bertin?
A. I believe so.
MR. LU: Okay. And Mr. Bertin, I just want a representation that all of materials that Dr. Acampora relied upon were, in fact, produced to us as part of, I guess, the declaration of Susan Baker Manning.
MR. BERTIN: Yes. That's -- that's correct.
BY MR. LU:
Q. Okay. Have you seen the declaration of Susan Baker Manning?
A. I did.
Q. And were there any materials that you relied upon that were not in the declaration of Susan Baker Manning?
A. Oh, I would need to look at that declaration to answer that question.
Q. Sure. We'll pull that out.
Were there documents -- did you look at any of



the dictionary definitions that were provided by Skyhook as part of the claim construction process?
A. Not that I can recall.
Q. Okay. So I'd like to have marked as Exhibit No. 7 the declaration of Susan Baker Manning --
A. Can I back up for a second just to be sure that I answered that previous question correctly?
I'm assuming you mean as part of the preparation of my declaration? Answer: No. Have I seen -- have I subsequently seen dictionary definitions that were produced by Skyhook? Probably, because I did look at Skyhook's claim construction brief after it was filed.
Q. But prior to the filing of your declaration, you did not review any of the dictionary definitions provided or produced by Skyhook in this litigation?
A. That's correct.
MR. LU: Do we have the exhibit stickies? There you go.
BY MR. LU:
Q. So Dr. Acampora, I've put before you Exhibit No. 7, which is the declaration of Susan Baker Manning.
(Exhibit 7 was marked.)
MR. LU: Take a few moments to review this,



and let me know if there are any documents that you relied upon in connection with your expert report -- your expert declaration -- excuse me -- that are not listed in this declaration.
A. I believe that the answer to your question is no. But to totally confirm that, I would need to look at my own declaration to see if there's any -- and -- and do some sort of a -- a cross check between what's in my declaration and what's in Ms. Manning's declaration.
Q. Okay. But sitting here right now, you not aware of anything that's listed in -- that's listed in your expert report? Well, let me strike that question.
So your expert report lists all of the materials that you relied upon in the preparation of that expert report?
A. I believe that's the case.
Q. Okay. And just to make things clear, since both of us have been referring to your expert declaration --
A. Declaration.
Q. -- as an expert report, for the purposes of this deposition, if we refer to your expert report, it will be understood that we're referring to your expert declaration, Exhibit No. 5.



A. That's fine.
Q. Okay. Did you review any legal cases in connection with the preparation of your expert declaration?
A. Any legal cases?
Q. Any case law?
A. Did I -- did I personally review case law?
Q. Correct.
A. No. I was provided with instructions with regard to claim construction that reproduced in my declaration. And they may be referenced -- I -- I would need to double-check. There may be reference to case law there. There may not be, but I was provided with instructions. I did not personally review any case law --
Q. Okay.
A. -- with regard to the preparation of my declaration.
Q. So let's turn to your declaration for a moment. That's Exhibit No. 5. Whether you want to refer to the declaration you have in front of you or the actual exhibit --
A. This one appears to be less unwieldy.
Q. Fair enough.
So I'd like you to turn to page 26, which is

A. Range might be one. Wireless local area networks or the range on an access point was not necessarily intended to be beyond -- much beyond a few hundred feet, or cellular systems might have ranges that -- well, they may be that small. Some base stations may have a range that extend to -- that may extend to several miles. That's one type of difference. They operate in accordance with different standards. They use different parts of electromagnetic spectrum. They use different modulation and coding techniques. They have different design objectives.

Q. What do you mean by "different design objectives"?

A. Availability, quality of service -- things of this type.

Q. What do you mean by "availability"?

A. One of the issues that we face in wireless communications is the fact that the signal strength is not constant. Signal strength can fluctuate for a variety of reasons. Line-of-sight blockage, multipath propagation, movement of client devices.

Cellular systems, for the most part, are designed with a higher availability requirement than a wireless, local area network might be. Cellular systems are designed so that there's a certain quality



of service guarantee. As an example, for basic cellular telephony, there are two things that we need to be concerned with. What is the likelihood that you try to place a cell call and the call doesn't go through because there wasn't a circuit available? And you need to be sure that the cellular system is designed so that that does not happen more than some specified fraction of the time. You need to be sure the call is not dropped because the user moves out of range of coverage and can't be picked up by a surrounding cell tower. Or the signal might be dropped -- blocked or dropped because the signal strength simply fades below some floor. You need to guarantee a certain call-blocking rate for wireless local area networks. These may or may not be design criteria.

Some wireless networks -- my at-home network -- I bought a wireless router, and I installed it. And it's giving me pretty good service. I'm the only one using it, but -- so I don't need to be worried about the air link becoming clogged because there's too much demand for a juice. I'm the only user. But in terms of -- of coverage, parts of my house have great coverage, and other parts of my house where I have no signal. In a cellular system, that would probably not



be acceptable. I would need to do something to fix that.

Q. Okay. Any other differences between cellular systems?

A. Well, we can spend all afternoon -- or all morning and all afternoon talking about that, if you want. So how much detail do you want to get down to?

Q. Well, what are the other major differences, in your view?

A. I already mentioned that they use different parts of the spectrum. They're deployed with different objectives in mind, different service quality objectives, different modulation and coding techniques, different capacities.

How much more detail do you want to get into? I can take any one of these topics and take you down to the next plateau.

Q. Well, let's ask about some -- let's ask about some differences that I had in mind.

Who controls the cell towers?

A. I'm not sure what you mean by "control."

Q. Well, when you -- when you install a cell tower, who does the installation there?

A. I'm still not quite sure what you mean.

Q. If I'm -- if I've got a Verizon -- Verizon



phone, and I'm connecting to a Verizon -- a cell tower, who owns that cell tower?

MR. BERTIN: Object to form.

THE WITNESS: Okay.

BY MR. LU:

Q. Let me phrase --

A. I -- I --

Q. Let me phrase it to you a little differently.

So there's a cell tower infrastructure that a particular network provider creates, correct, or builds?

A. I -- I think I understand what you're asking. I think the answer is yes, but why don't I let you go on to see where it's -- where it's going.

Q. Okay.

A. And if I need to correct what you said, I will.

Q. All right. So a particular network provider -- let's use Verizon as an example -- would have a -- would have cell towers that it controls, correct?

A. I'm -- I'm -- I'm -- I -- I think the answer to the question as you're -- as I'm interpreting "control," I think the answer to the question is -- is yes, but --

A. No.
Q. Quick question, Dr. Acampora. Can you read source code?
A. No.
Q. Can you write source code?
A. No.
Q. Do you have any computer programming experience?
A. Well, that's not a simple yes or no.
I certainly programmed in the past. My students all program, and I supervise their work. So I guess the answer is, yes, I have had experience in writing programs in my past.
Q. When you say in your past writing programs --
A. I -- I think that was your question.
Q. That was my question.
A. Yes.
Q. My -- my question is, when you say that you have experience writing programs in the past, are you talking about putting hands -- fingers to keys on keyboard, as you used that terminology previously today?
A. I've done that.
Q. Okay. And how long ago was that?
A. Long time ago.



Q. When you say long time ago, are we talking '80s? '90s? '70s? Punch cards?
MR. BERTIN: Object to form.
THE WITNESS: All of the above.
BY MR. LU:
Q. Okay. So when was the last time you had -- where you wrote source code for a computer program?
A. I don't know if I've ever written source code. That wasn't the question you asked.
Q. What was -- what was the programming experience that you had? What did you write?
A. Mostly computer simulations and, in some cases, actual formulas that were needed to produce numerical results at the end of a fairly extensive theoretical analyses.
Q. So we're talking about something like math lab -- MATLAB?
A. I've used MATLAB.
Q. When you said "putting together formulas," are you referring to the use of MATLAB?
A. Well, no. I actually wrote my own programs specifically to compute what needed to be computed.
I've also used MATLAB, but less often.
Q. And when you refer to simulations, that also referred to writing programs?



A. Yes.
Q. And how -- that was not source code because it was in Basic or some other --
A. Yes. I was it was in programming language, not source code, correct.
Q. Okay. Do you have any database programming experience?
A. I'm not sure what you mean by that. I've got experience with databases.
Are you asking whether I've written source code to create database or to operate a database? The answer is no.
Q. Do you have any experience in programming servers?
A. Well, I'm going to ask you to clarify that question. I'm not sure what you mean by "programming servers." I gave you my programming experience before.
If the computers upon which my programs execute are servers, then the answer to the question is yes.
Q. Okay. But you have no experience writing source code that is used to operate a server?
A. That is correct.
Q. I'm going to put before you what I'm going to mark as Exhibit 8, which, to confuse things, is



Exhibit 7 from the declaration of Lina Somait in support of Skyhook's claim construction brief.
(Exhibit 8 was marked.)
BY MR. LU:
Q. I'd like you to refer to the definition of triangulation in this dictionary definition, which is from the American Heritage Science Dictionary. And it reads, for triangulation: "The method of determining the relative position of points in space by measuring the distances and sometimes angles between those points and other reference points whose positions are known. Trigo- -- triangulation often involves the use of trigonometry."
Do you see that?
A. I do.
Q. Is that definition of triangulation consistent with your definition of triangulation provided in your expert declaration?
A. I think this definition is a subset of my definition.
Q. So your definition requires the formation of triangles; is that correct?
A. Well, again, with the understanding that if we're dealing in three dimensions, these are generalized triangles that have four vertices.

Second problem, same nature, is the Chinese postman problem. Here, I've got a graph defined by edges. And what I want to do is ensure that I drive along each edge -- I cover each edge in such a way that the total distance that I've driven is as small as possible.

Q. And what do you mean that it's an optimization?

A. The problems of this type are known as optimization problems in the field.

Q. Why are they optimization problems?

A. Well, notice I said I'm trying to minimize the distance covered. So I'm optimizing my route to achieve some objective function. The objective in this case being to minimize the distance traveled. And there's a cost associated with -- in the Chinese postman example, there's a cost associated with each -- with each link, namely its distance. When I drive this link, I've accrued a certain distance. What I'm trying to do is add up all those distances so that the total is as small as possible but such that the subject can be restrained at each edge -- is covered at least once. I can cover an edge twice in order to minimize the distance, but each edge has to be covered at least once, and I need to cover -- I need to do that in the



shortest distance total.

Q. But one could drive other routes that cover each edge at least once but that don't minimize the distance, correct?

MR. BERTIN: Object to form. Mischaracterizes testimony.

THE WITNESS: Well, are you saying can I drive some other route that covers each edge but doesn't minimize the distance?

I suppose that one could do that, but that's not what's in the patent. Because if you were to do that -- one way to do it is -- just to make up an example -- just take Manhattan, rectangular streets and avenues. And first, just drive up and down each street when you get to the -- to the edge of Manhattan Island. You know, make a right turn, go to the next street, drive down, so forth and so on. When you get to the northernmost boundary, repeat the process by now driving the avenues of, first, north to south and south to north and complete the process. Except along the way, for whatever reason, I decide I'm going to backtrack and cover three streets 10 times.

Now, using your criteria, I would have covered every edge, but that would be contrary to what's actually taught in the patent. Because if I were to do



that -- remember the purpose of driving in this deliberate fashion in the patent is to scan for WIFI access points, and I would have recorded the same access points more times along the streets that I drove multiple times. And that would not accomplish the objective of creating a more accurate database. Remember here, you need to cover each street at least once, but try to cover each street the fewest time in order to ensure that you've got each street covered once, and you haven't spent, you know, three days driving up and down in order to collect the data. So the -- the patent was pretty deliberate in terms of -- of disclosing how to accomplish this routing for the purposes of scanning the WIFI database -- the WIFI access points.

BY MR. LU:

Q. So that alternative route would be a nonoptimized route, correct?

A. The alternative route would -- would not have accomplished the objectives of the invention; that's correct. And if that's what you mean by not optimized, then it would not be optimized.

Q. Well, I'm referring to optimized in terms of what you've been referring to optimized, which is minimizing the distance that's covered.



A. In this case, in the case of this patent, that is a criteria.

Q. And so a --

A. That's what the Chinese postman problem -- that's the problem the Chinese postman solution addresses.

Q. And so there are other routes that do not drive a Chinese postman route that would cover each and every street and each and every corner, but it would not be optimized because the distance covered would be greater than the Chinese postman algorithm route?

A. It -- it -- it's worse than that. It's not just the distance wouldn't be minimized, but it's also the fact that you will have covered -- you may have covered each street many times, which you don't want do if -- if -- you don't want to do unnecessarily because that will introduce errors that the invention, if any, is intended to avoid.

Q. I'd like you to turn to page 7 and paragraph 22. Second sentence says: "The scanning is performed using a Chinese postman format to drive each street a minimum number of times and preferably only once to avoid introducing a bias towards certain streets."

Do you see that?

A. I do.

expert reports have you submitted in connection with claim construction in your role as an expert witness?
A. Rough estimate, 20.
Q. So do you have an understanding of the process of construing a claim in a court in a patent case?
A. Well, I don't know. And the reason I don't know is in each and every instance among these approximately 20, including the current matter, I was provided with a set of instructions that I was asked to follow in performing my opinions. Those instructions I understand.
Whether they conform to some other criteria that you're alluding to, I'm not a lawyer. I don't know. But I do know the instructions that I was provided with, and I'd be happy to tell you what they are. And these are the -- these are the instructions that I followed in forming my opinions.
Q. So you don't have any formal legal training in patent law?
A. That's correct.
Q. Okay. And as you mentioned, you are not a lawyer. You have no JD?
A. That's correct.
Q. So where are the instructions that you followed for the purposes of the -- of construing the



claims in this particular case?
A. They begin on page 26 of my declaration.
Q. That's the section that's labeled "claim construction principles"?
A. That's correct.
Q. And where do they end?
A. They appear to end on page 28. But without reviewing the entire document, I don't know if there may be any other claim construction principles appearing elsewhere in my declaration. There are none that I'm aware of right now. I believe they're all contained in these four pages.
Q. Other than the claim construction principles --
A. Three pages.
Q. Sorry.
Other than the claim construction principles that are listed in pages 26, 27, and 28, and what may appear elsewhere in your declaration, were you provided any other instructions regarding how claim construction is to proceed?
A. Not to apply a -- a term that is sprinkled throughout my report of indefinite -- but I find your question indefinite.
What time frame would you be referring to now?



Q. In preparing your report, were you provided any principles of claim construction that are not articulated in your report or declaration, including the claim construction principles listed on page 26, 27, and 28?
A. Okay. There may have been some additional discussion with regard to claim construction principles that I was exposed to as I was preparing my declaration. But the principles that I applied are contained on these three pages.
Q. Do you recollect what other principles you may have been exposed to that would not be listed on these three pages or anywhere else in your declaration?
A. Not that I can recall.
Q. As an expert, what do you understand -- strike that.
What do you understand your role as an expert to be in the claim construction process?
MR. BERTIN: Object to form.
THE WITNESS: I believe that it's my role to offer an opinion as to how one of skill in the art would view the proper construction -- or would view the proper construction of these claims to be -- a person of skill in the art at the time of the inventions. Who would that person be and how would that person



understand these claims.
BY MR. LU:
Q. Now, you have not applied claim construction principles in construing these claim terms that are not listed either on pages 26, 27, and 28 of your expert report or elsewhere in your declaration; is that correct?
A. I -- I -- I don't know if that's the same question or a different question than one or two that you asked already. It sounded like exactly the same question. So what I'm going to do is take a couple of minutes just to read these three pages and then respond to that question.
By the way, in reading, I immediately see that -- you asked what my understanding is of the role of an expert with regard to claim construction, and I mentioned that -- to the effect that my role is to offer opinions as to how one of skill in the art would understand these claims, what it would mean to a person of skill in the art.
But I need to modify that. I'm looking at paragraph 59 of my report. "Unless the terms have been given a special meaning in the patent or related documents, such as the prosecution history." So there may be some understanding of how -- of what these

phrases would mean to one of skill in the art. But they may have been given a different interpretation or special meaning in the patent or related documents. So in such case -- in such cases, it would be my role as an expert to identify that as well.

No.

Q. So all of the principles for claim construction that you have relied upon for preparation of your declaration are recited in those three pages of your expert declaration?

A. The principles that I applied in forming my opinions as to how these phrases should be construed are based on these three pages.

Q. Now --

A. The instructions provided to me in these three pages.

Q. Now, if they were additional legal principles of which you were not aware, could that influence your opinion?

A. I don't know.

Q. So it's possible it could influence your opinion?

A. I -- I -- I don't know. You need -- you need to give me a specific example.

Q. Let's go through these claim construction



principles, and you can explain your understanding of them to me.

So please explain your understanding of paragraph 59 of the section in claim construction principles.

MR. BERTIN: Object to form.

THE WITNESS: My understanding of paragraph 59 is that one of skill in the art would have an interpretation as to what the words in the claims mean, unless the terms have been given a special meaning in the patent or related documents, such as prosecution history.

So when I read the claims, I'm looking for a deviation from what the words would ordinarily mean to a person of ordinary skill in the art in that era. And I look through the specification -- I look at the claim itself. I look at the specification. I look at the prosecution history and other related documents.

And based upon what I find there, I either conclude, yes, this phrase has a plain and ordinary meaning, or perhaps some clarification is needed in light of the specification or the claim language itself or related documents, or perhaps the inventor has intentionally defined a phrase to mean X or -- and -- or any variation along this scale of, yes, everyone



knows this is plain and ordinary. It's not used any differently. And, no, the inventor has specifically defined this in an unconventional fashion. There are shades of gray between those two.

And what I did is attempt to find support in the claim -- the specification and prosecution history -- as to how one of ordinary skill in the art, having read all of this, would construe the phrase.

BY MR. LU:

Q. Are there any claim terms for which you believe the patentee or the inventor specifically defined the claim term in an unconventional fashion?

A. Well, there are several cases where I believe the inventors coined phrases or used phrases in an unconventional fashion. And I even have opinions on those expressed in my declaration. There may be other instances where that was done as well, but I don't have an opinion on that.

Q. Which phrases, in your opinion, were phrases in which the inventors coined phrases or used phrases in an unconventional fashion?

A. Reference symmetry, arterial bias, avoids arterial bias, rules and predefined rules, being suited, target area, several related terms, calculated position information, calculated positions of the WIFI



access points, calculated locations, and recorded location information.

Q. Let's address each of those.

A. I'm -- I'm not finished.

Substantially, all WIFI access points in the target area providing a reference database of calculated locations of WIFI access points --

(Reporter interruption.)

THE WITNESS: Providing a reference database of calculated locations of WIFI access points in a target area. And I'm still not finished. The means-plus-function terms.

By the way, you were asking me earlier how I applied paragraph 59, and I tried to limit my answer to only paragraph 59. But there's a whole different section in my report describing the principles that I applied for means-plus-function limitations that go in the instructions, substantially more detailed than what appear -- appears in paragraph 59. If you'd like me to discuss those as well --

Q. No. We can address those --

A. And -- so then I guess you don't want me to list the means-plus-function limitations that may have a special or unconventional or defined meaning different than what one of skill in the art might

side. And this is a situation that the inventors characterize as lack -- as being in lack of reference symmetry.
BY MR. LU:
Q. And what is shown in figure 6? Just back up -- back up a little bit on -- back to figure 5.
So we have calcu- -- calculated location of user, marked with a little X. Do you see that?
A. I do.
Q. And we have user 501, which is a solid black dot. Do you see that?
A. I do.
Q. And you see radio range of user devise being surrounded by a circle? Do you see that?
A. I do.
Q. Okay.
A. By the way, thanks for calling my attention to that. The X in figure 5 is the location -- the calculated location of the user. The actual location is the -- the black circle. And all of the calculated locations of access points are on one side of that user. They're all to the left of that user. Some of them are beneath the user, some of them are above the user, but they're all to the left. And this again, is a -- this is a situation that the inventors



characterize as a "lack of reference symmetry."
Q. Okay. Let's turn to figure 6. Is this --
A. And if -- if -- if -- if I can go on. And the section of the patent titled "reference symmetry" tells us what the inventors mean by "reference symmetry" -- or what they're trying to express by the term "reference symmetry," at least in the specification.
When I looked at that and tried to relate that description to the claim language, I found that there wasn't -- it wasn't a relationship. They didn't map over. And I don't know where else to look for reference symmetry. I scoured the patent and its prosecution history, and as the phrase is used in the claims, it -- it -- it -- it -- there simply isn't a description.
Q. Let's turn to figure 6, what the inventors have characterized as "positioning with reference symmetry." Do you see that?
A. I do.
Q. Can you describe what's depicted in figure 6, "positioning with reference symmetry"?
A. Well, yeah, I can. If you look at column 9, beginning at line 64 -- and this is part of the description of figure 6. In fact, it may be the totality of description of figure 6.



"With Chinese postman model of scanning for access points, the user typically encounters a physical location" -- figure 6, and -- "in which there are numerous access point locations on all sides of the users." So the user is 601, and there are numerous access stations, 602, that we see marked on figure 6 that are, as the specification describes it, on all sides of the user within range of the -- of the devices 802 radio. The resulting in position calculation has reduced location bias and is more accurate as a result.
So that's what figure 6 is -- is showing. But there's a real problem in -- in this regard. This perhaps is what the inventors would like their invention to produce. They have no way of knowing if this is going to be produced or not because they have no way of knowing in advance where the access points are and whether it's possible to achieve this reference symmetry that's represented in figure 6 and discussed in the accompanying text. The access point locations may not be conducive to production of reference symmetry. It may really all be on one side of the user.
So this reference -- that we had some discussion earlier about whether things were achievable or not, and here's an example of something that may not



be achievable. It's something beyond control of whoever is taking measurements of -- of access points in an attempt to determine where the access points are located. The access points may not be symmetrically located around the user. It may not be possible to get to this situations that the inventors are -- are -- are striving for. Just may not be possible. It's beyond -- it's beyond the control of the -- whoever's taking the measurements.
Q. And what --
A. I think I -- I think I even discuss in my expert declaration that what's not disclosed at all in the patent is intentionally seeding the target area with access points in an attempt to ensure access symmetry. Otherwise, I just don't see how the teachings of the patent can produce reference symmetry as it's represented in figure 6 and described in the specification.
And again, the claims -- the use of the phrase in the claim don't even relate to this. They relate to something else that's not discussed at all in the specification.
Q. Just on that point, if a target is -- if a targeted area is intentionally and densely seeded with access points, a person having ordinary skill in the

art would be more likely to be able to determine reference symmetry, correct?
A. What do you mean by "determine reference symmetry"?
Q. Well, you're talking --
A. Reference symmetry of what? Are we talking now about the claim language or the specification?
Q. We're talking about the -- we're talking about the specification.
A. Just the specification. Because again, as I testified earlier, the use of the phrase in the claim is different than what's described in the specification.
In neither case would one know, a priori, what this means without reading. In the case of the specification, one can sort of glean what the inventors meant. But in my opinion, it's not possible to ensure that you've gotten to that there, no matter what measurement technique you use. And it's with regard to the claims. It -- it -- it -- it -- it just -- it -- it -- it -- it -- there's no suggestion as to what the phrase means as it's used in the claim because it's used -- there's a different reference in mind. I know what the reference point is that they have in mind in the specification. I don't even know what the



reference point is in the -- in the claim.
And if you'd like, I can explain that.
Q. Well, let's get an answer to my question that I originally presented which is: If you have an area that is intentionally and densely seeded with access points, known access points, a person having ordinary skill in the art would be likely to be able to determine reference symmetry in accordance with what's described in the patent specification, correct?
MR. BERTIN: Object to form.
THE WITNESS: I'm -- I'm -- I'm -- I'm not sure that's even a properly posed question.
BY MR. LU:
Q. Well, okay.
A. What I would know is that unless the access points coincidentally were cited in such a way as to provide this -- and now I'm going to read from the specification -- "to provide a sufficient number of reference point with balance or symmetry around the user," then you could not have reference symmetry. And that would suggest that you've got to intentionally deploy the access points in such a way that you have got a sufficient number and balance or symmetry around the user no matter where the user might be. This -- this would be rather difficult to accomplish.



And -- and that's as the phrased is used in the specification. How it's used in the claim, it's -- it's just not described. One would not know how it's -- what the phrase means as it's used in the claim.
Q. Okay. So ultimately, the conclusion of your paragraph 74 is that even practicing the technique disclosed in the patent, illustrated in figures 5 and 6, one would have no idea of whether or note there is indeed a condition of reference symmetry because the location of the WIFI access points is simply not known?
MR. BERTIN: Object to form.
THE WITNESS: That's not what paragraph 74 says.
BY MR. LU:
Q. Okay. So what about my statement was incorrect?
A. Well, you -- you -- you -- you tried to characterize what you said was a conclusion I've drawn in paragraph 74, and I don't think I've drawn that conclusion.
Q. What is the conclusion that you draw from paragraph -- in paragraph 74?
A. Well, the last line reads -- if that's a conclusion -- there is a fundament -- thus -- and I



gave the reasons why earlier in the paragraph -- "there is a fundamental lack of any objective standard for determining whether distribution of WIFI access points might have reference symmetry with regard to a user."
And again, this does not relate to how the phrase appears in the claim. There was a claim -- the phrase is used differently in the claim. It's not with regard to a user. The description in the specification is with regard to a user.
Q. Okay. So turning back to figures 5 and 6 --
A. There was something else in your question that -- that -- that -- that troubled me a little bit.
You asked about figure 5 and the conclusion that I've drawn concerning --
Q. And 6?
A. Yeah. Figures 5 and 6.
Figure 5 has nothing to do with reference symmetry. In fact, the -- except as an example of the situation that lacks reference symmetry.
Q. Okay.
A. Now that -- that sort of gets to the heart of what I've been trying to explain. Figure 5 may be the reality. It may not be as a result of any particular measurement technique or any particular location technique. It may, in fact, be the case that there are

access points located only on one side of the user, so there's nothing you can do to fix that. If reference symmetry means you have sufficient density of access points and they're uniformly spread around the user -- here's an example of where that situation could not -- is -- is simply unachievable. You can't -- you can't get to that point without intentionally laying down a whole bunch of additional access stations above the eight that are shown here, if these are, in fact, the locations of those eight access points. You're stuck.

Q. What's a sufficient number of WIFI access points, in your opinion?

A. You got me. Those are the inventors' words, not mine.

Q. Turning to figures 3 and 4 --

A. Okay.

Q. -- we have in this image known locations of WIFI access points, which are in black circles. We have calculated locations of access points, which are in white diamonds.

Do you see that?

A. Yes.

Q. And this is a example of a scanning scenario showing arterial bias.

A. Yeah. The so-called random model, where the



collection of data was coincidentally some other reason for traversing the route.

Q. Okay. And I'd like you to put an X, if you won't mind, in the middle -- in the upper right-hand corner of the middle box.

A. You want me to mark it right on the --

Q. Yes, please?

A. -- on Exhibit 1 itself?

Q. On Exhibit 1 itself.

A. So you want me to put an X in the middle of --

Q. The upper right-hand corner of the middle box.

A. You mean just put an X here?

Q. Just put an X there.

A. Like that?

Q. Yeah. And why don't you put an X on figure 4 as well.

A. Same spot?

Q. Same spot.

A. Done.

Q. Okay. Let me just grab my pen back.

And I'll tell you what. We're also going to draw a circle right -- right here.

A. You mean you want -- well, where you point, you want that to be the center of the circle.

Q. Yeah. Put that as the center of the circle.



A. Okay. And how large a radius do you want me to draw?

Q. Just around the size of the other circles.

MR. BERTIN: So this is a circle that --

MR. LU: And let's label that --

MR. BERTIN: -- Dr. Acampora is being asked to draw in the lower left-hand corner of the center box on figure 4 of the 988 patent, just so the record is clear.

MR. LU: Let's label that circle "user."

Let's draw a similar circle in the exact same location with the exact same label on figure 3.

You can keep that. All right.

BY MR. LU:

Q. So getting back to figure 3. What we have here are calculated locations of WIFI access points that are in white diamonds and the location of the actual access points in black circles and then a blue circle, which is now labeled "user."

And we have in figure 4 the exact same thing, except that rather than simply driving artery 304 and artery 305, a Chinese postman routing methodology has been driven.

MR. BERTIN: And to be clear, the circles have been added to the -- to these figures. They don't



exist in the patent by themselves.

MR. LU: Correct.

BY MR. LU:

Q. Now, Dr. Acampora, per the teachings of the patents, is there a greater degree of reference symmetry around the user in figure 4 than there is in figure 3?

A. Well, before I even attempt to answer that, I've got to ask a question.

Are you referring to the claims, or are you referring to the specification?

Q. My patent -- my question made it clear, per the teachings of the patent specifications.

A. So the specifications. So we're not -- we're not considering the claim. Again, the claim appears to use reference symmetry in some other way that's not defined at all. You can't glean what it is from claim or anything in the specification. It's indefinite.

So we're looking now only at the specification, as if I could rip the claims off and focus only on the specification.

Is that what you're asking me to do?

Q. Yes. That's what I'm asking you to do?

A. Okay. And the question once again is?

Q. Is there a greater degree of reference

symmetry for the calculated location of WIFI access points in figure 4 around "user" than there is in figure 3?

A. Well, I -- I have to ask another question before I can begin to answer that. What are the Xs that you asked me to draw represent?

Q. You can ignore the Xs.

A. Ignore the Xs.

Okay. I think I understand your question. And the answer is going to require a certain amount of explanation. So let me try to be as brief as I can and as clear as I can.

On the one hand, both figures 3 and 4 have the same degree of reference symmetry with regard to the user, which is the only context in which reference symmetry is discussed in the specification because location of the access points and location of the user have not changed one bit. So let me give an example of what I mean.

Let's suppose that the actual locations of the access points are the -- the computed locations -- the calculated locations are the actual locations. So I'm going to divorce this notion of reference symmetry from the scanning method for the moment.

Suppose I know exactly where the access points



are located. The distribution of access points relative to the user are what they are, and they appear to be the same in both figures. Now, what the patent appears to be saying is that with regard to the same reference symmetry by a different measure, the calculated locations relative to the random model and the deliberate Chinese postman model -- it would appear that the calculated positions are better distributed around the user in figure 3 than figure 4.

But to draw that conclusion, once again, I have to rely on the actual scanning method. So if the invention -- if the inventors are intending to say that if you use our deliberate Chinese postman routing algorithm, you will achieve better reference symmetry with regard -- with respect to the location of the user than for the examples given in 3 and 4. That would appear to be the case.

With regard to other language in the -- from the -- drawn from exactly the same section of the specification, the section discussing reference symmetry, that refer to reference symmetry only with regard to the locations of the access points relative to the user, that's the same in both figures.

So the reference symmetry is what it is based upon where the access stations are actually located.



But the perceived degree of reference symmetry might be affected favorably by using what I believe the authors feel is their invention, deliberately driving every street in the target area in according with the Chinese postman routing algorithm.

And again, that's reference symmetry with regard to the user, which has nothing to do with how reference symmetry is used in the claims. It's used in a different way. It's not discussed relative to the user at all. In fact, one would not know how it's used in claims.

Q. Turning to paragraph 75 of your declaration, the statements that you make in that paragraph are directed towards the statement that you just made which is, "as used in the claims, one -- it's not discussed relative to the user, and one would not know how it's used in the claims." "It" being reference symmetry -- strike that.

Why don't you explain what paragraph 75 says.

MR. BERTIN: Object to form.

THE WITNESS: Okay. So as I testified several times already, the only discussion of reference symmetry that would suggest what it means, how the inventors use the phrase, is in -- there's a section on reference symmetry in the specification. And that



reference symmetry is discussed with regard to a user. There's a known reference point. The point -- the -- the location of the user. And reference symmetry is described with regard to some dense and uniform distribution of access points relative to that point.

Now, when we look at the claim, we see no language of that type whatsoever. In fact, what we do see is -- so I'm reading from claim 1 now.

MR. BERTIN: That's of the 988 patent; is that correct?

THE WITNESS: 988 patent, claim 1, correct. Column 14, line 22, beginning with the "wherein."

"Wherein said calculated position information is obtained from recording multiple readings of the WIFI access points at different locations around the WIFI access points so that the multiple readings have reference symmetry relative to other WIFI access points in the target area."

I have no idea what that means. We no longer have a point of reference. We have multiple readings. Somehow these multiple readings have reference symmetry relative to other WIFI access points. In the specification, reference symmetry is defined, A, relative to a user -- the location of the user -- and is described in such a way as to suggest that the

access points are uniformly distributed and densely distributed around that user.

Here, somehow, that concept of reference symmetry is -- appears -- well, the words "reference symmetry," not the concept -- but the words "reference symmetry" appear -- regard to other WIFI access points and multiple readings from different locations around a WIFI access point. What -- what reference point must the access points be distributed uniformly and densely relative to, as was taught in the specification for the known reference point of the user? I don't know where the reference point is here. I -- I -- I -- I don't know what they're talking about here.

MR. LU: Okay. Why don't we take a quick break.

THE VIDEOGRAPHER: Off the record. The time is 3:21 p.m.

(A brief recess was taken.)

THE VIDEOGRAPHER: We're going back on the record. The time is 3:30 p.m.

MR. LU: So when we were off the record, we reviewed some testimony that Dr. Acampora had provided regarding figures 3 and figure 4 and, specifically, the distribution of the calculated locations of the access points in figure 3 compared to figure 4.



The question was: "Was the distribution in figure 4 -- did that have better reference symmetry than the distribution in figure 3?" And the answer may not have reflected -- at least as transcribed -- may not have reflected Dr. Acampora's answer.

BY MR. LU:

Q. So would you like to comment on that particular answer?

A. Yes. Figure 4 in the context of the question and the context of the reply that was given appears to have better reference symmetry than figure 3. Whereas, as you read it to me off the record, the roles of figure 3 and 4 were reversed.

Q. Thank you.

MR. BERTIN: Just to be clear, the rest of your answer is accurate other than the transposition of figures 3 and 4.

THE WITNESS: That is correct.

MR. BERTIN: Okay.

BY MR. LU:

Q. So let's turn to page 31 of your expert declaration. And I direct your attention to paragraph 79 which states: "Based on my review of the specifications and prosecution history, it is my opinion that the term 'arterial bias,' standing alone,



can be understood to mean the deviation from the calculated position information for a WIFI access point towards heavily trafficked roads and away from the actual geographic location of the access point due to the tendency of random scanning to result in a greater number of scans from heavily trafficked roads."

Do you see that?

A. I do.

Q. What is the basis for your statement that this is, quote, "due to the tendency of random scanning as a result in a greater number of scans from heavily trafficked roads"?

A. Okay. So this may be somewhat repetitive to a discussion we had earlier today with regard to figure 3 in the 988 patent -- or it might have been from the 245 patent. But it's the same figure in either case and the accompanying text from the specification. So let me just locate that, and we'll review this.

Okay. So figure 3, example scanning scenario showing arterial bias.

By the way, I'm using figure 3 from the 988 patent, but I'm going to assume that the blue markings that you asked me to include are not present, so I'm using the pristine figure 3 not the marked-up figure 3.

Q. That's fine.



A. And what we have in figure 3, the black dots represent the actual locations of access points. The white diamonds represent the calculated position of the access points. And the accompanying description, which appears in column 7 and 8 of the patent, tells us that -- and I'm reading now from column 7, line 52.

"The quality of the data collected is greatly affected by the scanning methodology employed by the scanning vehicles. Each model has its own benefits and limitations. One approach, known as the random model, places scanning devices in vehicles as they are conducting daily activities for business or personal uses" -- business or personal "use," singular.

"These vehicles could be delivery trucks, taxi cabs, traveling salesmen or just hobbyists. The concept is that over time, these vehicles will cover enough streets in their own random fashion in order to build a reliable reference database. The model does, in fact, provide a simple means to collect data, but the quality of resulting data is negatively affected due to issues of arterial bias.

"Figure 3 describes the challenge of the random model. When the scanning vehicle traverses routes designed to solve other problems than gathering data."

BY MR. LU:
Q. So because the patent doesn't describe any other way in which --
MR. BERTIN: Were you done with your answer there?
THE WITNESS: I was not.
MR. LU: Okay.
MR. BERTIN: Do you mind just letting him finish?
THE WITNESS: Yeah. The language that I was referring to that we discussed earlier appears in paragraph 21 of my report. "Their, quote, 'discovery,' unquote, if any, appears to be a deliberate and possibly unachievable effort to improve the accuracy."
So they're setting up this arterial bias. They're telling us how it's created. And even the name itself, "arterial bias," it's bias caused by the fact that the measurements are being taken along arteries. That's what they intended when they used the phrase "arterial bias."
So the construction -- and I won't reread it -- but it's exactly what I opine on in paragraph 79. And that's just -- that's nothing more than a summary of exactly what the inventors taught us they meant by arterial bias in the specification.



Now, is there another way that you could get arterial bias? So suppose you drive the -- and this is why the objectives of the invention might not be achievable.
Suppose you drive some different route. Let's call it a quasi- -- quasi-deliberate route so we're not pinning it down to any specific routing algorithm. So maybe you're driving on streets other than main arteries. But as I testified earlier, there are propagation effects of shadow-fading caused by line of sight blockage by buildings, multipath propagation, that can still cause the resulting access point location calculations to be significantly in error.
Whether the errors would coincidentally cause them to be bias towards arteries, that, I don't know. But -- so, yeah, maybe you -- I -- I guess I'm convincing myself even further that arterial bias can only be caused by driving in this random way where there would be a tendency to scan heavily trafficked roads.
Coincidentally, and probably highly unlikely, one might get arterial bias because of some unpredictable propagation patterns. But that just further shows that the objectives of the patent cannot be guaranteed. But in any event, there's no doubt what



the inventors mean by arterial bias. It's the only description they give, and I had to struggle to create a situation. And even as I was struggling to invent a situation on the fly, I realize that that may not result in arterial bias. It's more likely to result in significant errors, but not necessarily arterial bias -- arterial bias? The word itself "arterial," it's bias caused by the fact you're traveling the arteries. This is quite clear.
BY MR. LU:
Q. Now, what if I were to provide instructions to my drivers to drive a programmatic route but only to take roads that had at least four lanes. Would that create arterial bias?
A. Well, how many lanes are there on the average roads? If -- if four -- if four lanes would be regarded as a very wide road and other streets have one lane, then that might be arterial bias. On the other hand, if most roads have four lanes and a few roads have eight lanes, then what you just described would not produce what the authors intended by the use of the phrase "arterial bias."
Arterial bias means you're scanning the heavily trafficked roads, the main arteries, the big streets. That's completely consistent with common



sense and understanding, what we mean by an artery in the vehicular traffic sense and what's disclosed in the specification.
Q. But one can create arterial bias by scanning that is other than random; in my example, instructions to only drive streets that are at least a certain number of lanes wide, correct?
A. Not as it's used in this patent, no, not correct. The patent does not suggest that there -- they're setting up a problem. They're telling you how that problem would commonly be -- would commonly occur. A bunch of vehicles are sent out on a mission -- on missions. Those missions are to get from point A to point B. And as the patent describes, you're more likely to navigate onto an artery, travel that artery, and that's what's going to cause the arterial bias. The patent does not suggest deliberately creating what you're characterizing as arterial bias by instructing the fleet to drive only on the main roads.
Now, if you instructed -- I think common sense consistent with what's in the patent, why this arterial bias exists, would be consistent with telling the fleet to drive the main arteries because you want them to get to their destination quickly. It's not an attempt to create arterial bias as much as an attempt to get to

diagram had sufficient detail that one could actually identify unambiguous steps to be followed. It couldn't be so high level as we know better than the box labeled computer to begin with.

Q. So if there were a description that was sufficient to identify unambiguous steps to be followed, that description could disclose sufficient structure, correct?

A. Where are you reading from now? If -- if you're going to read from my report --

Q. That was not --

A. -- it might help if you tell me where.

Q. That was not a question from your report. That was a question based upon what you just said about flow charts. And -- I'll tell you what I'm trying to get at.

Are flow charts and algorithms the only means by which a sufficient structure can be disclosed? Flow chart and code -- excuse me -- are the only means by which a sufficient structure can be disclosed for purposes of means-plus-function?

A. Probably not.

Q. Okay.

A. Things are coming to mind -- might be a recipe. Do this, followed by this, add three cups of



this, et cetera, et cetera. I could imagine a recipe having enough specificity that I'd know -- one would know how the computer was programmed.

Q. Okay. And if a description had sufficient specificity to know how the computer would be programmed, would that be sufficient structure for means-plus-function?

A. If what had?

Q. A description, a written description --

A. Written description had --

Q. -- sufficient disclosure so that you would know how to program the computer, would that be sufficient structure under your understanding of the law relating to means-plus-function?

A. Well, possibly. But that sort of just shift with the debate. And that's why we really need to see a specific example of what you're referring to.

The debate has now shifted to: Is the description adequate to know how the computer is programmed?

Q. Fair enough. I'm just trying to make sure that there are no categories of, you know, information that you would automatically say would not constitute a description because it happens -- or constitute sufficient structure because it happens to fall into



one category rather than another category.

A. I understand.

Q. Okay.

Now, turning to paragraph 86, it states: "As discussed below, I have considered the claims and here's my opinion that logic is not a structure and that these terms are therefore means-plus-function terms.

"I have reviewed the disclosure of the 988 patent and for the reasons discussed below, it is my opinion it does not disclose corresponding structures capable of performing the functions stated in the logic limitations."

Now, the first question is: Is this statement -- are these two statements made in paragraph 86 true for all six of the logic terms listed in paragraph 84?

A. I believe the answer to the question is yes. But if you'd like an unambiguous confirmation of that, I'll need to read -- reread my opinions for each of them. But I believe the answer to the question is yes.

Q. Okay. Now paragraph, 87 states: "Logic is not a structural term."

Do you see that?

A. I see that.



Q. What is your -- what did you mean when you said "logic is not a structural term"?

A. When I see the word "logic," I don't know what the structure of that logic is. So as I write: "A person of ordinary skill in the art would understand logic to mean a series of defined steps for performing function as opposed to a structure." So "logic" is functional, not physical.

You know, thinking could be logical, as an example. So you need to see more context. You need to see the language of the claim itself. You need to go back to the specification in order to infer what, if any, structure corresponds to logic. If the claim term is written so that the logic is as it appears in the claim, is defined only by what it does.

Q. Now, the patent relates to a WIFI location server; is that correct? The 988 patent, claim 1, relates to a WIFI location server, correct?

A. That's how the preamble reads.

Q. Okay. What is your understanding of what a WIFI location server is?

A. Well, I'm not aware that that's a term that's in dispute. If it is, I certainly haven't offered an opinion on it, so I'm not going to create an on-the-fly claim construction. That will take lot of time. If

you'd like me to, I can try, but I can tell you that will take time because I haven't been asked to do that, and I haven't got an opinion on that.
Q. So in interpreting the logic terms of the 988 patent, you did not consider what the meaning of a WIFI location server is, correct?
MR. BERTIN: Object to form.
THE WITNESS: No. I didn't say that either.
BY MR. LU:
Q. Okay.
A. But you -- you asked me for a construction, and that I'm not prepared to do. Whether I considered the preamble with regard to these logic limitations, well, sure. I read the entire patent, including the claim, and all parts of the claim, including the preamble.
Q. Okay. So did you have an understanding when you interpreted the logic terms what a WIFI location server is?
A. Well, I have an understanding of what that is with regard to the parts of it as claimed in claim 1.
Q. Okay.
A. Except that I don't know what these logic things are because they were defined only by the function.



So I know that -- I could sort of see what -- based upon what's written in the specification, this location server is some sort of a thing that is being accessed by WIFI users -- that's being queried by WIFI users in an attempt to determine the location. And it's created by means of some this deliberate scanning algorithm, the Chinese postman. I would understand that.
But then the claim goes on. It's -- it's -- it's -- it's telling -- then it's telling us exactly what's being claimed, and that's where I fall off the bandwagon because there is some -- some of these terms, in my opinion, are indefinite.
Q. So "thing." A WIFI location server can be a human brain?
MR. BERTIN: Object to -- object to form. Argumentative.
THE WITNESS: I would not interpret this -- I don't think one of skill in the art would interpret the server to be a human brain.
BY MR. LU:
Q. Okay.
A. It's telling us it's comprising a database of WIFI access points. So there's got to be a database. It can be -- it can't be only a brain.



Q. So it's a computer, correct? A WIFI location server is a computer, correct?
A. Well, possibly. In the -- at -- completely out of context, a server would be -- one of skill in the art would have some understanding that the server is some type of a computer.
Q. Now, is the term "logic" in the field of electronics a purely functional term?
A. You need to be more specific. If -- if the logic that's -- when you say "in the field of electronics," if the logic is given in the form of bunch of Boolean operations to be performed -- to be performed, then it is presented in functional form, yes.
Q. But --
A. If it's a specific circuit showing gates and interconnection of gates and so forth and so on to accomplish some tasks, then perhaps. But again, we need to -- I'm sort of borderline speculation right now. Then perhaps it's -- it's not just functional form but actually showing a block diagram, so I would know how to build this thing. And I need -- then I would need to see the context.
Q. Okay.
A. But none of that, by the way, is presented in



this patent. There are no circuit diagrams.
Q. So you would disagree with a definition of logic that would included hardware, such as applications, specific integrated circuit, or field-programmable gate array software, or a combination of hardware and software?
A. What logic? The claimed logic?
Q. Just -- just the use of the word "logic."
A. I -- I need this in context.
Q. Okay. So in the context of computer and computer electronics, you would disagree with a definition of logic that would be hardware, such as an application, specific-integrated circuit, or a field-programmable gate array software, or a combination of software and hardware, correct?
A. At this point I would neither agree nor disagree. I need to see more context.
Q. Have you heard the phrase "emitter-coupled logic"?
A. I have.
Q. What is emitter-coupled logic?
A. It's a type of electronics. It's a -- I believe it's a type of bipolar electronics that's actually capable of operating at substantial clock speeds.

So that might be an example of something of logic in electronics that's not purely functional. I've read the circuit diagram. That circuit diagram is -- is -- represents the electronics that has been fabricated on a chip. And it -- I know the Boolean or truth table functionality that the chip is performing. There I think there's some structure.

Q. Is custom high-speed logic structural or functional?

A. Don't know. I need to see the -- I would need to see the -- the context.

Q. Are logic families structural or functional? Are commercially available logic families structural or functional?

A. I need to see the context once again.

MR. BERTIN: Object to form.

BY MR. LU:

Q. Is reconfigurable logic structural or functional?

A. Well, I -- I -- I -- again -- and let me this time try to elaborate a little bit. I would need to see the context.

If it's reconfigurable logic for performing a function and the specification included a block diagram -- a circuit block diagram of that



reconfigurable logic that performs that function, then that might denote something other than function.

But if there's no description in the specification whatsoever about this reconfigurable logic for performing this function -- no Boolean operations, no truth tables, no flow chart -- then, in my opinion, that would be functional.

Q. And --

A. And that's why I said you'd need to tell me the context.

Q. Is emitter-coupled logic structural or functional?

A. I -- I don't even know how to comprehend that question. Does structural --

Q. Does emitter-coupled logic bring to mind a structure, or is that a purely functional term?

A. It brings to mind a class electronics, so it's neither structure nor function. It brings to mind a class of electronics.

Q. Something that you can hold in your hand?

A. It brings to mind a class of electronics. That's all. I know what emitter-coupled logic is. It's not necessarily something I can hold in my hand. It's a technology that can be used to build chips. So it's not something I can hold in my hand, no.



Q. Is a programmable logic array something that can be held in your hand?

A. I can buy a PLA, a programmable logic array. But all that is is a bunch of gates that have not yet been programmed at that point. So that's -- that -- that -- that -- it -- it -- it -- that's a bunch of gates.

Q. Can you buy a emitter -- an emitter-coupled logic device?

A. Let me see if I can help you out. Can I buy a chip that was built using emitter-coupled logic technology?

Q. Sure.

A. Yes.

But once again, if I saw the phrase -- because again, we are talking here about -- I came here to testify about construction of certain phrases using these patents, and you're asking me a bunch of abstractions. So I need to be sure that you're not going to misapply some of the responses that I'm giving.

If I saw emitter-coupled logic for performing some function in a claim specification and -- and -- and -- and -- and in a claim -- it's a limitation of a claim, and the specification does not show me the block



diagram for that emitter-coupled logic, then whether I know that emitter-coupled logic thing is something I could hold in my hand or not is still being described functionally. I need the block diagram, a flow chart, something that's describing how this emitter-coupled logic is structured. I need something more than just the phrase "emitter-coupled logic."

You're asking can I -- can I hold a chip that was built based upon emitter-coupled logic in my hand -- emitter-coupled logic technology. Answer, yes. If I see emitter-coupled logic for performing a function in a claim, I'd have to go back to specification to find out whether there's any disclosure of the blocked diagram, the circuit connections, a flow chart, something, to tell me when that emitter-coupled logic used in the claim is structure. And if it's not in the specification, then it will be my opinion that emitter-coupled logic is being described purely in functional terms.

MR. LU: Why don't we take a short break since we're about to run out of tape.

THE VIDEOGRAPHER: This marks the end of Media No. 3 of the deposition of Dr. Anthony Acampora.

We're going off the record, and the time is 4:30 p.m.

(A brief recess was taken.)
THE VIDEOGRAPHER: Here begins Media No. 4 in the deposition of Dr. Anthony Acampora.
We're back on the record. The time is 4:39 p.m.
BY MR. LU:
Q. Dr. Acampora, I'd like you to turn to page 49 of your declaration.
A. I'm there.
Q. And I'd like you to take a look at paragraph 121 and any other portions of this section that you need to review in order to answer any questions.
First question I have for you is: Outside the context of the patent specification, do you have an understanding of what a "rule" is?
A. So outside of the context of the patent, as I understood your question, I would understand a "rule" to be an instruction to be followed.
Q. And --
A. Like add a cup of water, mix thoroughly.
Q. Would a rule also include a statement like: If A, do B; but if C, then do D?
A. Again, we're outside the context of the patent?



Q. Yes. Outside of the context --
A. So you're asking is that -- is that an example of a rule? And suppose I know what A and B are and C and D are, then, yes, that might be a rule.
Q. Okay. Now, outside the context of the patent specification, do you have an understanding of what a "predefined rule" would be?
A. That's less clear. There I think one would need -- one would need some context to get an understanding of what a "predefined rule" is.
Q. Do you have an understanding of the phrase "predefined" standing on its own --
MR. BERTIN: Object to form.
BY MR. LU:
Q. -- outside of the context of the patent specification?
A. Well, no. I -- I don't. I can tell you what comes to mind, but that's not to say that it's correct.
So suppose I'm going to perform some process. But that's a big "if." I'm not sure that's a context in which "predefined" is being used or not. And again, we're not talking about the patent at all now.
So maybe there's some sort of a process that's going to be performed. "Predefined" might mean something that was defined before this process was



begun, as an example. That -- that might be, but I'm not sure that that would be the only understanding of "predefined." That's just by way of -- really more by way of example. So I don't know what a "predefined rule" is, absent context.
Q. Okay. Let's turn to paragraph 123. The second sentence, referring back to the term "being suited," states that "it is applied apparently to different types of equations or algorithms that can be used for different numbers of access points."
What is -- what did you mean when you wrote that sentence?
MR. BERTIN: Object to form.
THE WITNESS: Well, once again, I think the words speak for themself. So are you asking me to state what I'm written here differently?
BY MR. LU:
Q. Well, I'm trying to understand what is meant here because it's not absolutely crystal clear to me what -- what you're stating here.
A. Well, in a role reversal, let me ask, what's not clear about it?
Q. Well, the word "apparently to different types of equations or algorithm," what equations or algorithms are you referring to there?



A. Well, in -- in the claims, if I look at -- if we look at claim 1 of the 245 patent, next to last element, the claim speaks about choosing a corresponding location/determination algorithm. From plurality of the location/determination algorithms, said chosen algorithm being suited for the number of identified WIFI access points.
So your question was, as -- as I understood it, related to what's the location determination algorithm? Was that your question?
Q. Well, my -- my question was, what are you -- to what were you referring when you made reference to "algorithms" in that second sentence of paragraph 123?
MR. BERTIN: Object to form.
THE WITNESS: Different methodologies. Methodologies expressed by some sort of a mathematical relationship.
BY MR. LU:
Q. So an algorithm requires a methodology expressed by a mathematical relationship, correct?
A. Well, mathematical in the most general sense. It might be some sort of a -- it might be Boolean math as opposed to real-number arithmetic. But there'd be a procedure to be followed. Well, it's equations or algorithms. So a procedure to be followed. And I

guess it may be expressed by means of some sort of logic or instructions or mathematical symbolism. But that's what I get from reading the specification.
BY MR. LU:
Q. So an algorithm in this instance can be an equation, Boolean logic, a series of instructions.
Anything else?
A. Well, let me go back to the specifications.
MR. BERTIN: Can you read back the question?
(Record read.)
MR. BERTIN: Object to form.
THE WITNESS: Okay. Here's the difficulty that I'm having in addressing your question. But by explaining the difficulty, maybe I'll answer your question.
"Being suited" appears in claim 1 of the 245 patent. And I read some of the claim language, and that claim language, again, is suggesting that there are different types of -- let's be specific -- different types of algorithms -- different algorithms, in any event, that it be chosen from among. So I'm going to choose an algorithm being suited from some number of algorithms.
And again, these algorithms are described in the specification. Specification refers to simple



signal strength, weighted models, nearest neighbor models combined with triangulation techniques, adapted smoothing based on device velocity, different equations perform better under different scenarios and tend to be used together in hybrid deployments to product the most accurate final readings. Preferred embodiments --
(Reporter interruption.)
THE WITNESS: Preferred embodiments of the invention can use a number of positioning algorithms. Decision of which algorithm to use is driven by the number of access points observed and the user case application using it."
And it goes on. But it describes some filtering techniques, common filters. That's where the math -- or the equations come in. But also some broad references made to all of these algorithms from among which one might be chosen -- that one being best suited, whatever that means -- there's actually only one algorithm this close. I actually don't know what -- all of the different algorithms are. The patent doesn't tell me what they are. It simply says, there are a whole bunch of different things that you could do, but it doesn't reveal what they are, except in one instance -- the equations appearing in column 12, or the same equations weighted by the C parameter



in the event that the numerical accuracy needs to be improved.
So there are a set of equations, and -- given in column 12. And when I go back to the claim, I see that the claim actually requires some plurality of the algorithms. And then I'm gonna -- and I'm not sure what those algorithms are. There's one algorithm that's actually shown. And then I'm going to choose one that's best suited, whatever that means.
So I'm concluding that these algorithms are rules or mathematical descriptions, something of this type, based upon what I'm reading here.
BY MR. LU:
Q. The patent claims reference that the algorithms can include a simple, signal-strength, weighted, average model. Do you see that? That's in the appended claim 6?
A. I do.
Q. Do you have an understanding of what a simple, signal-strength, weighted, average model would be?
A. Well, I think we discussed that earlier today.
Q. Fair enough. So I think it the answer is "yes"?
A. I -- well, yes.
Q. Okay. Dependent claim 7 says: "The plurality



of the location determination algorithms includes the nearest neighbor model."
Do you know what a "nearest neighbor model" is in terms of a location determination algorithm?
A. No.
Q. Okay. Claim 8 says: "The plurality of the location determination algorithm includes a triangulation technique."
Do you know what a "triangulation technique" would be in the context of location determination?
A. Yeah. I believe I have an opinion on that in my report. I think I know what a -- what -- what a triangulation technique is.
A location determination algorithm that includes a triangulation technique -- not from what I'm seeing in this specification, no. In fact, I'm finding that to be quite ambiguous.
Q. Okay. Do you have a -- turning to dependent claim 9, do you have an understanding of what an "adaptive smoothing technique based on device velocity" might be in the context of a location determination algorithm?
A. Well, I might have some understanding of what an adaptive smoothing technique is. Based upon device velocity, no. But moreover, the claim is to -- is

referring back to the method of claim 1, wherein the plurality of location determination algorithms includes an adaptive smoothing technique based on device velocity.

Well, here, I have some understanding of what adaptive smoothing is. Adaptive smoothing based on device velocity, no. And location determination algorithm including adaptive smoothing technique based on device velocity, again, no. Not from what's taught in the specification and not from anything outside of this either.

Q. Now, if one were to have multiple location determination algorithms and use each of those multiple location determination algorithms with a particular number of WIFI access points and determine that one performed better than the others, is that something that one of ordinary skill in the art could do?

A. I'm going to ask you to repeat that question. But first, we need to do something about the glare that is blinding me right now.

Q. Which pane is it coming through?

A. It's coming through this one here, but I'm not sure what we can do since those shades are not providing enough -- now, we may actually need to hang something up. That -- that -- that just is -- I --



I -- I -- I really can't go on like this, at least not in this position.

MR. BERTIN: Do you want to take a break?

MR. LU: Sure. Let's take a short break.

MR. BERTIN: And reposition you is probably the easiest thing.

THE VIDEOGRAPHER: We're going off the record. The time is 4:58 p.m.

(A brief recess was taken.)

THE VIDEOGRAPHER: We're back on the record. The time is 5:07 p.m.

BY MR. LU:

Q. I'd like you to turn to page 51, and specifically paragraph 125 of your declaration. Second sentence of paragraph 125 states: "As discussed above the common specification is dominated by a single method for creating the database, which involves driving a vehicle in a systematic manner along every street."

Do you see that?

A. I do.

Q. What do you mean by "dominated by a single method"?

A. Okay. Well, we had a good deal of discussion about this for much of today.



Q. Well, let me narrow my question a little bit.

When you say "dominated by a single method, are there alternative methods disclosed in the patent specification for creating the database?

MR. BERTIN: Object to form.

THE WITNESS: No. There were -- there were -- there are one-sentence sound bytes, if you will, but no discussion of how it would be done, leaving one to sort of scratch one's head -- what's meant by this.

BY MR. LU:

Q. Would one of ordinary skill in the art know how to create a database which involves driving a vehicle in a systematic manner around -- along every street without using the Chinese postman model?

A. Not without some further description.

Q. Would one of ordinary skill in the art know how to drive a vehicle in a systematic manner along every street without utilizing the Chinese postman model?

A. Would one know how as opposed to could one create some alternative to the Chinese postman?

Q. Well, let's --

A. No. I think one would -- would need to ponder that for a while and figure out how to do it.

Q. What is your --



A. And then there'd also be some limitations of cost, time, and other factors to take into consideration as well.

Q. What do you mean by "there could also be some limitations of cost, time, and other factors to take into consideration as well"?

A. Well --

MR. BERTIN: Object to form. Asked and answered.

THE WITNESS: If I thought about it, I could probably create some sort of a brute-force approach, like marking on a map every street that I've driven along and then occasionally looking at the -- the -- the -- the marked-up map to see where I haven't driven and then go back out and drive those. And by brute force, given enough time and given enough money and given enough gasoline, eventually being sure that every street on my map has an X to it. That's brute force.

But even that's not suggested in the patent at all. So I don't think that was -- that was the intent. There's a systematic manner, not a brute-force manner. And I don't know what that system -- what -- the only systematic manner that's disclosed is the Chinese postman, and one would have to create an alternative -- in my opinion, one would have to create an alternative

their building.
Would all but an insignificant number, as you interpret that claim, require the capture of those WIFI access points that are shielded so that they cannot be captured from the street, using any technology?
A. I -- I understand the question. What claim are we discussing here?
Q. Well, both of the independent claims, the 988 and the 694 patents.
A. So let's just discuss one of them. I haven't -- I haven't reached the 988 patent first.
So as I understood your question, if all of the access points were enclosed in the Faraday cage -- let's say a small Faraday cage -- not one that would actually extend over streets that a van -- that the van is driving up and down. But these are small Faraday cages that don't extend over any streets.
Then I don't think that -- I can't imagine the situation where one would -- where one could infringe this claim if every access point were captured in a Faraday cage. But because there would be no access points in the database. There wouldn't be no database of WIFI access points in that case.
Q. So by that reasoning as well, one would not infringe the claim if somehow all of the -- all but an



insignificant -- strike that.
So by that same reasoning, if building interference alone was sufficient to prevent WIFI access point signals from exiting the building and being captured on the street, those WIFI access points would still need to be captured. And all but an insignificant number would need to be captured in order to infringe the claim, correct?
A. Well, the claim requires a database of WIFI access points. And included in that database are records for substantially all WIFI access points in the target area. And substantially, all means -- all but an insignificant number of. Well, again, since we're dealing with the claim term, let me be precise.
The disputed term is substantially all WIFI access points. And my proposed construction is -- and I should have bold fast -- faced these constructions so I could find them easily. "All but an insignificant number of WIFI access points in the target area."
So in the scenario that you just painted, some reason the signals can't get out of the buildings, but you haven't put in Faraday cages, which means some of the signals did leak out. You're not -- so we're no longer talking about a complete electromagnetic shield. Then you made your heroic attempt; you've done the



Chinese postman routing; you've used the special van with the directive antennas.
One of the problems I'm having is that the patent doesn't tell you how much directivity to use in these antennas. So if I have something other than a perfect shield around these access points, I could deploy a van with a sufficiently large aperture antenna that I'm going to capture all but an insubstantial number of the access points by driving this Chinese postman routing algorithm.
And maybe it's in the eye of the beholder. If after the end of the day, whoever is responsible for gathering data comes back to the -- back to the office and concludes, I haven't got enough files. I know there were more access points out there. Maybe the next day they go back out with a bigger antenna. I don't know.
Q. But what your -- but the claims -- all but -- substantially all of the WIFI access points, as you understand it, requires a heroic effort, including the use of directional antennas, such as the ones that are disclosed in the patent specification?
MR. BERTIN: Object to form. Mischaracterizes his testimony.
THE WITNESS: That's not what I said.



The patent mentions the use of directive antennas. Whether they're necessary or not to -- I don't think that the use of the directive antennas is necessarily a limitation of the claim.
But unless you've gotten all but an insubstantial number of those access points recorded in the database, you haven't met this claim limitation. And perhaps the only way to get to that point is by deploying a van with directive antennas. It depends on the situation.
BY MR. LU:
Q. So continuing on with that paragraph, you state: "Skyhook's rewriting would exclude the purpose of the disclosed collection method from the boundaries of the claim. For example, a target area might be scanned in 500 WIFI access points included in the database of claims. Six months later, there might now be 1,000 WIFI access points in that same area. If the target area had not been rescanned during that time, the database would still have 500 access points and will still have substantially all observed WIFI access points simply because no observations had been made during a time in which the actual number of WIFI access points present changed dramatically. Skyhook's proposed construction would destroy the usefulness of

the target area. I think you're asking me a different question.

If -- here's what I'm hearing you ask. If substantially, all WIFI access points means all but an insignificant number of WIFI access points in the target area, would I know what that claim limitation meant?

Q. Would I know whether that claimed limitation were ever met?

A. I don't know. I -- I actually have not got an opinion on that. I would need to think about that probably fairly deeply. I -- I don't know.

Q. Because I wouldn't know -- because one wouldn't know whether or not some paranoid, wearing an aluminum foil hat hasn't put, you know, 1,000 WIFI access points within a Faraday cage within his building, correct?

MR. BERTIN: Object to form.

THE WITNESS: That's not the only reason.

BY MR. LU:

Q. But there are other reasons because a WIFI access point might be located underground not -- and still in a target region, correct?

A. That's another reason.

There are -- that's the problem why I -- at



this point I actually haven't got an opinion on that because I'd have to think about these different scenarios and which one of those were covered by the claims and which ones are -- are not covered by the claims. I -- I don't know. The -- the -- the -- the claim might be indefinite for that reason. It's -- it's -- in my opinion, it is indefinite for other reasons. But that particular reason, I don't actually have an opinion on that at this moment.

I wasn't have to provided one, and I didn't. I was just asked to give my opinion as to, what substantially all WIFI access points means.

Q. Would, substantially, all WIFI access points require one to take a survey of possible WIFI access point holders in order to determine whether they have a WIFI access point in the target area.

MR. BERTIN: Object to form. Asked and answered.

THE WITNESS: I didn't understand the question.

BY MR. LU:

Q. How would one count -- how would one determine what all of the WIFI access points would be in a particular target area?

Let me put it to you differently.



A. I haven't formed an opinion on that.

Q. Let me put to you differently.

As an expert in WIFI technology, if I were to ask you how would you go about determining the number of WIFI access points on the island of Manhattan, how would you go about doing that?

He smiles.

A. Yes.

MR. BERTIN: Object to form.

THE WITNESS: First, you'd have to give me the budget. Then I would tell you if I thought it was possible, given the budget and the time. So you -- you need to give me --

BY MR. LU:

Q. Million dollars. Million dollars and one year.

MR. BERTIN: Object to form.

BY MR. LU:

Q. That's the budget; that's the time.

A. You know, I -- even then I'm not sure it could be done. One thought that's going through my mind is setting out on foot, knocking on doors, looking for access points, and maybe even needing to buy my way into the premises to do a visual inspection. So I -- I might run out of your million-dollar budget before I



got a -- if I start at Battery Park, I may not get past Wall Street and run out of budget. I -- I don't know. You're really creating a -- a -- a wild hypothetical here.

Q. And it would be crazy because they'd be adding WIFI access points, potentially, in Battery Park by the time you got up to Wall Street, right?

A. Well, that's another problem.

Q. Okay.

MR. LU: Can we take a short break, figure out if we have any other --

MR. BERTIN: Sure.

MR. LU: -- what other line of questioning, and then maybe conclude.

THE VIDEOGRAPHER: We're going off the record. The time is 5:36 p.m.

(A brief recess was taken.)

THE VIDEOGRAPHER: We're back on the record. The time is 5:40 p.m.

MR. LU: We have no further questions, and so we can go off the record.

MR. BERTIN: Okay. And I have no -- I have no questions either. Thanks to all.

MR. LU: Thank you.

THE VIDEOGRAPHER: This concludes today's