Witness: Daniel White

Date: 2004-08-24

Proceedings held August 24, 2004

Called by: People (prosecution)

Phase: Guilt

Examinations: Direct – Rick Distaso; Cross – Mark Geragos; Redirect – Rick Distaso; Recross – Mark Geragos; 2nd Redirect – Rick Distaso

Day 1 of 1 for this witness

Court: San Mateo County Superior Court, Redwood City (People v. Scott Peterson)

Source: https://pwc-sii.com/CourtDocs/Transcripts/White.htm

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Direct Examination by Rick Distaso

DISTASO: Mr. White, where are you employed?

WHITE: AT&T Wireless, South San Francisco.

DISTASO: And what is your job title there?

WHITE: I'm the Director of Technical Operations for Northern California.

DISTASO: And, in a nutshell, what is it that you do?

WHITE: I'm the single person responsible for the overall network for AT&T Wireless in Northern California.

DISTASO: Go ahead.

WHITE: So that would include all of our cell sites and switches and the fabric in between.

DISTASO: And how long have you worked in radio or cellular phone technology?

WHITE: I have been in telecommunications since 1982, but I have been in the cellular industry since 1990 for fourteen years.

DISTASO: And do you hold some kind of license from the FCC that deals with radiotelephone technology?

WHITE: Yes, I have a radio telecommunications license with the FCC.

DISTASO: Your Honor, at this time I'm going to offer him as an expert in the AT&T cell site and switch network.

JUDGE: Any questions, Mr. Geragos?

GERAGOS: Well, actually, yes.

JUDGE: Go ahead.

GERAGOS: Good afternoon, Mr. White.

WHITE: Good afternoon.

GERAGOS: We had a discussion, I guess, what is it, Wednesday last week?

WHITE: Correct.

GERAGOS: Right next door in the room outside here?

WHITE: Uh-huh.

GERAGOS: We talked about the AT&T cell site technology?

WHITE: Correct.

GERAGOS: Is that correct? And we talked about the records?

WHITE: Uh-huh.

GERAGOS: And you have to say yes. He can't take down "Uh-huh".

WHITE: Yes. Sorry.

GERAGOS: And I specifically was asking you questions about those records, what the records meant, correct?

WHITE: Yes.

GERAGOS: While we were going through that, it became apparent to you and I that you did not have a handle on the records in terms of their meaning, isn't that correct?

WHITE: With respect to the fraud records, that is correct.

GERAGOS: Okay. Now, as you are here today, did you, do you know what it is that you are being called to testify for?

WHITE: Principally I'm being asked to testify to the coverage of cell sites that were inquired about prior to this trial.

GERAGOS: Okay. And the cell sites and the coverage areas, I'm sure they have got the same, you and I were looking at the ones that show the little circles and the overlaps, correct?

WHITE: We were looking a drawing that the prosecution had put together, yes.

GERAGOS: Okay. And are you the person at AT&T who has the most expertise, at least here locally, as to cell site coverage areas?

WHITE: I would say the person that has the most expertise with respect to those cell sites is the network engineer responsible for that location.

GERAGOS: And who is that?

WHITE: Neville Patel.

GERAGOS: Okay. And have you talked to Neville Patel before you came to court today?

WHITE: Yes, I did.

GERAGOS: Is Neville Patel, where is Neville Patel?

WHITE: He's located in Sacramento.

GERAGOS: Is Neville Patel the person who actually does the hands-on in terms of the sites themselves?

WHITE: Well, with respect to the ones in Modesto that we were looking at, Neville Patel was. There is also supposed to be testimony associated with sites in Gilroy. And Neville Patel is not the expert in that area.

GERAGOS: Okay. As far as the Modesto sites, however, would you defer to this Neville Patel, if I'm pronouncing his name right, as the person who is the one most knowledgeable regarding those cell sites?

WHITE: Yes.

GERAGOS: And is the reason for that because he's the network engineer who actually handles those sites?

WHITE: Correct.

GERAGOS: Is that also because he's familiar with the geographical locations?

WHITE: I would say he has a vague familiarity. I think all my engineers have a large enough responsibility area that there is a lot about the geography that isn't locked in their heads, per se.

GERAGOS: You mean just because they have a large territory?

WHITE: Yes.

GERAGOS: Okay.

WHITE: Correct.

GERAGOS: But in terms of, if we're going to have somebody testify as to the cell sites, and in a particular location, that happens to be in the area that we were discussing last Wednesday, you would defer to Neville Patel?

WHITE: Yes.

GERAGOS: Thank you. I have no further questions. I don't know what, I would object to any testimony regarding the specifics, unless we have the right person here.

JUDGE: You don't have to be the most knowledgeable. You have to be knowledgeable but not the most knowledgeable. You don't have to have Doctor Spock in here to talk about how you raise babies, right?

GERAGOS: At least want to have the person,

JUDGE: But I think it goes to the weight, Mr. Geragos.

GERAGOS: I understand that. The problem is, if I can make the record.

JUDGE: Yes.

GERAGOS: The problem is, specifically with these records, as we saw with the previous witness, Mrs. Anderson, and with this gentleman, when I talked to him, at least, once we get into the questioning, and it's determined who the right person is, we then get in kind of a changing analysis of the records.

JUDGE: We may have to do that. But he's not, being offered as to cell sites and coverage areas. He's not being offered as the custodian of records for the billing records, and so forth. Is that right or wrong?

DISTASO: Yes, you are right.

JUDGE: Patel gentleman work for you?

WHITE: Yes.

JUDGE: You are the immediate supervisor?

WHITE: I'm not his immediate supervisor. He has a manager locally there in Sacramento.

JUDGE: But do they work for you?

WHITE: Yes.

JUDGE: Okay. Do all these engineers work for you?

WHITE: Yes, your Honor.

JUDGE: And you are familiar with the work that they do?

WHITE: Yes, I am.

JUDGE: And through your job training, have you become familiar with the cell sites and the coverage areas?

WHITE: Yes, to the degree that it's an immediate type of thing. So, in other words, I don't keep it in memory, but I am familiar with the way cell sites operate, and any short term memory associated with talking about a specific geographic area.

GERAGOS: I renew the objection based upon that last answer.

JUDGE: All right. Any other questions about him?

DISTASO: No, your Honor.

JUDGE: I'm going to accept him, then, as an expert in cell sites and coverage area. If it turns out that more expertise is required than Mr. White, get Mr. Patel in here. Go ahead.

DISTASO: Mr. White, regarding these particular cell sites, we had asked you, or we had asked AT&T to look up the data regarding some particular cell sites, right?

WHITE: Yes.

DISTASO: Before we get to that, though, let's just kind of talk about the system in general. The way a cell phone call works in the AT&T system is, there is a switch area, is that right?

WHITE: Correct.

DISTASO: And that's a geographic area?

WHITE: Yes.

DISTASO: And the entire state, my guess would be probably the entire United States, is broken down into specific geographic switch areas?

WHITE: Yes.

DISTASO: So if we think of a switch area, are these switch areas always a circle?

WHITE: No, they are not a circle at all.

DISTASO: Okay. There his some kind of shape?

WHITE: Yes.

DISTASO: And how does AT&T decide what shape they should be?

WHITE: Generally it is determined by either geographic boundaries, or ones that relate to minimizing the amount of traffic that goes between the two switches, you know, mobile traffic.

DISTASO: Is that to keep the network operating kind of at peak efficiency?

WHITE: Well, it helps optimize the performance of the network, minimizing the amount of communications that needs to happen between the two switches during the management of an individual call.

JUDGE: May I interrupt? When we talk about a switch, what are we talking about? You say a switch?

WHITE: It's a large computer, essentially, that provides cross connections between circuits. So very similar to a land line telephone switch. Just, you know, a circuit comes in with a command instruction that connects it to another circuit.

JUDGE: Where are these switches located in any geographic area? Where,

WHITE: In Northern California in particular, we have a couple of switches up in Concord, California, two down in the Santa Clara, California, the one in Stockton. We have two in Sacramento, one at Fresno, one down in Bakersfield.

JUDGE: So when you start to use your phone, immediately if you press your phone to make a message, it goes immediately to one of these switches?

WHITE: It will provide a communication that ultimately goes back to that switch.

JUDGE: Will that be your geographical area?

WHITE: Not necessarily. But, in general, it's close to the geographic area. One of our switches Concord 2 actually control territories in this, Concord 2 in the City of San Francisco and the Marin area.

JUDGE: Go ahead.

DISTASO: The Concord 2 switch is located in the Concord area, is that right?

WHITE: That's correct.

DISTASO: That's the Berkeley, Berkeley area. And then you said also controls some areas geographic north of that?

WHITE: Well, Concord 2, I'm sorry. Concord 2 controls part of the East Bay, San Francisco, and southern part of Marin County. Then there is a second switch at that location as well.

DISTASO: And that's Concord 3?

WHITE: Yes.

DISTASO: All right. So you got Concord 2, Concord 3, kind of covering the East Bay area?

WHITE: Yes.

DISTASO: All right. Go ahead. Did you need to add anything?

WHITE: No, not in particular.

DISTASO: All right. And then in these switch areas, you said there is one in Stockton too, correct?

WHITE: That's correct.

DISTASO: So in these switch areas, these are geographic areas, correct?

WHITE: Yes.

DISTASO: There is individual cell towers or cell sites, is that right?

WHITE: Cell sites, yes.

DISTASO: Doesn't have to be on a tower?

WHITE: Correct.

DISTASO: Can be on a building, right?

WHITE: That would be an example, another way we use a cell site.

DISTASO: Or a bridge?

WHITE: Yes.

DISTASO: And the cell sites are inside this switch. And, like, for example, in Modesto, you said there is a Stockton switch?

WHITE: Cell sites aren't inside the switch. They are connected to the those switches. In Modesto, repeat your question, please.

DISTASO: I'm just trying to kind of visually depict this for the jury, if we can. The switch itself is a big computer?

WHITE: Yes.

DISTASO: But that big computer covers some kind of geographic territory?

WHITE: Yes.

DISTASO: It doesn't cover the entire state, for example?

WHITE: Correct.

DISTASO: So like the Stockton switch, this computer that's located in Stockton doesn't cover, for example, Bakersfield?

WHITE: No, it doesn't.

DISTASO: And like, another example would be the Concord 2 switch doesn't cover Fresno?

WHITE: That's correct.

DISTASO: So inside the coverage area of these switches are these individual cell sites?

WHITE: Yes.

DISTASO: Now, let me go through this for a second. If I'm, and these cell sites, if I can, probably help if I put a diagram up. This is 205, your Honor.

GERAGOS: Probably in there, 205.

DISTASO: Pardon me.

GERAGOS: I was just asking for something.

JUDGE: Identify that for the record.

DISTASO: This is People's 205.

JUDGE: All right.

DISTASO: Is there a subpart? Is that A? .....It's not labeled A. Really should be labeled 205A, your Honor. Let met put an A on it right now.

JUDGE: This is the physical cell site location chart.

DISTASO: In Modesto, do you recognize this chart or plot map that's up there?

WHITE: That's a document that we provided to the prosecution.

DISTASO: Okay. And all those little triangles with numbers and addresses by them, those are the physical cell site locations basically in Modesto, correct?

WHITE: Yes.

DISTASO: Some, looks like from the address in Ceres, up in Ripon in the north, that's basically the Modesto coverage area?

WHITE: Yes.

DISTASO: So when you make a phone call and you dial the number on your phone, you hit "Send"?

WHITE: Uh-huh.

DISTASO: The phone call goes to one of these cell sites, is that right?

WHITE: Yes.

DISTASO: And then whichever one is going to service this call?

WHITE: Yes.

DISTASO: Is that true?

WHITE: Yes.

DISTASO: Then it goes to a switch?

WHITE: Yes.

DISTASO: And does it go to the switch located in that geographic area?

WHITE: The switch for this case would be located in Stockton, California.

DISTASO: So if I'm in Modesto, say I'm by that 1250 Brighton, that's the one that's going to service my call, I hit "Send", it goes to that 1250 Brighton tower, then it goes to the Stockton switch?

WHITE: Yes.

DISTASO: Then it goes to wherever it is that I dialed to.

WHITE: Correct.

DISTASO: So if I'm there in Modesto, I'm dialing on the code, for example, it goes to the tower, to the switch, then anywhere else it's going to go?

WHITE: Correct.

DISTASO: All right. Now, if I'm, let's talk about checking voice, not receiving voice coming in, but dialing up my voicemail to check it to listen to my voicemail.

WHITE: From the cell phone?

DISTASO: From your cell phone.

WHITE: Okay.

DISTASO: If I hit "Send" to check my voicemail, does the system treat it the same thing as a just an outbound call?

WHITE: It's similar. You connect up to the cell site in the same fashion, as well as the switch. But, in this case, the switch interprets the sequence of digits that you have dialed as your desire to get to your voice mailbox, as opposed to calling the phone that you are already talking on.

DISTASO: And where is your voicemail stored to listen to it?

WHITE: Well, in this case, the voicemail system is located there in Stockton California. Co-located with that switch.

DISTASO: So if I'm at that, say that 1250 Brighton tower, and I hit my voicemail, it's going to do the same thing. It's going to call an outbound call to the tower, correct?

WHITE: Uh-huh.

DISTASO: And then it's going to call from the tower to the switch?

WHITE: Yes.

DISTASO: But it's not going to go anywhere, because my voicemail is right there at the switch?

WHITE: Well, it will go out a trunk right to the voicemail on the switch there.

DISTASO: Then I'll activate it. Now, when I make a call on my cell phone, just, let's just make a regular call. I call my friend who lives across town, and I'm in my car, driving from one location to another. Will the system hand me off from tower to tower as I drive along?

WHITE: Yes, it will.

DISTASO: And why would it do that?

WHITE: Well, the system continuously monitors the performance of every call going on to make sure that the call is receiving optimal conditions from the cell sites that are serving the mobile phones.

DISTASO: And if I'm dialing my voicemail, whether I'm going to dial into my voicemail and listen to it as I'm driving along, will the system do the same thing, and hand me from tower to tower?

WHITE: It would conceivably hand you off in the same fashion as if you were talking to another party, yes.

DISTASO: And is that for the same reason, to optimize the call?

WHITE: Yes.

DISTASO: Now, if I'm stationary, and I don't need to go anywhere, I'm not going anywhere, and I do this same series of things, either check my voicemail or I make a call, I could conceivably just stay on the same tower the whole time?

WHITE: Yes, you could.

DISTASO: If I'm moving within the coverage of a particular tower, I could stay on the tower the whole time?

WHITE: Yes, you could.

DISTASO: Now, in this particular case, there was a call made at 10:08 in the morning or 1:08 Eastern Time, we heard yesterday, on December 24th of 2002, and it started at one particular cell tower, and it ended at another.

WHITE: Uh-huh.

DISTASO: Now, the way the cell towers are set up, there is overlapping coverage, is that right?

WHITE: That's correct.

DISTASO: And that's so people don't lose a signal just by moving from one place to the next?

WHITE: Well, it's more of a byproduct of RF propagation. One of the benefits it provides, it does give you that overlap to ensure that, you know, calls have more opportunity to hand off between the two sites.

DISTASO: Now, in this, you can see here, if we look at this, and this diagram is kind of just a rough, this is just a rough, rough review of how these coverage things work, correct?

WHITE: Yes. Very rough.

DISTASO: But if we think of it as a circle, and we think of the coverage at 10th and D, the radius is 1.75 miles. So if we think of it as kind of a coverage area of 1.75 miles, it's going to include the area inside where the Petersons home is, is that right?

WHITE: Yes.

DISTASO: And, again, the coverage of the tower at 1250 Brighton, that's going to include the area inside of the Petersons home, is that right?

WHITE: Yes.

DISTASO: And what is the primary cell tower for 523 Covena?

WHITE: The primary cell tower is the one on 1250 Brighton.

DISTASO: And what does primary cell tower mean?

WHITE: It means that, in most instances, it will provide the strongest coverage at the particular location of interest. But it is not exclusive service provider there, so you couldn't say it is the only provider.

DISTASO: Well, and the reason for that is because you have this other tower at 10th and D that could also provide service, is that true?

WHITE: That is true.

GERAGOS: Objection. Assumes facts not in evidence.

JUDGE: Pardon me?

GERAGOS: Assumes facts not in evidence.

JUDGE: I think that's true, unless you ask him about it.

DISTASO: Well, I thought I did.

JUDGE: Okay.

DISTASO: The coverage area of that 10th and D cell tower includes the Peterson residence, right?

WHITE: Yes. I mean you can see from the map there that it's less than 1.75 miles.

DISTASO: So it would be within the range of that particular tower?

WHITE: Yes.

DISTASO: So if you are standing at the Peterson home making a call, would you expect, under normal circumstances, the majority of the calls would go off of the 1250 Brighton tower?

WHITE: Yes, I would expect that.

DISTASO: Would it be unusual to see an occasional call going off of the 10th and D tower?

WHITE: No, it would not. Examples would be if the Brighton tower were congested.

DISTASO: Getting a lot of traffic?

WHITE: Uh-huh.

DISTASO: And then would it be unusual to start a call at the 1250 Brighton tower, travel into the coverage of the 10th and D tower, and see the calls switching from one cell tower to the next?

WHITE: That would be the way we would expect the system to behave.

DISTASO: Now, what is the primary cell tower for 1027 North Emerald?

WHITE: That's our site on 929 Woodland.

DISTASO: Again, would that be the same thing, if you were making the call from 1027 North Emerald?

WHITE: Under normal circumstances you would expect the call to go to the 929 Woodland tower.

DISTASO: Do either of the Concord, let's go back to the Concord switches for a second. Do either of the Concord switches, which cover kind of the East Bay, and Marin, and City of San Francisco that you told us, do either of those cover anything below that?

WHITE: Below, you mean south?

DISTASO: How far south do they go?

WHITE: I would say approximately, they could range approximately five miles beyond the intended coverage area, something like that.

DISTASO: And what would be, can you give me some idea what city would be the southernmost border?

WHITE: You know, I would have to actually be looking at our plot that we provided you. I don't remember which city is southernmost.

DISTASO: I'll show you that on a slide in a minute. Let me ask you this scenario. Is it possible, can you be standing in your front yard, just, let's just use the Peterson home as an example. If

we're standing in the front yard of the Peterson home and we make a call, could it start at the 1250 tower, but end at the 10th and D tower?

WHITE: You mean in a stationary scenario?

DISTASO: In a stationary.

WHITE: It's possible, yeah.

DISTASO: What if you are standing at that home location, you make a call, it starts at the 1250 Brighton tower, and you walk down the street, for example, could you walk into the other coverage area?

WHITE: Yes, you could.

DISTASO: And would that be unusual?

WHITE: No.

DISTASO: Now, I asked if you look up the radius of the 929 Woodland tower. And do you have that data handy? If not, I'll show you something that refreshes your recollection.

WHITE: Yeah. Hang on a moment.

DISTASO: If not I'll show you the page.

WHITE: I have one that we reported to you at negative 108 decibels, and that coverage radius was estimated 3.2 miles.

DISTASO: And you gave a number there. I'm trying to make in as simple as possible. But the number that you gave as at a certain number, what number was that?

WHITE: That was neg 108 decibels. That would be an extreme condition in terms of service performance, meaning it's a low signal. Normally in a territory like this we would depict the cell coverage area around negative 85 decibels, which is a higher number.

DISTASO: And to make this kind of simple, the way cellular technology works is by radio frequencies, correct?

WHITE: Correct.

DISTASO: The stronger the radio frequency, the stronger the signal?

WHITE: Correct.

DISTASO: And, of course, the weaker the signal, the weaker, or the bad reception you are going to get, is that right?

WHITE: That's generally true. I think probably the correct way to look at this is the signals always better when it's significantly stronger than the potential interference. So, in a case like this, the surrounding signals are high enough that you would normally want to reference at neg 85 Db, because there will be other signals close by on signal strength.

GERAGOS: I'm sorry, neg what?

WHITE: Neg 85 decibels.

GERAGOS: Got it.

DISTASO: And the higher the negative decibels, the weaker the signal?

WHITE: Yes, that's correct.

DISTASO: So basically AT&T specs the towers at a certain level of radio frequency to get the least amount of interference and the best amount of coverage?

WHITE: Yes, that's correct.

DISTASO: That's kind of what we're talking about?

WHITE: Uh-huh.

DISTASO: Now, the cell towers, let me ask you about some cell towers. Did we ask you to look up some cell towers in the Gilroy and Hollister area?

WHITE: Yes, you did.

DISTASO: For example, did we ask you to look up a 5755 Rossi Lane?

WHITE: Yes.

DISTASO: What is the max, kind of the maximum coverage that you would get from that cell tower, how far?

WHITE: Well, of the three sectors on that cell tower, the maximum is 10 miles.

JUDGE: Where is this Rossi Lane tower located?

WHITE: In the City of Gilroy.

JUDGE: That's in Gilroy, it has a radius of 10 miles?

WHITE: Yes.

JUDGE: Go ahead.

DISTASO: So if I was down in Fresno, Bakersfield, or Button Willow, would I be, would that particular cell tower in Gilroy be servicing any of my calls?

WHITE: No.

DISTASO: And when we talked about it, you said that there is a mountain range in between there. Would that also interfere with the ability for those western cell sites to service calls in the Central Valley?

WHITE: Yes.

DISTASO: What about Periwinkle Reservoir in Gilroy, what would be the max of any of the three sectors on that cell site?

WHITE: 18 miles.

DISTASO: How about 8435 San Ysidro?

WHITE: 7.5 miles.

DISTASO: How about 1194 West Dunne Avenue in Morgan Hill?

WHITE: 6.6 miles.

DISTASO: 11155 in Gilroy?

WHITE: 5.7 miles. I'm sorry, six miles on the main sector.

DISTASO: 8635 Lovers Lane in Hollister?

WHITE: 10.8 miles. 10.8 miles.

DISTASO: And, finally, at 3751 Polton Place Way in San Jose?

WHITE: Hold on a second. That one is 1.5 miles.

JUDGE: Do you have those?

GERAGOS: No. I have got the first pages. I don't have the last.

DISTASO: These were faxed to him. I can give him mine to look at if he wants.

JUDGE: He's going to give you his if you want to look at it, Mr. Geragos.

GERAGOS: I understand. Can I just take a look so I know what he's talking about?

JUDGE: Go ahead, Mr. Distaso.

DISTASO: So all of these particular cell sites that I asked you about, they would not be accessed by Central Valley locations? Or let me phrase that again. Those wouldn't be accessed by Fresno, Button Willow, or Bakersfield?

WHITE: Correct.

DISTASO: Let me show you, we were talking about the Concord 2 and 3 switch. You said you sent us some plots. Let me show you this slide, see if that refreshes your memory as to kind of the boundaries of them.

WHITE: Okay. You want to know about Concord 2?

DISTASO: Yeah Concord 2. What's kind of the southernmost point?

WHITE: It looks like we are talking in the Oakland-San Leandro area.

DISTASO: Okay. Looks like there is, Castro Valley is right in there, right on the border?

WHITE: Yes, it is.

DISTASO: That's right along 580?

WHITE: Uh-huh.

DISTASO: Concord 3, looks like the southernmost boundary comes right north of 580?

WHITE: Yeah. The southernmost boundaries for Concord 3 would include, I believe, Pleasanton, or just north of Pleasanton. Excuse me.

DISTASO: Okay. And kind of just north of the 580-205 interchange?

WHITE: Yes.

DISTASO: Nothing further, your Honor.

Cross Examination by Mark Geragos

GERAGOS: Good afternoon, Mr. White.

WHITE: Good afternoon.

GERAGOS: The first thing I want to ask you is, it looks like, right here on this map that's marked as 203B, that the Peterson house is here at 523, correct?

WHITE: Yes.

GERAGOS: Then you have got the Emerald address here, 1027 North Emerald, right?

WHITE: Yes.

GERAGOS: You have got a cell tower here at Brighton, correct?

WHITE: Yes.

GERAGOS: And a cell tower here where my pen is on 10th and D?

WHITE: Yes.

GERAGOS: Now, when I look at that other map, which is marked as 205A, if I'm not mistaken, you have got, can you see from where you are sitting, you have got the smaller,

WHITE: I have a smaller version here.

GERAGOS: It looks to me like what's not, what's not on, what's on this map, but what's not on this one, meaning 203B, is the coverage area for 115 Frances, which is right there?

WHITE: Well, the coverage area of 115 Frances, as well as 929 Woodland are not depicted on that other drawing.

GERAGOS: Well, this is, as we look here, 10th and D, right?

WHITE: Here.

GERAGOS: Here's 1250 Brighton, right?

WHITE: Yes.

GERAGOS: What is the coverage area of 115 Frances?

WHITE: 115 Frances runs about three quarters of a mile radius.

GERAGOS: And is that, does that correspond this area that's on this chart 203B? It's going to be somewhere in this area right in here, isn't it?

WHITE: No, that's not in the coverage footprint.

GERAGOS: Where is the coverage footprint?

WHITE: Where it, we're talking about here.

GERAGOS: And the, and the location of the residence? If you see the location of the residence, looks like,

WHITE: Looks like it's about one mile out.

GERAGOS: Okay. Here is the residence here.

WHITE: Yes.

GERAGOS: Where is the tower for the, for the 115 Frances?

WHITE: You mean on that map? I couldn't tell you.

GERAGOS: You don't know?

WHITE: No. I didn't generate the map. I'm sorry.

GERAGOS: Do you know, as you sit here, what the address is for the 115 Frances, I mean it's 115 Frances, right?

WHITE: Yes.

GERAGOS: That's the number you give it, for instance, when it says 523 Covena serviced by 1250 Brighton, that's the address of the cell tower, right?

WHITE: Yes.

GERAGOS: 1250 Brighton. 10th and D, I assume, means that the cell tower is at the corner of 10th and D?

WHITE: Yes.

GERAGOS: And Woodland 929 Woodland, where the cell tower? Is that it right there?

WHITE: Yes.

GERAGOS: Approximately how far away from the business?

WHITE: I couldn't tell you how far from the business it is. It looks like it's about a quarter of a mile to a third of a mile on my plot here.

GERAGOS: Now, when I talked to you last week, we talked about these circles that are on this map. You didn't do this map, did you?

WHITE: No, I did not.

GERAGOS: No. And these circles are, I think your term was rough approximations?

WHITE: Yes.

GERAGOS: Why are they rough approximations?

WHITE: Because those coverage areas are divided into three separate sectors.

GERAGOS: You say they are separate sectors. I am doing right now kind of like a,

WHITE: It would look like a pie cut into three pieces, approximately, with some overlap between those pieces.

GERAGOS: Okay. And you have actually sketched that, haven't you?

WHITE: Yes.

GERAGOS: Somewhere in here?

WHITE: Although I would say that sketch is not going to be a depiction of the precise coverage area.

GERAGOS: Okay. Is this,

WHITE: That's my sketch.

GERAGOS: The sketch you did?

WHITE: Yes.

GERAGOS:: Mark this as defense next in order.

JUDGE: Okay. That is D5Q.

GERAGOS: If I understand correct, you take one of these circles, and then what you did is, you divide it up into three, is that correct?

WHITE: For that site, that is correct, yes.

GERAGOS: And then you put an X, Y, and Z, for the various, you call them sectors?

WHITE: Yes.

GERAGOS: Okay. And when you say that there are sectors, does the fact that there are three sectors, does that get reflected in the records that you keep?

WHITE: I'm not sure I follow what you mean by the records that I keep.

GERAGOS: When I say you, keep I'm assuming your company. Your company people would keep records that show, for instance, when a phone was in the Y sector, X sector, or the Z sector?

WHITE: Yes.

GERAGOS: Okay. And the phone will bounce, the cell site, cell signal bounces from Y to X to Z within a one-antenna zone, correct?

WHITE: Are you referring to handing off a user, handing off between those sectors.

GERAGOS: Yes.

WHITE: Yes. Users hand off between sectors.

GERAGOS: You call it hand off. I call it pinging.

WHITE: I have heard you use the term "pinging".

GERAGOS: So hand off or ping between these various sectors?

WHITE: It can hand off between those sectors, yes.

GERAGOS: Didn't you also explain to me that the, depending upon a sector and how much usage you have in one particular sector, that you can actually get coverage that doesn't look like a circle any more, is that correct? Or can actually give you more coverage out in this direction?

WHITE: It can wind up picking up traffic from a neighboring sector, yes.

GERAGOS: Why is that?

WHITE: The instances where that will happen are when the sector that is picking up the traffic from is congested, meaning all the circuits are used up for that sector.

GERAGOS: You would have to know what the usage is on a particular day, particular time, in order to try to decipher whether or not this looks like a circle in terms of its coverage, or whether it loose similar to this, or whether or not this, for instance, the 1250 Brighton, whether it actually expanded out and had a larger coverage, isn't that correct?

WHITE: Could you repeat that question once more?

GERAGOS: Isn't it a fact that the sectors and the usage in the sector will determine what the radius is of the coverage?

WHITE: It doesn't change the radius of the coverage. It will determine which cell the user gets connected to.

GERAGOS: Okay. If you have got a situation like this where there is one cell site in tandem, you have coverage that overlaps, as I understand like this, and coverage that's like this, and that's basically what you have, correct?

WHITE: If I could maybe offer an answer to the question I think you are asking. I would have to know what the instant that a call is made on a given sector, what the conditions were in the surrounding sectors, to say what the, with assurance that it's being served within its best service or not.

GERAGOS: Okay. And the reason for that is, and one of the reasons for that is, when law enforcement uses what are called Fraud Billing Records, they were never intended to be used for what law enforcement uses them for, is that correct?

DISTASO: Objection, your Honor. That's argumentative.

JUDGE: Sustained.

GERAGOS: To use this as a directional map, so to speak, or as a tracking device, or use it like a, you know what a GPS device is?

WHITE: Yes.

GERAGOS: To use this like a GPS device, that was not what the Fraud Billing Records were designed to do, is that correct?

WHITE: Fraud Billing Records were designed to identify fraud usage. That's it.

GERAGOS: That's it. Was not intended to determine which direction somebody is going in, correct?

WHITE: That's correct.

GERAGOS: Not determined, not, they were not designed, and they are not currently designed to determine whether somebody is in this specific coverage area, or this specific coverage area of that circle, correct?

WHITE: That is correct.

GERAGOS: Okay. Now, it is entirely possible, and happens, that somebody can be physically in this coverage area right here of the cell tower at 10th and D, correct, and that they could be

picking up, or they could be serviced by the 1250 Brighton, correct?

WHITE: In some very extreme conditions, yes, depending upon where in that footprint you are talking about.

GERAGOS: Well, can it happen the other, opposite ways with, can somebody from right here, on the same phone call, successive calls, be standing at Encina, make one call, and use the 1250 Brighton tower, and make, two minutes later, a, three minutes later makes a call and get the 10th and D tower?

WHITE: Yes.

GERAGOS: That can happen, correct?

WHITE: Yes.

GERAGOS: That's not unusual, is it?

WHITE: No, it is not.

GERAGOS: In fact, you know, in reviewing the records that that's happened in this case, correct?

WHITE: I don't know of specific cases with 10th and D. I do know where we have had instances of one of the other sectors within 1250 Brighton appearing.

GERAGOS: I'm going to show you, I marked this yesterday. It was in the binder I think at 204.

JUDGE: 205 is the conversion chart.

GERAGOS:: It's the conversion chart.

JUDGE: 206 is the billing usage records.

GERAGOS:: I have got,

GERAGOS: This is 203G. And I'm going to show you specifically 203G, second page, December 24th. Have you seen line 10 this?

WHITE: I have seen this document, yes.

GERAGOS: Okay. Now, on this document there is various services that talk about where the cell sites are, correct?

WHITE: Where the cell sites are of the cellular phone making the call, yes.

GERAGOS: Now, on the next page of this, there is, there continues. And on the 24th, this is Eastern Standard Time, right? Is that your understanding how the Fraud Billing Records were?

WHITE: You know, I'm not the expert in this, as you pointed out. Yes, this is Eastern Standard Time.

GERAGOS: Okay. Now, when we, if I tell you to assume for a minute that Mr. Peterson standing in his front yard, okay?

WHITE: Okay.

GERAGOS: Do you remember where his front yard is on the map?

WHITE: Yes.

GERAGOS: And he's not, he's not moving more than just in the front yard itself. Okay? We're not driving, or anything else. At 7:09 he's getting Brighton Avenue. At 7:14, starts at 10th and D and goes to Brighton. At 7:21 he's back to Brighton, and that back at 8:46 he's using 10th and D. That's on the 24th.

WHITE: Yeah.

GERAGOS: Are you aware that that was happening? Did anybody show that to, bring that to your attention?

WHITE: I have looked at the this document, but I didn't go over these specific details here. And I'd say this, based on what we see there, yes, he's been served, assuming that he was at his home at those times, he's been served by that 10th and D cell site at his home.

GERAGOS: That would mean that, the precise situation that I asked you about, where somebody is standing right here at this location, and the cell phone antenna that's being used is flip-flopping or, you don't like that term. Handing off?

WHITE: Handing off, or being the initial server.

GERAGOS: What is it?

WHITE: Being the initial server.

GERAGOS: So you can go, even in one of these locations you can go from an initial server from one spot to another even while you are basically just standing still, correct?

WHITE: Well, yeah. Or presumably they are standing still. They are perhaps moving around the property, yes.

GERAGOS: But I mean you are moving around the property. You are talking about ten or twelve feet. Somebody moving ten or twelve feet right here, that will determine whether or not you are using the cell tower at 10th and D, when you are using the cell tower at 1250 Brighton?

WHITE: That can, yes.

GERAGOS: Now, so that I understand, the jury understands also, when you do this directly, the sector drawing that you were doing,

WHITE: Yes.

GERAGOS: The sectors that you drew on the item that I just mapped out, would the sectors, does that happen for every one of these coverage areas?

WHITE: For the sectors in that immediate area, yes. I mean for the sites in that immediate area. Excuse me.

GERAGOS: You said that this periphery of these circles is rough, is that correct?

WHITE: Yes. In that case that would have the same three sectors in it.

GERAGOS: Okay. And what does that mean? That right here you have got 1.75 miles as a radius, right?

WHITE: Yes.

GERAGOS: I have established that I don't have any idea what a radius is with the previous witness. Is the radius that goes out, when you say it's rough, does that mean that it can be less than 1.75 miles?

WHITE: Yes, it can be.

GERAGOS: Okay. Does that mean it can be more than 1.75 miles?

WHITE: Yes, it can be.

GERAGOS: For 10th and D, how much more can it be?

WHITE: From a reasonableness standpoint, and,

GERAGOS: I'm not asking for unreasonable. I'm asking for reasonable.

WHITE: And assuming that you want to sustain the call, and that there wouldn't be a hand off?

GERAGOS: I'm not even saying that. Because I'm actually talking about a situation where,

WHITE: You could set up a call for a brief period, meaning one second, or something like that, probably as much as four miles away from that cell.

GERAGOS: So it's possible, I would assume, if this location were where I'm pointing to at Emerald Avenue, is roughly within a quarter of a mile of the radius that's drawn here, that the call could start here at the 1250 Brighton, correct?

WHITE: Uh-huh.

GERAGOS: And then switch over, or flop over to 10th and D depending on what usage is?

WHITE: Yes, that's reasonable.

GERAGOS: Okay. And,

WHITE: Wait. I'm sorry. Could you repeat that question?

GERAGOS: Sure.

WHITE: The call is started from where?

GERAGOS: If the call started from here, 1027 North Emerald.

WHITE: Uh-huh.

GERAGOS: Can it start at 1250 Brighton and hand off to 10th and D?

WHITE: That's a pretty unreasonable scenario, in that you have got multiple sectors that are better service. So all of those sectors would have to be full at the instant you attempt to start the call.

GERAGOS: You checked for the morning of December 24th, correct?

WHITE: In terms of,

GERAGOS: The sector, and whether the sector was full?

WHITE: No.

GERAGOS: You didn't check that usage. Did you look at the e-mail that was sent out?

WHITE: Yes, I looked at the e-mail that was sent out.

GERAGOS: Didn't the e-mail that was sent out indicate that somebody checked usage for that morning?

WHITE: Somebody checked usage on the sector that serves Brighton. That's the only usage I'm aware of that was reported.

GERAGOS: What's the usage on Brighton?

WHITE: Ninety percent.

GERAGOS: That pretty high?

WHITE: That's fairly high. Not unreasonable.

GERAGOS: Does that indicate that if somebody first got Brighton for the initial, that it would then hand off to another sector, if you say ninety percent?

WHITE: Ninety percent you utilization, a call would not hand off because of congestion. Would only prevent a call from being set up on that cell.

GERAGOS: And, well, do you have, if it's at ninety percent, how do you tell where the call was set up, or how do you tell where the person was?

WHITE: The call record reports the cell that the setup took place on.

GERAGOS: To make it simpler terms, if you know that it was ninety percent usage in the Brighton Avenue area, okay? Whatever, what sector was that?

WHITE: That should have been the Z sector.

GERAGOS: Z sector is where?

WHITE: That's to the southbound at 200 degrees.

GERAGOS: So this would be roughly like this?

WHITE: Yeah, roughly.

GERAGOS: And that was ninety percent usage. You would not find that it would set up, it was set up at the Brighton tower, is that what you are telling me?

WHITE: No, it would not set up on the Brighton Z sector. It could set, certainly set up on the X sector, potentially could set up on the 10th and D tower.

GERAGOS: Set up on either one, correct?

WHITE: Yes. Those are the likely candidates for that particular location.

GERAGOS: So if you are in the coverage area that's right here, they have got 1.75 miles, why is this 1.75 miles, by the way?

WHITE: Because of interference limitations. In other words, if you are outside of that radius, the probability that your call will be very poor is high, and it could be poor enough for the call to just immediately drop.

GERAGOS: And is the, what you are telling me does that, this radius, the 1.75 that's not absolute. So that, clearly, as far away as four miles, it could be utilizing the 10th and D tower?

WHITE: You could set up on the 10th and D. Utilize is another issue.

GERAGOS: You say set up. Does that mean the records?

WHITE: You would see a record that would indicate that cell site, yes. And if you were as much as four miles away, you would probably see that cell site or that call duration ratio be extremely short.

GERAGOS: And if you saw, for instance, the call that's made from over here, and if it's sets up at 1250 Brighton, if the usage is high at the particular time that the call sets up,

WHITE: Well,

GERAGOS: If it's,

WHITE: You are talking about backward usage would have to be high at Woodland on the X sector.

GERAGOS: Let me give you an example, though. If you are here closer to the Woodland, why wouldn't it go to Woodland immediately, because Woodland, the closer, I assume, is going to be the strongest signal?

WHITE: But you were talking about making the call from that location, were you not?

GERAGOS: I'm talking about making it from here.

WHITE: If you make the from there, the Woodland location is the primary server.

GERAGOS: Okay. If you are in this, if you are here, and you are going, here, being 523 Covena?

WHITE: Yes.

GERAGOS: You are going to 1027 North Emerald?

WHITE: Yes.

GERAGOS: You end up at 1027 North Emerald. Wouldn't the Woodland be the, at that point, the primary server?

WHITE: When you got, when you got,

GERAGOS: Into that serving area, yes?

WHITE: You would start out on Brighton and wind up on Woodland.

GERAGOS: Have you checked what the Woodland usage, was that,

WHITE: No, we did not check that.

GERAGOS: Okay. Wouldn't you need to know what the Woodland usage was to at least eliminate the likely areas where somebody made that call from?

WHITE: I would have to eliminate, to follow the thread to that being served at Brighton, I would need to eliminate all three sectors on Woodland as well as two sectors on the 10th and D as all being congested.

GERAGOS: Right. And you have done that, or haven't done that?

WHITE: I have not done that.

GERAGOS: So as you sit here today, the only place where we know that there was high usage was this sector right here that I'm pointing to, which is the Z sector?

WHITE: Yes.

GERAGOS: You had not checked the Woodland usage, so we don't know what kind of usage was going on there, correct?

WHITE: Correct.

GERAGOS: You have not checked the 10th and D to determine, and that is divided up three ways, three sectors as well. So we don't know what was the usage there?

WHITE: Correct.

GERAGOS: Okay. And so you can't determine at this point, with any kind of specificity, whether or not somebody was in one location or another until you take a look at those usage logs, correct?

WHITE: Correct.

GERAGOS: Now, there was also some experiments that were done by Investigator Jacobson, is that correct?

WHITE: That's my understanding, yes.

GERAGOS: Okay. And then he e-mailed you some of these results, is that correct?

WHITE: Meaning he mailed to AT&T, yes.

GERAGOS: I was using you as the proverbial AT&T. And when he did that, he told you that there was, what's the information he gave you?

WHITE: Well, if we're referring to this e-mail here, I'm not sure we are referring to the same one.

GERAGOS: I think I have got the same one you have got. What page are you looking at?

WHITE: You are talking about the document number?

GERAGOS: No. I don't have the document numbers. If you have got a page at the top, page 1 or page 2?

WHITE: I have a page 1 here. I have a page,

GERAGOS: Didn't he do some calls where he would call the, use his cell phone doing these various coverage areas?

WHITE: Yes.

GERAGOS: And when he did that, was he getting different sectors and he was getting X, Y, Z, it was not making sense?

WHITE: At the Brighton location?

GERAGOS: Yes.

WHITE: Yes.

GERAGOS: Okay. Can you,

WHITE: Wasn't making sense to him.

GERAGOS: Was not making sense to him. And the reason it was not making sense to him, as he was moving through the area, the phone was handing off to different sectors, correct?

WHITE: Well, I believe the things that I remember about that particular e-mail was that he was surprised that it was being served by a sector that pointed at different directions. The X sector. But I don't remember that being a hand off. I'd have to look at the e-mail again.

GERAGOS: So actually your understanding was that he wasn't, wasn't a problem with the hand off of the call, but that the,

WHITE: That was at the initiation of the call.

GERAGOS: At the initiation of the call. So he would be down in the Z sector, or in an area that's served by another cell antenna, and it's flopping over or originating in the X sector, correct?

WHITE: Correct.

GERAGOS: Okay. And the problem was, is that didn't make any sense to him, because he wasn't even anywhere near the X sector, correct?

WHITE: He was fairly close. He was still within a 3 Db contour.

GERAGOS: Explanation, one of the explanations for that is that, as we indicated, you are not supposed to be using these things for that. Were not designed, they are billing records, were not designed to determine a location, correct?

WHITE: With precision, that's correct.

GERAGOS: And the second explanation was that they get, depends on the congestion as what you are going to hit?

WHITE: For the call setups, yes.

GERAGOS: Third one, depends on where you are in relation to the particular antenna, correct?

WHITE: Yes.

GERAGOS: The angle, if you will?

WHITE: Well, it's more the amount of obstructions.

GERAGOS: Meaning if there is buildings,

WHITE: You are standing behind a metal truck, it could change your best serving site.

GERAGOS: Okay. And the response by AT&T, these are, antennas are not absolutes, correct? Is what was stated in the e-mail back to him?

WHITE: Yes.

GERAGOS: Or internally?

WHITE: I remember them saying that.

GERAGOS: Neville is the one who is most expert on this?

WHITE: Thank you.

GERAGOS: Yes?

WHITE: Yes, he is.

GERAGOS: Neville works for you?

WHITE: He's not an expert on the fraud records, of course.

GERAGOS: Neither are you.

WHITE: Absolutely.

GERAGOS: And Neville's response is, he has apparently, on more than one occasion, said that these are not absolutes. And this is just a surmise as to what's happening. Basically you are just guesswork, correct?

WHITE: Yeah, I would say educated guesswork.

GERAGOS: Educated guesswork. Now, the, one of the problems he said lies in the fact that Scott's house is south of the site, over one mile away, correct?

WHITE: Yes.

GERAGOS: On page,

WHITE: Could you refer me to,

GERAGOS: If I had page numbers I would. I just don't.

WHITE: You don't have the document number?

GERAGOS: There is this handwritten, verify sector.

WHITE: I'm sorry, wrong one.

GERAGOS: I think it's that one, right. That's it.

WHITE: Okay.

GERAGOS: If Scott's house is due south of the site, over one mile away?

WHITE: Okay. I think these are Mr. Jacobson's statements here.

GERAGOS: All right. Looks like this is Jeanne Mulcahy's, I think, writing, isn't it?

WHITE: No.

GERAGOS: He's writing?

WHITE: I'm looking at Page 1, and I see from Steve Jacobson. Then I see the references you are talking about on Page 2.

GERAGOS: So his, based on the information he's got, Scott's house is due south of the site, over a mile away?

WHITE: Yes.

GERAGOS: And all they confirm is Scott being at the residence at certain times. His location, is 20-Z, is that correct?

WHITE: 20-Z is the server, yes.

GERAGOS: And then they show that, he calls it a flip-flop between Z and X zones?

WHITE: Yeah. And I'm not sure what he's referring to there.

GERAGOS: Okay. He also says that it looks like that the flip-flop between Z and X on his residence directly due south of the cell tower is very inconclusive, correct?

WHITE: That's what he states in that e-mail, yes.

GERAGOS: Okay. Now, who was the person you had look into whatever he was trying to figure out? Was that Neville?

WHITE: Yes.

GERAGOS: And Neville then writes to you, correct?

WHITE: Yes.

GERAGOS: And he said it could be very well, this problem of these things bouncing back and forth could be due to a directed retry during congested times, that's right?

WHITE: That is correct.

GERAGOS: Okay. And that the, then he goes into what the azimuths are, but in reviewing the statistics, he says that the Z sector, which is the bottom one, is ninety percent during the busy hour on an average day, right?

WHITE: Yes.

GERAGOS: Okay. But that doesn't address what it was on this particular day, December 24th, right?

WHITE: That's correct.

GERAGOS: Okay. Now, the other area that Mr.,

WHITE: I should say, this is looking at most challenging periods from an hourly standpoint. That's how we measure it.

GERAGOS: What do you mean by the most challenging period?

WHITE: When traffic is typically the heaviest. So we'll take the busiest hours for a month, use that as the measure.

GERAGOS: Traffic busier for AT&T on holidays, or surrounding holidays?

WHITE: No.

GERAGOS: When is the traffic busiest?

WHITE: I would say about the most busy would be December 18th, typically right around that period.

GERAGOS: Okay. In the following week?

WHITE: Begins to fall off. I'd said it would be fairly busy on the 24th. People are still out shopping. And then the 25th, it will be extremely low.

GERAGOS: So the 24th, is that at a higher percentile in terms of usage?

WHITE: Again, we're talking about busiest hours. So we look at a given month. We look at the ten busiest hours and use those for our calculations in terms of busyness for the site.

GERAGOS: 24th is still a fairly busy time?

WHITE: I don't know specifically on the 24th. Nor have we testified to anything to the 24th.

GERAGOS: So if I understand correctly, when Jacobson is giving you this information, nobody has pinpointed what was actually going on on December 24th from AT&T in terms of traffic?

WHITE: That's correct.

GERAGOS: So as we sit here today, we don't know what it is?

WHITE: We don't know definitively.

GERAGOS: And the other cell site location that Mr. Distaso was asking you about in the other areas, Gilroy and the others, do you remember that?

WHITE: Yes.

GERAGOS: You gave some ranges as to what they were, correct?

WHITE: Yes.

GERAGOS: Does the same analysis, or the same conclusion that you drew, that the range depends on that rough approximation, is that, does that hold true for those as well?

WHITE: Yes.

GERAGOS: And why is that?

WHITE: Even RF propagation behaves the same.

GERAGOS: What does that mean?

WHITE: Means that the amount of reduction of signal over distance is consistent for a radio broadcast.

GERAGOS: Okay. What is, when you ran that out, I think one of the ones cited was ten miles, correct?

WHITE: Yes.

GERAGOS: What is the range that it could go out at the extreme, reasonably?

WHITE: Reasonably, probably as much as thirty miles.

JUDGE: Mr. Geragos, we're going to stop. We have to change reporters.

<recess>

GERAGOS:: 203?

JUDGE: My notes say 203. I think it's either A or G. No, I think it's G. 203 G.

GERAGOS: Okay. We know you're not the expert on fraud billing records, but I'm going to show them to you anyway. The, I assume that the location on the right, that's the switch?

WHITE: That is the switch.

GERAGOS: Got it. So when, if you are looking at these things here, and this is 203 A, this is the switch here, and then when you go through the, see where there's spots where it goes Fresno and then goes Concord and Stockton and all the way through?

WHITE: Yes.

GERAGOS: Okay. The, does the switch have the same kind of foibles with it or problems with it in terms of trying to pinpoint geographical locations that the cell sites do? The cell antennas?

WHITE: Well, I object to the term foible.

GERAGOS: I said "problem."

WHITE: Well, I even object to that part.

GERAGOS: Okay.

WHITE: The switch has a more finite role in our network. It, you won't see overlapping coverage for a switch.

GERAGOS: That's what I, I thought you were going to say. The, if I understand correct, the, these antennas, which we've talked about, are basically coverage areas that sit on top of each other, right?

WHITE: Yes. To some degree, yes.

GERAGOS: And if I understand correctly, what you were telling the jury is that those things have kind of evolved through time, based upon where you can actually acquire a site, correct?

WHITE: Yes. That's a big influence around where they end up being.

GERAGOS: Okay. So it isn't like you've got a map of California and you say, Okay, this is,

WHITE: We don't have a perfect grid, yes.

GERAGOS: Okay. So depending on what community will allow you to put up a cell phone tower, or a cell phone antenna, that's going to determine the size and the coverage for that particular area, correct?

WHITE: Correct.

GERAGOS: Now, for a switch, that's different, right?

WHITE: Are you talking about for, from the,

GERAGOS: Well, the,

WHITE: user coverage standpoint?

GERAGOS: From the user coverage, is there overlapping switches?

WHITE: There's a small amount of overlap, because we're really talking about cell site overlap, so there's an overlap from cell site served off of one switch and another, along their borders.

GERAGOS: Okay. Have you looked at these records, the 203, to see whether or not, we see Stockton, we see Concord and Stockton again, and have you looked to see whether these areas are right next to each other?

WHITE: No, I haven't. Stockton overlaps with Santa Clara, which I don't believe I saw, well, I shouldn't say I don't believe I saw any instances of that.

GERAGOS: Let me, if I've got, Stockton overlaps Santa Clara. I think, you didn't see that when you were looking?

WHITE: I didn't notice it.

GERAGOS: I've got page, looks like right here, Santa Clara, Stockton, right there?

WHITE: Yeah.

GERAGOS: Okay. Is that something you would expect?

WHITE: I'm not sure I understand your question, what I would expect.

GERAGOS: Are those switches next to each other?

WHITE: I honestly don't know because of the designation they use in the fraud there. I, I think we gave a, a translation sheet. I don't know if you have that.

GERAGOS: Okay. The, now, you were going to say something. You said you hadn't noticed Stockton and Santa Clara, what was the,

WHITE: No, no. I said I hadn't noticed Santa Clara in any of the records there. But there, there is an occurrence in Santa Clara there.

GERAGOS: Okay.

WHITE: And those, that switch, or I shouldn't say that switch, one of the two switches in Santa Clara borders Stockton.

GERAGOS: Okay. Do you know what the area is the Santa Clara switch covers?

WHITE: Which one?

GERAGOS: The, I mean what geographical,

WHITE: The one, the switch,

GERAGOS: The one that's next to, I'm assuming that one of them,

WHITE: The border there,

REPORTER: Excuse me. Excuse me.

WHITE: I'm sorry.

REPORTER: I need you to wait,

GERAGOS:: Hold on. She's going, going to take our head off if we talk at the same time. Trust me. The, one of the Santa Clara, I assume Santa Clara, which is marked here, the 16, borders Stockton 11?

WHITE: I, I don't know that for a fact. I don't know if that is Santa Clara three or four.

GERAGOS: Okay. And if you have times that are roughly right in, pretty close together, is that a pretty good way to,

WHITE: That would be a good indicator, yes.

GERAGOS: And the reason would be that somebody hasn't turned off their phone, traveled through one switch area to get to another?

WHITE: That would be an example, yeah.

GERAGOS: Okay. Now, the Santa Clara, do you know which of these switch areas you is said Santa Clara one and two?

WHITE: Yeah. We call them three and four, believe it or not.

GERAGOS: Three and four?

WHITE: Yeah.

GERAGOS: Okay. The, do you have or what, what can I give you that will help you tell me which area this is? Is it a physical cell site?

WHITE: You want me to describe the coverage area of the Santa Clara three?

GERAGOS: Yeah.

WHITE: I don't remember precisely off the top of my head. It covers between, it borders between Tracy and Pleasanton on the east, covers all the way out to the Peninsula, the Pacific side of the Peninsula. Its northernmost border along the Peninsula would be around South San Francisco, I believe, and,

GERAGOS: What's the southernmost border?

WHITE: No, that is, what is the southernmost border?

GERAGOS: What is the southernmost border?

WHITE: I believe it's around Santa Clara, Milpitas, but I don't remember off the, you know, off the top of my head here.

GERAGOS: Does it go all the way down to Carmel?

WHITE: That one does not, no.

GERAGOS: Okay. Does the,

WHITE: The other one does.

GERAGOS: Which one?

WHITE: The other Santa Clara switch.

GERAGOS: Okay. And that's what covers that Carmel, Monterey area?

WHITE: Yeah.

GERAGOS: Okay. Now, the, how much of an overlap is there between one and the other? Is there any way you can definitively say?

WHITE: A few miles. Would typically be less than five miles.

GERAGOS: Okay. Is that also, reasonably, is that range?

WHITE: No, that would be the extreme.

GERAGOS: So the extreme,

WHITE: Yeah.

GERAGOS: a reasonable,

WHITE: Extreme would be five.

GERAGOS: extreme boundary would be five miles on either side?

WHITE: Yes.

GERAGOS:: May I have just one moment, your Honor? <pause> What's the, the Stockton boundary? What's that for the Stockton switch?

WHITE: The northern boundary of the Stockton switch is, I want to say about halfway between Stockton and Sacramento. And on the southern border it would be the, what is it, the north side of Merced County.

GERAGOS: How far away, and there's, and the maximum that, the extreme would be five miles?

WHITE: Yeah. Approximately.

GERAGOS: Now, on this page here, and I apologize, I don't have the, there's not a page number on here, but there's, looks like the dates, can you see that far?

WHITE: Somewhat.

GERAGOS: Okay. The flop off, you know that, the handoff, you use the term handoff for switches as well?

WHITE: Yes. There's actually a handoff between switches.

GERAGOS: Okay. See where you've got the handoff from Stockton to Santa Clara, Stockton to Santa Clara, Stockton, Santa Clara?

WHITE: I don't know that those are handoffs there.

GERAGOS: Okay. Does it look to you, you see the times of the calls? Can you see that from there? Or do you want me to bring it forward?

WHITE: I think you'll have to bring it forward. I really can't see it from back here.

GERAGOS: This looks like, so the record is correct, is the number to the extreme left the call, the number of calls?

WHITE: The sequence number?

GERAGOS: The sequence number, is that what you call it?

WHITE: It could be.

GERAGOS: Okay. On December 18th, starting at 12:28, the sequence number, actually 12:27, does it look to you like the switch is moving from, in successive calls it's going between switch to switch?

WHITE: On this record here?

GERAGOS: Uh-huh. Yes.

WHITE: I see an incoming call to Stockton going to voice mail. And then I see another call starting here.

GERAGOS: That's in Santa Clara?

WHITE: Yes.

GERAGOS: Now,

WHITE: But this, this is an incoming, meaning it's not the mobile phone that's made that call but someone calling the mobile phone.

GERAGOS: Now, did you see the, what appears to be, let me see if I can just blow it up a little bit. Do you see that from where you are?

WHITE: I can try.

GERAGOS: You want to come up closer to where I'm standing up there? Judge, could he just step up for a moment?

JUDGE: Yeah, he can go up there. Mr. White. But then you'll have to speak up when you testify so that the court reporter can hear you. And the jury, obviously.

GERAGOS: See where we have here, looks like you've got starting some time, looking backwards from the 19th, and working forward from the 17th, whichever way you want to do it, it looks like we've got Stockton, Santa Clara, Stockton, Santa Clara in the calls. Also looks like there's some voice mail calls, is that correct?

WHITE: Well, again, I'm not the expert in this. The one record you and I went over over there indicated that there was a call from Stockton to voice mail, and we saw another distinctively different call record that involved Santa Clara.

GERAGOS: Right. And what I'm asking you is yesterday Mary Anderson testified 64 was voice mail?

WHITE: Correct.

GERAGOS: That's your understanding as well, right?

WHITE: Yes.

GERAGOS: And then checking voice mail, it shows Stockton, right?

WHITE: Uh, let me confirm that's checking voice mail because it could be someone's calling, could

REPORTER: I'm sorry, I can't hear. Calling could what?

WHITE: Could either mean he was checking voice mail or that someone called and wound up needing to leave a voice mail.

GERAGOS: We don't even want to go there, if you saw what we went through with Ms. Anderson yesterday. She's got a whole, whole theory on that.

WHITE: Okay.

GERAGOS: The issue from my standpoint is if we've got, trying to use these things, if the prosecution is trying to use these things to show a geographic location, do you see that there may be a problem here doing that because the switches are moving within just a matter of minutes? We've got here Santa Clara, when the call going out,

WHITE: I think you're looking at this as a sequence of a single call.

GERAGOS: No, I'm looking at it as separate calls.

WHITE: But the start call, start of the call is here, the end of the call is to the left.

GERAGOS: Right. So if you take a look at that, and if the person, if you know them to physically be in the Santa Clara area coverage, Santa Clara switch coverage, Carmel, Monterey, whatever they may be, and you see these calls that go to Stockton and they generally related to voice mail, 064, you see a pattern here where, whenever somebody calls 064, and it's going into Stockton, and that whenever they make just a regular outbound call, that it's using the Santa Clara switch?

WHITE: Making the outbound call?

GERAGOS: Right here. This is the, the number that this is,

WHITE: Okay.

GERAGOS: is (209) 505-0337, correct?

WHITE: Uh-huh.

GERAGOS: That's what the record shows, right?

WHITE: All these other examples are showing Stockton involved, interspersed there, indicate that something is, or someone has called in to the voice mail. That's all I see in those records.

GERAGOS: Right. And does it also,

WHITE: It doesn't involve the subscriber's phone.

GERAGOS: I'm just asking you, you've got situations where every time somebody hits voice mail, what switch does it show?

WHITE: It will always show Stockton. That's the location of the voice mail.

GERAGOS: Exactly. And when there's, does it also, if there's a call that's not voice mail, will it show the switch that,

WHITE: That it's,

REPORTER: Excuse me.

JUDGE: You guys are overlapping again.

WHITE: Sorry.

GERAGOS: All, the simple point is the fact that you've got a series of calls, or the switch,

WHITE: Uh-huh.

GERAGOS: on the records here go from Stockton to Santa Clara, Stockton to Santa Clara, do you understand that?

WHITE: I understand that there are records for those two switches that relate to the subscriber's,

GERAGOS: Phone?

WHITE: phone, as well as the subscriber's voice mail box.

GERAGOS: Right. Now, if it's a voice, if somebody is going to voice mail, does that mean either the subscriber is doing it? Or he's getting a call in and it goes into voice mail, does that mean it's always going to show the Stockton switch, if you have, if that's your home switch?

WHITE: Anytime anyone calls Scott's number here and he doesn't answer it or his phone is turned off, it will show a record for the Stockton switch.

GERAGOS: And if they called him and he answers it, what will it show?

WHITE: A record for whatever the location is at the time that he answers it.

GERAGOS: Which would be presumably a different switch in this situation on that, those particular,

WHITE: In these interspersed records, I would say that's a different switch.

GERAGOS: When you say Santa Clara, would be a different switch?

WHITE: Yeah, assuming that we're not looking at any records that involve a mobile calling Scott's number.

GERAGOS: And,

WHITE: I mean another cell phone user. Because I think these fraud records are capturing that as well.

GERAGOS: Which means, when you say a mobile user, does that mean,

WHITE: One of our customers.

GERAGOS: One of your customers calls using a mobile phone, that's going to be different than somebody,

WHITE: That's going to capture a record on here that will include a location. I believe. Again, I'm not the expert.

GERAGOS: You're not the expert on that, is that what you're saying?

WHITE: Yes.

GERAGOS: Okay. The, the only, as far as I want to get you on your expertise,

WHITE: Okay.

GERAGOS: is if the somebody is getting voice mail, that's going to go to the Stockton switch for a 209 area code phone, correct?

WHITE: Yes.

GERAGOS: And that's whether they're checking their own voice mail or whether they are getting, receiving a call from somebody that goes to voice mail?

WHITE: If they're checking their own voice mail, one of the records associated with that would include whatever their location is, right? But it would still show a record also that would include the Stockton switch for the voice mail itself.

GERAGOS: Thank you. I have no further questions.

Redirect Examination by Rick Distaso

DISTASO: So when you're, Mr. Geragos actually took away the last question I was going to, question I was going to ask you. So if you're checking your voice mail, that's an open communication phone line, let me start over. That's just like a regular phone call, is that right?

WHITE: That's correct.

DISTASO: So the records are going to show, if I'm in the Santa Clara switch, for example, I check my voice mail in the Santa Clara switch, it's going to show a Santa Clara switch entry?

WHITE: Yes.

DISTASO: As well as a Stockton entry, because that's where my voice mail is?

WHITE: Yeah. I believe, though, it will actually probably see two Stockton entries, from what we've seen on the fraud records.

DISTASO: Okay. So we're going to have,

WHITE: But you will see both of those.

DISTASO: You're going to have the location where my phone is, as well as the location where the voice mail is?

WHITE: Yes.

DISTASO: And that's different from someone calling me and leaving me a voice mail?

WHITE: Yes.

DISTASO: So we've got two different things going. So when we're talking about voice mail, we got me checking the voice mail, which I want to see who called me, dial it up, listen, open phone line, correct?

WHITE: Yes.

DISTASO: And that's just like me making a call?

WHITE: It's a standard wireless connection.

DISTASO: And then we got somebody calling me and leaving me a voice mail, right?

WHITE: Yes.

DISTASO: A different scenario?

WHITE: Yeah. There's no wireless connection involved in that.

DISTASO: Let me go back to these sectors. These sectors are, let's, let's kind of crunch down the call. You got the switch area, correct?

WHITE: Yes.

DISTASO: The geographic switch area. Then you got the cell site location itself?

WHITE: Yes.

DISTASO: And on top of that cell site location are these antennas that are in this sector pattern?

WHITE: Yes.

DISTASO: So we've kind of crunched it down? The sector pattern, these antennas, they can handoff amongst each other, depending on the usage or congestion of each sector?

WHITE: They don't handoff because of congestion.

DISTASO: Okay. What makes them handoff?

WHITE: Conditions changing, where another sector can serve better.

DISTASO: Okay. And so if I'm, for example, standing right here, I could call, I, this cell site serves me, I could hit the Z sector?

WHITE: Yes.

DISTASO: And then I could walk, I don't know, ten feet to where you are, and it just so happens that I call and the X sector would serve me better?

WHITE: That could happen, yes.

DISTASO: All right. The scenario that was given to you on this particular diagram here, this only has two cell towers, or I mean the two, 1250 Brighton and 10th and D was on this call. That was the beginning cell tower and ending cell tower for that particular call. On, for a call that lasted a minute and 21 seconds, would you consider that, from AT&T, would that be a completed call or a successful call?

WHITE: That would be pretty typical of calls on our network. The typical duration of a good call is about one and a half minutes in 2002/2003 time frame.

DISTASO: All right. The scenario that Mr. Geragos was giving you where you could be at this location, at 1027 North Emerald, and make a call, the cell tower that would normally, under normal circumstances service your call would be at 929 Woodland?

WHITE: Yes.

DISTASO: The scenario that he gave you that you could be at that location and have a call that lasts for a minute and 21 seconds that starts at the 1250 Brighton Avenue tower and ends at the 10th and D tower, I think you testified was a, a very unlikely, is that right?

WHITE: That's correct.

DISTASO: Now, the 90 percent number that we were talking about on one of these sectors, you said, I think Mr. Geragos was characterizing it as very heavy usage or congested usage, or something. Is 90 percent usage normal usage on, on a particular sector? Or at least that one?

WHITE: Yeah, that's pretty normal. And we actually will see usage go above a hundred and 50 percent on an individual sector. So it's really performance against engineering design criteria, as opposed to trying to measure on a regular basis how full it is.

DISTASO: So when we're saying 90 percent, it doesn't mean that at a hundred percent usage the, that sector fails?

WHITE: Correct.

DISTASO: It's designed so that, I think you said it can use up to a hundred and 50 percent, or something?

WHITE: It, it can be that extreme. And what will happen is there will be a lot of redirected calls when it gets up to that level. So our, our design criteria, the hundred percent would say that only two percent of the time while at a hundred percent utilization would there be a call that's redirected. I don't know if that's making it any easier.

DISTASO: More or less. Now, we've been talking about these cell phone calls and the records and how, radio communication, and whatnot. Can, is it possible for you to give the jury a, a simple, might not be possible, but kind of an easy explanation as to how a cell phone call actually works?

WHITE: Okay. Making a call and receiving? Or just making a call.

DISTASO: How about start with making a call.

WHITE: Okay. When a user presses send on their phone, the phone is, initially sends a message out to the base station that it feels is the strongest. And it, it does that because it's constantly looking at the network to say Who's the strongest out there, who should I be talking to. So the base station that receives that signal will then simultaneously send a message back to the switch saying Hey, this guy wants to call whatever number it happens to be. And at the same time it will look for a candidate radio in the cell site to connect that phone to. So what it's doing here is managing the air link locally, and also providing for the information for the wire line link to the, to whatever the destination is. So assuming that it has a radio available, it will send a message

back to the phone saying Go to this specific frequency and I will meet you there. And that will establish that airline connection. At the same time, the switch has done its job to provide the rest of the connection through to whatever the terminating location is, whether it's another cell phone or land line, or whatever.

DISTASO: And I'm, I'm assuming that if somebody makes a call, we can kind of just reverse that. It comes in through, through the system and through the switch, and then it goes out and looks for the tower that's connected to the phone?

WHITE: Yeah. I think the fundamental differences are that the, the network doesn't track with the level of frequency that the phone does as to where it's at. So when the network goes to connect that call, it pages. And essentially it pages from the last location that it knew where the user was, and then works out in sort of concentric circles to try to identify and connect up that user.

DISTASO: What, when we were talking earlier about what can interfere with a cell phone call, what can, what can interfere, what types of things can interfere with calls?

WHITE: Well, other cell sites, other cell phones. Those are the two principle ones, but you can have just radio signals in general can cause interference.

DISTASO: What about, let me stop you. What about some kind of obstruction?

WHITE: That wouldn't be considered interference, per se. That's really reducing the signal strength.

DISTASO: Okay.

WHITE: So it's more of a coverage thing.

DISTASO: So the example that we were talking about from a Gilroy cell tower or cell site to Bakersfield, you've got this mountain range in the way, radio signals can't get through that?

WHITE: That's correct.

DISTASO: And I take it other things, like being inside a building, perhaps could do that?

WHITE: Yes. I think probably many people have experienced, in concrete buildings, that signal is attenuated. They'll see fewer bars on their phone, that kind of thing.

DISTASO: Thank you, your Honor. Nothing further.

Recross Examination by Mark Geragos

GERAGOS: The voice mail retrieval that you were just talking about with Mr. Distaso?

WHITE: Uh-huh.

GERAGOS: It goes through the switch?

WHITE: The voice mail retrieval does go through the switch, yes.

GERAGOS: Goes through the switch.

WHITE: Uh-huh.

GERAGOS: And the switch then, and that's always the case?

WHITE: Yes.

GERAGOS: And it always goes to the home switch?

WHITE: Yes.

GERAGOS: And the home switch for 209 would always be Stockton?

WHITE: That's correct.

GERAGOS: And that is when you're retrieving your own?

WHITE: When you're retrieving your own, or when someone else is leaving you a message.

GERAGOS: Okay. So when somebody else leaves you a message, it would,

WHITE: Go through the Stockton switch.

GERAGOS: go through the Stockton switch. And does that then identify a cell site at the same time, when somebody else is leaving you a message?

WHITE: It can, if it's coming from a mobile user.

GERAGOS: Okay. And if you're retrieving it yourself?

WHITE: It, it should, yes.

GERAGOS: And it's not necessarily the case, however, because it goes straight to the switch, is that correct?

WHITE: It should use it, it should identify a cell site, if you've actually made an air link connection from your phone. So you should show a record designating the cell site, if you've called from a cell phone.

GERAGOS: Okay. And you've looked at, I think we marked it as A, 203 A 1, which is the, investigator Jacobson's work product on translating or converting the,

WHITE: Yeah. I don't have the copy here, but

GERAGOS: Okay. Did you take a look at that?

WHITE: Yes, I took a brief look at that one.

GERAGOS: Okay. Would Mary Anderson be properly the person who would testify about the voice mail and the fraud billing records and the interpretation?

WHITE: Yes.

GERAGOS: And that's, she is more expert than you are on that issue?

WHITE: Yes, she is.

GERAGOS: And she is the person, I don't want to denigrate you, but,

WHITE: Go right ahead.

GERAGOS: Okay. Patel, Patel is more,

WHITE: Neville.

GERAGOS: more expert in one area?

WHITE: Correct.

GERAGOS: And Mary Anderson clearly is the more expert when it comes to the fraud billing records and the interplay with voice mail, correct?

WHITE: Correct.

GERAGOS: Okay.

WHITE: Well, with fraud records. Not with interplay with voice mail.

GERAGOS: Well, with the fraud records and, do you know what a usage, usage records are? I think that's what she called them yesterday?

WHITE: She called them?

GERAGOS: Yeah.

WHITE: Is this in relationship to fraud? Or is this,

GERAGOS: Apparently,

WHITE: an invoice?

GERAGOS: she, when she came out, she,

WHITE: Did she bring a billing record?

GERAGOS: No. Sunday she started to interpret some items on the fraud billing records. Monday she, I guess she had an epiphany overnight.

DISTASO: Your Honor, is counsel testifying now?

GERAGOS: No, I'm leading.

JUDGE: No. The, you can leave out the part of the epiphany.

GERAGOS: Okay.

GERAGOS: Well, she had, she woke up at 4:00 in the morning and,

DISTASO: Well, how is that part of the question? Ask the question.

GERAGOS: had this faxed to her. Do you know what these are? I'm looking at 203 A 1.

WHITE: This looks like a billing invoice for Scott Peterson's phone.

GERAGOS: Okay. Do you know what the, is there some name that you call this?

WHITE: It's, these are call records from a bill.

GERAGOS: Okay. Now, do you have any particular expertise in terms of using these in interpreting fraud records?

WHITE: In interpreting fraud, you mean in comparing them with fraud records?

GERAGOS: Yes.

WHITE: Not, not beyond my limited knowledge of fraud records.

GERAGOS: So,

WHITE: I receive an invoice every month. I review employees' bills every month, so I'm pretty familiar with bills.

GERAGOS: Would you defer to her in terms of what she is interpreting on the, what you call a billing record with the fraud billing records?

WHITE: Yeah.

GERAGOS: Thank you. I have no further questions.

2nd Redirect Examination by Rick Distaso

DISTASO: The, what counsel was just asking you, he keeps lumping voice mail together,

GERAGOS: Well, that's, if he's going to object to argumentative, there you go.

JUDGE: Yeah, I think that is argumentative.

DISTASO: All right.

DISTASO: The, when we're talking about voice mail, somebody calls in to my voice mail, it's going to go to my home switch where my phone is located, correct? Somebody's calling,

JUDGE: Mr. Distaso, we've already covered this, I think.

DISTASO: But it just came up again in this last redirect, I mean, last re-cross.

JUDGE: Well, but the jury's heard this. If somebody calls you and leaves a call that goes, it's a 209 area, it goes to the Stockton switch, right?

WHITE: (Nods)

JUDGE: Right?

WHITE: (Nods)

JUDGE: If I'm checking my e-mail, it goes to the Stockton switch?

WHITE: Yes.

JUDGE: Okay.

DISTASO: No, actual, well, see, your Honor,

JUDGE: All right. Go ahead. Go ahead. Finish up.

DISTASO: If I'm in Concord, for example, and I call and check my voice mail, I'm going to go to the Concord switch first?

WHITE: Yes.

DISTASO: And then the Stockton switch?

WHITE: Yes.

DISTASO: And I'm going to show a cell site in Concord?

WHITE: Yes.

DISTASO: Not, I'm not always, if I'm in, I don't know, San Diego, and I call in and check my voice mail, I'm going to show a San Diego cell tower and go to a San Diego switch, and then go to the Stockton switch?

WHITE: Absolutely.

DISTASO: Okay. If somebody calls me from Timbuktu and leaves me a voice mail message, and my phone is stuck, is a Stockton phone, it's just going to go to Stockton?

WHITE: That's correct.

DISTASO: So there's two separate things we're dealing with here?

WHITE: Yes.

DISTASO: Thank you, your Honor. Now, I have nothing further.

JUDGE: Now, we got it straightened out?

DISTASO: Yes.

JUDGE: Have you got any questions about that? No.

GERAGOS: Did you say retrieve e-mail? Or voice mail?

JUDGE: I could have said e-mail. It's almost 4:00 o'clock, I could have said anything by now. Okay. Anymore questions of this witness? Can this witness be excused?

DISTASO: Yes.

GERAGOS: Yes.

JUDGE: All right.