EXHIBIT 2028

Volume I
Pages 1 to 169
Exhibits (See Index)

UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE

PATENT TRIAL AND APPEAL BOARD

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BROADCOM CORPORATION,
Petitioner,

v.

Case IPR 2013-00601
Case IPR 2013-00602
Case IPR 2013-00636

TELEFONAKTIEBOLAGET L.M. ERICSSON,
Patent Owner.

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DEPOSITION OF HARRY V. BIMS, a witness called by counsel for the Patent Owner, taken pursuant to the applicable rules, before Diane L. McElwee, RPR, CM, Certified Shorthand Reporter and Notary Public in and for the Commonwealth of Massachusetts, at the Offices of WILMER CUTLER PICKERING HALE AND DORR, LLP, 60 State Street, Boston, Massachusetts, on Thursday, May 29, 2014, commencing at 9:10 AM.

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ORIGINAL

I N D E X

E X H I B I T S

PRESENT:

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P R O C E E D I N G S

HARRY V. BIMS, a witness identified and sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SHUMAKER:

Q Good morning.

A Good morning.

Q Could you please state your name for the record.

A Harry Bims.

Q Doctor Bims, how much have you been compensated for your time in this case?

A 650 per hour.

Q About how many hours have you worked on the case so far?

A Roughly 120 hours.

Q What is your normal consulting rate?

A 650 per hour.

Q How many times have you been deposed?

A Maybe 20 times.

Q So since you have been deposed a few times, you probably remember the rules of a deposition, but just, one, I will ask the questions and you answer

the questions. Your attorney will object of course when needed. If the question doesn't make any sense, I will try to fill in the gaps, and hopefully the questions thereafter will make sense. If they don't, your attorney will object and we will work through that.

The other thing is, you can take a break whenever you want. Just don't take a break in the middle of a question unless of course the question involves attorney-client privilege information that you need to discuss with your attorney.

First, I would like to start off with discussing the 625 patent. Let me give you some exhibits to make this simpler. Here is a copy of the 625 patent. The 625 patent will be referred to as Exhibit 1 of the 636 case. I am sorry. I meant to say 1001 of the 636 case, not Exhibit 1.

(Exhibit 1001-636 marked for identification)

MR. SHUMAKER: And here is 1002 of the 636 case.

(Exhibit 1002-636 marked for identification)

Q Doctor Bims, throughout this deposition when I refer to the Garrabrant patent, I am referring to Exhibit 1002 of the 636 patent, but to make things simpler, I will just refer to that patent as the Garrabrant patent through this deposition, is that okay?

A Yes.

Q Likewise, with the Larsson patent, the 625 patent, which is Exhibit 1001 of the 636 case, I will refer to that patent as the Larsson patent or the 625 patent, is that okay?

A Yes.

Q Doctor Bims, I would like to direct your attention to the Garrabrant patent. Do you contend that the Garrabrant patent discloses a command to cause a receiver to receive an out-of-order packet?

A With respect to the Garrabrant patent, I believe in my declaration I have listed various opinions regarding the anticipation of the 625 patent by Garrabrant.

MR. SHUMAKER: 1006 exhibit.

(Exhibit 1006-636 marked for identification)

Q Doctor Bims, when you refer to your expert

declaration, I am handing you Exhibit 1006 of the 636 case. Is this your declaration you referred to?

A Yes.

Q And throughout this deposition when I refer to the Bims declaration, Exhibit 1006 of the 636 case, I will refer to that either as the Bims declaration in the 636 case or the Bims declaration for the 625 patent, is that okay?

A Yes.

Q So, Doctor Bims, looking at your report, do you contend that Garrabrant discloses a command to cause a receiver to receive an out-of-order packet?

(Pause)

A So as I have said in my declaration, Garrabrant discloses commanding a receiver in the data network to receive at least one packet having a sequence number that is not consecutive with a sequence number of a previously-received packet and release any expectation of receiving outstanding packets having sequence numbers prior to the at least one packet.

Q What part of your declaration are you referring to?

A This is the section relating to

Ground No. 2.

Q What paragraph numbers in your declaration for Ground No. 2?

MR. MASSA: Just to clarify something, counselor, when you marked 1006 I think you said it was his declaration. The copy of 1006 you gave me is the petition.

MR. SHUMAKER: Oh, okay. I apologize. Let's renumber. I apologize. Thank you for pointing that out.

Doctor Bims, could I have that exhibit back, which is actually the petition. We will renumber that.

This is actually Paper No. 3 of 636.

(Exhibit Paper 3-636 marked for identification)

Q I am handing you a copy of the document that's a petition from Broadcom labeled Paper No. 3 of the 636 case, and now I hand you the declaration. I apologize.

And so This is Exhibit 1006 of the 636 case.

(Exhibit 1006-636 remarked for identification)

Q Doctor Bims, I am handing you Exhibit 1006 for the 636 case, which is declaration of Harry Bims. Is Exhibit 1006 of the 636 case your declaration that you filed in the 636 case?

A Yes.

Q Now directing your attention to Bims declaration Exhibit 1006, which paragraph numbers of your declaration do you contend disclose or opine that Garrabrant discloses a command to cause a receiver to receive an out-of-order packet?

A So on pages 18 through at least 23, I discuss Garrabrant and its anticipation of the 625 patent, and within that section I talk about Claim 1 in particular, and with respect to the Claim 1 limitation of commanding a receiver in the data network to, A, receive at least one packet having a sequence number that is not consecutive with a sequence number of a previously received packet and, B, release any expectation of receiving outstanding packets having sequence numbers prior to the at least one packet.

I go on to describe in Paragraphs 54 through 57 Garrabrant anticipating that claim limitation.

Q And looking at Paragraphs 54 through 57 of the Bims declaration for the 625 patent in the 636 case, where do you opine -- another question.

Regarding that declaration, what is the command that you identify in Garrabrant that causes the receiver to receive at least one packet?

A In the Garrabrant patent Garrabrant discusses a lost message.

Q What is a lost message?

A A lost message within Garrabrant is a message which causes the receiver to receive a nonconsecutive packet and to release expectations of receiving a discarded packet.

Q Is a lost message received by the receiver in Garrabrant?

A Yes, a lost message can be received by the receiver.

Q And a lost message that you point to for Claim 1 limitation, is that lost message received by the receiver in Garrabrant?

A Garrabrant does disclose that the lost message can be received by the receiver.

Q If the lost message is not received by the receiver, would the lost message be considered a

command?

A I have not considered that possibility. In my declaration I considered the possibility of the lost message being received by the receiver.

Q I would like to direct your attention to Paragraph 50 of your declaration of the 636 case, the Bims declaration in the 636 case. So Paragraph 50 of the Bims declaration, I would like to direct your attention to the very last sentence which states that, The lost message is a command that commands the receiver that upon receipt of the next received packet, open paren, which is nonconsecutive with previously received Packet No. 1, closed paren, it should move its rejection window forward and not expect to receive Packets 2 through 6.

Do you see that?

A Yes.

Q Is that statement correct?

A Yes.

Q What do you mean when you say that the lost message commands the receiver upon receipt of the next received packet to do something?

A So what that means in this example is that the lost message commands the receiver to receive

Packet No. 7.

Q In your example what is the lost message?

A So the lost message is a message that contains the lost command.

Q In your example is the lost message Packet No. 7?

A In my example or in this example from Garrabrant the lost message is attached to Packet No. 7.

Q What is the form of the lost message attached to Packet No. 7 in Garrabrant?

A So Garrabrant simply discloses that the lost message is part of Packet No. 7.

Q In your opinion does Garrabrant disclose anything else about the lost message other than the lost message is part of Packet No. 7?

A There is a description in Column 10 of the Garrabrant patent which describes the lost message and how it's used in one embodiment.

Q Does Garrabrant disclose the form of the lost message?

A What do you mean by "form"?

Q How is the lost message a part of Packet No. 7?

A The lost message is simply part of Packet -- not necessarily part of Packet No. 7 but included along with Packet No. 7 in the transition from the source unit to the destination unit.

Q So is the lost message included with Packet No. 7, or is it part of Packet No. 7?

A It's included in the transmission from the source unit to the destination unit of Packet No. 7. Included in that transmission is also a lost message.

Q What do you mean "included in that transmission"?

A They arrive together at the receiver.

Q "They" meaning the lost message and Packet No. 7?

A Yes.

Q How does the receiver discriminate between a lost message and Packet No. 7?

A Garrabrant does not go into details about how to discriminate between the two, but it would be obvious to a person of ordinary skill how to do that.

Q How would one of ordinary skill in your opinion discriminate between a lost message and Packet No. 7?

A Well, since the lost message is included in

the transmission along with Packet No. 7, the receiver would be able to distinguish Packet No. 7 and the lost message separately in the transmission.

Q How would the receiver be able to distinguish the message from Packet No. 7?

A Well, that could happen in a number of ways.

Q Is that disclosed in Garrabrant?

A Garrabrant doesn't have to go into those details. A person of ordinary skill in the art would understand how to do that.

Q So what would a lost message look like to a person of ordinary skill in the art?

A So a lost message would look like what's described in Column 10 of the Garrabrant patent.

Q What described Column 10 would describe a lost message in the Garrabrant patent?

A So in Column 10 it says that the rejection window is updated in response to the receipt of a lost message.

Q What does that sentence tell you about the structure or form of the lost message?

A What that says is that the lost message is understood by the receiver as a lost message and that the receiver in response to understanding a lost

message makes an adjustment to its rejection window.

Q When a receiver accepts a packet in Garrabrant with sequence numbers in a valid window, does the receiver always update its valid and rejection windows?

A In this Column 10 portion of the specification that we have been discussing, the rejection window is updated in response to the receiver receiving a lost message.

Q I would like you to turn to the petition, the 625 patent of this case, which is Paper No. 3 of the 636 case. I would like you to turn to page 31 of that document, please.

The first sentence on page 31 states, Garrabrant sends a lost message, open paren, a command, closed paren, followed by a new Packet No. 7, see that?

A Yes.

Q As a result of the receiver in Garrabrant receiving a lost message, in your opinion does the receiver update its receipt window?

A As I have stated earlier, from the reading of Column 10 in the Garrabrant packet, the rejection window is updated in response to the receipt of a

lost message.

Q So looking in the first sentence of page 31 of the petition for the 625 patent, when the receiver receives a lost message, the receiver would update its valid rejection windows; is that right?

A The rejection window is updated upon receipt of the lost message, that's correct.

Q And is the rejection window further updated in the receipt of new Packet No. 7?

A If Packet No. 7 is properly received, then the rejection window would advance if -- yes, the rejection window may not necessarily advance.

Q So upon receipt of Packet No. 7, the rejection window may not advance; is that correct?

A Upon receipt of Packet No. 7, it may or may not cause the rejection window to advance.

Q In what situation would the rejection window advance?

A So Column 10 of Garrabrant says, "When Packet 7 eventually arrives at the destination unit, it falls within the valid window 164 and is accepted by the destination unit. The destination unit then sets its internal sequence count to 8 as shown in Figure 8B and slides its valid window 164 to the

position of valid window 174 shown in Figure 8B to allow Packets 8 through 23."

Q And in what situations would the receipt of Packet No. 7 in Garrabrant not cause the rejection window to move?

A In Garrabrant Column 10, the Packet No. 7 has to arrive at the destination unit, fall within the valid window, and be accepted by the destination unit. If the destination unit does not accept Packet No. 7, then in this reading of Column No. 10 the condition for moving the rejection window would not be satisfied.

Q But Garrabrant only discloses the acceptance of Packet No. 7, correct, in that example?

A It discloses Packet No. 7 arriving at the destination unit, falling within the valid window, and being accepted by the destination unit.

Q Does Garrabrant also describe the lost message moving the rejection window separate and apart from the receipt and acceptance of Packet No. 7 moving the rejection window?

A I don't recall the Garrabrant patent saying anything about Packet No. 7 moving the rejection window. In Column 10 Garrabrant does disclose the

lost message, the receipt of the lost message causing an update to the rejection window.

Q So is it your understanding that Garrabrant discloses that the receipt of the lost message updates the rejection window, but the receipt of Packet No. 7 does not update the rejection window?

A So in Column 10 the rejection window is updated by the response to the receipt of the lost message. When Packet No. 7 arrives, falls within the valid window, and is accepted by the destination unit, then the valid window slides from the position in 164 to the position in 174.

Q Does the receipt of Packet No. 7 have any effect on the rejection window of the receiver?

(Pause)

A So what was the question again?

(Record read)

A In this Column 10 embodiment, what is stated about Packet No. 7 is that the valid window 164 slides to Position 174.

Q When the lost packet is received in Garrabrant, how much does the valid window slide?

A When the lost message is received as described in Column 10 of Garrabrant, the rejection

window is updated.

Q And how is that rejection window updated in response to the receipt of the lost message in Garrabrant?

A So Figure 8B shows a schematic diagram of a rejection window at the destination unit after the rejection window is updated in response to the receipt of a lost message.

Q Does Figure 8B show the updating of a rejection window in response to receipt of Packet No. 7?

A Figure 8B shows the position of valid window 174 after Packet No. 7 has arrived at the destination unit, falls within valid window 164, and is accepted at the destination unit.

Q Does Figure 8B also show the rejection window 170?

A Figure 8B does show rejection window 170.

Q When the valid window 174 moves, does the rejection window 170 also move accordingly?

A In Figure 8A the valid window and rejection window are shown. In Figure 8B the valid window and rejection window are shown after the receipt of the lost message and Packet No. 7. And what Figure 8B

shows relative to Figure 8A is that the rejection window and the valid window have been updated to a new position.

Q In Garrabrant can the valid window be updated without updating the rejection window?

A Whether or not that's possible, I don't know. What Column 10 describes is what happens when a lost message and Packet No. 7 are received at the receiver, what happens to both of the windows.

Q Does Figure 8B show the result and the valid and rejection windows upon receipt of Packet No. 7 or upon receipt of the lost message?

MR. MASSA: Object to the form.

MR. SHUMAKER: What's the basis?

MR. MASSA: Compound question.

Q Does Figure 8B show the updating of the valid window and a rejection window after receipt of Packet No. 7?

A Figure 8B shows what happens to the valid window after receipt of -- after Packet No. 7 has both arrived at the destination unit, falls within the valid window shown in Figure 8A, and is accepted by the destination unit.

Q Upon receipt of the lost message by the

Garrabrant receiver, an example we have been discussing, would the valid window shown in 174 of Figure 8B differ?

A What's shown in Figure 8B is what happens to the rejection window when it is updated based on the reception of the lost message in this example and what happens to the valid window when it slides as a result of Packet No. 7.

Q So are you saying that the receipt of the lost message in your opinion moves the rejection window only and the receipt of Packet No. 7 only moves the valid window?

A I am saying what is disclosed in Column 10 is that the rejection window is updated in response to the lost message and the Packet No. 7 causes the valid window to slide. The lost message could additionally affect the valid window, although that's not explicitly stated in Column 10 because the set of sequence numbers associated with the valid window are those that are not associated with the rejection window.

Q So in your opinion does Garrabrant disclose that the receipt of the lost message only affects the rejection window?

A So in my opinion, reading Column 10, the receipt of the lost message causes the rejection window to move, meaning that the rejection window has an updated set of sequence numbers contained within it, and the valid window as disclosed in Garrabrant contains the sequence numbers that are not contained in the rejection window; thus the updating of the rejection window by the lost message has an effect on the valid window.

Q In Garrabrant, upon receipt of the lost message, what is the updated set of sequence numbers in the rejection window?

A So as I have said in my declaration, the lost message is a command that commands the receiver that upon receipt of the next received packet, which is nonconsecutive with the previously received Packet No. 1, should move its rejection window forward and not expect to receive Packet Nos. 2 through 6.

Q So upon the receipt of the lost message in your opinion the rejection window tells the receiver not to expect to receive Packets 2 through 6?

A So in my opinion, which is again stated in the sentence that I quoted just now, the lost message is a command to the receiver that it should move its

rejection window forward and that it should not expect to receive Packet Nos. 2 through 6.

Q Does the lost message have a sequence number?

A Garrabrant doesn't disclose a sequence number specific to the lost message.

Q In your opinion in Garrabrant does the lost message have a sequence number?

A In my opinion the lost message could have a sequence number, although Garrabrant does not say whether or not the lost message has a sequence number.

Q So in your opinion a lost message may not have a sequence number?

A According to Garrabrant, it mentions a lost message but does not mention a sequence number unique to the lost message.

Q In your opinion, one of ordinary skill in the art before reading Garrabrant, would such a person understand a lost message to have a sequence number or not have a sequence number?

A In my opinion Garrabrant does not say whether or not a lost message has a sequence number.

Q So when you read Garrabrant, you just don't

know whether the lost message has a sequence number or not?

A In reading Garrabrant, a lost message may or may not have a sequence number.

Q If a lost message does not have a sequence number, how does a receiver know whether to receive or reject the lost message?

A The receiver using can use standard reception techniques that are understood by persons of ordinary skill in the art to receive the lost message even if the lost message does not contain a sequence number.

Q What standard reception techniques would a person of ordinary skill in the art understand a receiver to use when it receives a lost message that does not have a sequence number?

A So those would be standard receiver technology for physical layer reception of the message, as well as MAC layer reception of the lost message.

Q Give some example of physical layer and MAC layer reception of lost messages.

A So in the Garrabrant patent, the invention relates to communication systems and more

particularly to a method and apparatus for controlling packet radio communication systems. Within the context of a packet radio communication system, physical layer techniques are used in the receiver for receiving transmissions in a packet radio communications system performing the necessary signal processing functions to convert those transmissions into a form in which the medium access control layer of the packet radio communications system can decode messages such as the lost message.

Q I would like to direct your attention to Column 6 of the Garrabrant patent. See the tables in the middle of Column 6 in the Garrabrant patent?

A Yes.

Q And do you see the first table has a column labeled "Command"?

A Yes.

Q And likewise the third table has a column labeled "Command"?

A Yes.

Q Is the lost message disclosed as a command within the tables shown in Column 6 of Garrabrant?

A These tables refer to the contents of control field 80, and these tables which are showing

those commands and responses in control field 80 do not list the lost message.

Q Is a lost message transmitted as a packet?

A Garrabrant does not say whether or not the lost message is transmitted as a packet.

Q In your opinion as a person of ordinary skill in the art is the lost message in Garrabrant transmitted as a packet?

A In my opinion a person of ordinary skill in the art would understand that a lost message could be transmitted as a packet but not necessarily transmitted as a packet.

Q So in your opinion Garrabrant doesn't require the lost message to be transmitted as a packet?

A Correct.

Q Is it true that a packet that falls outside a valid window in Garrabrant is rejected by the receiver?

A What Garrabrant discloses is when a packet arrives at the destination unit and falls within a valid window and is accepted by the destination unit that the valid window position slides.

Q What happens to a packet that falls outside

of the valid window in Garrabrant?

A In Column 9 the Garrabrant patent says, A message received by a unit in a packet radio communication system of the present invention will be rejected unless the number stored in the sequence number field 92 is in the valid window 142.

Q So a packet whose sequence number falls outside of the sequence numbers in the valid window in Garrabrant is rejected; is that right?

A So a message that's received at the receiver whose number stored in sequence number field 92 that is not in the valid window is rejected.

Q Does Garrabrant disclose that repeated copies of a packet can be forwarded or retransmitted within the system?

A I guess I don't understand your question.

Q Does Garrabrant include repeaters?

A Garrabrant does disclose at least first and second repeaters 104 and 108.

Q Do the repeaters transmit repeated copies of packets?

(Pause)

MR. MASSA: I object to the question as outside the scope of his declaration which might

be some reason for the delay here in answering your question. I am sure you may try to tie it up somehow, but I don't think he has opined on this topic.

(Pause)

A So what Garrabrant says in Column 7 is that those skilled in the art will recognize that Figure 5 also implies that transmissions from the BRU 112 to the source 100 will be relayed back through the first and second repeaters 104 and 108.

This passage in Column 7 extending to the top of column eight does not use the word "packets."

Q I would like to direct your attention to Column 8, the last full paragraph beginning around line 51. The sentence states, Each time the message is decremented by one before being transmitted. When a repeater receives a message having a frame 90 in which the repeat count field 96 has been decremented to zero, the repeater will not transmit the frame corresponding to the message.

See that?

A I think you skipped a line.

Q Oh, which line did I skip?

A So starting at line 51, it says, "Each time that the message is repeated by the repeater, the repeat count field 96 of the message is decremented by one before being transmitted. When a repeater receives a message having a frame 90 in which the repeat count field 96 has been decremented to zero, the repeater will not transmit the frame corresponding to the message."

Q Okay. So the first sentence I would like to focus on regarding the repeater, is it your understanding that the repeater will retransmit a frame unless the repeat count for a particular frame is zero?

A So what these two sentences say is that the repeater receives messages and those messages have a frame 90 and which has a repeat count field 96.

Q And does the repeater transmit the frames unless the repeat count field 96 has been decremented to zero?

A So Column 8 of the Garrabrant patent says that when the repeater receives a message having a frame 90 in which the repeat count field 96 has been decremented to zero, the repeater will not transmit the frame corresponding to the message.

Q And if the repeat count in that frame has not been decremented to zero, the repeater will retransmit that frame; is that right?

A What Column 8 says is that the repeater will repeat the message and decrement the repeat count field 96 by one before that message is transmitted.

Q What does repeat the message mean?

A It means that the message that was received by the repeater is transmitted by the repeater.

Q So can a repeated copy of a frame that has been previously rejected by a receiver be there after accepted by a receiver?

A I am not sure I understand your question.

Q Sure.

So let's assume we have a frame that has been rejected by the receiver because a sequence number falls outside of the valid window, okay?

A Are you talking about the Garrabrant?

Q In Garrabrant. So assume in Garrabrant we have a frame that has been rejected by a receiver because the sequence number of the frame falls outside the valid window, okay?

MR. MASSA: Object to the form.

MR. SHUMAKER: What's wrong with the

form?

MR. MASSA: Vague in the sense you are using the word "frame."

Q Doctor Bims, you understand what a frame is in the context of Garrabrant?

A In the context of Garrabrant frames correspond to messages.

Q Do frames also correspond to packets in the context of Garrabrant?

A In the passage in Column 10 to which we were discussing earlier, there is no mention of a relation between frames and packets.

Q Is it your understanding as one of ordinary skill in the art that there is a relationship between frames and packets?

A As a person of ordinary skill in the art reading the Garrabrant patent, it is clear that frames correspond to messages.

Q And not packets?

(Pause)

Q Let me ask another question.

In Column 10 we were discussing about the lost message and Packet 7. Would you consider Packet 7 to be a message in Garrabrant?

A In reading the Garrabrant patent, it is clear that when Garrabrant refers to a message that Garrabrant uses the word "message" and when Garrabrant refers to a packet Garrabrant uses the word "packet."

Q Does Garrabrant also use the word "frame"?

A In the specification of Garrabrant the word "frame" is used.

Q And does the frame refer to a message or a packet?

MR. MASSA: Object to the form.

Q Does the frame correspond to a packet in Garrabrant?

A Frames do correspond to messages in Garrabrant.

Q Messages are distinct from packets in Garrabrant; is that correct?

A In Column 10 Garrabrant discloses a lost message as distinct from the packets disclosed in Column 10.

Q And the lost message is distinct from Packet No. 7; is that correct?

A Yes.

Q Is it correct that a repeater retransmits

frames in the context of Garrabrant?

MR. MASSA: Object. Outside the scope of his declaration.

Also it's about 10:30. Would that be a good time for a break after he answers?

MR. SHUMAKER: Sure.

(Pause)

A In Column 7 of Garrabrant, repeaters transmit signals.

MR. SHUMAKER: Let's take a break.

(Short recess taken)

Q Doctor Bims, I would like to direct your attention to Bims declaration for the 625 patent, Exhibit 1006 of the 636 case. Specifically I would like to direct your attention to Paragraphs 54 through 56, pages 20 to 21 of the Bims declaration for the 625 patent.

Do you see those paragraphs?

A Yes.

Q Within these paragraphs do you opine that Garrabrant in your opinion meets the releasing any expectation of receiving outstanding packets limitation?

A So the limitation in Claim 1 of Garrabrant

that I am referring to in Paragraphs 54 through 56 is the entirety of what is described in Paragraph 54, including not only the release of any expectation but also receiving at least one packet having a nonconsecutive sequence number as part of commanding the receiver.

Q What's your basis for contending that Garrabrant teaches releasing an expectation of receiving outstanding packets having sequence numbers prior to the at least one packet?

A In Paragraph 55 it says that Garrabrant discloses a receiver updating its window in response to the receipt of a lost message.

Q In your opinion when a receiver updates its window in the receipt of a lost message, does that action meet the releasing any expectation of receiving outstanding packets having sequence numbers prior to the at least one packet in your opinion?

A Yes.

Q So if a packet having a sequence number that falls within the valid window of a receiver, for that particular packet the receiver would not release its expectations of receiving that packet; is that correct?

A If the rejection window doesn't move, then expectations are not released for receiving outstanding packets.

Q Does the sequence numbers of the rejection window for a receiver define those packets for which the receiver releases its expectation of receiving in your opinion?

A Within the rejection window there is at least one sequence number corresponding to an outstanding packet.

Q So the sequence numbers of the rejection window for a receiver identify those packets for which the receiver has released its expectations of receiving?

A The sequence numbers that are within the rejection window include at least one sequence number for which there is an outstanding packet.

Q What do you mean by that?

A It means that within the rejection window there is at least one sequence number for a packet that the receiver is expecting to be retransmitted.

Q Is that always the case?

A Within the rejection window that would not always be the case.

Q Is it then your opinion that if a sequence number of a packet falls within a rejection window, the receiver has already released its expectations of receiving that particular packet?

A Within the rejection window would be packets that have either been received correctly or packets that have been discarded because the receiver has released expectations of receiving an outstanding packet.

Q So if a receiver released expectations of receiving an outstanding packet, that corresponding packet would be discarded in your opinion?

A In my opinion the claim doesn't say what happens to an outstanding packet after expectations has been released.

Q But just so I am clear, in your opinion packets whose expectations have been released by the receiver have sequence numbers falling within the rejection window of the receiver?

A Garrabrant does disclose that when expectations for receiving an outstanding packet have been released that the rejection window is moved to include the sequence number for that outstanding packet whose expectations have been released.

Q If a packet has sequence numbers that falls within the valid window of a receiver, has the receiver released expectations of receiving that particular packet?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis for the objection?

MR. MASSA: Vague as to "sequence."

Q Let me ask it again.

So if a packet -- let me start over again.

So assume a packet has a sequence number that falls within the valid window of a receiver. For such a packet would the receiver in Garrabrant release expectations of receiving that packet?

A Garrabrant teaches that a packet whose sequence number falls within the valid window may be an outstanding packet for which the lost message will cause the receiver to release expectations.

Q In your opinion can the lost message cause the receiver to release expectations of receiving a packet whose sequence numbers falls within the valid window of a receiver?

A So if a packet falls within the valid window, its sequence number falls within the valid window, and that packet is an outstanding packet, meaning the receiver is expecting that packet to be retransmitted, Garrabrant discloses that the lost message can cause that packet sequence number to move to the rejection window.

Q And the result of moving the sequence number from the valid to the rejection window is the receiver releasing expectations of receiving that outstanding packet; is that correct?

A The receiver would no longer expect to receive that packet once the rejection window has moved to include the sequence number of that packet.

Q Until the point the rejection window moves to include the sequence number of that packet, the receiver would still be expecting to receive that particular outstanding packet whose sequence number falls within the valid window, correct?

A Correct.

Q I would like to direct your attention to Paragraph 57 of the Bims declaration for the 625 patent. In your opinion does Garrabrant disclose a limitation on the transmitter discarding all packets

for which acknowledgment has not been received and which have sequence numbers prior to the at least one packet?

A Yes.

Q What's your basis for that opinion?

A That comes from the Garrabrant patent, Column 10.

Q What in Column 10 of Garrabrant forms the basis of that opinion?

A The lines starting or the sentence starting at line 18 and continuing through to line 27, that entire -- both of those sentences, in which it says that the rejection window 160 in a circle set of acceptable sequence numbers 162 at a destination unit of the packet radio communication system of the present invention, using the protocol of the present invention, before the rejection window is updated in response to the receipt of a lost message; and then Figure 8B, which is a diagram of a rejection window 170, in the circle set of acceptable sequence numbers 172 at the destination unit after the rejection window is updated in response to the receipt of a lost message.

Q The passage in Column 10, the Garrabrant

patent that you are referring to, relates to the rejection window destination unit, correct?

A Yes, that passage does discuss the destination unit rejection window which, as Garrabrant also teaches, is synchronized to the windows in the transmitter.

Q What's your basis for concluding that a rejection window in a destination unit is evidence of the transmitter discarding packets?

(Pause)

A In Column 10, beginning at line 14, it says that a source unit and a destination unit will allow as many messages as there are in the valid window 142 to become lost while still maintaining synchronization.

Q How does that sentence you just read relate to a transmitter discarding packets?

A Because the term "maintaining synchronization" as it applies to the source unit and destination unit is talking about the windows and the source unit, destination unit being synchronized, including the rejection window, which when synchronized in the transmitter relative to the receiver would cause the transmitter to likewise

discard the packets that the receiver is discarding.

Q So it's your understanding of Garrabrant that if the receiver releases expectations of packets by moving its rejection window, the transmitter would correspondingly change its transmit window?

A No, that's not what I am saying.

What I am saying is that the Column 10 of Garrabrant teaches that the source unit and the destination unit have windows whose synchronization is being maintained, and the way the rejection window in the transmitter is synchronized with the rejection window in the destination unit is when the transmitter or source unit transmits a lost message to the destination unit so that the rejection windows in both the source unit and destination unit maintain synchronization.

Q Is there a corresponding discarding of packets on the transmitter side?

A Once the rejection window has been updated in the transmitter, the transmitter would likewise discard messages that are also being discarded at the receiver.

Q Where does Garrabrant disclose that the transmitter discards messages that the receiver has

discarded?

(Pause)

A So in Column 10 again, the sending device has a fail state which after a user configurable value of maximum attempts to establish communications that it enters, and as Column 10 talks about, the lost message being sent from the source unit to the destination unit, the packets in that fail state are discarded.

Q Does the fail state indicate that the receiver and a transmitter have lost communication?

A So in this fail state it is indicating one of the possible modes of operation in which all of the packets within the valid window are lost.

Q So does the transmitter discard packets only when it enters this fail state condition in your opinion?

A As discussed in Column 10, when the lost message is transmitted from the source unit to the destination unit, the source unit will discard the packet whose sequence numbers have moved from the valid window to the rejection window.

Q Do you discuss this in your expert declaration in Paragraph 57?

A In Paragraph 57 it says, "Lost Packets 2 through 6 would be discarded by having the transmitter move its window forward."

Q Does that situation occur in a fail state situation?

A In a fail state situation, Column 10 discloses that a lost message would be transmitted from the source unit to the destination unit to synchronize their windows and would include synchronizing of the rejection window.

Q So would the result of using Packets 2 through 6 cause the sending device to assume it's in a fail state mode?

A If the window size of the rejection window were such that Packets 2 through 6 had serial numbers that occupied the entirety of the valid window, then there would be a situation in Column 10 where the signalling device would enter a fail state. So, for example, Packets 2 through 6 represent five packets, and if the valid window could only contain four packets, then there are more packets that are lost than can be contained in the receiver's valid window; and according to Column 10, the sending device will assume a fail state after a user configurable value

of maximum attempts to establish communications with the receiver.

Q But in Garrabrant the window is 16, right? It's not four or five; is that correct?

MR. MASSA: Object.

A In this particular example the number 16 is used, but a person of ordinary skill would understand that different numbers could be used for the size of the rejection window as disclosed in Garrabrant.

Q So in Garrabrant when lost Packets 2 through 6 -- Packets 2 through 6 are lost, as discussed in Column 10, and the valid window is 16, as discussed in Column 10, the transmitter would not enter into a fail-state condition merely on the loss of Packets 2 through 6; is that correct?

A In this example in Column 10 where Packets 2 through 6 are lost, meaning five packets in sequence are lost and the valid window size is 16, then the sending device would not necessarily enter into a failed state. However, a person of ordinary skill would understand that the Garrabrant patent teaches that the valid window size is not limited to 16 and can assume other sizes, for example, Size 4, and in such case if five sequential packets are lost, then

the sending device would assume a fail state after a user of configurable value of maximum attempts to establish communications with the receiver.

Q Your Paragraph 57, where you refer to lost Packets 2 through 6, is that based on a rejection window being, like, five, or is it based on the rejection window that's disclosed in Garrabrant 16?

A So in Paragraph 57 I am referring to a portion of Garrabrant in Column 10 in which there is an example of Packets 2 through 6 being lost with the valid window size of 16.

Q The example you are referring to in Paragraph 57, the transmitter would not enter a fail-state condition; is that correct?

A For this particular example the loss of only Packets 2 through 6 would not exceed the number of packets in the valid window, and the sending device may -- it's possible that the second device would not enter a fail state. However, as I said earlier, the valid window size in Garrabrant is not limited to 16, and Garrabrant teaches that other sizes of the valid window are possible, including a valid window size of 4, which would cause the sending device to assume a fail state if five sequential packets were

lost.

Q So what is your complete basis for contending that the transmitter in Garrabrant discards all packets for which acknowledgment has not been received and which have sequence numbers prior to at least one packet?

A As I said earlier, in Column 10 the source unit and destination unit will allow as many messages as there are in the valid window to become lost while still maintaining synchronization, meaning that the windows in the source unit and destination unit are synchronized even when messages are lost; and in Column 10 it goes on to describe how that synchronization is maintained by the source unit transmitting a lost message to the destination unit. And also the destination unit discards messages whose sequence numbers have moved from the valid window to the rejection window.

A person of ordinary skill would understand that Garrabrant is also teaching that the transmitter, which is in synchronization with the receiver, is also discarding packets whose sequence number have moved from the valid window to the rejection window.

Q And your basis for contending that the transmitter discards packets is because the window and the transmitter is synchronized to the window and receiver?

A The rejection window in the transmitter is synchronized with the rejection window in the receiver when messages are lost, and a lost message is transmitted from the transmitter to the receiver.

Q Is that the only time that the transmitter windows synchronize to the receiver window?

A There are potentially other times in which the windows in both the source unit and destination unit are synchronized.

Q And is it your opinion that when the destination unit moves its rejection window, a source unit that's in synchronization with the destination unit would immediately discard packets whose sequence numbers correspond to the new rejection window of the receiver?

A No, that's not what I have previously said.

As I previously said, the windows in the source unit and destination unit are synchronized, and that synchronization is maintained even when messages are lost by the source unit

transmitting a lost message to the destination unit, such that when the destination unit updates its rejection window in response to the lost message, the transmitter rejection window, having also been updated, will be synchronized to the rejection window and the receiver, and both the source unit and destination unit would thereby discard the messages whose sequence numbers have moved from the valid window to the rejection window.

Q In your opinion, in the event that the source unit does not transmit this, quote, lost message, would the source unit updates its window in response to the receiver unit updating its rejection window?

A What Garrabrant teaches, in particular Column 10, is the destination unit updating its window in response to the lost message transmitted by the source unit.

Q My question related to the updating -- relating to your contention that the transmitter updates its window in response to a receiver updating its rejection window.

MR. MASSA: Object.

Q What I --

MR. MASSA: I thought you were done. Object to the form of the question. Misstates his testimony.

Q What I understood you saying -- maybe I am mishearing it -- is that a transmitter can send a lost message to a destination which causes the destination unit to update its rejection window. In response to the updating of that rejection window, the transmitter then discards those packets whose sequence numbers fall within the rejection window.

A No, that's not what I said.

Q I am sorry. What did you say then?

A So what I am saying here is that the windows in the source unit and destination unit need to maintain synchronization even when messages are lost. In the source unit, when a message becomes lost and the transmitter wishes to discard that message or even a set of such messages, that transmitter will issue a lost message which is transmitted to the destination unit so the destination unit can correspondingly adjust its rejection window, thereby maintaining synchronization with the rejection window in the transmitter which is moving as a result of the transmitter's desire to discard its messages.

Q If the transmitter transmits a lost message in your opinion, does that lost message correspond to discarded packets on the transmitter side?

A When a transmitter, as disclosed in Column 10, transmits a lost message to the destination unit, the transmitter is communicating through the lost message that it has discarded packets whose sequence numbers have moved from its valid window to its rejection window.

Q So in your opinion is the transmission of a lost message evidence that the transmitter is discarding packets?

A The transmission of the lost message is commanding the receiver in the destination unit to adjust its rejection window so that that window is synchronized to the rejection window in the source unit.

Q In your opinion is the transmission of a lost message evidence that the transmitter has discarded packets?

A To a person of ordinary skill, once the source unit has transmitted a lost message to the destination unit, that is an indication to a person of ordinary skill that the source unit has discarded

messages whose sequence numbers have moved from the valid window to the rejection window of the transmitter.

Q Where in your declaration do you opine that a person of ordinary skill in the order of a transmission of a lost message to the destination unit is an indication that the source unit has discarded messages?

A In Paragraph 57 of my declaration I state that Garrabrant discloses, B, the transmitter discarding all packets for which acknowledgment has not been received and which have sequence numbers prior to the at least one packet, and the citation is in Garrabrant Column 10.

Q What is the form of the lost message that is disclosed in Garrabrant?

A Garrabrant discloses that the lost message is communicated but does not limit the lost message to a particular form.

Q Does Garrabrant disclose any form of a lost message?

A To a person of ordinary skill in the art leading the Garrabrant patent, various forms of the lost message come to mind.

Q Does Garrabrant explicitly disclose any form of a lost message?

A The Garrabrant patent to a person of ordinary skill in the art does not need to expressly disclose a particular form of the lost message since various forms of the lost message are well understood by persons of ordinary skill in the art.

Q Does Garrabrant explicitly disclose any form of a lost message?

A As I said earlier, Garrabrant does not limit the lost message to a particular form, as persons of ordinary skill in the art understand that the lost message can take a variety of forms.

Q But does Garrabrant itself within four corners of a document explicitly disclose any form of a lost message?

MR. MASSA: Object to the form of the question.

MR. SHUMAKER: What's the basis of the objection?

MR. MASSA: Vague as to what you mean "within four corners of a document explicitly disclose." You know disclosure is what's written and what it means to a person of ordinary skill in the

art. So your question is vague as to whether you are talking about the meaning to a person of ordinary skill in the art or literal words.

Q So my question is, are there explicit literal words in Garrabrant that by themselves describe a form of a lost message?

A As I said earlier, the Garrabrant patent does not limit the lost message to any particular form, and a person of ordinary skill in reading the Garrabrant patent would have various forms in mind for the lost message when reading the Garrabrant patent.

Q Is your understanding of the lost message in the Garrabrant patent based on your knowledge or based on the knowledge of one in the ordinary skill in the art?

A What was the question again?

Q In terms of the Garrabrant patent --

A Yes.

Q -- the form of the lost message, does Garrabrant -- let me ask another question. I think you answered that. I will move on.

(Pause)

MR. SHUMAKER: Exhibit 1003 in the

636 case.

MR. MASSA: This is Exhibit 1007 in the IPR if that's what you intend to mark. I am going by the Bates number on the bottom of it.

MR. SHUMAKER: Okay. My numbering is incorrect. 1007.

(Exhibit 1007-636 marked for identification)

Q I am handing you Exhibit 1007 of the 636 matter. It's the English translation of Hettich diploma paper entitled, "Development and performance evaluation of a Selective Repeat-Automatic Repeat Request (SR-ARQ) protol for transparent, mobile ATM Access."

Have you seen Exhibit 1007 before?

A Yes.

Q Does Hettich disclose a delay command?

A So Hettich discloses a delay PDU.

Q Just so I am clear, when I refer to Hettich in this section I am going to refer to Exhibit 1007 of the 636 case, is that fine?

A Yes.

Q I would like you to turn to page 26 of the Bims declaration in the 636 case, Paragraph 74.

In Paragraph 74 you discuss a delay, PDU delay at data control command; is that correct?

A Yes.

Q In your opinion is the Delay PDU a command that causes the receiver to receive a packet?

A In my opinion the Delay PDU meets the claim limitation in the 625 patent referring to commanding the receiver to receive, two parts of the claim limitation being to receive at least one packet whose sequence number is not consecutive with a previously received packet and with discarding -- with the transmitter discarding all packets for which acknowledgment has not been received.

Q In your opinion does the Delay PDU command also meet the releasing any expectation portion of the claim limitation?

A Yes, the releasing of any expectation of receiving outstanding packets is part of what commanding a receiver accomplishes when the transmitter sends the command to the receiver according to Claim 1 of the 625 patent.

Q How does the Delay PDU command in your opinion meet the releasing expectations limitation of Claim 1 of 625 patent?

A So on page 27 of my declaration, Paragraph 74, it says that, In response, the receiver receives a Delay PDU and stops waiting for cells where the following applies for the number: N less than or equal to RN and stops waiting for packets means releases any expectation of receiving those packets.

Q Does the delay command release any expectations of receiving packets whose sequence number is greater than RN?

A As it says here in the passage I just read from my declaration, The receiver, after receiving a Delay PDU, releases expectations for cells whose number is N less than or equal to RN.

Q So is it correct to say that the Delay PDU command does not cause the receiver to release expectations for packets having sequence numbers greater than RN?

A It is possible that subsequent Delay PDUs would include a requested number greater than the previous Delay PDU, causing messages whose sequence number was greater than the original RN to be released of any expectation of being received at the receiver.

Q I am focused just on the first Delay RN command, okay, so Delay PDU command. When the Delay PDU command is sent and the receiver receives that Delay PDU command, how does that Delay PDU command cause the receiver to receive at least one packet having a sequence number that is not consecutive with the sequence number of a previously received packet?

A For example, if the receiver is waiting for a series of packets with the expectation that those packets would be retransmitted by the transmitter and at the same time the transmitter wishes to discard a portion of that sequence, then the transmitter can send a Delay PDU command to the receiver to move its reception window for that portion of the packets that the receiver is waiting for that correspond to the packets in the transmitter that the transmitter is discarding, and the remainder of the packets that the receiver is waiting for remain within the valid window after the Delay PDU, thus allowing the transmitter to transmit a packet whose sequence number is higher than the packets in the receiver's window that are awaiting retransmission; and that packet would have a sequence number that is not consecutive with a previously received packet.

Q In your example does the Delay RN command release expectations of packets having sequence numbers between RN and the next received out-of-order packet in your example?

A In this example the Delay PDU will release expectations for packets whose sequence number is N less than or equal to RN.

Q Patents whose sequence numbers are between RN and the sequence number of the next received out-of-order sequence packet, for those packets does the receiver release expectations of those particular packets?

A For those packets their sequence number would be within the window of sequence numbers for which the receiver is expecting to receive a packet, so the receiver would expect to receive those packets since they are within the window of packets the receiver is expecting to receive.

Q Does the Delay PDU in Hettich identify any packets that the receiver would expect to receive?

A The Delay PDU in Hettich identifies the highest number of discarded cells. That's what it does.

Q And if there are cells whose sequence

numbers fall between the highest number discarded cell and the next received out-of-order packet, those particular cells -- the receiver would still expect to see those -- would still expect to receive those particular cells; is that correct?

A The receiver would expect to receive the cells that have not been discarded, which would not include cells whose sequence number is N less than or equal to RN.

Q Is it your contention that Hettich meets the limitation of the transmitter discarding all packets for which acknowledgment has not been received and which have sequence numbers to the at least one packet?

A I believe I stated that in Paragraph 75.

Q Is your basis for that contention the existence of the Delay PDU disclosure of Hettich?

A Yes.

MR. SHUMAKER: When do you want to take lunch break?

MR. MASSA: Any time. We have been going for about an hour. It's about ten after twelve.

MR. SHUMAKER: Why don't we stop and

take a break now.

MR. MASSA: Sounds good.

(Luncheon recess taken)

A F T E R N O O N S E S S I O N

DIRECT EXAMINATION, continued

BY MR. SHUMAKER:

(Exhibit 1008-636 marked for identification)

Q Doctor Bims, I am going to hand you a document labeled Exhibit 1008 from the 636 case. It's the translation of the Walke reference.

Have you seen the Walke reference before?

A Yes.

Q And throughout the section of the deposition when I refer to Exhibit 1008 in the 636 case, I am going to refer to the Walke reference, is that fine?

A Yes.

Q Doctor Bims, I would like you to turn to page 28 of the Bims declaration of the 636 case. It's Paragraph 79, page 28.

What I would like to talk about first is in Paragraph 80. You identify a delay command, do you see that?

A The delay message, yes.

Q Delay message.

A Yes.

Q And toward the end of that paragraph on page 30, the second-to-last sentence states, "Walke therefore teaches a command to receive a packet and to release expectations of receiving a previously transmitted packet."

Do you see that? Sorry. It's actually the third-to-last sentence.

A You said page 30?

Q Yes, the very first full sentence on the top of page 30.

A Yes, okay. Got it.

Q To receive a packet --

A Yes.

Q Okay. The command you are referring to there, are you referring to the delay command that you identified earlier in Paragraph 80, the delay message?

A Yes, the delay message disclosed in Walke teaches the command which is described in Claim 1 of 625.

Q Does the delay message in your opinion inform the receiver to release expectations of a single packet?

A It can be used to do that.

Q In your opinion can a delay message inform the receiver to release expectations of more than one packet?

A It can be used to do that as well.

Q Where does Walke disclose the use of a delay command that informs the receiver to release expectations of more than one packet?

(Pause)

A So what Walke teaches in Column 13 is that the window in the receiver is updated based upon having received a delay message which contains the sequence number of the rejected ATM cell, which means that all frames with sequence numbers less than the sequence number contained in the delay message are similarly discarded.

Q Look at the second full paragraph in Column 13 of Walke. Focus on the second-to-last sentence. Actually let me start one sentence before that. It begins with, "The base station control unit."

Do you see that?

A Yes.

Q "The base station control unit therefore

sends an N frame with sequence number 4 which piggybacks the delay one command. This tells the receiver not to wait for anything else on frame one and is able to widen its receive window."

That particular sentence or actually the last sentence I read where it says, "This tells the receiver not to wait for anything else on frame one," does that imply that the delay one command only addresses a single packet, that being frame one?

A Yes, because this sentence is in the context of the paragraph which continues to say, If it, meaning the receiver, acknowledges the receipt of N frames two through five by sending the RR6 frame, the protocol returns to the normal situation.

Q So in the context of the disclosure of Walke we were just looking at, does the delay one command tell the receiver to release expectations of any packet other than frame one?

A These last two sentences of this paragraph describe the context of the receipt of a delay one command, which is that after the delay one command has been received, if the subsequent frames awaiting retransmission have been acknowledged, then the protocol will return to the normal situation in which

there are no pending retransmissions, and for that to happen, it means that all frames with sequence numbers less than the sequence number in the delay command are also discarded if they were awaiting retransmission.

Q But if the receiver does not acknowledge receipt of N frames two to five, then the mere receipt of a delay command wouldn't provide any information as to the discarding of packets other than frame one; is that correct?

A Well, the hypothetical you posed doesn't make sense in the context of the Walke disclosure, because that would imply there are sequence numbers less than what are in the delay command for frames that are still awaiting retransmission. And if that's the case, then acknowledging receipt of frames two through five would not return the protocol to the normal situation.

Q So under this example that you are referring to in Column 13 of Walke, the acknowledgment of frames two through five returns the system to normal situation because there are no outstanding unacknowledged packets with sequence numbers before -- sorry -- before frame one?

A Well, if frames two through five have been acknowledged as having been received, then all frames with sequence numbers five or less have been -- are no longer awaiting retransmission. So that would include frame one and sequence numbers below frame one.

Q But if a packet is no longer waiting for retransmission, does that imply that a packet has been discarded? Is that your testimony?

A No. A packet could enter the state where it's no longer -- where the receiver is no longer awaiting retransmission because the frame has been received correctly.

Q So what is your basis for contending that Walke meets the receive limitation in the 625 patent?

A So in Paragraph 88 I describe what happens when the delay command is received and the effect it has on the receiver as disclosed in Walke.

Q Is Paragraph 88 referring to the discarding limitation that you have addressed in Paragraph 85, or is it referring to the releasing limitation as addressed in Paragraph 82?

A So the discarding limitation described in Paragraph 85 is with respect to the transmitter. The

releasing of expectations limitation in Paragraph 88 is with respect to the receiver.

Q What's your basis if Walke meets the releasing limitation described in Paragraph 82 of your declaration?

A So the basis to support my opinion in Paragraph 82 is described in detail in Paragraph 83 through 89 -- 88 rather.

Q So the basis for your opinion regarding the releasing limitation discussed in Paragraph 82 extends into your discussion of the discarding limitation in Paragraph 85?

A Paragraph 85 is with respect to the transmitter, but as we continue on past Paragraph 85, it describes not only the discarding that happens in the transmitter but also the receiver receiving an out-of-sequence packet which is one of the consequences of receiving the command in Claim 1 of the 625 patent.

Q Okay. Look at Paragraph 83 of your Bims declaration for the 625 patent. The last sentence states, The effect of the delay command is for the receiver to no longer wait on cell one, i.e., to release any expectations.

Do you see that?

A Yes.

Q So Paragraph 83, are you stating the delay command releases expectations for cell one with respect to the receiver?

A In this example the Delay 4,1 command does release expectations in the receiver for receiving a packet with sequence number one.

Q Does the Delay 4,1 command release expectations for the receiver for receiving packets having sequence numbers less than one?

A A person of ordinary skill would understand that to be the case, yes.

Q What's your basis for that?

A As I mentioned earlier in Column 13, it talks about how the protocol returns to the normal situation if additional frames two through five are acknowledged as having been received, and that could only occur if the Delay 4,1 message caused packets with sequence number less than one to also have their expectation of being retransmitted released.

Q That's based on Figure 9 of Walke, correct?

A That's based upon reading Column 13.

Q Which is a discussion of Figure 9 of Walke,

correct?

A Figure 9 is an example that Column 13 talks about as true.

Q So if you look at Figure 9 of Walke, Figure 9 of Walke shows an acknowledgment of packet zero, does it not?

A Yes.

Q So assume that the receiver did not acknowledge receipt of packet zero to the transmitter.

A Okay.

Q Okay. Would the transmission of the delay one command provide any information to the receiver about packet having sequence number zero in that situation?

A If Figure 9 were modified to create a different example, one in which a packet with sequence number equal to zero was not received, then of course the figure itself would be a different figure, but in this hypothetical a Delay 4,1 command being received by the receiver would cause the receiver to release expectations of receiving a packet with sequence number one as well as the packet with sequence number zero.

Q What's your basis for stating that the delay one command in the hypothetical we are talking about, where packet zero has not been acknowledged received by the receiver, what is your basis for your stating that the receipt of the delay one command would release expectations in receiver of both packet zero and one?

A Comes from the last sentence in the paragraph that I just read in which acknowledging the receipt of frames two through five returns the protocol to the normal situation.

Q That last paragraph of that sentence, that sentence you just read, does that assume that packet zero has been acknowledged by the receiver?

A Yes, because this entire paragraph is with respect to Figure 9.

Q So if Figure 9 is modified such that packet zero is not acknowledged -- so that receipt of packet zero is not acknowledged, then could you still make the conclusion that -- let me start -- then would the last sentence of the paragraph we are talking about still hold?

Let me put it differently.

If the example in Figure 9 was modified

such that the receiver did not receive packet zero but the delay one command was sent, would the acknowledgment of delay one command by the receiver release expectations of packet zero?

A According to the description in Column 13, regarding Figure 9 as it appears in the Walke reference, according to that description, it appears that the way the invention works as disclosed, a delay one command would release expectations of not only frame one but frames with sequence numbers less than one, such that if the Walke invention were applied in this scenario, where a frame with sequence number zero was not received, along with a frame with sequence number one having not been received, a delay one command would release expectations in the receiver for frame one and frame zero.

Q Doctor Bims, didn't the expectation of receiving frame zero in Figure 9 of Walke released by the acceptance of frame zero by the receiver?

MR. MASSA: Objection. Now you are no longer in your hypothetical?

Q Talking about Figure 9.

MR. MASSA: Modified or unmodified?

MR. SHUMAKER: Unmodified.

MR. MASSA: It's unclear where you have been talking about unmodified or modified. I want the record to be clear.

Q So Figure 9 as is, after the receiver acknowledges frame zero, does the receiver release expectations of receiving that frame?

(Pause)

A So this question is not something I looked into in creating the opinions in my declaration. It's not clear from reading Walke whether or not at the moment the receiver issues a retransmission -- issues a positive acknowledgment for having received an ATM cell properly, if at that moment the receiver releases expectations or whether that happens at a later point.

Q Okay.

I would like to focus on Paragraph 84 of your declaration. Here you state that a Delay 4,1 command does not literally meet the claim language; is that correct?

A What I say in Paragraph 83 about the Delay 4,1 command is that the receiver no longer waits on the cell. In other words, the receiver releases expectations of receiving sequence numbers

one or below.

Q The receiver doesn't release expectations of receiving Packets 2 and 3, does it?

A From the receipt of the Delay 4,1 command, it does not.

Q And on that basis the releasing limitation of Claim 1 of the 625 patent would not be met literally; is that correct?

A I don't see why not.

Q Well, your second sentence says, "Thus, this example from Walke has a difference with literal language of Claim 1."

What does that refer to?

A So in Paragraph 84 it says, "Packet 4 is consecutive with a previously received Packet 3 in this example, and it releases Packet 1 but does not also release Packets 2 and 3."

So with respect to the releasing expectations portion of the effect of the command, the Delay 4,1 command in this example does literally meet Claim 1.

With respect to the second effect of the command, which is that the subsequent packet have a sequence number that's not consecutive with a

previously received packet, in this example what I am saying is that that part of the command is not literally shown in Claim 1.

Q What part of the command are you referring to that's not literally shown in Claim 1?

A As I explained in Paragraph 84, it's the fact that Packet No. 4 has a sequence number that is consecutive with a previously received Packet No. 3; whereas in Claim 1 of the 625 patent, the subsequently received packet has a sequence number that is not consecutive with a previously received packet.

Q So in your opinion the example you pose in the beginning of Paragraph 84 does not apply to the claim language of the 625 patent?

I guess what I am asking is, is it your opinion that the Delay 4,1 command meets the limitation transmitter and data network commanding a receiver in a data network to, A, receive at least one packet number having a sequence number that is not consecutive with a sequence number of a previously received packet and, B, release any expectation of receiving outstanding packets having sequence numbers prior to at least one packet?

A So it's my understanding what the Walke patent is disclosing to a person of ordinary skill is that both conditions for the Claim 1 limitation regarding the transmitter and the data network commanding the receiver that both conditions of the effect it has on the receiver are disclosed to a person of ordinary skill reading the Walke patent.

Q Does the Delay 4,1 one command as disclosed in Walke meet the limitation that you describe on Paragraph 82 of your declaration?

A So the Delay 4,1 command described in the Walke patent is with respect to a particular example as shown in Figure 9 of the Walke patent.

What I state in Paragraph 84 is that that particular -- in that particular example the subsequently received packet has a sequence number that is consecutive with a previously received packet, which is not what the first condition for the receiver after receiving a command from the transmitter. It does not meet that first condition. However, a person of ordinary skill would understand that Walke applies to more examples than what is shown in Figure 9 and would understand that there are other situations in which the Walke invention and

disclosure would indeed satisfy the first condition and the second condition in the receiver after receiving the command from the transmitter.

Q Using the example disclosed in Walke, is it your opinion that a Delay 2,1 command as opposed to Delay 4,1 would meet the releasing limitation you describe in Paragraph 82 of your declaration?

A As I describe in Paragraph 84, there are alternate examples that come to mind as a person of ordinary skill reading the Walke patent in which the Delay 2,1 message would cause both conditions that are required in the receiver when receiving a command from a transmitter in Claim 1 of 625 to satisfy.

Q Let me turn to Paragraph 87 of your declaration.

The paragraph on the bottom of page 32 to the top of 33, you refer to a Delay n,n-1 command. Do you see that?

A Yes.

Q Is it your contention that a Delay n,n-1 command would meet the receiving limitation for the receiver?

A As I describe in -- it looks like the paragraph number was left off. The paragraph on the

bottom of page 32 extending to Paragraph 88, as I describe therein, the Delay n,n-1 command in Walke has the effect of causing the subsequently received packet to have a sequence number nonconsecutive with the previously received packet, as well as causing the receiver to release expectations of receiving nonacknowledged outstanding packets.

Q Did you provide any other examples in your expert declaration other than a Delay n,n-1 command that would meet the releasing limitation, discarding limitation that you describe in Paragraph 87?

A So when I describe the Delay n,n-1 command in these paragraphs we have been talking about, the Delay n,n-1 refers to any values of n.

In Paragraph 88 the value of n is 2, but for the Delay n,n-1 command the value of n does not have to be 2 but can be any arbitrary number.

Q Assuming n is a variable, arbitrary number, do you contend that any other form of the delay command other than Delay n,n-1 meets the releasing and discarding limitations that you describe in Paragraph 87?

A I mention that a person of ordinary skill would understand that there were a number of

possibilities, and I gave one example here in Paragraph 88, but the range of possibilities is not limited to Paragraph 88 in which n equals 2 in the n,n-1 command.

Q Sir, I am not limiting n to two. I am referring to Delay n,n-1 as a command where n can be a variable. Other than that particular form of the delay command, are you aware of any other delay commands that would meet the releasing and discarding limitations you describe in Paragraph 87?

A So what I described in Paragraph 84 is that one of ordinary skill would have recognized that many possibilities and some would involve receiving a packet that is not consecutive with a previously received packet and would cause a receiver to release expectations of receiving packets below the nonconsecutive packet; that many of such possibilities exist. The Delay n,n-1 set of commands are only a subset of all the possibilities that a person of ordinary skill would understand.

Q Did you disclose in your expert declaration any other possibilities that a person of ordinary skill would understand other than the Delay n,n-1 set of commands?

A In my declaration it was sufficient to simply discuss the Delay n,n-1 set of commands to support my conclusions.

Q So to be clear, your declaration doesn't address any other examples other than the Delay n,n-1 family for meeting the releasing and discarding limitations that you describe?

A So my declaration does indicate that there are a wide range of possibilities within which the Delay n,n-1 set of commands is a subset.

Q But you didn't describe any other possibilities other than that subset of Delay n,n-1, did you?

A Other than that subset I did not disclose the other possibilities that exist to support my opinions.

Q Now with respect to Delay n,n-1, could you give an example of when that particular command would occur?

A So whenever as listed in Paragraph 88, as a particular example, for the value of n equals 2, this shows an example of when that would occur.

Q When would that occur?

A So as it describes in Paragraph 88, After

sending RR 1,X there could be some delay in transmission, e.g., due to Packet No. 1 being the last packet in a burst. In this case, the timer to retransmit would time out as shown in Figure 9 of Walke, and the next packet to be sent could be Packet No. 2.

Q So in your scenario, the transmitter would send Packet No. 1, wait, receive an acknowledgment that Packet No. 1 wasn't received, and then sent Packet No. 2?

A So in the scenario Packet No. 2 would be nonconsecutive with the previously received Packet No. Zero.

Q So if I understand your example, the transmitter would send Packet No. Zero, followed by Packet No. 1, followed by a delay command of 2,1?

A So in this scenario, Packet No. Zero was correctly received by the receiver. Packet No. 1 was not correctly received by the receiver. The Delay 2,1 command was received by the receiver causing Packet No. 2 to be received. The sequence number is not consecutive with the previously received Packet No. Zero.

Q So in your scenario, to make sure I

understand your scenario, your scenario is the transmitter sends Packet Zero, which is received; it sends Packet 1, which is not received; an acknowledgment comes back from the sender that Packet 1 wasn't received; Packet 1 in the transmitter becomes discarded, and then the transmitter sends a Delay 2,1 command. Is that your scenario?

A Yes.

Q So your scenario requires that the transmitter send a Delay 2,1 command immediately after the Packet 1; is that right?

A No.

Q Why not?

A The transmitter in this example could have sent packets with a sequence number higher than 2 that were not received by the receiver.

Q And then so your situation is based on the fact that the higher number sequences, if they are sent, are not received by the receiver?

A That's one possibility within the scope of the example of Paragraph 88.

Q Do you have any other possibilities?

A The other possibility would be that the transmitter did not transmit packets with sequence

numbers higher than 2 prior to the Delay 2,1 command.

Q Which would imply that after the transmitter sends Packet 1, the transmitter waits, gets a retransmission request back from the receiver, and then sends Packet No. 2 as a delay command of 1?

A Not necessarily.

Q What's another possibility?

A As I said previously, any condition in which the transmitter does not transmit a packet after the Delay 2,1 or before the Delay 2,1 command has been received, the transmitter could transmit packets as long as the sequence number is less than 2 and satisfies this paragraph.

Q So you mean transmit packets with sequence numbers less than zero?

A Yes. Those packets could be attempted as retransmissions from the transmitter, and those packets, if not received by the receiver, could cause the transmitter to time out on those packets as well, creating the need for the Delay 2,1 command to be transmitted from the transmitter.

Q Can you think of any other scenarios in your opinion that would meet the discarding and releasing limitations?

A So if the transmitter transmitted packets whose sequence number is less than the sequence number in the Delay 2,1 command and those packets were received by the receiver, then the sequence number in those packets would not be consecutive with Packet No. 2, and as such, in that scenario, the condition of Packet No. 2 not being consecutive with a previously received packet would be satisfied.

Q Any other situations?

A None that come to mind right now.

(Pause)

Q You mentioned a burst in your report. What is a burst?

A Where in the report are you referring?

Q For example, Paragraph 84: For example, after sending RR 1,X there were some delay in transmission, e.g., due to Packet 1 being the last packet in a burst.

What do you mean by "a burst"?

A So what I mean is that a sequence of transmissions from the transmitter that occur in succession followed by a period of inactivity of the transmitter. During that period of inactivity in the transmitter, the timer to retransmit could time out

waiting for a positive acknowledgment from the receiver. But since Packet No. 1 was the last packet to have been transmitted prior to the period of inactivity in the transmitter, the transmitter would designate Packet No. 2 as the next packet to be sent. When the timer expires, however, for the previously transmitted packets in that burst of packets, all of whom have timed out with the timer, expiry, the transmitter would issue a 2,1 command to release expectations for all of the transmissions in that burst.

MR. SHUMAKER: Let's take a break.

MR. MASSA: Okay.

(Short recess taken)

(Exhibits Paper 3-601, 1001-601, 1002-601, 1004-601 marked for identification)

Q Doctor Bims, I am going to move on to the 176 patent, so you can put those exhibits aside. I am going to give you another set of exhibits.

A Okay.

Q First I am going to hand you Paper No. 3 from the 601 case, which is the Petition for Inter Partes Review of U.S. Patent No. 6,772,215.

Next I hand you Exhibit 1001 from the

601 case, which is the 215 patent with Bela Rathonyi as the first inventor.

Next I hand you Exhibit 1002 from the 601 case, which is the Seo Patent U.S. 6,581,176.

Finally I am going to hand you Exhibit 1004 from the 601 case, which is the Declaration of Harry Bims.

Doctor Bims, have you seen Paper 3 and Exhibits 1001, 1002, and 1004 from the 601 case before?

A Yes, the Petition for IPR of the 215, yes.

Q First I would like to direct your attention to the Seo patent, Exhibit 1002 from the 601 case.

Do you contend that the Seo patent, which is Exhibit 1002 in the 601 case, meets the limitation in 215 patent relating to message field including a type identifier field in at least one of the sequence number field, length field, and content field of Claim 1 of the 215 patent?

A Yes.

Q And what's your basis for that contention?

A So my opinion that the claim element that you just described is anticipated by the Seo patent is found in the Seo patent specification in

Columns 1, 5, and 6, and Figure 4.

Q And what do you point to as allegedly meeting the message field including the type identifier field recited in Claim 1 of the 215 patent?

(Pause)

A So the message field of Claim 1 is found in the Seo patent in at least the sequence number fields, including SEQ and NAK_SEQ, the NAK_TYPE field, the First and Last fields, and the NAK_Map_Count, NAK_Map and NAK_Map_SEQ fields, as well as the L_SEQ_HI field.

Q Do all the fields that you just recite from Seo patent relate to a type identifier field?

A As I describe in Paragraph 32 of my declaration, the NAK_TYPE field anticipates the type identifier field in Claim 1 of the 215 patent.

Q In your opinion is the NAK_TYPE field in the header or the payload of the disclosure Figure 4 of Seo?

MR. MASSA: Objection.

A So in my opinion the NAK_TYPE field corresponds to the type identifier field in Claim 1 of the 215 patent.

Q And in your opinion as disclosed in Seo is the NAK_TYPE field under header or payload?

MR. MASSA: Objection.

A In my declaration I did not analyze whether or not the NAK_TYPE field is in a header or payload.

Q You have no opinion as to whether the NAK_TYPE field is in the header or the payload?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis for the objection?

MR. MASSA: It's vague. It's not clear whether you are referring to the disclosure of the patent, a specific example of the patent. It's not clear what you mean by the word "header" or "payload" or what you mean by the word "in." So its's an incredibly vague question.

Q Okay.

A I have no opinion about whether or not the NAK_TYPE field is in a header or payload.

Q So with respect to Figure 4 of Seo, see the NAK_TYPE field in Figure 4 of Seo?

A Yes.

Q That has a length of two bits; is that correct?

A Yes.

Q Do you have an opinion as to whether the NAK_TYPE field as disclosed in Figure 4 of Seo is part of the header or part of the payload?

A I don't have an opinion on that.

Q I would like you to turn to Figure 2 of Seo, please. Figure 2 of Seo is described as representing a diagram embodying a structure of a conventional RLP NAK control frame.

That's found in Column 5, lines 5 through 7. What's your understanding of what Figure 2 discloses, Doctor Bims?

A As it states in the Seo patent, Column 5, starting at line 5, Figure 2 represents a diagram providing a structure of a conventional RLP NAK control frame.

Q What is a conventional RLP NAK control frame?

A That is a frame, according to the RLP protocol, that is a NAK control frame.

Q What is a function of a NAK control frame in the RLP protocol?

A The NAK control frame is part of the radio link protocol within the code division multiple

access mobile radio communications system, and the Seo patent more particularly describes that CDMA radio communication system as being described within the IS-707.2 specification of the protocol as of February 1998 as a relay layer corresponding to a radio section between a terminal device and a base station for the sake of a circuit data service or a packet data service within which the RLP NAK control frame is a frame within that protocol.

Q So my question is what is the function of the RLP NAK -- I will ask again.

What is the function of the RLP NAK control frame as disclosed in Seo?

A In Column 1 of the Seo patent there is some description about the RLP NAK control frame function in which it says, starting at about line 25, a very long sentence, says that the RLP NAK control frame is to ensure the reliability and the missing user data frame will be retransmitted whenever it receives the NAK frame.

Q So what is the function of the NAK control frame in the RLP protocol?

A Well, it says here in this sentence that according to the RLP retransmission procedure, the

RLP NAK control frame for a particular user data frame can be transmitted more than once at the same time to ensure the reliability, and the missing user data frame will be retransmitted whenever it receives the NAK frame.

Q I would like to direct your attention back to Figure 2 of Seo. You see there is a field labeled "First," Figure 2, do you see that?

A In Figure 2 there is a field named "First," yes, I see that.

Q The length of that field is eight bits, do you see that?

A Yes.

Q In Seo does the field labeled "First" in Figure 2 always have a value?

MR. MASSA: Objection.

Q Let me ask it another way.

In a NAK control frame, as shown in Figure 2 of Seo, does the field labeled "First" always have a value in the length -- always have a value in the second column where it says length of eight bits?

MR. MASSA: Objection.

MR. SHUMAKER: What's the objection?

MR. MASSA: Completely unclear question. Are you talking about a value in the field represented by the variable first, or are you talking about the variable first having a property of a length of bits? It's two completely different things, whether you are saying there is a length of that field or whether you are saying there is a number inside of that field in this description.

MR. SHUMAKER: I understand. Fair enough.

Q So, Doctor Bims, with respect to Figure 2, the NAK control frame in Figure 2, does the field "First" itself always have a value?

A Figure 2 in the Seo patent is a figure that is a diagram of the RLP NAK control frame in the background prior art of the Seo patent. In that prior art RLP NAK control frame there is a First field which does contain one value.

Q Does the value of the First field, the value of the First field represent the eight-bit sequence number of a first data frame for which retransmission is required?

A The Seo patent in describing Figure 2 says in Column 2 that the field First represents the

eight-bit sequence number of the first data frame for which a retransmission is required.

Q The next sentence states, The field First is used only in case of a NAK, and its value is 00 except such case.

Do you see that?

A Yes.

Q Do those two sentences mean that the field First represents the eight-bit sequence number unless the value of the field First is zero?

A It says that the value of the First field is zero except for the case in which the value of the First field is used in a NAK.

Q The value of the First frame is used in a NAK. Is that the value represented by the eight-bit sequence number of the First data frame for which retransmission is required?

A So what this paragraph in Seo is saying is that the eight-bit sequence number that the first field represents is used only when this frame is a NAK frame and that the value of that first field is zero otherwise.

Q And similarly the field Last is only used when or is only used in the case of a NAK and its

value represents the sequence number of the last data frame for which retransmission is required; otherwise the value is zero? Is that correct?

A When the field Last is not used in the case of a NAK, its value is zero.

Q If the field Last is used in the case of a NAK, its value represents the sequence number of the last data frame for which retransmission is required; is that right?

A Yes.

Q Let's look at Figure 4 of Seo, please. If we also look at Column 5 of Seo, around line 42, there is a description of Figure 4. Beginning on line 42, Seo recites, "Figure 4 is a table showing the structure of a RLP NAK control frame in the present invention."

The next paragraph states, "Referring to Figure 4, two new fields NAK_SEQ and RE_NUM are added to the existing RLP NAK control frame considered for a backward compatibility."

See that?

A Yes.

Q In your opinion what do you believe the term "existing RLP NAK control frame" refers to?

A It refers to the conventional RLP NAK control frame.

Q Is that the conventional RLP NAK control frame shown in Figure 2?

A Yes, that would be the conventional RLP NAK control frame shown in Figure 2.

Q As we just discussed, the conventional RLP NAK control frame in Figure 2, the First and Last fields either have a value of zero or the respective First and Last sequence numbers if retransmission is required; is that correct?

A That's slightly different than what the Seo patent says with respect to those two fields.

Q Doesn't the Seo patent say with respect to those two fields that the First field has a value of zero unless a NAK control frame exists, in which case the First field includes the sequence number of the first data frame for which retransmission is requested?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis for that?

MR. MASSA: It misstates the document. You said, Is that what Seo says? It

doesn't say that.

Q What does Seo say then?

A Well, Seo in Column 2 makes it clear how it's describing the First field and the Last field as shown in Figure 2 of the patent.

Q In the context of the First field in Figure 2, Seo states that the First field is used only in the case of a NAK and its value is zero except such case; is that right?

A Yes.

Q Going to Figure 4, is the First field of Figure 4 also only used in the case of a NAK and its value is zero except such case?

A The Seo patent doesn't describe that scenario for the First and Last fields of Figure 4.

Q Given that line 42 of Column 5 of Seo -- given line 44 of Column 5 states, "Referring to Figure 4, two new fields NAK_SEQ and RE_NUM are added to the existing RLP NAK control frame considered for a backward compatibility," would that suggest that the interpretation of the First and Last field in the conventional RLP NAK frame would apply to the interpretation of the First and the Last field in the modified RLP frame shown in Figure 4 of Seo?

A No.

Q Why not?

A Well, for at least a couple of reasons, the first of which is that lines 44 through 46 of Column 5 do not describe all of the added fields in Figure 4 with respect to Figure 2; and, secondly, in Figure 4 the First and Last fields are 12 bits in length, and in Figure 2 the First and Last bits -- First and Last fields rather are eight bits in length. So those fields have been modified in upgrading from Figure 2 to Figure 4.

Q How would Seo maintain backward compatibility as described in line 46 of Column 5 with respect to the NAK control frame as shown in Figure 4?

MR. MASSA: Objection. Beyond the scope of his declaration.

A I did not look into that issue in reaching my opinions, as stated in my declaration.

Q Did you give any weight to the disclosure in Seo relating to backward compatibility of Figure 4 when making your opinions regarding Seo?

A In reading lines 44 through 46 of Column 5 in Seo, there is no mention of the First and Last

fields of Figure 2 with respect to the statement about backward compatibility.

Q What does backward compatibility mean to one of ordinary skill in the art?

A Well, generally speaking, backward compatibility means that legacy devices can continue to operate in an upgraded system.

Q Would that imply that a legacy device that's using the NAK control frame in Figure 2 would be able to operate on a frame shown in Figure 4 of Seo?

MR. MASSA: Objection. Beyond the scope of his declaration.

A Seo does not say whether or not that's the case.

Q One to one of ordinary skill in the art, backward compatibility would mean that the legacy device would continue to operate in the upgraded system; is that right?

MR. MASSA: Objection.

A That's what I said earlier, yes.

Q I would like you to turn to Figure 4 of Seo. In your opinion does the NAK control frame in Figure 4 have a header?

A I don't believe I analyzed that question, as

it's not material to reaching opinions that I have stated in my declaration.

Q You have no opinion whether or not the NAK control frame in Figure 4 includes a header?

A I did not look into that issue in reaching the opinions in my declaration.

Q Are you aware of any frames that do not include a header?

A In what context?

Q Any context.

A Well, there are certain types of frames that do not have a header.

Q In the context of the RLP protocol, are you aware of RLP frames that do not have a header?

A I will have to research the RLP protocol version as disclosed in the Seo patent to determine whether or not in that version of the RLP protocol specification there are any frames that contain or do not contain a header.

Q You have no opinion as you sit here today as to the answer to that question, do you?

A I have not analyzed that question to reach any of the opinions in my declaration.

Q Looking back to Figure 4, does the NAK

control frame in Figure 4 of Seo disclose a length field?

(Pause)

A It's possible.

Q How so?

A It appears in Figure 4 that in between the listings of fields in Figure 4 that there are gaps in the table listing. A person of ordinary skill would understand that this means that Figure 4 is not necessarily an exhaustive list of all fields in the message and that there could be additional fields appearing in the gaps.

Q So it's your contention that the gaps shown in Figure 4 represent potential additional fields?

A That is a possibility.

Q What would those potential additional fields relate to?

A That's not disclosed by Seo.

Q Does Seo discuss any potential additional fields that may be included in that control frame, Figure 4?

MR. MASSA: Objection. Vague.

A So what Seo does say with respect to the NAK control frame in Column 8 is that it will be apparent

to those skilled in the art that various modifications and variations can be made in the control frame and user data frame transmitting method of the present invention without deviating from the spirit or scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalence.

Q Is that the only place in Seo that you believe teaches or discloses that the NAK control frame in Figure 4 could include additional fields?

MR. MASSA: Objection. Vague.

MR. SHUMAKER: What's the vagueness?

MR. MASSA: It's not clear whether you are asking him for additional types of fields or additional ones of the fields that are disclosed, for example, substantiations of those.

A The Seo patent, in describing the features of its invention, describe the modified NAK control frame in ways that cover Figure 4 or go beyond Figure 4 to cover other variations of the NAK control frame.

Q Which sections of Seo are you referring to?

A In Column 6 there is described the existence of the NAK_Map_Count field.

Q In the case of a NAK control frame in Figure 4 of Seo in which the NAK type is 00, in your opinion what fields of Figure 4 would be present in that scenario?

A As Column 6 describes, if the value of the field NAK type is 00, then at least the First, Last, FCS, and Padding fields would exist.

Q In the case of a NAK type 00, does the NAK_Map_Count field exist?

A It is possible.

Q Similarly in the case of a NAK type 00 does the NAK_Map field exist?

A It is possible.

Q What's your basis for saying, "It is possible"?

A The Seo patent in Column 6 does not preclude the existence of the NAK_Map_Count field or the NAK_Map field when the NAK_TYPE field value is 0.

Q So it is your opinion that Figure 4 of Seo may or may not include the NAK_Map_Count field and NAK_Map field in the case of a NAK_TYPE of 00?

A It's my opinion that the fields listed here

in Column 6 as existing when the NAK_TYPE field is set to 0 is not a complete list of all fields that would be present when the NAK_TYPE field is set to 0, and that being the case, there are additional fields that are possible to be present.

So, for example, at the beginning of Figure 4, there are fields not mentioned in this portion, such as the SEQ field and the CTL field and the RE_NUM field that are not mentioned for either Type 0 or Type 1 of the NAK_TYPE field and thus could be present under either scenario. Given that, there is nothing precluding additional fields listed in Figure 4 from being present when the NAK_TYPE field is either 0 or 1.

Q I would like to draw your attention to the PADDING field. Do you see that on Figure 4 of Seo?

A Yes.

Q And it states, "Variable," do you see that?

A Yes.

Q Is this PADDING field present when the NAK_TYPE is 00?

A So Column 6 of Seo says that when the NAK_TYPE field value is 00 that the PADDING field exists.

Q Does the PADDING field exist when the NAK_TYPE value is 01?

A That's possible.

Q Is it possible it also does not exist?

A The Seo patent does not limit one way or the other whether the PADDING field must exist or must not exist when the NAK_TYPE value is 1.

Q What's the purpose of the PADDING field in Seo?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis?

MR. MASSA: Well, beyond the scope of his declaration. Also if you are asking the purpose of Mr. Seo including a PADDING field, you probably should ask Mr. Seo.

MR. SHUMAKER: Let me ask another question.

Q What's the function -- as a person of ordinary skill in the art, what would you interpret the function of the PADDING field disclosed in Seo Figure 4 to be?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis?

MR. MASSA: Beyond the scope of his

declaration.

A I don't believe that Seo describes the function of the PADDING field as described in Figure 4.

Q Do you have any understanding as a person of ordinary skill in the art what the function of a PADDING field in the context of a frame such as Figure 4 would be?

A Figure 4 is a drawing of the present invention of the Seo patent. Seo, in describing the invention, did not describe the function of the PADDING field, so I have no conclusion about the function of the PADDING field in Figure 4.

Q A person of ordinary skill in the art would also not make any conclusions as to the function of the PADDING field in Figure 4; is that right?

A In reaching the opinions in my declaration the function of the PADDING field was not necessary for my analysis.

Q Let's draw your attention to Column 6 of the Seo patent. Beginning on line 4 there is a sentence that begins, "A field, padding." Do you see that?

A Yes.

Q "A field, padding, with a variable length is

padding bits and is required to fill the remainder of frames."

See that?

A Yes.

Q What does that sentence suggest to you as a person of ordinary skill in the art?

A So what it suggests is that the padding bit field is variable in length and that if the remainder of the field -- remainder of the frame rather, remainder of the frame is required to be filled, then the padding bits will fill that remainder of the frames.

Q What do you mean by fill the remainder of the frames?

A Well, that means that the frame may include bits which are called padding bits as part of the frame.

Q So in the context of a NAK control frame having NAK_TYPE 00, would the PADDING field always fill the remainder of the frames?

A Column 6 does not say that the PADDING field always fills the remainder of the frames.

Q So with respect to the sentence, "A field, padding, with a variable length is padding bits and

is required to fill the remainder of frames," do you as a person of ordinary skill in the art interpret that sentence to mean that the PADDING field is required to fill the remainder of the frames or not?

A When reading this sentence it says that when the remainder of the frames need to be filled, padding bits are required.

Q Where does the word "when" show up in that sentence?

A In reading this sentence it says that the field, padding, with variable length is padding bits and that field is required to fill the remainder of the frames, which means if the remainder of the frames -- if there is no remainder of the frames, there would be no need, no requirement for padding bits.

Q But in the case of having -- in the case where there is remainder of the frames, then the padding bits are required to fill that remainder of the frames; is that correct?

A In that scenario, yes.

Q Directing your attention back to Figure 4 of Seo, there is two instances of NAK_Map on the bottom of Figure 4.

A Yes.

Q In the first NAK_Map does it include an entry in the column labeled "Length," do you see that?

A Yes.

Q What is the significance of the NAK_Map shown in Figure 4 of Seo in which the column corresponding to the length bits has no value?

A There is no functional difference between the two, the NAK_Map -- the first NAK_Map and the second NAK_Map. They serve the same purpose for different ranges of sequence numbers.

Q Why does Figure 4 disclose one NAK_Map sequence field but two NAK_Map fields?

MR. MASSA: Objection.

Q Let me ask another question.

As a person of ordinary skill in the art, how would you interpret the disclosure of Figure 4 which includes two NAK_Map fields and one NAK_Map sequence field?

A Figure 4 shows that there are two NAK_Map fields that identify missing user data frames for which a retransmission is required.

Q What does the field NAK_Map_SEQ in Figure 4

represent?

A So the Seo patent in Column 6 says the NAK_Map_SEQ field with a length of 12 bits is the 12 bit sequence number of the first data frame in this NAK_Map for which a retransmission is requested.

Q So going back to Figure 4 of Seo, would a person of ordinary skill in the art interpret the existence of two NAK_Map fields as representing two bit maps identifying requests of retransmission of packets?

A The NAK_Map sequence field as described in Column 6 corresponds to, quote, this NAK_Map.

Q In Figure 4 what does, quote, this NAK_Map refer to?

A In Figure 4 that would be the NAK_Map successive to the NAK_Map sequence field.

Q "Successive," you mean the NAK_Map field that's shown immediately below the NAK_Map sequence field?

A Yes.

Q Does the first NAK_Map field in Figure 4 have a corresponding NAK_Map sequence field?

A That NAK_Map sequence field corresponding to the first NAK_Map in Figure 4 is not shown.

Q Would one of ordinary skill in the art expect a NAK_Map sequence field to correspond to a NAK_Map field?

A A person of ordinary skill looking at Figure 4 and reading Column 6 would expect that the existence of the NAK_Map sequence field means that the successive NAK_Map field corresponds to that NAK_Map sequence field.

Q Why do you contend that the successive NAK_Map field corresponds to the NAK_Map sequence field rather than the immediately preceding NAK_Map field?

A Because the NAK_Map sequence field identifies the first data frame in the NAK_Map field for which retransmission is requested, and the very first NAK_Map in Figure 4 does not require a NAK_Map sequence field.

Q Why does it not require a NAK_Map sequence field?

A One of the changes in the Figure 4 control field message relative to the Figure 2 conventional RLP NAK control frame is the addition of the L_SEQ_HI field, H I field, which when combined with the SEQ field forms a 12 bit sequence number equivalent in

length to the 12 bit sequence numbers that appear in the rest of Figure 4, such as the First and Last sequence number fields, as well as the NAK_Map_SEQ field, which is also a sequence number field that is 12 bits long.

Q Where in the disclosure of Seo would one of the ordinary skill of the art understand the interpretation of the SEQ field combined with the L_SEQ_HI field?

A Was that a question?

Q Yes.

A Can you repeat the question?

Q Sure.

(Record read)

A In Column 5, starting at line 62, it says, A field L_SEQ_HI with a length of 4 bits is the most significant 4 bits of L_VS.

Q What is L_VS?

A L_VS is the sequence number stored in the SEQ field of Figure 4.

Q Where is that conclusion disclosed in Seo?

A So in Seo it uses this format of L_V parentheses to indicate a sequence number of a frame. For example, in Figure 5 we see V parentheses N

parentheses to refer to a necessary series number of a frame and V parentheses R parentheses to be a received series number of a frame; and in Column 6 V parentheses E parentheses refers to an estimated series number of a frame.

So in Column 5, the preceding column, L_V parentheses S parentheses refers to a sequence number of a frame.

Q Is that sequence number of the RLP control frame?

A That would be the sequence number in the SEQ field.

Q How does the sequence number to the SEQ field relate to the NAK_Map field?

A The 8 bit sequence number stored in the SEQ field combined with the L_SEQ_HI field forms a 12 bit sequence number of the same length as all of the other sequence numbers in the updated Figure 4 frame and corresponds to the sequence number associated with the first NAK_Map field.

Q What's your basis for that conclusion?

A The first NAK_Map field does not have a corresponding NAK_Map_SEQ field and therefore utilizes the concatenation of the L_SEQ_HI field with

the SEQ field to form the 12 bit sequence number that is used by the NAK_Map field to identify the first sequence number in the bit map.

Q This specification of Seo doesn't equate the combination of the SEQ field and the L_SEQ_HI field with the NAK_Map_SEQ field, does it?

(Pause)

A So in Figure 5, what is described herein, starting in Column 6 for Figure 5, starting at line 42, the example shown is an example in which a single NAK control frame is used to indicate series numbers of frames which are not yet received. Those series numbers are not consecutive; yet they are communicated in one NAK control frame, which means that the NAK control frame of the Seo patent would utilize a NAK_Map to communicate the series numbers which are not yet received.

In this scenario of Figure 5, the NAK_Map would utilize a combined -- an L_VS value as the starting sequence number.

Q The L_VS value is 4 bits in length; is that right?

A No, that's not correct.

Q Okay. So the L_SEQ_HI is 4 bits in length;

is that correct?

A Yes.

Q How long is the L_VS in bits?

A The L_VS value is 12 bits.

Q So is it your contention that the L_VS value is the combination of the SEQ field and the L_SEQ_HI field shown in Figure 4?

A Yes.

Q Is it your testimony that the SEQ field shown in the Figure 4 does not represent the data frame sequence number?

A In what context?

Q Is it your testimony that the NAK control frame shown in Figure 4 does not have a sequence number?

A No.

Q Is it your testimony that the NAK control frame in Figure 4 has a sequence number?

A The NAK control frame in Figure 4 of the Seo patent has a number of sequence numbers contained in it.

Q But does the particular frame shown in Figure 4 of Seo, the NAK control frame, have a corresponding sequence number?

A So your question is a bit ambiguous because in Figure 4 there are multiple sequence numbers disclosed, each sequence number having a correspondence to something.

Q Is Figure 4 is NAK control frame?

A Figure 4 is not the conventional NAK RLP NAK control frame.

Q Is Figure 4 disclosed in Seo a NAK control frame?

A Figure 4 is a NAK control frame of the Seo invention.

Q Does the Seo invention disclose a sequence No. 4, the NAK control frame of the Seo invention?

A In Column 5 of the Seo patent it says that the field NAK_SEQ with a length of 4 bits is a sequence number of a NAK control frame for duplication check.

Q Is there a sequence number for NAK control frame of Figure 4 of Seo that's not related to the duplication check but it is a sequence number for the NAK control frame?

A I believe what I just read was that the field NAK_SEQ is the sequence number of the NAK control frame.

Q What does the SEQ field refer to in Figure 1 of Seo?

A Figure 1 of Seo does not disclose an SEQ field.

Q Figure 4 of Seo, what does the SEQ field in Figure 4 relate to?

A The SEQ field in Figure 4 of Seo relates to the L_V of S value of the frame.

Q Does the SEQ field shown in Figure 4 of Seo have the same meaning as the SEQ field shown in Figure 2 of Seo?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis?

MR. MASSA: Beyond the scope of his declaration.

A So what Seo says about the SEQ field of Figure 4 is that the SEQ field is covered by the FCS compilation, and the SEQ field combined with the L_SEQ_HI field would form the 12 bit L_V of S.

Q I direct your attention to Column 1 of Seo beginning on line 56: Referring to Figure 2 showing a structure of the conventional RLP NAK control frame, it is contructed in the RLP NAK control frame by a data frame sequence number field SEQ with a

length of 8 bits, a control field CTL with a length of 8 bits, a field First with the length of 8 bits, a field Last with a length of 8 bits, a frame check sequence field FCS with a length of 16 bits, and a field, padding, with a variable length.

See that?

A Yes.

Q So this sentence describes the SEQ field as a data frame sequence number field, do you see that?

MR. MASSA: Objection.

A Yes, it says it's a data frame sequence number field SEQ.

Q So is it your opinion of one of ordinary skill in the art reading this particular section of Seo that SEQ field in the context of Figure 2 is a data frame sequence number field?

A Yes, it's a data frame sequence number field, yes.

Q And what does it mean to one of ordinary skill in the art to be a data frame sequence number field?

A Well, Seo distinguishes between data frames and control frames. So a control frame would be a frame such as a NAK, an RLP NAK control frame, and a

data frame would be a user data frame. So the data frame sequence number field SEQ is a sequence number field of a data frame, not a control frame.

Q Now turning to Figure 4, is it your opinion as one of ordinary skill in the art that the SEQ field in Figure 4 is also a data frame sequence number field like in Figure 2?

A No.

Q Why not?

A Because the SEQ field must be concatenated with the L_SEQ_HI field to form the 12 bit sequence number of the Seo invention as listed in Figure 4.

Q What is your basis for saying that the SEQ field must be concatenated with the L_SEQ field to form the L_VS field?

A The L_V of S value has the 4 bits of the L_SEQ_HI field as its most significant bits. The remainder of the L_V of S field comes from the SEQ field in Figure 4.

Q What is your basis for concluding that the remainder of the L_VS field comes from the sequence field in Figure 4?

A Because as shown in Figure 5, as well as in the columns of the Seo specification, starting in

Column 2 and continuing thereon, sequence numbers such as V of N, V of R, and V of E are sequence numbers referring to user data frames, and the notation L_V of S has the similar format to those and would thus be interpreted by a person of ordinary skill to also be a user data frame sequence number.

Q What do you mean by "similar format"?

A V of S is similar to V of N, V of R, or V of E.

Q How are you deciding the similarity?

A Well, in all cases there is a capital V and there is an open and closed parenthesis, and in between the open and closed parenthesis there is a capital letter, whether it's an N or an E or an R or an S, referring to, for example, with a capital N, a necessary series number, a capital E, an estimated series number, and a capital R, a received series number.

Q From that similarity you conclude that the sequence field is the lower 8 bits of the first sequence associated with a NAK_Map?

A From that I conclude that the L_V of S value is 12 bits in length, and it comes from the concatenation of those two fields, the L_SEQ_HI field

and the SEQ field.

MR. SHUMAKER: Let's take a break.

(Short recess taken)

(Exhibits 1001-602, 1002-602, 1006-602, 1009-602, and Paper 2-602 marked for identification)

BY MR. SHUMAKER:

Q Doctor Bims, now we are going to move on to the 602 case, which is related to the 568 patent.

First I am going to hand you Exhibit Paper No. 2 from the 602 case, which is the Petition for Inter Partes Review of U.S. Patent No. 6,466,568.

Have you seen Paper No. 2 before?

A Yes.

Q Next I am going to hand you Exhibit 1001 of the 602 case, which is the Raith U.S. Patent 6,466,568, which I will refer to as the 568 patent.

Have you seen the 568 patent before?

A Yes.

Q Next I am going to hand you Exhibit 1002 of the 602 case, which is the Morley patent, U.S. Patent 5,488,610, the Morley patent.

Have you seen Exhibit 1002 of the 602 case before?

A Yes.

Q Next I am going to hand you Exhibit 1006 of the 602 case, which is the Adams, et al, U.S. Patent 5,541,662.

Have you seen the Adams patent before?

A Yes.

Q And finally I am going to hand you your declaration, which is Exhibit No. 1009 in the 602 case, which is the Bims declaration in the 602 case.

I assume you have seen that one before as well, right?

A Yes.

Q First I would like to direct your attention to the 568 patent, which is Exhibit 1001.

What does the term "service type" mean in the context of the 568 patent to a person of ordinary skill in the art?

A As I have stated in Paragraph 23 of my declaration, a service type identifier identifies the type of payload information.

Q To a person of ordinary skill in the art does a service type identifier identify anything other than the type of payload information?

A As I have said in my declaration, in

columns -- rather Paragraphs 19 and 20, I understand that a Federal District Court construed the phrase "a service type identifier which identifies a type of payload information" to mean an identifier that identifies the type of information conveyed in the payload. Examples of types of information include but are not limited to video, voice, data, and multimedia. I agree with this construction and with the reasons set out in Section 3 of the petition, including my understanding of how a person of ordinary skill would understand the phrase. The file history further confirms this construction.

Q Do you understand the construction that you propose in Paragraph 19 of your declaration to be the broadest reasonable construction of the phrase "service type identifier which identifies the type of payload information"?

A Yes, that is the broadest reasonable construction of a person of ordinary skill.

Q How does the definition that you give in Paragraph 19 relate to the concept of service type?

A Service type is a qualifier of the identifier in that claim term that is being construed by the Federal District Court, which I agreed with,

and I would say examples of the types of information identified by such an identifier would be video, voice, data, and multimedia as examples.

Q So in your opinion as a person of ordinary skill in the art, does the service type identifier identify the type of data conveyed in the payload, or does that identify the type of service associated with the data conveyed in the payload?

A It identifies the type of information in the payload.

Q Does the service type identifier identify any transmission characteristics that the information conveyed in the payload?

A Transmission characteristics such as?

Q Have you ever heard the term "transmission characteristics"?

A Yes.

Q And what's your understanding of the term "transmission characteristics"?

A The term "transmission characteristics" refers to a set of potential characteristics of a physical layer transmission.

Q In your opinion did transmission characteristics relate to characteristics other than

those characteristics of the physical layer transmission?

A Generally when people refer to transmission characteristics they are referring to transmission characteristics of RF or physical layer communication.

Q I would like to direct your attention to the Raith 568 patent, Exhibit 1001 in the 602 case, Column 2, beginning on lines 27, which states, These various types of information communication, open parenthesis, also referred to herein as different services, closed parenthesis, will likely have different optimal transmission characteristics.

See that?

A Yes.

Q What's your understanding as one of ordinary skill in the art as to the meaning of the phrase "transmission characteristics" in Column 2, line 30 of the Raith 568 patent?

MR. MASSA: Objection. Beyond the scope.

A Well, again the phrase "transmission characteristics" is a phrase that was not necessary for me to construe in reaching the opinions that I

have stated in my declaration. I just stated previously what the ordinary meaning of transmission characteristics would be.

Q Does service type, to one of ordinary skill in the art, refer to the information conveyed in the payload or the type of information communication associated with the payload?

A I think the Federal District Court's construction suggests that the service type refers to the type of information conveyed in the payload.

Q The service type does not refer to information communication?

A The words "information communication" do not appear in the Federal District Court's construction.

Q How would one of ordinary skill in the art construe the term "services" in the context of the 568 patent as described in Column 2, lines 28 through 30 of the 568 patent?

MR. MASSA: Objection. Beyond the scope.

A Column 2 of the 568 patent says, These various types of information communication, also referred to herein as different services, will likely have different optimal transmission characteristics.

Q What does the term "services" mean to a person of ordinary skill in the art in the context of the 568 patent?

MR. MASSA: Objection. Outside the scope.

A That's an analysis that I did not perform in reaching the opinions in my declaration.

Q Does the 568 patent equate various types of information communication with services at lines 27 through 28 -- 27 -- at lines 28 and 29 of Column 2?

A In lines 28 and 29 of the 568 patent at Column 2 it says that various types of information communication are also referred to herein as different services.

Q So would one of ordinary skill in the art understand "different services" to mean various types of information communication in the context of 568 patent?

MR. MASSA: Objection. Outside the scope.

A Again I have not reviewed the entirety of the 568 patent for the purpose of answering that particular question. You have pointed to two lines in the specification which read, These various types

of information communication, also referred to herein as different services, but those are two lines within the entirety of the body of the 568 specification and file history and claims.

So without performing an analysis on the construction of the words "services," taking all of that into account, I am not ready to offer an opinion on what the construction of services term would be to a person of ordinary skill.

Q When you determined your construction of the phrase "service type identifier," did you consider the excerpt in Column 2 of the 568 patent describing various types of information communications different services?

A I considered the construction of the Federal District Court to the phrase in the claim a service type identifier which identifies a type of payload information. That's the phrase that I adopted as a construction offered by the Federal District Court for understanding the claim.

Q Did you do any independent analysis to determine the construction of the service type identifier in the context of the 568 patent beyond adopting the construction proposed by the District

Court?

A I did perform an analysis of the phrase "a service type identifier which identifies a type of payload information" to understand what a person of ordinary skill would believe would be the broadest reasonable interpretation of that phrase as it appears in the claim, and my conclusion is that phrase as it appears in the claim as the broadest reasonable interpretation to a person of ordinary skill to mean an identifier that identifies the type of information conveyed in the payload, with examples of types of information including but not limited to video, voice, data, and multimedia.

Q In determining your construction of a service type identifier which identifies a type of payload information, did you consider the disclosure in the 568 patent, Column 2, lines 28 through 30, which state that these various types of information communication also referred to herein as different services will likely have different optimal transmission characteristics?

A I did read that portion of the specification, yes.

Q And did you consider that portion of the

specification in forming the broadest reasonable construction of the phrase "service type identifier which identifies type of payload information"?

A Yes, I did consider this portion of the specification along with the rest of the specification before reaching a determination of the broadest reasonable interpretation of that claim phrase.

Q Is the concept of a service reflected in your broadest reasonable construction of the phrase "service type identifier which identifies type of payload information"?

MR. MASSA: Object to the form.

MR. SHUMAKER: On what basis?

MR. MASSA: Vague as to what do you mean by the concept being reflected in something?

A I have no idea what you mean by concept of services. It seems very vague to me.

Q Do you know what the word "service" means in the context of service type identifier?

MR. MASSA: Objection. Beyond the scope.

A I understand what the claim phrase we have been discussing means in the context of the 568

patent claims.

Q In your construction of a service type identifier as an identifier that identifies a type of information conveyed in a payload, examples of types of information include but are not limited to video, voice, data, and multimedia. Is it correct that you equate a service type identifier with identifying the type of information conveyed in the payload?

A I would say it's a service type identifier which identifies a type of payload information that is an identifier that identifies the type of information conveyed in the payload with the examples of voice, video, data, and multimedia.

Q Is video a type of data?

A Video is one of the types of information.

Q In your opinion video would be a type of information conveyed in a payload?

A Yes, according to the construction that I applied in reaching the opinions in my declaration, video is one of the types of information conveyed in the payload.

Q Is video also a type of service conveyed by information in the payload?

MR. MASSA: Objection.

A I have not considered that question in forming the opinions that I have expressed in my declaration.

Q You have no opinion as to whether voice is a type of service related to information conveyed in a payload?

MR. MASSA: Objection.

A Within the context of the claims of the 568 patent, I have not made a determination about whether or not video is a service.

Q You made a determination as to whether voice is a service?

MR. MASSA: Same objection.

A Similarly I have not made a determination as to whether voice is a service within the context of the claims of the 568 patent.

Q Have you made a determination as to whether data is a type of service within the context of the claims of the 568 patent?

MR. MASSA: Objection.

A No, I have not reached such a determination.

Q Have you made a conclusion as to whether multimedia is a type of service that falls within the claims of the 568 patent?

MR. MASSA: Objection.

A I have not made such a determination in the context of the claims of the 568 patent.

(Pause)

Q Have you heard of the concept of a service outside of the claims of the 568 patent?

A Again your question is about the concept of a service which seems to be a very vague question to me.

Q In what sense?

A The concept of a service seems to be a very vague phrase. "Service" is vague.

Q Have you heard of the term "service" outside of the claims of the 568 patent?

A Yes.

Q What's your understanding of the term "service"?

MR. MASSA: Objection. I got my car serviced the other day.

A The term "service" has a wide variety of meanings outside the context of the 568 patent.

Q In the context of wireless communication information have you heard the term "service"?

MR. MASSA: Objection.

A In the context of wireless communication of information and outside the context of the 568 patent, I have heard of the term "service" used.

Q How have you heard of "service" used in the context of information communication outside of the context of 568 patent?

A So outside of the context of the 568 patent I have heard of the term "service" applied in a wide variety of ways.

Q But in the context of the 568 patent you have never heard of the term "service"? Is that correct?

MR. MASSA: Objection.

A Within the context of the 568 patent it was not necessary for me to construe the broadest reasonable interpretation of the word "services" in particular in order to understand the claims of the 568 patent and to perform the analysis that I performed and to reach the conclusions that I have expressed in my declaration.

Q Are you aware of the term "service" in the context of the 568 patent?

A I have seen the word used in the 568 patent specification.

Q What's your understanding of how the term "service" is used in the 568 patent specification?

MR. MASSA: Objection.

A In reading the 568 patent specification, it was not necessary for me to construe the term "services" in particular in order to reach the opinions that I have expressed in my declaration.

Q As one of ordinary skill reading the 568 patent, how did you interpret the term "service" in the context of the 568 patent?

MR. MASSA: Objection.

A As I said, in reading the specification of the 568 patent, interpreting the word "services" with its broadest reasonable interpretation was not something that I performed in reaching the opinions expressed in my declaration.

Q In reaching opinions expressed in your declaration you did not interpret the term "service" in regards to the 568 patent; is that correct?

A As I said earlier, in reading the 568 patent and forming the opinions that I formed in my declaration, it was not necessary for me to reach a construction of the broadest reasonable interpretation of the word "service" in order to

perform the analysis that I performed.

Q Did your broadest reasonable construction provide any meaning to the words "service type"?

A Well, as I said, I reached a conclusion as to the broadest reasonable interpretation of the claim phrase as mentioned in Paragraph 19 of my declaration, and that claim phrase includes words such as "service type identifier" in the phrase that was construed.

Q What part of your broadest reasonable construction of the phrase "service type identifier which identifies a payload information" refers to, if at all, the term "service type"?

MR. MASSA: Objection.

A Well, again the claim phrase that I construed to have its broadest reasonable interpretation is a service type identifier which identifies a type of payload information. I believe you left out the word "a type of." That's the phrase that I construed.

Q Would the construction of the phrase "identifier which identifies a type of payload information" have any different construction than the phrase "a service type identifier which identifies a

type of payload information" in the context of the 568 patent?

MR. MASSA: Objection.

A I am sorry. You are comparing that phrase from the claim to another phrase?

Q Yes.

So my question is, taking your phrase, "a service type identifier which identifies type of payload information," if we remove the words "service type" and were left with "an identifier which identifies a type of payload information," what would the broadest reasonable construction of that phrase be?

MR. MASSA: Objection.

A I haven't considered such a scenario.

Q Is the phrase "an identifier which identifies the type of payload information" broader than the phrase "a service type identifier which identifies a type of payload information"?

MR. MASSA: Objection.

A It has less words in it. Whether it's broader or not is not something that I have considered.

Q Does the answer to whether it's broad or not

depend on whether the term "service type" has any meaning in that particular phrase?

MR. MASSA: Objection.

A It depends on comparing the two phrases in light of the specification of the 568 patent. Such analysis I have not performed to determine which one is broader.

Q So is it your opinion that the phrase "a service type identifier which identifies a type of payload information" could be broader than the phrase "an identifier which identifies a type of payload information" in the context of the 568 patent?

MR. MASSA: Objection.

A Well, as I said earlier, I have not performed an analysis comparing those two phrases to determine which one may be broader than the other, and as such, I have no opinion to offer on that subject.

Q Does your construction found in Paragraph 19 also apply to the phrase "an identifier which identifies a type of payload information"?

MR. MASSA: Objection.

A So the construction that I adopted in performing this analysis was over the entirety of the

phrase that was construed by the Federal District Court.

Q And that entirety of the phrase includes the words "service type," does it not?

A It includes everything written there for the phrase, yes.

Q How does your broadest reasonable construction, that being an identifier that identifies the type of information conveyed in a payload, examples of types of information include but are not limited to video, voice, data, and media, how does that phrase relate to "service type"?

MR. MASSA: Objection.

Q If at all?

A I have not performed that analysis in my reading of the 568 patent to answer that particular question.

Q So is it you have no opinion whether your construction of service type identifier which identifies the type of payload information relates to the phrase "service type"?

MR. MASSA: Objection.

A I have expressed all of my opinions in this declaration, and as I have said earlier, have not

performed an analysis to answer that particular question as it was unnecessary to reach the conclusions and opinions expressed in this declaration.

Q When you formed your broadest reasonable construction of the term "a service type identifier which identifies a type of payload information," did you give meaning to all words in that phrase?

A I gave meaning to all of the phrase when reading the specification in order to determine the broadest reasonable interpretation of the entirety of the phrase.

Q So what part of your construction in Paragraph 19 relates to the words "service type"?

MR. MASSA: Objection.

A The construction of that phrase that was construed by the Federal District Court relates to the entirety of the phrase.

Q As one of ordinary skill in the art can you point to what aspect of your broadest reasonable construction relates to service type?

MR. MASSA: Objection.

A As I said, I have not performed an independent analysis of the term "service type" as it

relates to the construction that I adopted for the phrase as shown in the claim of the 568 patent.

Q That's because your construction doesn't give any meaning to the term "service type," isn't that correct?

MR. MASSA: Objection.

A So the construction that I reached for the phrase takes into account the entirety of the phrase when reaching the broadest reasonable interpretation.

Q How is the phrase "service type" taken into account in your definition?

MR. MASSA: Objection. At this point it's been asked and answered for probably the last half hour. So I am not going to instruct him not to answer, but it would be nice of you to move on. Asking him the same question for pages and pages and pages is going to get you the same answer.

A So as I have said previously, the analysis to construe the claim phrase listed in Paragraph 19 took into account the entirety of the phrase in reaching the broadest reasonable interpretation that was construed in my analysis of the 568 patent.

Q How would a person of ordinary skill in the art construe the phrase "base station" in the context

of the 568 patent?

MR. MASSA: Objection to the extent it's beyond the scope of his declaration.

(Pause)

A So Claim 5 uses the term "base station," and a person of ordinary skill would understand that a base station would include at least a base station as defined by the GSM Transparent Service.

Q Does a base station include a transmitter?

A In the GSM Transparent Service the base station includes a transmitter.

Q Would a person of ordinary skill in the art understand a base station to include a receiver in the context of Claim 5 of the 568 patent?

A So the base station in Claim 5 of the 568 patent would be understood to at least refer to as one possibility the base station of the GSM Transparent Service. Such base station of the GSM Transparent Service would include a receiver.

Q Must a base station in the context of Claim 5 of the 568 patent include a transmitter?

MR. MASSA: Objection.

A The term "base station" as applied in Claim 5 of the 568 patent would be understood by a

person of ordinary skill to include at least a base station of the GSM Transparent Service. Such base station of the GSM Transparent Service includes a transmitter.

Q Would a person of ordinary skill in the art understand that a base station in the context of Claim 5 of the 568 patent would include a receiver?

A So the base station claim term in Claim 5 of the 568 patent would be understood by a person of ordinary skill to include at least the base station of the GSM Transparent Service. The base station of the GSM Transparent Service includes a receiver.

Q Have you ever heard of the term "earth station" before?

A Yes.

Q What is an earth station to one of ordinary skill in the art?

A As a general matter, an earth station would be a fixed station that communicates wirelessly either with mobile or stationary devices or with satellites.

Q Is an earth station different from a base station?

MR. MASSA: Objection.

A An earth station may or may not be a base station as a general matter.

Q What would differentiate an earth station from a base station?

A The way in which it's used.

Q How so?

A For example, if the earth station is communicating with another station that is considered the base station, then the earth station may not be a base station.

Q Under what situations would an earth station be considered a base station?

A It would have to be considered a base station within the context of a specific network architecture in which the earth station is labeled a base station.

Q What do you mean by "the earth station is labeled a base station"?

A Depending on the design of the communication network, the earth station may function as a base station in that particular context.

Q What with respect to design of the communication network would determine whether an earth station functions as a base station or not?

A It depends on the context of the network architecture in which the earth station is deployed.

Q So without knowing the context of the network architecture in which the earth station is deployed, could a person of ordinary skill in the art determine whether an earth station is a base station?

MR. MASSA: Objection.

A As I said earlier, an earth station may or may not be a base station. The context in which the base station or the earth station is used will aid the person of ordinary skill to determine whether or not the earth station is a base station.

Q What do you mean by the context in which the earth station is used?

A The context of the network architecture in which the base station is deployed.

Q What defines the network architecture in which the base station is deployed?

A Well, typically persons of ordinary skill define the context in which base stations are deployed.

Q So does that mean when you read a document that describes the deployment of a base station, you as a person of ordinary skill in the art would

understand whether that base station is an earth station? Let me ask it again. I did that backwards.

You as an person of ordinary skill in the art reading a document describing an earth station, would that provide enough information for you to determine whether that earth station functions as a base station or not?

MR. MASSA: Objection.

A As I said earlier, an earth station may or may not be a base station. An earth station deployed within a particular context of a network architecture would be required information for a person of ordinary skill to understand whether or not an earth station is a base station.

Q Does a satellite television system have a base station?

MR. MASSA: Objection.

A It may.

Q Do all satellite communication devices include base stations?

A Satellite systems in general have a base station.

Q Is that base station also known as an earth station?

A Not necessarily.

Q What is the base station in satellite communication devices?

A The base station in satellite communication systems could be a satellite or could be an earth station or could be another type of station, depending on the network architecture.

Q So in the context of the Adams patent, Exhibit 1006 from the 602 case, what do you contend meets the base station limitation in Claim 5 of the 568 patent?

(Pause)

A So as disclosed in Adams in Figure 1, there is a Satellite Receiver 14 which is communicating with a PC over a transmission line 30, and in that architecture the base station could be the Satellite Receiver 14; it could be the satellite that's not shown in Figure 1, or it could be another station.

Q You said you contend that the Satellite Receiver 14 of Computer 12 and another satellite receiver could all serve or all meet the base station limitation of Claim 5 of 568 patent?

(Pause)

A According to Claim 5 of the 568 patent,

either of those three types of stations in the satellite communications system could be a base station.

Q Let's look at Computer 12 in Figure 1, Adams. Can you point to the transmitter for Computer 12, Figure 1, please?

A You said you are looking for the transmitter of Figure 12?

Q Figure 1 of the Adams patent, Device 12, which you identified as a potential base station.

A Okay.

(Pause)

A I believe what I said in Paragraph 71 is that the Adams reference implicitly teaches a communication station transmitted, rendering it obvious to provide a transmitter for sending the type of data that Adams receives.

Q I understand that. I am focused on the base station limitation which you discuss in Paragraph 76 of your expert report. You identify the Computer 12 as a base station, correct?

A In Paragraph 76 of my declaration I state that Adams discloses transmission of packetized digital data streams over a satellite link, and thus

the transmitter would typically be a base station, as shown in Figure 1, Columns 3, lines 65 through 5, line 22.

Q So where is the transmitter shown in Figure 1 of the Adams patent?

A Regarding Figure 1 of the Adams patent, I go on to say with respect to Adams disclosing transmission of packetized digital data streams over a satellite link, I go on to say that it is well-known in the art that such satellite communications devices include base stations.

Q Your testimony to Figure 1 does not show a transmitter?

A My testimony is that Figure 1 implicitly shows to a person of ordinary skill that there is a base station that is a satellite communications device which includes a transmitter for the transmission of packetized digital data streams.

Q But you contend that that base station is not shown in Figure 1; is that correct?

A It's implicitly shown to a person of ordinary skill.

Q But it's not explicitly shown in Figure 1; is that correct?

A Implicitly, not explicitly, yes.

Q So with respect to that implicit base station, what devices does that base station transmit its information to?

A So what it says in Column 4 of the Adams patent is that the satellite receiver 14 transfers, the received digital data stream packets to the computer system 10 over a communication line 30.

Q Does the satellite receiver 14 communicate with the base station that you contend meets Claim 5 of the 568 patent?

A So as I have stated earlier, the base station in the satellite communications system is implicitly shown in Adams to be any satellite communications device, including satellite receiver 14, a satellite itself, or other satellite station.

Q So do you contend satellite receiver 14 is a base station?

A It is one possibility for a base station satisfying the base station limitation in Claim 5 of the 568.

Q So it's your opinion that satellite receiver 14 satisfies the base station limitation in Claim 5;

is that correct?

A So it's my opinion as stated in my declaration that a satellite communications device includes a base station.

Q So is satellite receiver 14 a base station or not a base station in the 568 patent in your opinion?

A Satellite receiver 14 is one of the satellite communications devices of a satellite communications system.

Q So satellite receiver 14 shown in Figure 1 of Adams, does that satellite 14 -- sorry -- satellite receiver 14 in your opinion meet the base station limitation of Claim 5 of the 568 patent?

A The satellite receiver 14 is one of the satellite communications devices of a satellite communications system, and as such, satellite receiver 14 is one of many possibilities disclosed implicitly in the Adams patent that meets the Claim 5 limitation in the 568 patent of a base station.

Q Satellite receiver 14 is disclosed explicitly in Figure 1, is it not?

A It is shown in Figure 1, that is true.

Q So is satellite 14 as shown in Figure 1 of

Adams a base station that meets Claim 5 of the 568 patent?

A So as I have said, the satellite receiver 14 is one of the satellite communications devices of a satellite communications system, and as such, it is one of the structures that meets the limitation of Claim 5 of the 568 patent with respect to the term "base station."

Q And I guess what I am confused about with your answer is, are you contending that the satellite receiver 14 is part of a larger structure that in combination meets the base station limitation of Claim 5 of the 568 patent, or are you contending that satellite 14 -- satellite receiver 14 shown in Figure 1 of Adams by itself meets the base station limitation of Claim 5 of the 568 patent?

A So what I am saying is that a person of ordinary skill reading the Adams patent, in particular Figure 4 and its accompanying description in the specification, would understand that the satellite receiver 14 is one of many structures, each of which could be the base station of the 568 patent and meet the limitations of Claim 5 of the 568 patent. So each of those structures itself

anticipates the base station term in Claim 5 of the 568 patent.

Q Does satellite receiver 14 have a transmitter?

A A person of ordinary skill would understand that a satellite receiver 14 as shown in the Adams patent would need a transmitter to transmit, to transfer the incoming digital data stream across the communication line 30 to block 10.

Q Does the satellite receiver transmit information -- let me ask another question.

Does satellite receiver 14 shown in Figure 1 transmit information away from the computer 12 shown in Figure 1, or does it only transmit information to the computer?

A When you say "information," that's pretty broad, ambiguous.

Q Let me back up.

Is it your contention that the transmitter, satellite transmitter 14, is the structure that transmits the information data that's been received by the satellite receiver to computer 10?

A I am saying satellite receiver 14 is one of

many structures implicitly disclosed within the Adams patent as meeting the base state limitation of Claim 5 of the 568 patent.

Q Is satellite 14 disclosed in Figure 1 a bidirectional communication apparatus?

MR. MASSA: Object.

(Pause)

A I don't believe that the claims of the 568 patent require a bidirectional communication link, and as such, in reading the Adams patent for the purposes of my analysis, I did not make a determination whether the Adams patent discloses a bidirectional communication with the computer system 10.

Q Do base stations include a transeiver?

A In what context?

Q Have you heard of the term "transeiver"?

A As a general matter, yes.

Q Is a transeiver a combination of a transmitter and a receiver using the same hardware?

MR. MASSA: Object.

A A transeiver need not use the exact same hardware for transmission and reception functions.

Q Is the transeiver a device that transmits

and receives?

A A transeiver would be a structure that performs transmission and performs reception.

Q Do base stations include a transeiver?

A It depends on the context.

Q Are there base stations that do not include a transeiver?

A That is certainly possible.

Q Can you give some examples?

A So, for example, in the early days of paging technology, paging networks would deploy base station towers in various locations throughout a geographic area for the delivery of paging messages to end user devices. Those base station towers did not have the functionality for receiving information from the end user devices.

(Pause)

Q Do you contend that the satellites out in space can also meet the base station limitation of Claim 5 of the 568 patent?

A It's my opinion that a person of ordinary skill reading the Adams patent would understand that the Adams patent implicitly discloses the base station limitation of the 568 patent as being a

satellite communication device within which would be included as one of the possibilities a satellite.

Q Does the Adams reference Exhibit 1006 from the 602 case disclose a service type identifier?

A In my review of the Adams patent, in the process of forming my opinions as expressed in my declaration, I did not construe independently the term "service type identifier," rather I applied the construction of the phrase as construed by the Federal District Court, which includes the term "service type identifier" within the overall context of the claim phrase which I construed when I read the Adams patent.

Q So you have no opinion as to whether Adams discloses a service type identifier as claimed in the challenge claims of the 568 patent?

A So in the review that I performed of the Adams patent, I applied the construction of the broadest reasonable interpretation of the claim phrase that includes service type identifier within the overall phrase that was construed and then read the Adams patent with that broadest reasonable interpretation of that claim phrase in mind when performing the analysis that led to the opinions as

expressed in my declaration.

Q Do you have any opinion as to whether the Adams reference discloses a service type identifier as claimed in the challenge claims of the 568 patent?

MR. MASSA: Objection.

A As I have said earlier, I have reached an opinion with respect to the anticipation of the Adams patent using a construction of a claim phrase that includes the words "service type identifier" within the overall phrase that was construed in the analysis that I performed of the Adams patent.

Q As you sit here today, you have not performed an analysis to determine whether the Adams patent, that being Exhibit 1006 of the 602 case, discloses in your opinion a service type identifier?

MR. MASSA: Objection.

A As I have said previously, the analysis that I performed of the Adams patent was in light of the construction of a claim phrase in the 568 patent that includes the words "service type identifier" within the overall phrase that was construed in my analysis of the Adams packet.

Q Okay. As you sit here today you cannot point to a disclosure in Adams that discloses a

service type identifier; is that right?

MR. MASSA: Objection. This is the last time I am going to let you ask it. You have asked it by my count at least six times in a row.

MR. SHUMAKER: He hasn't answered yes or no.

MR. MASSA: He has given you a complete, full answer probably at least six times in a row. It's harassing at this point. It's also five-thirty. I hope you are done after this because it's a waste of time to keep asking the same question over and over again, which this record will clearly reflect.

The witness can go ahead and answer your question yet again.

A So in performing my analysis of the 568 patent with respect to the question of anticipation, I considered the Adams patent given the construction of a claim phrase in the 568 patent that was given as broadest reasonable interpretation. That claim phrase includes the words "service type identifier," and it's the construction of that phrase that I had in mind when I performed my analysis of the Adams patent to reach the opinions that I have

expressed in my declaration.

Q You contend that Morley, which is Exhibit 1002 of the 602 case, discloses a service type identifier?

MR. MASSA: Objection.

A So when I performed my analysis of the Morley patent with respect to the question of anticipation of the 568 patent, I again had in mind the broadest reasonable interpretation of a 568 patent claim term that includes the words "service type identifier" when performing an analysis as to whether or not Morley anticipates the 568 patent.

Q And what was your conclusion regarding the limitation that included a service type identifier with respect to the Morley reference?

A So as described in my declaration, my conclusion is that the Morley patent anticipates the challenged claims, including Claim 1, which includes the claim phrase that includes the words "service type identifier" which I had construed to have its broadest reasonable interpretation when performing an analysis of Morley to reach the opinions that I have expressed in my declaration.

Q What in Adams could you point to that meets

the limitation that includes the phrase "service type identifier" as used in the challenge claims of the 568 patent?

MR. MASSA: Just to be clear, you are back to Adams now?

MR. SHUMAKER: Correct.

MR. MASSA: Okay.

A So again, when I performed my analysis of the Adams patent with respect to the question of anticipation, I did not separately and independently construe the words "service type identifier" outside of the context of the claim phrase that was construed by the Federal District Court.

Q So in the context of the phrase construed by the Federal District Court that includes the phrase "service type identifier," what disclosure in Adams, Exhibit 1006, did you point to to contend that the particular limitation including the "service type identifier" phrase is met?

A So in reading the Adams patent, I concluded that for the Adams patent that it renders Claims 1 through 6 of the 568 patent to be obvious.

Q How so?

A There is a fairly lengthly discussion of

that in my declaration under the section "Ground 7" which gives the bases for my opinion with respect to Claim 1 starting in Paragraph 68 through Paragraph 72.

Q Do you contend that Adams discloses the limitation a service type identifier which identifies a type of payload information?

A Again I did not perform an analysis of the Adams patent looking specifically at a construction for the words "service type identifier" taken by themselves.

Q Let me try that question again.

Do you contend that Adams discloses the limitation a service type identifier which identifies a type of payload information as found in the challenge claims to the 568 patent?

(Pause)

A In reading the Adams patent, a person of ordinary skill would understand that the disclosures in Adams renders obvious the disclosure of the claim phrase construed by the Federal District Court.

Q So is it your opinion that the phrase service type identifier which identifies a type of payload information is rendered obvious by Adams?

MR. MASSA: Objection.

A So in Paragraph 70 of my declaration it says, The packetized digital data streams received by the satellite receiver 14 include video data packets, audio data packets, and associated data packets. For example, Adams Figure 5, reproduced below, discloses a video packet 80, audio packet 82, and the associated data packet 84, each comprising a packet header and packet payload.

Referring to Figure 5 in Adams, a person of ordinary skill would think it obvious that Figure 5 shows the presence of a service type identifier which identifies a type of payload information as construed to get its broadest reasonable interpretation.

Q I would like to direct your attention now to Morley, Exhibit 1002 in the 602 case.

In your opinion does Morley disclose the phrase "service type identifier which identifies a type of payload information"?

A So in performing the analysis of the Morley patent with respect to Claim 1 of the 568 patent, I have expressed my opinions in my declaration, including in Paragraph 30, where I state that Morley

discloses providing and transmitting at least one first field with a payload and at least one second field with a service type identifier that identifies the type of payload.

Then I go on to show where in Morley that evidence is found in my analysis.

Q And where in Morley is the evidence found in your view that leads you to conclude that Morley discloses a service type identifier which identifies a type of payload information?

A So I go on in Paragraph 30 to discuss the structure of possible mux frames, as shown in Figures 5A through 5G, include voice only, three different types of data, Data 0, Data 1, or Data 2, or various combinations of these services.

Also shown in Column 6, lines 4 through Column 7, line 30, Morley discloses that the mux frames include a header with a frame type that constitutes a service type identifier field that indicates whether the payload of the frame contains voice only, one of three different types of data, Data 0, Data 1, or Data 2, or some combination of these.

Q So in the context of the 568 patent, what is

a service?

MR. MASSA: Objection.

A So in the context of the 568 patent I have not offered a construction for the word "service."

Q What's the service in the context of the Morley reference?

MR. MASSA: Objection.

Q Let me ask another question.

Paragraph 30, second sentence states, The structure of possible mux frames, as shown in Figure 5A through 5G, include voice only, three different types of data, Data 0, Data 1, or Data 2, or various combinations of these services.

That's Paragraph 30 of your declaration in the 568 patent case; is that correct?

A Yes.

Q What did you refer to by the term "services" as the last word of the second sentence of Paragraph 30 of your declaration?

A In Paragraph 30 of my declaration, which you just read, I was referring to the Morley patent.

Q And what does the term "services" refer to in the context of your usage of that term in Paragraph 30 of your declaration of the 568 patent

case?

(Pause)

A So in Column 5 of the 610 patent, which is the Morley patent, it says that, starting in line 31, that the application layer 44 takes pen input from the digitising tablet and codes it into sketching information. It also displays images and sketching on the display. Via the lower layers of the communication stack it communicates changes at the pen and screen interface to a remote voice and data device. In the embodiments described, the application layer communicates with the protocol layer using software messages.

So a person of ordinary skill reading that paragraph would understand that the application layer is employing the services offered by the communications stack to deliver the sketching information, including voice and data information, to a remote device; and continuing down Column 5, it says, As previously stated -- in the next paragraph, As previously stated, the multiplexer generates a composite video and data signal, this composite video and data signal being generated because the application layer is invoking the services of the

communication stack to deliver voice and data to the remote device.

MR. MASSA: I think you misspoke. You said "video" and it said "voice."

A Voice and data, yes.

Q Does the term "services" in Paragraph 30 of the Bims declaration of 568 patent refer to the services offered by the communications stack?

A Right, as expressed in Column 5, the services invoked by the application layer of 44 for voice and data communication passed through the communications stack to the mux, which takes that information and muxes it together into the frames shown in Figure 5.

Q Jumping to the very last sentence of Paragraph 30 of the Bims declaration for the 568 patent, the next sentence states, Voice and data are identified in the 568 patent as examples of service types.

What do you mean by "service types" in that particular sentence at the end of Paragraph 30 of the Bims declaration for the 568 patent?

(Pause)

A So in Column 2 and line 28 of the

568 patent, it says that these various types of information communication, referring to the video or hybrid voice, data, and video described in the previous paragraph, also referred to herein as different services.

Q So is your basis for using the phrase "service type" in Paragraph 30 of your Bims declaration for the 568 patent the description of the term "service" in the 568 patent?

A So in the 568 patent, in this portion of the specification it refers to certain types of information as services.

Q Does the Raith patent refer to certain types of information or certain types of information communication as services?

A It says various types of information communication.

Q Going back to Paragraph 30 again of your Bims declaration of the 568 patent, the second-to-last sentence states, Morley discloses that the mux frames include a header with a frame type that constitutes a service type identifier field that indicates whether the payload or frame contains voice only, one of three different types of data, Data 0,

Datao 1, or Data 2, or some combinations of these.

What do you mean by the use of the phrase "service type identifier field" in that particular sentence?

(Pause)

A In this sentence I was referring to the service type identifier field as described in Claim 1 of the 568 patent as the second field.

Q The second field described in the claims of the 568 patent?

A Yes, Claim 1 of the 568 patent says that providing at least one second field separate from said first field which includes a service type identifier which identifies a type of payload information provided in at least one first field.

Q So your use of "service type identifier field" in Paragraph 30 of the Bims declaration merely refers to the second field recited in the challenged claims of the 568 patent?

A Yes, as recited in independent Claim 1.

Q But you did not independently construe the term "service type identifier," is that correct?

A Correct, I did not perform a construction of simply the words "service type identifier."

MR. SHUMAKER: Okay. I am good. We can stop now.

MR. MASSA: Okay. Do you have more tomorrow?

MR. SHUMAKER: A little bit, not too much.

(Discussion off the record)

(Whereupon the deposition was suspended at 6:00 PM)

C E R T I F I C A T E

I, HARRY V. BIMS, do hereby certify that I have read the foregoing transcript of my testimony and further certify that to the best of my knowledge said transcript is true and accurate (with the exception of the following corrections listed below):

Page	Line	Correction

Dated this ____ day of _____, 2014.
Signed under the pains and penalties of perjury.

_____
HARRY V. BIMS

Sworn to and subscribed before me this _____ day of _____, 2014.

_____
Notary Public
My commission expires:

COMMONWEALTH OF MASSACHUSETTS)

NORFOLK, SS.)

I, DIANE L. McELWEE, Certified Shorthand Reporter and Notary Public in and for the Commonwealth of Massachusetts, do hereby certify that there came before me on the 29th day of May, 2014, at 9:10 AM, the person hereinbefore named, who was by me duly sworn to testify to the truth and nothing but the truth touching and concerning the matters in controversy in this cause; that there was an examination under oath and the examination was reduced to transcript form under my direction and that the deposition is a true record of the testimony given by the witness.

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this deposition is taken; and further that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in the action.

In witness whereof, I have hereunto set my hand and seal this 2nd day of June, 2014.

DIANE L. McELWEE, Notary Public
My commission expires:

January 2, 2015

Volume II
Pages 1 to 15
Exhibits (None)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BROADCOM CORPORATION,
Petitioner,

v.

Case IPR2013-00601
Case IPR2013-00602
Case IPR2013-00636

TELEFONAKTIEBOLAGET L.M. ERICSSON,
Patent Owner.

CONTINUED DEPOSITION OF HARRY V. BIMS, a witness called by counsel for the Patent Owner, taken pursuant to the applicable rules, before Diane L. McElwee, RPR, CM, Certified Shorthand Reporter and Notary Public in and for the Commonwealth of Massachusetts, at the Offices of WILMER CUTLER PICKERING HALE AND DORR, LLP, 60 State Street, Boston, Massachusetts, on Friday, May 30, 2014, commencing at 9:05 AM.

(617) 423-5841
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I N D E X

P R O C E E D I N G S

HARRY V. BIMS, a witness previously identified and sworn, was examined and testified as follows:

DIRECT EXAMINATION, continued

BY MR. SHUMAKER:

Q Good morning, Doctor Bims.

A Good morning.

Q I would like to continue our discussion regarding the 568 patent, which is Exhibit 1001 of the 602 case. I would like to draw your attention again to the Bims declaration, Exhibit 1009 in the 602 case. I would like you to turn to page 9 of your declaration, please, again Exhibit 1009 in the 602 case.

So on the very bottom on page 9 there is a full sentence that begins with, "This header value."

Do you see that?

A Yes.

Q Fourth line from the bottom.

A Yes.

Q The sentence reads, "This header value is a service type identifier field that indicates whether

the payload of the frame contains voice only, one of three different types of data, open paren, Data 0, Data 1 or Data 2, closed paren, or some combination of these services."

Do you see that?

A Yes.

Q When you say "these services," are you referring to voice, Data 0, Data 1, and Data 2 in that particular sentence on page 9 of Exhibit 1009 of the 602 case?

A So with respect to this Morley reference I am referring to the combination of services as I described earlier when I pointed out in Morley where that took place.

Q My question just relates to the basis of these services when your sentence refers to these services, eservices, referring to the excerpt from Morley that you pointed out earlier in this deposition, or do these services refer to the references to voice and different types of data?

A So these services are the services provided by the communications stack to the application layer that are associated with voice and data.

Q So when you used the phrase "these services"

on page 9 of your declaration, Exhibit 1009 of the 602 case, were you not referring to the words voice, Data 0, Data 1, Data 2 in that particular sentence?

A Well, the citation that I give for that sentence starts in Column 6, line 64, running through Column 7, line 22, and turning to that citation it starts by discussing, "Sixteen possible headers for supporting one voice channel and up to three data channels are shown in the table below, with the header value expressed in hexadecimal."

So the services that I describe in the sentence are the channels available to the application layer, one type of channel being a voice channel and another type of channel being a data channel, of which there are three data channels available to the application layer. Those channels are the services that I describe in the sentence.

Q So when you say some combination of these services on page 9 of the Bims declaration, Exhibit 1009 in the 602 case, you are referring to a combination of a voice channel, a Data 0 channel, a Data 1 channel, and Data 2 channel; is that correct?

A As it describes in the Morley patent in the citation that I gave in my declaration, each of the

header types supports a channel, and in fact there is a voice channel that's supported, and there are three different data channels that are supported; and so, for example, Data 0, Data 1, and Data 2 each support a data channel, and some combination of these channels is expressed as a combination of data that is transmitted using these different headers.

Q What is your understanding of a voice channel as you used that term in your previous answer?

A So a voice channel as described in Column 6 of Morley is a channel that one of the headers supports. So the sixteen possible headers support, as it says in Morley, one voice channel and up to three data channels as shown in the table below, which shows on Column 7 the voice header, a data header, and other headers indicating that a combination of voice and data channels are present for that header type.

Q What is a voice channel?

A So as I described in this sentence, a voice channel is a service, and in reading Morley, a service is what is provided by the communications stack to application layer 44.

Q So in the context of a voice channel being a service, what is provided to communications stack 44 in the case of a voice channel?

A Can you repeat that question?

Q Sure.

I understood you to say that a voice channel was a service, and a service is what's provided by the communications stack 44. Is that not what you said?

A I am confused by your question.

(Pause)

Q So I understood in your previous answer regarding voice channel you testified that a voice channel is a service, and in reading Morley, a service is what is provided by the communications stack application layer 44; is that correct?

A Yes.

Q So in the case of a voice channel, what is provided by the communications stack application layer 44?

A The communications stack provides a service to the application layer for the communication of voice information as described in Column 5, lines 31 through 38.

Q So in the context of Column 5, lines 31 through 38, what information is provided by the communications stack that application layer 44 in the context of a voice channel?

A What Morley describes in this column is the communication from the application layer to the communications stack using software messages.

Q In the case of a voice channel does Morley disclose the use of software messages?

A To a person of ordinary skill reading this column, the application layer is communicating with the communications stack, and the application layer communicates using software messages; and it further says, "Via the lower layers of the communication stack it communicates changes at the pen and screen interface to a remote voice and data device."

Q Does a voice channel exist only in a computer?

A That's a fairly generic question. I have not researched all possibilities for where a voice channel might appear.

Q In the context of Morley is the voice channel limited to the computer?

A When you say the "computer," what are you

referring to?

Q Turn to Figure 2 on Morley, please. See a box labeled "PC" in Figure 2?

A Yes.

Q The definition of a computer in Morley.

(Pause)

Q So, Doctor Bims, in the context of Morley, is the voice channel limited to PC?

I guess in the context of Morley is the voice channel limited to the PC shown in Figure 2?

A In my reading of the Morley patent for the purposes of my declaration, I didn't perform an analysis as to whether or not a voice channel is or is not limited to Block 18 as disclosed in Figure 2.

Q Doctor Bims, in your opinion is the term "service" defined by the excerpt of Morley, Column 5, from lines 31 through 38, which is the sentence that begins with, "The application layer 44 takes pen input from the digitising tablet and codes it into sketching information," and continues with the sentence, "It also displays images and sketching on the display. Via the lower layers of the communication stack it communicates changes at the pen and screen interface to a remote voice and data

device. In the embodiments described, the application layer communicates with the protocol layer using software messages."

MR. MASSA: Object to the form.

MR. SHUMAKER: What's the basis for the objection?

MR. MASSA: It's vague. You said is the term "service" defined by their excerpt, and it's unclear what context you are referring to, whether you are referring to the word "service" in the 568 patent or "service" in the Morley patent, the word "service" in general, or some other context.

Q Doctor Bims, I am referring to the use of the term "service" when you used that term in your Bims declaration on page 9 of Exhibit 1009 of the 602 case. My question is, is the term "service" as you used that term on page 9 of the Bims declaration defined by the excerpt in Morley, Column 5, lines 31 through 38?

A So in my declaration on page 9, when I used the word "service," it was within the context of describing the Morley patent, and in the Morley patent a person of ordinary skill would understand that at the citation that I gave supporting that

sentence in which the word "services" appears in my declaration that the Morley patent describes sixteen possible headers for supporting one voice channel and up to three data channels, as shown in the table below, which is shown in Column 7 of the Morley patent.

A person of ordinary skill would understand, given a full reading of Morley, that the voice channels and the data channels described in Morley are services provided to the application layer 44 by the communications stack.

Q So, Doctor Bims, you just testified that a person of ordinary skill would understand given a full reading of Morley that the voice channels and data channels described in Morley are services provided to the application layer 44 by the communications stack. My question is what is the definition of the term "services" to someone of ordinary skill in the art as you used that term in your previous answer?

MR. MASSA: Objection.

MR. SHUMAKER: What's the basis?

MR. MASSA: Asked and answered.

A So in reading of the Morley patent, the

services are what's provided to the application layer 44 by the communications stack for the communication between the application layer 44 and a remote voice and data device. Those services are in the form of a voice channel and up to three data channels which can be in the following table given their own header type or can be combined in various combinations associated with other header types.

MR. SHUMAKER: No further questions.

MR. MASSA: Okay. We will take a quick break.

(Short recess taken)

MR. MASSA: Good morning, Doctor Bims.

THE DEPONENT: Good morning.

MR. MASSA: I have no questions for you at this time.

Thank you for your time.

MR. SHUMAKER: Thank you.

(Whereupon the deposition was concluded at 10:05 AM)

C E R T I F I C A T E

I, HARRY V. BIMS, do hereby certify that I have read the foregoing transcript of my testimony and further certify that to the best of my knowledge said transcript is true and accurate (with the exception of the following corrections listed below):

Page	Line	Correction

Dated this ____ day of _____, 2014.
Signed under the pains and penalties of perjury.

_____
HARRY V. BIMS

Sworn to and subscribed before me this _____ day of _____, 2014.

_____
Notary Public
My commission expires:

COMMONWEALTH OF MASSACHUSETTS)

NORFOLK, SS.)

I, DIANE L. McELWEE, Certified Shorthand Reporter and Notary Public in and for the Commonwealth of Massachusetts, do hereby certify that there came before me on the 30th day of March, 2014, at 9:05 AM, the person hereinbefore named, who was by me duly sworn to testify to the truth and nothing but the truth touching and concerning the matters in controversy in this cause; that there was an examination under oath and the examination was reduced to transcript form under my direction and that the deposition is a true record of the testimony given by the witness.

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this deposition is taken; and further that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in the action.

In witness whereof, I have hereunto set my hand and seal this 2nd day of June, 2014.

DIANE L. McELWEE, Notary Public
My commission expires:

January 2, 2015