

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

Case No.

VIDEO SOLUTIONS PTE. LTD.,
Patent Owner.

IPR2024-00194

U.S. Patent No.
9,204,099

VIDEOTAPED DEPOSITION OF

A.L. NARASIMHA REDDY, PHD

DATE: Tuesday, June 11, 2024

TIME: 9:06 a.m. CDT/10:06 a.m. EDT

LOCATION: Remote Proceeding

Texas A&M University

400 Bizzell Street

College Station, TX 77843

REPORTED BY: Collin Cunningham

JOB NO.: 6744494

Page 6 1 THE REPORTER: Thank you all. 2 Hearing no objection, I will now swear 3 in the witness. 4 Dr. Annapareddy, can you please raise 5 your right hand for me? 6 WHEREUPON, 7 A.L. NARASIMHA REDDY, 8 called as a witness and having been first duly sworn 9 to tell the truth, the whole truth, and nothing but 10 the truth, was examined and testified as follows: 11 THE REPORTER: Thank you. 12 You may begin. 13 EXAMINATION 14 BY MR. VARE: 15 Q Good morning. Do you mind if I refer to you 16 as Dr. Reddy? That's the name that is -- I've seen on 17 your -- the documents. 18 A That's fine. 19 Q Okay. And you do go by Dr. Reddy? 20 A Yes. 21 Q Okay. Could you tell me, Dr. Reddy, where 22 you are located for this deposition? 23 A In College Station, Texas. 24 Q And are you on the campus of Texas A&M? 25 A Yes.	Page 8 1 understand what I'm referring to? 2 A Yes. 3 Q Are you being paid for your testimony today 4 by Cisco? 5 A I'm being paid for my time, yes. 6 Q And were you paid for your time in preparing 7 and putting your opinions in your declaration for 8 purposes of this IPR? 9 A Yes. 10 Q And Cisco is paying you? 11 A I'm not sure if it's Cisco or Haynes and 12 Boone. I don't know what the agreement was. 13 Q Haynes and Boone is the counsel representing 14 Cisco? 15 A Right. 16 Q Have you provided expert testimony for Cisco 17 in the past? 18 A I think I have, yes. 19 Q Do you know how many times you've engaged by 20 Cisco? 21 A I don't remember. 22 Q Is it more than two or three times? 23 A Probably. 24 Q Is it more than ten times? 25 A Probably not.
Page 7 1 Q Are you in a campus building? 2 A Yes. 3 Q And who is in the room with you other than 4 yourself? 5 A Nobody else. 6 Q And what do you have in the room with you? 7 Do you have any documents? 8 A Oh, there is plenty of documents. I have 9 all kinds of textbooks. I'm in my office. 10 Q You're in your office. Okay. Do you have 11 any documents relating to this IPR proceeding? 12 A No. 13 Q And do you have a phone in front of you or 14 beside you? 15 A And I have a phone in my pocket, yes. 16 Q Okay. And I think you said you're the only 17 one in your office at this point in time? 18 A Yes. 19 Q You understand you've been retained and 20 engaged by Cisco to provide testimony in support of 21 Cisco's petition for inter partes review of the U.S. 22 Patent Number 9204099? 23 A Yes. 24 Q And if I refer to that patent that's the 25 subject of the IPR as the 099 patent, you'll	Page 9 1 Q I've seen at least -- I count at least 12 2 times you've provided a declaration in support of an 3 IPR filed by Cisco. Would you have any reason to 4 disagree with that? 5 A I don't know. I don't remember. 6 Q On all of those occasions when you've been 7 engaged by Cisco to provide expert testimony in an 8 IPR, they've all been on behalf of the petitioner 9 Cisco to invalidate a patent; correct? 10 A I'm not sure. I don't remember all the 11 cases, so. 12 Q Do you recall any situation where you've 13 been engaged by the patent owner in an IPR proceeding? 14 A You mean -- I'm fairly sure I have been. 15 Q Do you recall any? 16 A Not at this time. 17 Q Have you ever testified in litigation in 18 court on behalf of Cisco? 19 A I think I have. 20 Q Do you recall what case that was? 21 A I'm trying to remember. This was virtual 22 testimony in Virginia court, I think, if I'm not 23 mistaken. I don't -- I don't remember the plaintiffs 24 or the other party on the other side. 25 Q The plaintiffs Centripetal?

Page 10 1 A Could be, could be. 2 Q Do you recall the first time Cisco hired you 3 to provide expert testimony? 4 A No, I don't. 5 Q Was it more than ten years ago? 6 A I don't remember. 7 Q Do you know how much money let's just say in 8 the last five years Cisco has paid you to provide 9 expert testimony on IPRs or litigation? 10 A I don't know. 11 Q Do you see what's been marked as Reddy 12 Exhibit 1003 in the Exhibit Share? 13 (Reddy Exhibit 1003 was marked for 14 identification.) 15 A Hang on one second. Yes, I see. You want 16 me to open it? 17 Q And is this -- you see the front page? 18 A No, I haven't opened it. Hang on one 19 second. 20 Q Yes, please open it. 21 A Nothing is coming up for some reason. It 22 says downloads are disabled. I don't know why. 23 Q You don't need to -- 24 THE REPORTER: I just tried to -- I 25 just tried to download it, and I was able to download	Page 12 1 prepared on behalf of Cisco for purposes the IPR 2 2024-00194, relating to the 099 patent? 3 A Looks like it. It looks like it. Yes. 4 Q Okay. So I've now presented the next 5 exhibit, which is Exhibit 1001, which is the 099 6 patent. 7 (Reddy Exhibit 1001 was marked for 8 identification.) 9 If you would hit refresh in your Exhibit 10 Share, you should see that pull up. 11 A Okay. I see it. 12 Q Is this the 099 patent that you gave 13 opinions about in your declaration? 14 A -- pull up for some reason. Okay. There it 15 is. Okay. Yes, it looks like it. 16 Q And you're familiar with the 099 patent? 17 A Yes. 18 Q When did you first see or hear about or look 19 at the 099 patent? 20 A I don't remember. 21 Q Do you recall who gave you the 099 patent 22 for the first time? 23 A No, I don't. 24 Q Was it in the context of this particular IPR 25 proceeding? Was that the first time you saw the 00 --
Page 11 1 it just fine. 2 THE WITNESS: Yeah, I can't see the 3 file. 4 BY MR. VARE: 5 Q Do you have Exhibit Share opened? 6 A Yes. I have the thing open, and I see the 7 file, but when I click on it, it doesn't open. 8 Q Are you able to -- or do you see the actual 9 document, or you just see the PDF file name? 10 A I just see the name, PDF file. 11 THE VIDEOGRAPHER: I can only suggest 12 sometimes if you have to hit refresh each time a 13 document comes in there. 14 THE WITNESS: Okay. Now I see it. 15 Yes. 16 BY MR. VARE: 17 Q See the cover page? 18 A Now there are some -- but I only see half of 19 the cover page. 20 Q You can scroll through it. 21 A Yeah, I cannot. That's the problem. It's 22 not -- it's only showing me half the page. I 23 mean -- okay. Maybe -- okay. I see it. Exhibit 24 1003, yes. I see it. 25 Q Yes. Is this the declaration that you	Page 13 1 the 099 patent? 2 A Probably. 3 Q How many times do you think you've read or 4 studied the 099 patent prior to your deposition today? 5 A I don't remember. 6 Q But you believe that you're familiar with 7 it? 8 A I think so. 9 Q Did you meet with anybody to prepare for 10 today's deposition? 11 A I did not meet personally. 12 Q Did you meet remotely with somebody? 13 A Yes. 14 Q Who did you meet with? 15 A Eugene. 16 Q Anyone else? 17 A There was another of his colleagues -- maybe 18 Brett, if I'm not mistaken, his name. 19 Q And when did you meet with -- these are 20 lawyers at Haynes and Boone? 21 A I think so. Right. Both of them. Yes. 22 Q When did you meet with the Haynes and Boone 23 counsel representing Cisco to prepare for today's 24 deposition? 25 A Yesterday.

Page 14 1 Q Prior to yesterday, had you had any meetings 2 to prepare for today's deposition? 3 A No. 4 Q And how long did you meet with Counsel 5 yesterday for purposes of today's deposition? 6 A Maybe about three hours. Maybe less. 7 Q Dr. Reddy, are you aware that Video 8 Solutions, the owner of the 099 patent, has asserted 9 that patent against Cisco in litigation? 10 A I'm not sure. 11 Q Have you reviewed any documents that has 12 been -- have been filed in that litigation? 13 A I don't remember. 14 Q Have you talked to any lawyers for Cisco 15 other than the Haynes and Boone lawyers in preparing 16 your IPR declaration? 17 A No. 18 Q Have you talked to any lawyers for Cisco 19 other than the Haynes and Boone lawyers in preparing 20 for today's deposition? 21 A No. 22 Q Have you studied or reviewed or considered 23 any documents that Cisco has filed or submitted in the 24 litigation involving the 099 patent? 25 A No.	Page 16 1 Q And when was the last time you talked to 2 Kevin Almeroth? 3 A It's been quite a few years. Maybe six, 4 seven years. 5 Q I take it you did not talk to him or email 6 him or have any communications with Dr. Almeroth 7 relating to this particular IPR or the 099 patent? 8 A No. 9 Q Are you aware that Dr. Almeroth also 10 prepared and submitted a declaration on behalf of 11 Cisco in the litigation? 12 A I'm not aware of it. 13 Q And so I take it you haven't seen that 14 declaration? 15 A No, I have not. 16 Q So Dr. Reddy -- 17 THE VIDEOGRAPHER: Sorry to interrupt. 18 Doctor, can you just try to keep your 19 voice up a little bit? You're coming in kind of soft, 20 especially towards the end of your sentences. 21 THE WITNESS: Okay. Will do. 22 BY MR. VARE: 23 Q Dr. Reddy, you would agree that in order to 24 properly analyze and understand the 099 patent and its 25 claims, you must first interpret the claim language?
Page 15 1 Q Are you aware that Cisco has submitted in 2 that litigation proposed constructions relating to 3 certain claims and terms and phrases in the 099 4 patent? 5 A No. I'm not aware. 6 Q You're not aware of that? 7 A No. 8 Q You've not seen any proposed claim 9 constructions submitted or filed by Cisco? 10 A No. I have not seen that. 11 Q Do you know Dr. Kevin Almeroth? 12 A I do. 13 Q And how do you know Dr. Almeroth? 14 A He's a professor at North Carolina. We meet 15 at conferences. 16 Q Are you aware that Dr. Almeroth also has 17 been retained and engaged by Cisco as an expert 18 witness? 19 A No. So I'm sorry -- 20 Q Have you -- 21 A Dr. Almeroth is actually at Santa Barbara. 22 Q Okay. So the answer -- you're not aware 23 that Dr. Almeroth has been retained by Cisco for 24 purposes of the litigation involving the 099 patent? 25 A That's right. I'm not aware.	Page 17 1 A Could you repeat that question? 2 Q You would agree that in order to properly 3 analyze and understand the 099 patent and its claims, 4 you must first interpret the claim language? 5 A We must -- yes. We -- we need to understand 6 the claims. 7 Q And in preparing your declaration, that is 8 Exhibit 1003, did you, in fact, interpret any claim 9 language of the 099 patent? 10 A I've looked through the claims. 11 Q Did you come to any conclusion about how 12 those claims should be interpreted or construed? 13 A I looked through the specification for 14 guidance. 15 Q So the question is, did you come to any 16 conclusion as to whether or not any of the terms 17 needed to be construed? 18 A I think the report says we're going to use 19 ordinary meanings, if I'm not mistaken. Let me pull 20 up the report. 21 Q I'll point you to your paragraphs 35 and 36. 22 A Okay. 23 Q So in paragraph 35 of your expert 24 declaration, you stated that you understand that the 25 claims are to be construed under the so-called

Page 18 1 Phillips standard; correct? 2 A Right. 3 Q And how did you come to learn about this 4 so-called Phillips standard? 5 A I think I've had the help from the attorneys 6 at Haynes and Boone. 7 Q And under the Phillips standard, you 8 understand that the claim terms are given their 9 ordinary and customary meaning, as would be understood 10 by a person of skill in the art in light of the 11 specification and prosecution history? 12 A That's correct. 13 Q And that is at the time of the invention; 14 correct? 15 A That's correct. 16 Q And then you state an exception: Unless the 17 inventor has set forth a special meaning for a term. 18 Do you see that? 19 A Yes. 20 Q Do you have an opinion that in the 099 21 patent that the inventor set forth any special 22 meanings for any of the claim terms that you've looked 23 at? 24 A That's a little broad, and I think we would 25 have to parse that language as we go through it, but	Page 20 1 of the patentability of the challenged claims, no 2 terms require express construction. Do you see that? 3 A Yes, I see it. 4 Q And does that mean that the terms simply 5 take their ordinary and customary meaning, as would be 6 understood by a person of skill in the art? 7 A I think, yeah. The guidance is provided in 8 35. 9 Q And the challenge claims, do you know what 10 claims those are? 11 A I think I've set forth whatever the claims 12 in this report. 13 Q In paragraph 3 of your report -- 14 A Paragraph 3? 15 Q Yeah. You're asked to provide your opinions 16 -- the subject matter of claims 3 through 6 and 10, 17 and those you define as the challenge claims. 18 A I see that, yes. 19 Q So the challenge claims, if I use that term, 20 would refer to claims 3 through 6 and claim 10 of the 21 099 patent? 22 A Okay. 23 Q Do you agree? 24 A Okay. And that -- that seems fine. 25 Q Do you recall in preparing your opinions in
Page 19 1 I -- I look to the specification as much as possible. 2 Q So the question is, do you have any -- do 3 you have an opinion that the inventor, in this case 4 for the 099 patent, had set forth a special meaning 5 for any of the claim terms in the claims that you 6 looked at? 7 A Again, I mean, that's a broad question. I 8 would rather answer that specifically if you had a 9 specific instance you want me to look at. 10 Q Well, do you say in paragraph 35 or 11 paragraph 36, that the inventor set forth a special 12 meaning for any claim term? 13 A I mean, not -- I mean, the -- the paragraphs 14 say what they say. I don't see anything there. 15 Q Okay. And in fact what you do say is the 16 claim terms are given their ordinary and customary 17 meaning unless the inventor has set forth a special 18 meaning for the term, don't you? 19 A Yes. 20 Q And you don't say that the inventor has set 21 forth any particular special meaning in this 22 paragraph, do you? 23 A I don't specify anything here, yes. 24 Q And in paragraph 36, you would agree that it 25 is your opinion that for purposes of your evaluation	Page 21 1 this expert report, whether you looked up any 2 particular claim terms in any dictionary or technical 3 publication? 4 A I've definitely looked through external 5 evidence, and I think there are some supporting 6 evidence that are provided in the report. I don't 7 recall anything specifically done at the time. 8 Q So the answer is, you don't recall looking 9 up any claim terms in any dictionary or technical 10 publication? 11 A I think I've -- what I said is that whatever 12 I've looked up is -- is definitely in the report. 13 Q And if it's not in the report, you didn't 14 consider it? You didn't look it up? 15 A My -- I mean, I have an understanding of 16 a -- POSITA would know, and the ordinary meaning is 17 what I've implied. 18 Q So do you see paragraph 4 of your report? 19 A Yes. 20 Q And it states, "In preparation of this 21 declaration, I have studied," and then you list 22 several documents? 23 A Right. 24 Q None of those documents are technical 25 publications or dictionaries, are they?

Page 22 1 A No. Those seem to be patents. 2 Q And then in paragraph 5, you say, "In 3 forming the opinions, I've considered the documents 4 listed above, the relevant legal standards," your own 5 knowledge and experience based upon work in the field 6 of network communications and security, as well as 7 portions of the following additional materials. See 8 that? 9 A Mm-hmm. 10 Q And the additional materials are listed. 11 Are any of those materials technical dictionaries or 12 technical publications? 13 A Yeah. And the D, Andrew Tanenbaum, 14 "Computer Networks." That's a book -- textbook that's 15 used in the universities. 16 Q Any other technical publications or 17 dictionaries listed in those materials? 18 A I -- I mean, no. The rest of them seem to 19 be patent-related material. And there is a PCWorld 20 article on H, "Facebook Video Calling vs. Google 21 Hangouts." And -- and there's a G that's also a 22 TechCrunch article. 23 Q Anything else? 24 A The rest of them seem to be patents. 25 Q Do you recall asking anyone in preparing	Page 24 1 the context of the specification? I think you said 2 you did that? 3 A Yes. 4 Q And then you look at whether or not the 5 prosecution says anything about the claim terms? 6 A That's correct. 7 Q Do you recall finding anything in the 8 prosecution that informed your opinions about whether 9 or not the claims take their ordinary meaning or some 10 other special meaning? 11 A I don't remember. It's been a while since I 12 looked at it. 13 Q But if you did find anything in that 14 prosecution history that informed your opinions about 15 the meaning and scope of the claim terms, you would 16 have put it in your report? 17 A I -- I don't know. I mean, sometimes I put 18 it in the report, sometimes I don't, but I've 19 definitely looked through the prosecution history. 20 Q So if something in the prosecution history 21 informed your opinions about the claim construction of 22 these terms of the 099 patent, and you didn't put it 23 in your report, we wouldn't know about it, would we? 24 MR. GORYUNOV: Objection to form. 25 A Could you repeat that question?
Page 23 1 your opinions in this report about the meaning of any 2 particular claim term? 3 A No, I don't recall. 4 Q So I think you agreed with me earlier that 5 the claims of the 099 patent are construed under the 6 standards set forth in a case called Phillips; 7 correct? 8 A Yeah, I mean, that's the term that's 9 the -- yeah. Phillips standard is -- yeah. That -- 10 and I've set forth what -- what that means to me. 11 Yes. 12 Q You agree under the Phillips standard you 13 start first by reading the claim language? 14 A Are you asking me for the law? Or -- I'm 15 not sure. I'm not a lawyer, so. 16 Q Is that your understanding, that when 17 you -- under the Phillips standard you start by 18 reading the claim language? 19 A Let me go back and read up my paragraphs, 20 what I've said here. No. It says what the -- the 21 Phillips standard is in paragraph 35. 22 Q You start with the claim language, and it 23 has its ordinary and customary meaning; correct? 24 A That's right. 25 Q And then you look at the claim language in	Page 25 1 Q If you looked at the prosecution history, 2 which you said you did, and there was something in the 3 prosecution history that informed your opinions about 4 the meaning and scope of the claim terms in the 099 5 patent, and you did not put that in your report, you 6 would agree we wouldn't know about it? 7 MR. GORYUNOV: Objection. Form. 8 A Are you asking me if I cited the prosecution 9 history for any meanings? Is that the question? 10 Q No. I'm asking you -- I asked you whether 11 or not when you read the prosecution history, anything 12 in the prosecution history informed your opinions 13 about the meaning and scope of the claim terms? 14 A I think I said I don't remember at this 15 time. 16 Q My point is and my question is, if something 17 in the prosecution history had informed your opinions 18 about the meaning and scope of any of the claim terms 19 of the 099 patent, would you have put it in your 20 expert report? 21 A I think I've already put the things saying 22 that I've read through the prosecution history. 23 Q But you don't recall whether or not anything 24 in the prosecution history informed your opinions 25 about the claim terms, their meaning, and their scope?

Page 26 1 A That's correct. 2 Q And in paragraph 36, you stated that the -- 3 that it is your opinion for purposes of applying the 4 asserted prior art to evaluate the patentability of 5 the challenge claims, no terms require express 6 construction. Do you recall that? 7 A Yes. 8 Q Is that still your opinion today, that no 9 terms require express construction? 10 A Yes. 11 Q So I'd like you to go to what has been 12 marked as Exhibit 1001, which is the 099 patent. 13 A Okay. 14 Q So you see the abstract on the front page? 15 A Yes. 16 Q In the abstract, the very first sentence 17 says, "In a teleconferencing system, multiple parties 18 participate in a teleconference from different 19 locations." So I'd like you to scroll through until 20 you get to claim 3. 21 A You want me to get to claim 3? 22 Q Yeah. Go to claim 3 -- 23 A Okay. 24 Q -- which is the second-to-last page of 25 Exhibit 1001.	Page 28 1 by reading the claim -- claim 3? 2 A Okay. 3 Q Would you agree that the 099 patent and 4 claim 3 recites, among other things, the selection of 5 reduced-size video feeds from a filmstrip to promote 6 them to full size video feeds? 7 A And it says here, "Select a video feed on 8 the filmstrip for promotion to full sized," in 9 the -- in the fourth element. Yes. 10 Q So the answer to my question is yes, you 11 agree? 12 A There is a -- 13 MR. GORYUNOV: Objection to form. 14 THE WITNESS: -- there is a way to -- 15 the claim element 4 says to select the video feed on 16 the filmstrip for promotion to full size. 17 BY MR. VARE: 18 Q You would agree that the 099 patent 19 describes that there is a challenge to making video 20 conference features like this available to all of the 21 participants in a mixed topology network where some of 22 the nodes are mesh connected and others are non-mesh 23 connected? 24 A What -- what is the question? 25 Q You would agree that in the 099 patent it
Page 27 1 A Okay. 2 Q Claim 3 is one of the challenge claims? 3 A Mm-hmm. 4 Q You have to answer verbally, like a yes or a 5 no or -- 6 A Yeah. I think -- I think we already read 7 through there saying yes. 8 Q Okay. And claim 3 is an independent system 9 claim? 10 A Teleconferencing system? That's right. 11 That seems to be what's being claimed here. 12 Q So in the context of claim 3, the claimed 13 teleconferencing system recites the use of filmstrips 14 from video feeds; correct? 15 A It says -- the claim says what it says. 16 Yes. 17 Q And you would agree that the 099 patent is 18 directed in this regard to a video conference system, 19 at least in part in which a filmstrip containing 20 simultaneous images or icons representing the 21 participants in the video conference are displayed on 22 one or more display screens? 23 A The claim reads for itself. Do you want me 24 to read the claim? 25 Q Well, why don't you refresh your memory then	Page 29 1 describes a challenge to making video conference 2 features like this available to all of the 3 participants in a mixed topology network where some of 4 the nodes are mesh connected and others are non-mesh 5 connected? 6 A It's describing a system with mesh connected 7 and non-mesh connected components, yes. 8 Q You would agree that there's a challenge to 9 making features available to both non-mesh connected 10 and mesh-connected participants in the video 11 conference? 12 MR. GORYUNOV: Objection. Form. 13 Foundation. 14 A The claim reads what it -- what -- I mean, 15 claims -- claim says what it says. 16 Q Why don't we look at your Exhibit 1003, 17 which is your report, and go to paragraph 30. 18 A Paragraph -- sorry? 19 Q Thirty. 20 A Thirty. 21 Q You have paragraph 30 in front of you? 22 A I'm getting there. This exhibit system is a 23 bit slow. Okay. 24 Q In paragraph 30, you state, "Further, the 25 099 patent describes a challenge of making features

Page 30 1 available to all of the participants in a mixed 2 topology network where some nodes are mesh connected 3 and others are non-mesh connected." Do you see that 4 statement? 5 A Yes. 6 Q And do you agree with that statement that 7 you made? 8 A Yeah. It's based on what I've written 9 below, but that's from the 099. Yes. 10 Q Let's see if we can understand the statement 11 you make in paragraph 30. In a mesh-connected 12 topology, the nodes are connected to each other in a 13 mesh configuration. Is that correct? 14 A Say that again. 15 Q In a mesh-connected topology, the nodes or 16 endpoints are connected to each other in a mesh 17 configuration? 18 A Okay. 19 Q Agree? 20 A Yeah. I mean, you're defining what is 21 mesh-connected with -- with saying it's connected in a 22 mesh, and it's a tautology. 23 Q And those nodes or endpoints don't need to 24 go through some central server to communicate with 25 each other?	Page 32 1 A Okay. 2 Q And beginning at line 34 it says, 3 "Multiparty video conferences are typically hosted by 4 a multiparty control unit, (MCU), also known as a 5 multipoint conference unit." 6 A Okay. 7 Q "And this MCU functions to consolidate all 8 the video feeds from the endpoints and presents 9 appropriate video images to each of the endpoints of 10 all of the video camera and collaboration material 11 video feeds in the conference." See that? 12 A I see that. 13 Q And that's describing a central server in a 14 mixed topology, or in a topology network; correct? 15 A It's a -- it's a -- it's describing what an 16 MCU is. 17 Q In a mesh configuration, the nodes or 18 endpoints do not have to go through an MCU to 19 communicate with each other, do they? 20 A No, they don't have to. 21 Q So while we're on the 099 patent, let's go 22 to figure 1. And you understand one of the claim 23 terms is an endpoint in the 099 pattern? 24 A Which claim are you referring to? 25 Q Claim 3.
Page 31 1 A Are you asking me a question or -- 2 Q Yes. 3 A -- making a statement? 4 Q I'm asking a question. Do you agree with 5 that? That in a mesh-connected topology the nodes or 6 endpoints that are connected together in that mesh 7 configuration don't need to go through a central 8 server? 9 A If the nodes are connected to each other, 10 they can talk to each other directly. 11 Q Without going through a central server? 12 A I mean, they could if they were needed to, 13 depending on the configuration, but in a 14 mesh-connected topology they would have a direct 15 connection. 16 Q And, in fact, the 099 patent describes an 17 example of a of a central server as the multi control 18 unit or MCU. Do you recall that? 19 A I don't -- I mean, do you want me to pull up 20 the -- hang on one second. 21 Q You go to Exhibit 1001. 22 A Right. 23 Q And it's in column 1. And it's talking 24 about -- the 099 patent is describing the background 25 of the invention. Do you see that?	Page 33 1 A Okay. Let me go there. Yes, I see it. 2 Yeah. 3 Q And is figure 1 an example of an endpoint as 4 claimed in claim 1 or claim 3? 5 A Yes, it looks like they're -- they're 6 showing an endpoint here. 7 Q If you look at figure 2, also on that same 8 page. 9 A Yes. 10 Q Is figure 2 an example of a mesh 11 configuration? 12 A It looks like all the endpoints are 13 connected to each other. Yes. We could call that a 14 mesh configuration. 15 Q And in figure 2, there's no MCU? 16 A I don't see an MCU there in figure 2. 17 Q And figure 2 does not show any particular 18 central server that those endpoints need to go 19 through? 20 A Right. It does not show a central server. 21 Q Now you would agree that a problem or a 22 challenge that the 099 patent identifies is that not 23 all of the participants in a video conference are 24 necessarily going to be in a mesh configuration; 25 correct?

Page 34 1 A Yes. I think it's showing here that not all 2 the endpoints could be in the mesh configuration. 3 Q You said it's showing here. What are you 4 looking at? 5 A I think I was thinking -- let's see -- there 6 was a figure 8 or figure 9, I guess. 7 Q Right. Figure 8 and figure 9 show a mixed 8 topology network? 9 A Let me go back and see what the pattern 10 says. Figure 8 depicts a typical prior art mixed 11 topology conference. Figure 9 depicts a mixed 12 topology conference with the star server. 13 Q Do you agree that figure 8 and figure 9 show 14 examples of a mixed topology network? 15 A Yes. It does seem to be. Yes. 16 Q And in a mixed topology network as shown in 17 the examples of figure 8 and figure 9 -- include some 18 endpoints in a mesh configuration and some endpoints 19 in a non-mesh configuration; correct? 20 A That's correct. 21 Q And so this topology network was being used 22 in a video conference as contemplated by claim 3. You 23 would agree that some of the video conference 24 participants are in a mesh configuration and some of 25 the video conference participants are in a non-mesh	Page 36 1 important statement that you wanted to highlight? 2 A Probably. I mean, generally you put 3 something in a bold because you want to highlight 4 something. 5 Q Is it your opinion that that's an important 6 statement to understand in the 099 patent that it 7 would be desirable to permit non-mesh-connected 8 endpoints to enjoy the same features as mesh-connected 9 endpoints? 10 A What is the question? 11 Q Is it your opinion that that is an important 12 statement in the 099 patent -- that it would be 13 desirable to permit the non-mesh-connected endpoint to 14 enjoy the same features as the mesh-connected 15 endpoints? 16 A I'm not sure what prompted me to highlight 17 this at the time of writing the report, but it's -- at 18 that point I must have thought this was important. 19 Q So if you look at paragraph 31 -- 20 A Okay. 21 Q -- of your expert report. This is Exhibit 22 1003. You state that, "The 099 patent proposes a 23 mechanism whereby non-mesh endpoint users can use the 24 filmstrip user interface described above to exercise 25 the same control over their video presentation as
Page 35 1 configuration? 2 A That's what the claim 3 is dealing with, 3 yes. 4 Q And that was a challenge that the 099 patent 5 identified for purposes of its invention; correct? 6 A And I think that's -- hang on one second. 7 That's what you showed me earlier, yes. 8 Q I think you say that in paragraph 30. 9 A Right. Yeah. It says there, "Another 10 problem arises." So on and so forth. Yes. 11 Q And, in fact, you have a block quote there 12 from the patent -- from the 099 patent in paragraph 13 30? 14 A That's correct. 15 Q And if you turn to the end -- if you go to 16 the end of paragraph 30, you highlight in that block 17 quote from the patent -- you put in bold, "It would be 18 desirable to permit the non-mesh-connected endpoint to 19 enjoy the same features as the mesh-connected 20 endpoints." You see that? 21 A Yes, I see that. 22 Q Why did you bold -- put that in bold? 23 A I'm not sure at this point. You know, I 24 don't know what -- 25 Q Did you put it in bold because it was an	Page 37 1 would a mesh-connected user." Do you see that? 2 A Yes. 3 Q And that is a feature that is present in a 4 mesh-connected configuration that the patent wants to 5 enable non-mesh-connected endpoints to enjoy? 6 A I'm not sure I understand your question. 7 Q Well, you highlighted this statement 8 immediately above paragraph 31 that it would be 9 desirable to permit non-mesh-connected endpoint to 10 enjoy the same features as mesh-connected endpoints. 11 Do you see that? 12 A Yes. 13 Q And in paragraph 31 you can describe a 14 mechanism where you recite one of those features. See 15 that? 16 A Yes. 17 Q And is that one of those features where you 18 think that the 099 patent is describing as desirable 19 to permit non-mesh video conference participants to 20 enjoy as mesh-connected video conference participants? 21 A Well, it says here, "The non-mesh endpoint 22 users can use the filmstrip user interface to exercise 23 the same control." Yes. 24 Q And then it gives an example -- and you 25 again have a block quote from the 099 patent in

Page 38 1 paragraph 31. 2 A Mm-hmm. 3 Q And again, you highlight -- you bold a 4 statement, "User interaction with the filmstrip 5 received by the Star Server results in the appropriate 6 video stream being transmitted to the star endpoint." 7 Do you see that? 8 A Yes, I see that. 9 Q Why did you put that in bold? Was that also 10 important to you at the time you wrote your report? 11 A Must have been. Yes. 12 Q Do you know what a star endpoint is as used 13 in the 099 patent? 14 A I will have to look through the patent again 15 and -- 16 Q Well, let me ask you this. Is the star 17 endpoint the same thing as a non-mesh-connected 18 endpoint? 19 A Sorry? 20 Q Is a star endpoint, as that term is used in 21 the 099 patent, comparable to a non-mesh-connected 22 endpoint? 23 A I would have to look through here, and I see 24 an endpoint here. Let's see. A star server -- it 25 says here star endpoint. That was in column 15. I	Page 40 1 are connected to the central node. 2 Q And that central node -- is that also a 3 central server? 4 A It could be a server. It could be another 5 node in the system. 6 Q Could be the MCU as described in the 099 7 patent? 8 A I mean, anything that's communicate -- is 9 able to communicate to the other modes. 10 Q And in a star topology, for one star 11 endpoint to communicate to another star endpoint, it 12 has to go through that central node or server; 13 correct? 14 A That's correct. 15 Q And that's not the same thing as a mesh 16 configuration; correct? 17 A That's correct. 18 Q And if you look at figure 8 -- 19 A Yes. 20 Q -- of the 099 patent -- you see that? 21 A Okay. What is the question? 22 Q Figure 8 actually shows a mixed topology 23 network where there is -- part of it is a star 24 configuration, or a star network, and that's reflected 25 by the MCU 87 and endpoints 85 and 86; correct?
Page 39 1 can only see one document here at the top. All right. 2 Okay. Question -- can you ask the question again? 3 Q As used in the 099 patent, is a star 4 endpoint the same thing or comparable to a 5 non-mesh-connected endpoint? 6 A Seems like it's -- 7 MR. GORYUNOV: Objection to form. 8 THE WITNESS: -- the star endpoint 9 seems to be referring to an endpoint that's connected 10 to a star server. 11 BY MR. VARE: 12 Q And a star server is not a mesh 13 configuration? 14 A Pardon? 15 Q A star endpoint connected to a star 16 server -- that would not be an -- that would be a star 17 topology; correct? 18 A I'm not sure I understand your question. 19 Q Have you ever heard of a star or multi-star 20 topology? 21 A Yes. 22 Q And what is your understanding of a star or 23 multi-star network topology? 24 A Star topology would be -- is that there is a 25 central node and other nodes in the -- in the topology	Page 41 1 A It's showing a mixed topology here where -- 2 let me see what I see here. Endpoints 81, 82, 83 seem 3 to be connected in a mesh network. And endpoint 84 is 4 connected in a star configuration with 82. And 5 endpoints 85 and 86 are connected through MCU to the 6 rest of the network. 7 Q So the endpoints 85 and 86 are connected in 8 a star configuration to the MCU; correct? 9 A MCU is managing their network. Yes. 10 Connect communications with other endpoints through 11 the MCU -- the 85 and 86. 12 Q And again, you would agree that the inventor 13 of the 099 patent wanted to permit the 14 non-mesh-connected endpoint to enjoy the same features 15 as the mesh-connected endpoints? 16 A So I think that's what -- that's what -- 17 that's what we read from the specification, yes. 18 Q So in the 099 patent, it contemplates 19 allowing users or participants in a video conference 20 to all enjoy the same features whether the video 21 conference participants were in a mesh-connected or 22 non-mesh-connected configuration? 23 A Say that again. 24 Q So one of the purposes or objectives of the 25 099 patent was to allow users or participants in a

Page 42 1 video conference to enjoy the same features, whether 2 those video conference participants were connected at 3 mesh-connected endpoints or at non-mesh-connected 4 endpoints? 5 A Let me read through here again. 6 THE REPORTER: And once this question 7 is answered, can I ask, can we take a brief 8 five-minute break? Is that okay? 9 THE WITNESS: Make it -- yes. It's 10 trying to make the features available to -- to 11 the -- to the -- at the endpoints. Yes. 12 BY MR. VARE: 13 Q The same features available to the 14 endpoints, whether the endpoint was mesh-connected or 15 non-mesh-connected; correct? 16 A Let me read through here again -- it would 17 be desirable -- it says in the specification that 18 it's -- from column 4 -- "Desirable to permit the 19 non-mesh connected endpoints to enjoy the same 20 features as the mesh-connected endpoints." 21 Q Correct -- 22 THE VIDEOGRAPHER: Mr. Cunningham asked 23 if we could go off the record. 24 THE REPORTER: Yeah. Is that okay if 25 we take a brief five-minute break?	Page 44 1 that. 2 Proceed, guys. 3 BY MR. VARE: 4 Q Dr. Reddy, we took a short break during that 5 break. Did you look at any documents that relate to 6 your testimony today? 7 A No. 8 Q Did you talk to anybody relating to your 9 testimony? 10 A No. 11 Q Now we had been looking at figures 8 and 9, 12 and I think you agree that those are examples of a 13 mixed topology network? 14 A Hang on one second. Okay. 15 Q So figures 8 and 9 are examples of a mixed 16 topology networks? 17 A That's -- yes. 18 Q And you see the straight lines between 19 endpoints, as well as to a server called MCU? 20 A Yes. 21 Q And are those straight lines meant to be 22 bidirectional in this patent? 23 A Are you talking about between 87 MCU and 85, 24 86 endpoints? 25 Q Well, I'm looking at -- if you look at the
Page 43 1 MR. VARE: Yeah. I just want to make 2 sure I get my answer to the question. 3 THE REPORTER: Oh, okay. Yeah. Let me 4 know whenever you're ready for the break. 5 BY MR. VARE: 6 Q So let me ask the question again to make 7 sure. I think I understand the answer. 8 So the 099 patent -- one of the objectives 9 that it highlights is to prevent non-mesh-connected 10 endpoints -- video conference participants at non- 11 mesh-connected endpoints to enjoy the same features as 12 video conference participants at mesh-connected 13 endpoints. Is that correct? 14 A It says so in the -- in the 15 specification -- "It would be desirable to permit the 16 non-mesh-connected endpoints to enjoy the same 17 features as the mesh-connected endpoints." 18 MR. VARE: All right. Yes. We can 19 take a quick break. How long do we need? 20 THE VIDEOGRAPHER: Going off the record 21 at 10:00. 22 (Off the record.) 23 THE VIDEOGRAPHER: We're on the record 24 at 10:09. 25 THE REPORTER: Thank you. Appreciate	Page 45 1 lines 88 between 82, 81 and 83 endpoints, are those 2 bidirectional? 3 A Could you repeat that question again? Which 4 one are you talking about? 5 Q Are the lines between endpoints 81, 82, and 6 83 bidirectional? 7 A Eighty-one, eighty-two, eighty-three -- I 8 would expect them to be. Yes. 9 Q Yes? And by that -- by bidirectional, the 10 endpoint can both send data and receive data? 11 A For a mesh configured network, yes. 81 12 should be able to send to 82 and be able to receive 13 from 82 to 81. 14 Q That data would include, like, audio or 15 visual data? 16 A That would be the case and whatever the data 17 they would want to send back and forth. 18 Q And in the context of -- we're looking at 19 the line 89 between endpoint 84 and endpoint 82. Is 20 that bidirectional? 21 A I'll have to look through the thing. Let me 22 see what it says, so. 23 Q Wait. I can probably make this quicker if 24 you go to column 16. 25 A Sixteen? Okay. All right. That's what I

Page 46 1 was looking for. Thank you -- 2 Q Actually, if you start at the beginning, at 3 the end of column 15, it's talking about line 66. 4 "Multiple star endpoints, example 85 and 86, may 5 connect to an MCU which has one leg connected to one 6 mesh in point, in this case endpoint 83." 7 And then it -- and the patent says, "All 8 connections shown as a single line in the figure 9 typically comprise video, audio, media and data, each 10 connection being a two-way IP connection." You see 11 that? 12 A Yes. 13 Q And a two-way IP connection would be a 14 bidirectional connection? 15 A That would be; correct. 16 Q Okay. And you could -- in this context you 17 could send or receive video and audio media and data? 18 A And once you have a connection, you can send 19 any kind of data. 20 Q That would include video? 21 A Potentially. 22 Q Now, in the practical application of a 23 network topology like this, you could have intervening 24 elements within those straight lines without changing 25 the bidirectional or two-way IP connection; correct?	Page 48 1 A Okay. 2 Q Line 3. 3 A Line 3? Okay. 4 Q And column 5, beginning at line 3, states, 5 "Figure 1 depicts a typical endpoint 10. It comprises 6 collection of devices managed by a common call control 7 software 19 having a single network address, e.g. IP 8 address or URL, used for call setup." You see that? 9 A Yes. I see that. It looks like it's 10 talking about an embodiment here, yes. 11 Q Yeah. And so the endpoint -- the term 12 endpoint as used in the 099 patent and referenced in 13 the specification and in figure 1, is shown to be a 14 collection of devices managed by common software? 15 A That would be one embodiment, yes. 16 Q And so it's both physical hardware and 17 software at the endpoint? 18 A Could you repeat the question? 19 Q So the endpoint as that is being used in the 20 099 patent includes both physical hardware, the 21 collection of devices, as well as software that 22 controls those devices? 23 A Yeah. That seems to be the case in this -- 24 in this embodiment. Yes. 25 Q And in fact, it further identifies
Page 47 1 A An IP connection in general could span 2 multiple elements of the network. 3 Q And that would not change the fact that 4 they're bidirectional and that they can send and 5 receive MIDI and audio to each other -- to and from 6 each other? 7 A If it is a bidirectional IP connection, yes, 8 we should be able to do that. 9 Q Now, we've been talking about endpoints. An 10 endpoint can be one device, or it can be a collection 11 of devices; correct? In the context of the 099 12 patent? 13 A Let me look through it here again. What is 14 your question again? 15 Q An endpoint as used in the 099 patent can be 16 a device or a collection of devices? 17 A It is showing to be -- seems to be a 18 collection of devices, at least in the figure that I'm 19 looking at. 20 Q And the endpoint as that term is being used 21 in the 099 patent could be -- is shown to be a 22 collection of devices managed by software? 23 A I'm not sure. Let me see if it -- if it 24 says so -- 25 Q Let me point you to column 5 of the patent.	Page 49 1 additional software implementing the invention as 2 embodied in the display controller 11. Do you see 3 that? 4 A Yes. 5 Q And it states that the software could run in 6 or with other software in a shared computer or in 7 separate computers with respect to the endpoint as 8 shown in figure 1; correct? 9 A "Blocks in the figure are functional 10 representations and do not imply any particular 11 hardware integration. Call control 19 and display 12 controller software could run with other software on a 13 shared computer and separate computers." Yes. 14 Q So figure 1 also includes video cameras 15 15 and monitors 12. Would that be part of the collection 16 of devices comprising an endpoint? 17 A Let me look through the figure and then 18 through the document here. Yeah. It's -- it seems to 19 be video cameras 15 are included with an endpoint. 20 Q When an endpoint comprises a collection of 21 devices being run by software, do all of the devices 22 have to be in the same physical location -- like, in 23 the same room? 24 A Would you say that again? 25 Q So the endpoint comprises a collection of

Page 50 1 devices as disclosed in the 099 patent. Do all of 2 those devices have to be in the same physical 3 location, like in the same room? 4 A I guess in -- depending on the embodiments, 5 they could be in different rooms. 6 Q Okay. And they could be on different floors 7 of the same building? 8 A Potentially, I guess they could be, and 9 depending on embodiment. Yes. 10 Q And the point of the endpoints in the 11 context of the 099 patent is to enable communications 12 with other endpoints; correct? 13 A I think there's a bit more than just 14 communications here; right? So. 15 Q At least one point? 16 A Pardon? 17 Q At least one functionality of the influence 18 is to enable the communication between other -- with 19 other endpoints? 20 A Endpoints are talking to each other 21 depending on the configuration -- your mesh-connected 22 configuration and so on. 23 Q And the configuration is on or part of a 24 network? 25 A Configuration is -- is part of the network,	Page 52 1 configuration to a selected one of the mesh-connected 2 endpoints." Do you see that? 3 A I see that. 4 Q And then claim 10 recites, "An endpoint for 5 use in a mesh-connected endpoint in a teleconferencing 6 system comprising a plurality of endpoints, at least 7 some of which are connected in a mesh configuration 8 and at least one of which is connected in the non-mesh 9 configuration." Do you see that? 10 A Okay. 11 Q Now, is it your opinion that the use of 12 endpoint in claim 3 is substantively identical to the 13 endpoint limitation in claim 10? 14 A I don't think they have to be. 15 Q Well, is it your opinion that they are or 16 are not? 17 MR. GORYUNOV: Objection to form -- 18 BY MR. VARE: 19 Q Or just don't have to be? 20 MR. GORYUNOV: Objection to form. 21 Foundation. 22 A Okay. What -- what is your question? 23 Q Is it your opinion that the claim -- the 24 limitation relating to endpoints in claim 3 is 25 substantively identical to the same limitation
Page 51 1 yes. 2 Q And in order to communicate with other 3 endpoints, an endpoint would have to have software 4 that enables that communication, such as video 5 communication? 6 A In order to communicate, you don't have 7 to -- I mean, we can use a phone that may not have a 8 software to talk to each other. The phone could be an 9 endpoint, for example. 10 Q Okay. Other endpoints would have to have 11 software in order to enable the video communication; 12 correct? 13 A So in order to do video, most of the 14 computers would need software, but I'm -- it is 15 possible. I'm trying to think -- I mean, I'm not 16 trying to be difficult here, but I'm just trying to 17 think about -- there are possibilities, maybe 18 everything could be implemented in hardware. 19 Q Okay. So the next few questions just are in 20 the reference between claim 3 and claim 10. So let's 21 go to claim 3. 22 And claim 3 recites, "A teleconferencing 23 system comprising a plurality of endpoints, at least 24 some of which are connected in a mesh configuration, 25 and at least one of which is connected in a non-mesh	Page 53 1 relating to endpoints in claim 10? 2 A Okay. Let me look through it. Ten seems to 3 be talking about specifically endpoint at a 4 mesh-connected endpoint. 5 Q So is it your opinion that claim 10 differs 6 from claim 3 in that context? 7 MR. GORYUNOV: Objection. Form. 8 Foundation. 9 A Okay. What is the question again? 10 Q Is it your opinion that the limitations in 11 claim 3 relating to the use of endpoints -- 12 mesh-connected and non-mesh-connected endpoints, is or 13 is not substantively identical to the use of 14 mesh-connected endpoints and non-mesh-connected 15 endpoints in claim 10? 16 A Claim 10? 17 MR. GORYUNOV: Objection. Form. 18 Foundation. Sorry. 19 THE WITNESS: Okay. Claim 10 starts 20 off with saying, "An endpoint for use in 21 mesh-connected endpoint," but in -- further down, it's 22 also talking about non-mesh-connected endpoint. 23 BY MR. VARE: 24 Q So, Dr. Reddy, I know what it says. My 25 question is, is it your opinion that the recitations

Page 54 1 in claim 10 are substantively identical to the 2 recitations in claim 3? 3 MR. GORYUNOV: Objection. Form. 4 Foundation. 5 A Both the claims -- they're talking about 6 mesh-connected and non-mesh-connected endpoints. 7 Q So is it your opinion that they're 8 substantively identical? 9 A The claims say what -- 10 MR. GORYUNOV: Objection. Form. 11 Foundation. 12 THE WITNESS: Claims say what they say. 13 BY MR. VARE: 14 Q Look at paragraph 134 of your expert report. 15 This is Exhibit 1003, paragraph 134. Do you see that? 16 A Getting there. Okay. 17 Q In paragraph 134, you're referring to claim 18 10. Do you see that? 19 A Mm-hmm. 20 Q And you state, "This limitation is 21 substantively identical to the limitations 3.0, 3.11, 22 and 3.12, and those are limitations in claim 3; 23 correct? 24 A Three -- yes. 3.0, 3.11, 3.12 are 25 limitations from claim 3. Yes.	Page 56 1 substantively identical to the limitations in claim 3? 2 That's what you're referring to that you should have 3 been more careful with those words? 4 A That's correct. 5 Q Now you see paragraph 135 refers to another 6 limitation in claim 10? This one relates to the proxy 7 for connection. 8 A Okay. 9 Q And claim 136 relates to in claim 10 the 10 server associated with that proxy. Both paragraph 135 11 and 136 -- you say that those limitations that you 12 recite from claim 10 are substantively identical to 13 the limitations in claim 3. Do you see that? 14 A Okay. Yeah. Let me go back and read 15 through them again. 3.3 here and 3.2. Let me go 16 back. Okay. So the proxy seems to be -- in both 17 claims is at the selected mesh-connected endpoint as 18 they were associated with the proxy for serving -- 19 okay. Okay. What is the question now? 20 Q So in paragraphs 135 and 136, you say that 21 the limitations in claim 10 that you recite are 22 substantively identical to the limitations in claim 3. 23 Is that still your opinion? 24 A That's correct. 25 Q So in claim 3, the proxy language -- do you
Page 55 1 Q Is it your opinion that the limitations 2 shown in claim 10 in paragraph 134 is substantively 3 identical to the limitations 3.0, 3.11, and 3.12 in 4 claim 3? 5 A That's what the report says. Yes. 6 Q I know what your report says, but is that 7 still your opinion? 8 A This -- this particular element, 10.0, is 9 specifically talking about an end point at a 10 mesh-connected endpoint. And -- and then further down 11 in 10, it is talking about non-mesh-connected 12 endpoints. And the claim 3 is talking about both of 13 them. 14 Q Okay. Again, is it your opinion that 15 they're substantively identical? 16 A Okay. Let me look through 3.0, 3.11, and 17 3.12. Okay. All right. I think -- I think, like, 18 maybe I should have been a bit more careful here. 19 Definitely most of the language is similar, 20 but 10.0 seems to be talking about here -- an endpoint 21 at a mesh-connected endpoint, and they're definitely 22 in claim 3 -- both endpoints are being discussed. 23 Q So when you say you should have been more 24 careful, you're referring to your statement in your 25 report that the limitation in claim 10 is	Page 57 1 see -- are you with me at claim 3? 2 A Okay. I have to go back on the report. It 3 would be nice if it allowed both -- to open both at 4 the same time. Okay. 5 Q Claim 3 recites, "A proxy at the selected 6 mesh-connected endpoint for the non-mesh-connected 7 endpoint and connected to each of the mesh-connected 8 endpoints to receive video feeds from the non -- or 9 from the mesh-connected endpoints for the 10 non-mesh-connected endpoints." Do you see that? 11 A Yes. 12 Q And in particular, I want you to focus on a 13 proxy at the selected mesh-connected endpoint. You 14 see that? 15 A Mm-hmm. 16 Q And with that language in mind, turn to 17 claim 10, and look at the language used in claim 10. 18 It say, "A proxy for connection to each of the 19 mesh-connected endpoints." 20 A Okay. All right. So? 21 Q Is there any -- do you have an opinion as to 22 whether or not that's substantively identical? 23 A It seems to be that this proxy in 10 doesn't 24 not necessarily have to be at the mesh-connected 25 endpoint.

Page 58 1 Q So the proxy for connection could be -- your 2 testimony now is that it could be separate from the 3 mesh-connected endpoint? 4 A It doesn't have to be at the mesh-connected 5 endpoint. 6 Q And does -- is it your opinion that a proxy 7 at the selected mesh-connected endpoint as used in 8 claim 3 requires the proxy to be physically with the 9 endpoint? 10 A I wouldn't -- I wouldn't know if it is 11 physically, or I don't know this. It says at, and 12 there's a different language used in 10, so we would 13 need more time to for me to sort the differences. But 14 there seems to be some difference here between where 15 the proxy is between claims 3 and 10. 16 Q But you're saying you would need more time 17 to evaluate whether or not there are any differences 18 between the proxy limitation in claim 3, and the proxy 19 limitation in claim 10? 20 A I mean, it seems to be that there is a 21 difference in the claim language. What I'm getting at 22 is what -- what does that mean in claim 3 would 23 require a bit more study. 24 Q So you're not sure, sitting here today, that 25 they are substantively identical to each other, are	Page 60 1 parties can communicate with each other. 2 Q Like bidirectional communication? 3 A Does not necessarily have to be 4 bidirectional. All that -- all that means is that you 5 can communicate without potentially a dedicated server 6 or a centralized server, even though there could be 7 some node that acts as a -- yeah. So slightly 8 different from a client server and -- 9 Q Well, I think you testified earlier that the 10 mesh-configured endpoints in the 099 patent have 11 bidirectional communication capability between each 12 other; correct? 13 A Right. So the embodiment talks about 14 bidirectional IP connections, so they could talk to 15 each other. Yes. 16 Q And in a peer-to-peer network, the 17 communication could just be unidirectional? 18 A Depending on what's going on, but generally 19 any party should be able to reach any party in a 20 peer-to-peer network. 21 Q But I think you just said that in a 22 peer-to-peer network, it doesn't necessarily mean that 23 it's bidirectional communication from one peer to 24 another peer? 25 A There are -- there are some forms of
Page 59 1 you? 2 MR. GORYUNOV: Objection. Form. 3 A That's what my report says, but -- but 4 there -- there seems to be some difference here in 5 terms of there's a location. 6 Q And again, you would want some time to 7 figure that out, wouldn't you? 8 A It would take some time, yes. 9 Q So if you could refresh your Exhibit Share, 10 I'm going to introduce an exhibit marked Exhibit 1005, 11 which is the U.S. Patent Application Publication to 12 Setton. 13 (Reddy Exhibit 1005 was marked for 14 identification.) 15 Let me know when Exhibit 1005 pops up. 16 A It popped up. You want me to open it? 17 Q Do you recognize Exhibit 1005? 18 A Okay. I see it. 19 Q Do you recognize Exhibit 1005? 20 A Yes. 21 Q And what is 1005? 22 A It's a patent number. It says multiway 23 peer-to-peer media streaming. 24 Q What does peer-to-peer mean? 25 A Peer-to-peer generally means that both the	Page 61 1 peer-to-peer networks that do have what is called a 2 powerful node that enables some kind of directory 3 maintenance or whatever. But yes, there are -- but 4 peer-to-peer in general means to talk to each other. 5 Q Now, if you turn to figure 1 of Exhibit 6 1005. 7 A Okay. 8 Q And do you see the box labeled 100, titled 9 "Active Sources"? 10 A Yes. 11 Q What are those active sources? 12 A Let me go back and read through here what it 13 says. Okay. It says here -- okay. So it says here, 14 "Those peers which generate content as active 15 sources." 16 Q What are you referring to? 17 A This is in column -- column -- for some 18 reason the columns -- okay. So page 2, paragraph 16. 19 Q Sixteen? 20 A Yes. 21 Q So an active source in figure 1 -- do you 22 see that there are five of them, 102A through 102E? 23 A I think -- yeah. And in this embodiment, it 24 says, in accordance with the -- the generate content 25 or as active sources.

Page 62 1 Q So active sources can generate content; 2 correct? 3 A In this embodiment, yes. 4 Q And one example of content generation would 5 be video feeds; is that correct? 6 A Yes. It says a video stream and audio 7 stream, et cetera. 8 Q And is it your opinion that the active 9 source is shown by 102 -- those are endpoints as used 10 in the claims of the 099 patent? 11 A They could be, yes. 12 Q And as shown in figure 1 of Exhibit 1005 to 13 Setton, are those active sources 102A through E in a 14 mesh configuration? 15 A The figure is showing in figure 1, everybody 16 is connected to each other and they seem to be 17 connected in the mesh configuration. 18 Q Okay. I need you to be a little bit more 19 precise in answering my question because my question 20 is in relevance to the active sources labeled 102A 21 through 102E. Are those active sources 102A through 22 102E configured in a mesh configuration? 23 A Just 102A and 102B? 24 Q No. 102A through 102E. 25 A Right. They are -- they are shown to be	Page 64 1 unidirectional communication; correct? 2 A Generally, that would be the case in figure, 3 but I think I would have to refer through the 4 description to make sure that is the case. 5 Q Now you recall we talked about the 6 limitation proxy? 7 A Sorry? 8 Q The mesh-connected endpoint and a proxy for 9 connecting a mesh-connected endpoint in claim 3? 10 A Okay. 11 Q We just talked about that. 12 A Yeah. 13 Q In reference to figure 1 in Setton, where 14 would the proxy be in reference to 102E? 15 A Well, it could be on 102E itself. 16 Q Could it be elsewhere? 17 A Right now the way the figure is showing that 18 the proxy could be at 102E. 19 Q Where would the server associated with the 20 proxy in the claims of the 099 patent be in reference 21 to the active source 102E in Setton? 22 A Okay. Let me go back and look at what 23 server is doing. Okay. That could also be at 102E. 24 Q Does it need to be physically located at 25 102E?
Page 63 1 configured in a mesh-connected configuration here. 2 Q And then do you see underneath there, there 3 are -- there's a box labeled, "Relay/Receivers 104"? 4 A Yes. 5 Q Those relay/receivers 104 are not configured 6 in a mesh configuration. They're configured in a tree 7 configuration; correct? 8 A That's correct. That's what the figure 9 shows. 10 Q Do you see the arrows, or the lines with 11 arrows at each end in reference to the active sources 12 102? 13 A Yeah. 14 Q Do those arrows, or do those lines with 15 arrows at each end indicate a bidirectional 16 communication capability? 17 A You're talking about between 102 -- 102 18 with -- between different 102A -- 2E components? 19 Q Yes. 20 A Yes. 21 Q In contrast, in reference to the 22 relay/receivers labeled 104, the arrow is going in 23 only one direction; correct? 24 A That's what the figure is showing, yes. 25 Q Yeah. And that's not -- that's a	Page 65 1 A 102E is showing a -- a computer here. So if 2 it is just one computer, I would assume it would be on 3 that one computer. But if -- but if it is shown to be 4 as a description for, let's say, a computer that has 5 multiple processors or a supercomputer, so then it 6 could be on different parts of that computer. 7 So one computer could be participating in 8 the conference. One -- processor could be doing the 9 proxy and server part of it. 10 Q So it doesn't necessarily have to be 11 physically located in the same computer or at the same 12 physical location? 13 A What I'm saying is that 102E could be a 14 single desktop computer with a single processor, or it 15 could be a multi-computer, in which case it may have 16 multiple processors that could handle different 17 functions and -- depending on what 102E looks like. 18 Q So we've talked about endpoints. Do you 19 recall your testimony about endpoints? 20 A Yes. 21 Q And an endpoint can be a device or 22 collection of devices. Do you recall that testimony? 23 A Yes. 24 Q And claim 3 and claim 10 both claim a 25 plurality of endpoints that encompass both

Page 66 1 mesh-connected and non-mesh-connected endpoints; 2 correct? 3 A Yes. 4 Q Does the meaning of the term -- but let me 5 ask -- the meaning of the term endpoint doesn't change 6 depending upon whether the end point is mesh-connected 7 or non-mesh-connected, does it? 8 A Say that again. 9 Q The meaning that you attribute to the term 10 endpoint doesn't change depending upon whether that 11 end point is mesh-connected or non-mesh-connected? 12 A The capabilities might change because 13 clearly these mesh-connected endpoints seem to have 14 different capabilities than non-mesh-connected 15 endpoints. 16 Q Okay. And in fact, if you recall your 17 opinions in your declaration, one of the objectives of 18 the 099 patent was to give the same capabilities to 19 the non-mesh-connected endpoints as those enjoyed by 20 the mesh-connected endpoints. Do you recall that? 21 A Yes. 22 Q Now, the endpoint is not a participant in a 23 video conference; right? 24 A Okay. Let me go back to the patent. The 25 endpoint and participant seems to be different.	Page 68 1 cameras and in front monitors," in column 5. Let me 2 go back and see what the claim said. Claim 3 seems to 3 be talking about the mesh-connected conference 4 participants. Okay. Did I -- 5 Q So the question is, a conference participant 6 is the person or individual -- the end user sitting at 7 an endpoint or communicating with an endpoint 8 participating in the video conference; correct? 9 MR. GORYUNOV: Objection. Form. 10 A Sorry. There is -- claim -- claim 3 is 11 talking about mesh-connected conference participants. 12 And claim 10 -- let me see what it is talking about. 13 Starting with mesh-connected conference participants 14 to the non-mesh-connected endpoint. Okay. What is 15 the question again? 16 Q So I'm asking a question about the meaning 17 of conference participants. Do you understand that? 18 A Yeah. 19 Q The conference participant is a user 20 participating in the video conference. Would you 21 agree with that? 22 A Do you mean the -- sorry. What I see from 23 here in figure 1 on the claims, it seems to be the 24 conference participants are at mesh-connected 25 endpoints.
Page 67 1 Q So in the context of today's Zoom 2 deposition, do you have an endpoint where you're 3 sitting? 4 MR. GORYUNOV: Objection. Form. 5 Foundation. 6 A Yeah. I'm not sure what -- what we're 7 talking about here, so I'm not trying to be legal 8 here, but so, we all -- the endpoints here would have 9 to be construed carefully within the context of the 10 patent. 11 Q So do you have a collection of devices where 12 you're sitting that enable you to communicate audio 13 and video with other participants in this Zoom 14 deposition? 15 A I have a laptop that enables me to do that. 16 Q Okay. And you are participating in this 17 Zoom deposition; correct? 18 A I'm participating in the Zoom. Yes. 19 Q So in the context of the claim language, the 20 term conference participants would refer to those 21 individuals -- those users who are participating in 22 the telephone conference or the video conference; 23 correct? 24 A Let me look through what the patent says. 25 It says, "Conference participants 14 sit before video	Page 69 1 Q So what about a user sitting at a 2 non-mesh-connected endpoint? Are they not 3 participating in the video conference in claim 3? 4 A In -- in claim 3? Let me look it up again. 5 It's only talking about mesh-connected endpoints, not 6 conference participants. 7 Q Do you see in claim 3 the last 8 limitation -- a control connection permitting a user 9 located at the non-mesh-connected endpoint? Do you 10 see that? 11 A Yes. 12 Q What do you understand a user located at a 13 non-mesh-connected endpoint to be in the context of 14 claim 3? 15 A Could -- could be somebody's observing the 16 conference. 17 Q Just observing? 18 A Could be. 19 Q Could it also be somebody who is 20 participating in the conference by video? 21 MR. GORYUNOV: Objection. Form. 22 A Control connection permitting a user located 23 in the connected endpoint to select a video feed -- 24 okay. What is the question again? 25 Q Could a user located at a non-mesh-connected

Page 70 1 endpoint be participating in the video conference in 2 the context of claim 3? 3 MR. GORYUNOV: Objection. Form. 4 A Okay. So I'm trying to look at 5 here -- content -- so I'm not sure. It says here user 6 and participants -- that's using different words. 7 So I'm not sure why this particular thing 8 did not say control connection permitting a 9 participant. For example, it says a user. There 10 seems to be some distinction here. 11 Q Do your opinions in your declaration make 12 that distinction? 13 A I'm not sure. I'd have to go back and look 14 at the -- the report. 15 Q Did you define or construe a conference 16 participant differently than a user located at a 17 non-mesh-connected endpoint? 18 A I don't think I construed any of the terms. 19 Q So you would agree that conference 20 participants at a mesh-connected endpoint can generate 21 and engage in video conferencing in the context of the 22 099 patent; correct? 23 A Yes. They can generate video and 24 audio -- yes -- content. 25 Q And we've gone over this several times. You	Page 72 1 endpoint 84 to participate in the conference in much 2 the same way as if it were part of the mesh topology? 3 MR. GORYUNOV: Objection. Form. 4 Foundation. 5 A So the specification is talking about an 6 embodiment where the proxy allows that. 7 Q And in that same paragraph in column 17, the 8 inventor says -- the patent says, "The user can then 9 select a frame on the filmstrip for promotion and the 10 promoted feed is then substituted for the current full 11 size frame feed." Do you see that? 12 A Where -- where are you looking at? 13 Q At the end of -- in lines 56, 57, and 58. 14 A Okay. "User can then select a frame." Yes, 15 I see that. 16 Q Now, look at the last limitation of claim 3, 17 which says, "The user located at the 18 non-mesh-connected endpoint --" that's in the 19 embodiment in column 17 that's endpoint 84; correct? 20 A Mm-hmm. 21 Q And that user located at the 22 non-mesh-connected endpoint can select a video feed 23 from the filmstrip for promotion to full size and 24 initiate transfer of the full size video to the 25 non-mesh-connected endpoint. Do you see that?
Page 71 1 would also agree that one of the objectives of the 099 2 patent was to provide users at a non-mesh-connected 3 endpoint the same benefits and features as users at a 4 mesh-connected endpoint; correct? 5 A That's what one of the embodiment seems to 6 be trying to do in the specification, yes. 7 Q If you look at column 17 of the 099 patent. 8 A Okay -- okay. 9 Q Line 46. 10 A Line 46. 11 Q See where it says, "The proxy allows the 12 endpoint 84 to participate in the conference in much 13 the same way as if it were part of the mesh topology"? 14 A Okay. 15 Q You see that statement? 16 A Yes. 17 Q And the user at endpoint 84 would be in a 18 non-mesh-connected endpoint; correct? 19 A Let me go back. Hang on a sec. Okay. What 20 is your question? 21 Q The user at endpoint 84 is at a 22 non-mesh-connected endpoint? 23 A Is at a non-mesh-connected -- correct. 24 Q So the proxy claimed in claim 3 as stated in 25 this -- in the specification allows the user at	Page 73 1 A I see that. 2 Q And sir, isn't that exactly what is being 3 described in Column 17 -- 56 through 58 where it says, 4 "The user can then select a frame on the filmstrip for 5 promotion and the promoted feed is then substituted 6 for the current full size frame feed"? 7 MR. GORYUNOV: Objection. Form. 8 Foundation. 9 A You've read through what the columns and the 10 claims say. Yes. 11 Q We agree that what's being described in the 12 claim is also being described in what I just read from 13 column 17, 56 through 58? 14 A Okay. Let me -- 15 MR. GORYUNOV: Objection. Form. 16 Foundation. 17 THE WITNESS: No. There are some 18 differences here between what you read in column 17 19 and what's in the claim. 20 BY MR. VARE: 21 Q So let's parse this. The user located at 22 the non-mesh-connected endpoint in the claim -- an 23 example of that is the user at the non-mesh-connected 24 endpoint 84 in the specification, column 17. Is that 25 correct?

Page 74 1 A Okay. 2 Q Do you agree? 3 A Yes. 4 Q And in the claim, the user can use a control 5 connection to select a video feed on the filmstrip for 6 promotion to full size. Do you agree that's what the 7 claim says? 8 A Yeah. Just -- yes. To select the video 9 feed on the filmstrip for promotion, yes -- to full 10 size, yes. 11 Q And in the embodiment described in column 12 17, that same user can select a frame on the filmstrip 13 for promotion; correct? 14 A Yes. 15 Q Back to claim 3. The filmstrip that is 16 selected for promotion to full size by the user at the 17 non-mesh-connected endpoint in claim 3 is then 18 transferred to full size video feed; correct? 19 A So the promoted feed is then substituted for 20 the current full size frame feed is what it says in 21 17. And in claim 3, it says, "And to initiate 22 transfer of the full size video feed." So there is a 23 difference there. 24 Q What's the difference between the promoted 25 feed is then substituted for the current full size	Page 76 1 could be broader than the embodiment specified in 2 the -- in the text, or they could be more specific 3 depending on how the claims are constructed. So 4 embodiments are supposed to be taken as an example 5 here. 6 Q So is the embodiment in claim 17 an example 7 of the language in claim 3? Or -- I'm sorry. The 8 embodiment in column 17 -- is that an example of claim 9 3? 10 A The -- it is. The seventh column -- 17 11 seems to be talking about an embodiment here. 12 Q Okay. Of claim 3? 13 MR. GORYUNOV: Objection. Form. 14 Foundation. 15 A Embodiment that it mentioned. So the claims 16 are -- I mean, claims are -- claims say what the 17 claims say. 18 MR. GORYUNOV: Counsel, a good time to 19 take a break? 20 MR. VARE: I have one question, and 21 then we can take a break. 22 BY MR. VARE: 23 Q So I want you to go to paragraph 31 of your 24 expert declaration, please. 25 A Okay.
Page 75 1 frame feed in column 17, as to the claim that says, 2 "Initiate a transfer of the full size video feed to 3 the non-mesh-connected endpoint"? 4 A I mean, they just say different things. 5 That's what I was just saying -- the -- 6 Q So they use different words, but they're 7 describing the same functionality, aren't they? 8 A They're just -- 9 MR. GORYUNOV: Objection. Form. 10 Foundation. 11 THE WITNESS: So the -- I mean, I need 12 to be careful because this is claim language. If it 13 is two embodiments we could be loose and say probably 14 they're similar, but here it's talking about selecting 15 and initiating transfer. 16 BY MR. VARE: 17 Q So is the embodiment in claim 17, and the 18 claim language in claim 3 that we've been looking at, 19 just simply using different words to describe 20 basically the same feature? The selection of a 21 reduced-size video feed and substituting it or 22 promoting it to a full size video feed? 23 MR. GORYUNOV: Objection. Form. 24 Foundation. 25 A My understanding is that the claim language	Page 77 1 Q So, in paragraph 31 -- we looked at this 2 before -- you state that the 099 patent proposes a 3 mechanism where non-mesh endpoint users can use the 4 filmstrip user interface described above to exercise 5 the same control over their video presentation as 6 would a mesh-connected user. You see that? 7 A Yes. 8 Q And that's your opinion that's what the 099 9 patent says? 10 A I think that's from the specification. Let 11 me just confirm it. It says here column 15 46 to 49. 12 Q And you highlighted the, "User interaction 13 with the filmstrip received by the Star Server results 14 in the appropriate video stream being transmitted to 15 the star endpoint." Do you see that? 16 A Hang on one second. Yeah. Yes. 17 Q Was claim 3 describing a way that the user 18 at a non-mesh-connected endpoint can interact with the 19 filmstrip of reduced-size film feeds to promote that 20 reduced-size video feed to full size to view it at the 21 non-mesh-connected endpoint? 22 MR. GORYUNOV: Objection. Form. 23 A Could you repeat that again? 24 Q Is claim 3 describing a mechanism like what 25 you described and claimed -- or in paragraph 31 of

Page 78 1 your report, where the user at the non-mesh-connected 2 endpoint interacts with the filmstrip of reduced-size 3 film feeds to promote a reduced-size video feed to 4 full size so that it could be viewed at the 5 non-mesh-connected endpoint? 6 A It says here -- 7 MR. GORYUNOV: Objection to form. 8 THE WITNESS: Sorry. "A user located 9 at the non-mesh-connected endpoint to select the video 10 feed on the filmstrip for promotion to full size and 11 to initiate transfer the full size video to the 12 non-mesh-connected endpoint." 13 BY MR. VARE: 14 Q So yes? Is that your answer? 15 A The question -- answer is yes to a user 16 located the non-mesh-connected endpoint to select a 17 video feed on the filmstrip for promotion to full 18 size. 19 MR. VARE: Okay. We can take a break. 20 How long of a break do you need, 21 Dr. Reddy? 22 THE VIDEOGRAPHER: All right. Let's go 23 off the record. Off the record at 11:08. 24 (Off the record.) 25 THE REPORTER: And we are now back on	Page 80 1 A Good question. Let me -- let me look at 2 what it says here. It's only talking about what's 3 displayed at the mesh endpoints. Okay -- okay. Let 4 me go back to -- 5 Q Do you understand the question? 6 A I -- yeah. Maybe you could repeat it again. 7 Q Okay. So let me back up and let me see if 8 we can approach this grammatically. So if you look at 9 the language in that first clause of claim 3, it says, 10 "A plurality of end points," comma; okay? 11 A All right. 12 Q So a plurality of endpoints means more than 13 one endpoint; is that correct? 14 A That's correct. 15 Q So of the -- and now after that comma, it 16 says, "At least some of which," and that refers to the 17 plurality of endpoints; correct? 18 A Mm-hmm. 19 Q At least some of that plurality of endpoints 20 are connected in a mesh configuration, and at least 21 one of which is connected in a non-mesh configuration. 22 Do you see that? 23 A Yes. 24 Q So plurality of endpoints comma, some of 25 which are mesh-connected and at least one is
Page 79 1 the record at 12:19 p.m. 2 THE VIDEOGRAPHER: No, we're not. Now 3 we're on the record at 11:19. Thank you. 4 BY MR. VARE: 5 Q Dr. Reddy, let's go back to claim 3 of the 6 099 patent, please. Let me know when you're there. 7 A Yes. 8 Q So let's take the first clause. It recites 9 a plurality of endpoints, at least some of which are 10 connected in a mesh configuration, and at least one of 11 which is connected in a non-mesh configuration to a 12 selected one of the mesh-connected endpoints. You see 13 that? 14 A Yes. 15 Q So the plurality endpoints includes at least 16 some mesh-connected endpoints and at least one 17 non-mesh-connected endpoint. Is that correct? 18 A Yes. 19 Q And then you see in that same clause where 20 it says that there is a filmstrip with frames 21 containing reduced-size video feeds from the 22 conference participants. Do those -- does that 23 filmstrip include reduced-size video feeds from both 24 the mesh-connected endpoints and the 25 non-mesh-connected endpoint?	Page 81 1 non-mesh-connected. Is that correct? 2 A That's correct. 3 Q Then there's another comma. And then it 4 goes on to say, "And which are configured." So, given 5 the placement of the two commas, you agree that "And 6 which are configured," refers to the plurality of 7 endpoints? In other words, a plurality of endpoints 8 are configured? 9 A Seems to be here. Let's see. I'm trying to 10 understand here because this -- which are configured 11 such that the filmstrip with frames containing 12 reduced-size video feeds from the conference 13 participant is displayed at the mesh endpoints. So 14 the configuration here may be referring to the mesh 15 endpoints. Let me -- let me look through the 16 specification. 17 Q So I'm looking at the claim language. 18 A Correct. 19 Q Okay? 20 A Yes. 21 Q My question is very simple. 22 A Right. 23 Q In the context of the claim language, 24 there's a plurality of endpoints, comma. 25 A Right.

Page 82 1 Q Then there's a description of that plurality 2 of endpoints, some of which are mesh-connected. At 3 least one is non-mesh-connected, then there's another 4 comma, and which are configured. My question is, does 5 the claim say -- is the configure -- the and which are 6 configured -- is that referring to the plurality of 7 endpoints? 8 A Yeah. So that seems to be the case. 9 Q Okay. And so the plurality of endpoints are 10 configured such that a filmstrip with frames 11 containing reduced-size video feeds; okay? 12 A Mm-hmm. 13 Q So now the question is the filmstrip. 14 A Yes. 15 Q Are those reduced-size video feeds that 16 comprise the filmstrip coming from the plurality of 17 endpoints? 18 MR. GORYUNOV: Objection. Form. 19 Foundation. 20 A It seems to be saying the reduced video 21 feeds are coming from the conference participants. 22 Q Right. And the conference participants -- 23 so the reduced-size -- well, there's conference 24 participants at the plurality of endpoints; correct? 25 A Can you hang on one second? There's a --	Page 84 1 mesh-connected and at least one that is not 2 mesh-connected; correct? 3 A Yes. 4 Q And that plurality of endpoints is 5 configured such that a filmstrip with frames 6 containing reduced-size video feeds from the 7 conference participants is displayed. Do you see 8 that? 9 A Yes, I see that. 10 Q So the filmstrip with frames containing 11 reduced-size video feeds comes from the conference 12 participants? 13 A That's what the claim says, yes. 14 Q And there are conference participants at 15 some of the mesh-configured endpoints in at least one 16 non-mesh-configured endpoint; correct? 17 MR. GORYUNOV: Objection. Form. 18 Foundation. 19 A The claim is not making any of that clear. 20 Q So it's ambiguous in your opinion? 21 A Further down -- further down it seems to be 22 talking about mesh-connected participants. 23 Q Right. Okay. Let's explore that. So early 24 up in the first reference to the conference 25 participants, it doesn't say whether they're
Page 83 1 but just give me one second; okay? I'm going to -- 2 I'm getting an important call. I just need to take 3 it; okay? 4 MR. VARE: Do we need to go on a -- 5 MR. GORYUNOV: Yeah, let's take a quick 6 break. 7 THE WITNESS: Yeah, just one minute. 8 It won't take too long. 9 THE VIDEOGRAPHER: Going off the record 10 at 11:27. 11 (Off the record.) 12 THE VIDEOGRAPHER: On the record. 13 BY MR. VARE: 14 Q So here's the question. There are -- within 15 the context of claim 3, there are conference -- there 16 are conference participants at the plurality of 17 endpoints; correct? 18 A There are conference participants at 19 endpoints. I'm not sure that they're all at all the 20 endpoints. 21 Q Well, looking at the language of claim 22 3 -- I'm sorry to have to go back over this -- there's 23 a plurality of endpoints; correct? 24 A Yes. 25 Q And that plurality includes some that are	Page 85 1 mesh-connected or non-mesh-connected; correct? 2 A That's correct. 3 Q And it's in reference to a plurality of 4 endpoints; correct? 5 A The video -- the filmstrip seems to be 6 containing from the conference participants, yes. 7 Q Conference participants -- the claim doesn't 8 say they're mesh-connected or non-mesh-connected; 9 correct? 10 A Further down, it is saying mesh-connected. 11 Q Okay. I'm just looking at the first clause, 12 sir. 13 A The first clause is not saying that the -- 14 no. It just says -- 15 Q So the first -- yeah. The first reference 16 to the term the conference participant does not 17 distinguish between mesh-connected or 18 non-mesh-connected? 19 A It does not say what -- yes. There -- it 20 just says the conference participants. 21 Q And that first reference to the conference 22 participants is in the same clause of claim 3, which 23 recites a plurality of endpoints, some of which are 24 mesh-connected and at least one is non-mesh-connected. 25 Do you agree?

Page 86 1 A Yes. 2 MR. GORYUNOV: Objection to form. 3 THE WITNESS: That's what the claim 4 says. 5 BY MR. VARE: 6 Q And then later in the claim it does say 7 mesh-connected conference participants; correct? 8 A Yeah. Later it does say mesh-connected 9 conference participants. Yes. 10 Q Okay. And those conference participants 11 would be at the sum of the plurality of endpoints that 12 are mesh-connected? 13 A Which one are you talking about? The -- 14 the -- 15 Q The mesh -- the term the mesh-connected 16 conference participants -- those would be conference 17 participants at mesh-connected endpoints? 18 A Well, that seems to be the only thing that's 19 referring here. Yes. The mesh-connected conference 20 participants. 21 Q Right. But earlier, it doesn't make that 22 distinction between mesh-connected conference 23 participants or non-mesh-connected conference 24 participants. It just says the conference 25 participants; correct?	Page 88 1 Q And in this teleconferencing system claim, 2 there's video -- it's a video conference? At least, 3 that's one example of the teleconferencing system of 4 claim 3. Is that correct? 5 A Yes. 6 Q And you've got a user in that last control 7 connection clause, which I think is referred to as 3.4 8 in your declaration. 9 A Okay. 10 Q There's a user located at the 11 non-mesh-connected endpoint. Do you see that? 12 A Yes. 13 Q Is that user -- and we'll back up -- the 14 non-mesh-connected endpoint refers back to the -- all 15 the way to the first clause, 3.1, where the plurality 16 of endpoints includes at least one non-mesh-connected 17 endpoint. Do you agree? 18 A Yes. 19 Q Okay. So in this teleconferencing system, 20 there's a plurality of endpoints. Some are 21 mesh-connected and at least one is non-mesh-connected? 22 A Yes. 23 Q Correct? 24 A Yes. 25 Q And then there's a user located at the
Page 87 1 A That's what the claim says. 2 Q So looking at that first clause in claim 3, 3 the filmstrip with frames containing reduced-size 4 video feeds from the conference participants -- would 5 those reduced-size video feeds come from only one set 6 of conference participants, or could it come from both 7 a mesh-connected conference participant and a 8 non-mesh-connected conference participant? 9 A To -- to me, this seems like it's coming 10 from the mesh-connected conference participants. 11 Q Does it use the word mesh-connected in front 12 of the conference participants? 13 A In -- in claim -- element 1, no. 14 Q So now I want to move to the control 15 connection clause. 16 A Okay. 17 Q Why don't you read that quickly, and then 18 we'll go through it and parse it? 19 A Okay. 20 Q Have you read it? 21 A Yes -- yes. 22 Q Okay. So just kind of back up and look at 23 this broadly. Claim 3 is a teleconferencing system 24 claim; right? 25 A That's correct.	Page 89 1 non-mesh-connected endpoint? 2 A Yes. 3 Q Is that user on the video conference? 4 A What do you mean by on the video conference? 5 Q Is the user participating in the video 6 conference -- the user at the non-mesh-connected 7 endpoint -- is that user participating in the video 8 conference of claim 3? 9 MR. GORYUNOV: Objection. Form. 10 A So the user is allowed to clearly see the 11 video feed here, but there is a different notion here 12 about on the participants as part of the thing on the 13 top that seems to be that referring to mesh-connected 14 endpoints. 15 Q Is the user at the non-mesh-connected 16 endpoint participating in the video conference of 17 claim 3? 18 A Participating means observing. I don't know 19 what you're asking me. What -- what are you saying? 20 Q Do you understand what participating means 21 in the context of claim 3? 22 A Could be. I mean, so here the -- clearly 23 the participants here are talking about mesh-connected 24 conference participants. 25 Q Is the user at the non-mesh-connected

Page 90 1 endpoint participating in the video conference? 2 A He could be observing. He or she could be 3 observing the conference. 4 Q Is the user at a non-mesh-connected endpoint 5 on video such that there is a video feed from that 6 user at a non-mesh-connected endpoint? 7 A I would have to refer to the specification. 8 I don't -- let me -- let me -- let me go back and see. 9 It might save me time to just look at my report. 10 Yeah. Could you repeat the question again? 11 Q Is the user connected to a 12 non-mesh-connected endpoint in claim 3 able to both 13 receive and send video content? 14 MR. GORYUNOV: Objection. Form. 15 Foundation. 16 A Okay. Yeah. An endpoint is generally 17 unable to be able to send and receive video. 18 Q So, yes? 19 A In general, the user at the endpoint should 20 be able to send and receive video. Yes. 21 Q And in fact, if you go back to figure 8. 22 A Okay. Yes. 23 Q We know that the endpoint labeled 84 is a 24 non-mesh-connected endpoint? 25 A Correct.	Page 92 1 A Yes. 2 Q This is where the non-mesh-connected user is 3 interacting with the filmstrip to select a particular 4 reduced-size video feed? 5 A Yes. 6 Q And then the proxy that is connected to the 7 selected mesh-connected endpoint which receives video 8 feeds from other mesh-connected endpoints -- you 9 have -- you see that above? 10 A Mm-hmm. 11 Q And that proxy is also connected to at least 12 one selected non-mesh endpoint? See that in the 13 claim? 14 A Hang on, I'm reading it. Okay. What is the 15 question? 16 Q The proxy at the selected mesh-connected 17 endpoints -- 18 A Yes? 19 Q -- is also connected to a non-mesh-connected 20 endpoint? 21 A Selected endpoint for the non-mesh-connected 22 endpoint and connected to each of the mesh 23 connections -- video feeds, or it's -- it's receiving 24 the video feeds for the non-mesh-connected endpoints. 25 Doesn't quite say in element 2 it's directly
Page 91 1 Q And we know that the line between 84 and 82 2 is understood in the context of the patent as being 3 bidirectional -- a two-way IP communication; correct? 4 A I think -- we read something earlier. I 5 don't know if it referred to 89, but it -- yeah. 6 Generally the connections seem to be two-way IP 7 connections. 8 Q And so there would be a two-way IP 9 communication between the endpoint -- the 10 non-mesh-connected endpoint 84, and the mesh-connected 11 endpoint 82? 12 A I think that's what we read earlier, yes. 13 Q And so that two-way communication would 14 allow the user at the non-mesh-connected endpoint 84 15 to provide a video feed to the mesh-connected 16 endpoint; correct? 17 A That should be -- that should probably allow 18 him -- yes -- with -- with the two-way IP connection. 19 Q So let's go back to the control connection 20 clause. 21 A Okay. 22 Q So the user located at the 23 non-mesh-connected endpoint uses the control 24 connection to select a video feed on the filmstrip for 25 promotion to full size; right?	Page 93 1 connected to, but there is a server associated with 2 the proxy that is supplying the filmstrip. Correct. 3 Q So now the user at the non-mesh-connected 4 endpoint has a filmstrip of reduced-size video feeds? 5 A Video feeds from the mesh-connected 6 endpoints. 7 Q So the user located at the 8 non-mesh-connected endpoint has a filmstrip of 9 reduced-size video feeds from the mesh-connected 10 conference participants. Do you see that? 11 A Yes -- yes. 12 Q And then the user selects a reduced-size 13 video feed to promote it to full size? 14 A Yes. 15 Q Until the user makes that selection using 16 the control connection, you would agree that the video 17 feeds are still reduced-size? 18 A The -- I think it -- this is talking about 19 selecting one of those two for promotion to full size. 20 Yes. I'm trying to understand your question. What is 21 your question? 22 Q The question is, before the user actually 23 does that selection, the video feeds are still at 24 reduced-size in the filmstrip? 25 A In the filmstrip, yes.

Page 94 1 Q Okay. So the user has to do something. He 2 has to use the control connection to select one of 3 those reduced videos -- reduced-size video feeds to 4 promote it to full size. You agree with me? 5 A That's what the claim is asking for. 6 Yes -- yes. 7 Q And then after the user makes that 8 selection, the user is able to initiate transfer of 9 that full size video feed to that user's 10 non-mesh-connected endpoint? 11 A The control connection is -- is the one 12 that's initiating the transfer. 13 Q Right. But the user has to initiate that by 14 using the control connection; correct? 15 A Control connection permitting a user located 16 endpoint to select the video feed and to initiate 17 transfer at the full size video. Okay. I'm not sure. 18 Okay. That's a good question. 19 So that would be -- one way of interpreting 20 this would be is to say that these have to follow one 21 by one, and I'm trying to be careful here. 22 Control connection is permitting a user to 23 select and to initiate. Yeah. It's not clear that 24 they need to follow each other. All it's saying is 25 the control connection needs to allow both of those.	Page 96 1 A Yeah. That -- that would be one way of 2 implementing it, yes. 3 Q Okay. But my mouse doesn't do that on its 4 own, does it? I have to initiate that. I have to 5 make the selection. The user has to make the 6 selection. Isn't that correct? 7 A That's what it's clearly saying here. The 8 user is located at the mesh-connected endpoint is to 9 select. Yes. 10 Q Okay. And at that point, before the user 11 makes that selection, you would agree that the 12 filmstrip is still just reduced-size video feeds? 13 A That's correct. 14 Q And then after the user makes the selection, 15 one of those reduced-size video feeds can be promoted 16 to full size? 17 A That's correct. 18 Q So let's move back to Setton, Exhibit 1005. 19 A Okay -- okay. 20 Q So we talked a little bit about Setton and 21 the active sources earlier. They're labeled 102A 22 through E; correct? 23 A Correct. 24 Q And they have lines with the arrows on both 25 ends that indicate bidirectional communication?
Page 95 1 Q But if the user doesn't select a 2 reduced-size video feed, then how is a reduced-size 3 video feed ever promoted to full size? 4 A This could be -- I mean, depending on how 5 you implement this, it could be just -- I'm thinking 6 aloud here, which is that just the display is what -- 7 is what would be the thing that would be done based on 8 the control connection. 9 Q Is that what the claim says? The claim says 10 there's a control connection that permits a user 11 located at a non-mesh-connected endpoint to select a 12 reduced-size video feed; correct? 13 A Right. 14 Q So the user is permitted through the control 15 connection -- do you know what the control connection 16 is? 17 A Yes. 18 Q It's just a GUI interface, for example; 19 right? 20 MR. GORYUNOV: Objection to form. 21 A Yes. 22 Q You can take your mouse, and your pointer, 23 and I can go up to one of the reduced-size video feeds 24 on a filmstrip and select one of them. And I can then 25 promote it to full size; right?	Page 97 1 A Yeah. And that would be one way of 2 interpreting them. Yes. 3 Q So let's look at -- just to make sure that 4 that's one way of interpreting it is correct, let's 5 look at paragraph 23 of Setton. 6 So, paragraph 23, referring to figure 1, and 7 the active sources in the first portion labeled 102, 8 states, "The bidirectional arrows typically shown as 9 107 denote packet exchanges between the active 10 sources, for example, peers 102A, 102B, 102C, 102D, 11 and 102E." Do you see that? 12 A Yes, I see that. 13 Q And the bidirectional arrow shown as 107 in 14 that first portion of active sources allow 15 bidirectional communication of video; is that correct? 16 A That's correct. 17 Q And again, bidirectional in the context of 18 the active sources 102 means that those active sources 19 102A through E can both send and receive data such as 20 audio or video to each other? 21 A That will be the case, yes. Once you have a 22 bidirectional connection, yes. 23 Q Now in contrast with respect to the active 24 source 102E, active source 102D, and the active source 25 102C -- you see those?

Page 98 1 A Mm-hmm. 2 Q In reference to figure 1, there is a 3 unidirectional line which is one arrow going from the 4 active source to the relay/receivers 104A. 5 A I see that. 6 Q And that means that data such as audio or 7 video, is going into only one direction from the 8 active source to the relay/receivers; correct? 9 A I'm not sure. Let me read through to see if 10 they say that here. Okay. I don't see that 11 immediately here, so it could be there. I'm not sure. 12 Q Well, you would agree that in figure 1, the 13 lines between the active sources 102 within the first 14 portion 102 are bidirectional, meaning that there are 15 arrows at either end of the line? 16 A Yes. 17 Q The line going from 102 E, for example, to 18 the relay receiver 104 only has an arrow at one end; 19 correct? 20 A That's correct. 21 Q So the line is different? 22 A Yes -- 23 Q And do you understand that the difference in 24 that line indicates a difference in how the 25 communication occurs?	Page 100 1 to relay/receivers 104." Do you see that? 2 A I see that. And it says via a tree-based 3 peer-to-peer video multicast protocol, so. 4 Q Is there anything -- 5 A So when you say -- 6 Q Sorry. 7 A -- peer-to-peer video multicast protocol, 8 those two things allow a potential receiver to be able 9 to transmit as well. 10 Q So is there anything in figure 1 showing a 11 transmission of video from any of the relay/receivers 12 104 to any of the active sources 102? 13 A The -- the arrow is not showing that it is 14 going from the receivers to the active sources, but 15 the text here potentially allows that. 16 Q Do the relay/receivers 104 generate content 17 such as video content? 18 A This -- 19 Q -- as disclosed in Setton? 20 A It depends on the embodiment. 21 Q Are you aware of any embodiment described in 22 Setton in which it states that the relay/receivers 104 23 generate content? 24 A I would have to look through it, but here -- 25 I mean, the -- the language here says tree-based
Page 99 1 MR. GORYUNOV: Counsel, I think the 2 witness was trying to answer the question. Please let 3 him finish. 4 THE WITNESS: I mean, this is an 5 embodiment -- one embodiment that seems to be showing 6 that there is potentially the connection from 102E to 7 104A could be different from 102A to 102E, for 8 example. 9 BY MR. VARE: 10 Q The difference meaning the lines of 11 communication between the active sources, 102, is 12 bidirectional, which we confirmed; correct? 13 A That's what clearly the specification says, 14 yes. 15 Q And the line between 102E to one of the 16 relay/receivers, 104, is unidirectional? 17 A I'm not sure about that because it says it's 18 using video multicast. Video multicast would allow 19 you to, you know, be -- potentially have a -- the 20 connection backwards. 21 Q So in paragraph 23. 22 A Yes. 23 Q It says, "Referring again to 208 of figure 24 2, in embodiments in accordance with the present 25 invention, the aggregated media stream is transmitted	Page 101 1 peer-to-peer video multicast protocol. 2 Q Okay. Let's look at paragraph 18. 3 A Eighteen. All right. Okay. 4 Q Go ahead and read paragraph 18 to yourself. 5 Tell me when you're done. 6 A Okay. Yeah. It says here, "Which do not 7 generate content as being members of the second 8 portion." 9 Q The second portion comprising the 10 relay/receivers labeled 104; correct? 11 A That's correct. 12 Q And the sentence says those relay/receivers 13 labeled 104 do not generate content? 14 A In this embodiment, yes. 15 Q In contrast, the active sources are 16 described in paragraph 17 as generating content; 17 correct? 18 A Let me read through that again. Okay. This 19 here, it says, "As an example, a listener to a 20 teleconference who does not wish to speak, generate 21 content, but who wishes to be ensured prompt delivery 22 of generated content can indicate a preference to be 23 an active source." Okay. So what is the question? 24 Q So the active sources can generate content 25 where the relay/receivers do not generate content.

Page 102 1 That's what Setton says? 2 A Active sources can generate content, and in 3 those embodiments, relay/receivers do not generate 4 content. 5 Q If you look at paragraph 16, it says, "In 6 the embodiment depicted in figure 1, the peer-to-peer 7 network is comprised of a first portion of active 8 sources 102 and a second portion comprised of 9 relay/receivers 104." You see that? 10 A Hang on. I'm getting there. Yeah. Okay. 11 Q You agree that's what's shown in figure 1? 12 A That's what it is, yes. 13 Q And it then says, specifically, "Embodiments 14 in accordance with the present invention define those 15 peers which generate content, for example, a video 16 stream, an audio stream, et cetera, as active sources, 17 i.e. the first portion of the peer-to-peer network." 18 A Where are you reading this? 19 Q Is that what Setton discloses? 20 A Is that still -- still in figure -- 21 sorry -- paragraph 16? 22 Q Yes. 23 A Okay. Yeah. It says here clearly the ones 24 that generate content as active sources -- the first 25 portion of the network. But it doesn't -- but it does	Page 104 1 A Yes. 2 Q And then there's an arrow going to the next 3 step in the flow chart defining a first portion of a 4 peer-to-peer network. Do you see that? 5 A Yes. 6 Q And the first portion is as described in 7 Setton, the active sources labeled 102. Is that 8 correct? 9 A Yes -- yes. 10 Q And the next step in the flow chart is 11 defining the first portion of the peer-to-peer network 12 labeled 202 -- or I'm sorry -- defining it -- I'm 13 sorry. The next step is defining a second portion of 14 the peer-to-peer network labeled 204? 15 A That's correct. 16 Q And that second portion are the 17 relay/receivers labeled 104 in the Setton document; 18 correct? 19 A Let's make sure it's at 104. Yes. 20 Q Then the next step after you've defined the 21 first portion of active sources that generate content 22 and the second portion of relay/receivers that do not 23 generate content, you have a step which says, 24 "Utilizing the first portion to generate an aggregated 25 media stream." You see that?
Page 103 1 not define relay and receivers. 2 Q Well, we looked at the relay/receivers in 3 paragraph 18, didn't we? You want to go back there? 4 A Hang on. Let me see if it defines them, or 5 it says in an embodiment. Okay. It does define them 6 as peers who do not generate content as being members 7 of the second portion, yes. 8 Q And the first portion of active sources, 9 102 -- 10 A Right. 11 Q -- as shown in figure 1 are in a mesh 12 configuration? 13 A Yes. So the figure 1 is showing all the 14 active sources in mesh configuration. 15 Q And the second portion of relay/receivers is 16 shown in figure 1 are any non-mesh-configuration; 17 correct? 18 A That's correct. 19 Q So let's look at figure 2 of Setton. You'd 20 agree that figure 2 is a flow chart illustrating the 21 process for peer-to-peer media streaming in accordance 22 with the invention of Setton? 23 A It's showing an embodiment, yes. 24 Q Okay. And at the top of figure 2, the 25 top -- the first step in that flow chart is start?	Page 105 1 A Yes. 2 Q And so the active sources -- the first 3 portion generate in this flow chart, the media stream? 4 A Seems to be the case. Yes. 5 Q And then the next step, "Delivering the 6 aggregated media stream from the first portion to the 7 second portion." The aggregated media stream -- the 8 generation of content from the active sources, is now 9 delivered to the relay/receivers -- 10 A Yes. 11 Q -- in the second portion; correct? 12 A Yes. 13 Q Is there anything in figure 2 that shows 14 that relay/receivers can generate any media stream? 15 A It is not -- I mean, clearly the way this 16 thing is structured -- the embodiment -- the second 17 portion is receiving and not generating. 18 Q Is there any disclosure in Setton as to how 19 the second portion relay/receivers could ever select a 20 video feed of a filmstrip received from the active 21 sources and promote it to full size? 22 A I would have to look through it. I think I 23 used a combination of this. Yeah. What is the 24 question? 25 Q Is there any disclosure in Setton as to how

Page 106 1 the participants at their relay/receivers could select 2 a video feed of a filmstrip received from the active 3 source to make it a full size and then initiate a 4 transfer of that full-size video? 5 A I can't find it at this time. I think I've 6 used that combination. 7 Q So you would agree that the two 8 portions -- the two groups -- the active sources and 9 the relay/receivers that are disclosed in Setton are 10 treated differently; correct? 11 A In terms of in Setton? 12 Q Yes. 13 A It seems to be the case here, yes. 14 Q Okay. And they're treated differently based 15 upon the requirements and constraints as to how those 16 two different groups participate in the peer-to-peer 17 network; correct? 18 A They're -- they're treated differently, yes. 19 Some are generating content. Some are receiving 20 content. 21 Q Right. The active source portion is limited 22 to a small subgroup of peers, whose constraints such 23 as delay requirements, are the most stringent. That's 24 what Setton says; right? 25 A I'm not sure where you're reading that from,	Page 108 1 delay requirements, are most stringent." That's what 2 Setton says; correct? 3 A Hang on. I'm reading the -- in these 4 examples. It says here the roles may change over 5 time, so -- which is interesting. So that means an 6 active source could become a relay or -- okay -- while 7 others are observing. Additionally, the embodiments 8 in accordance to the present invention are able to -- 9 different quality of service or delay constraints. 10 Okay. All right. I'm not sure. Let's see. 11 I haven't come to the point where -- which ones you're 12 reading. Okay. What is the question again? 13 Q The question is, does Setton disclose that 14 typically the active source portion of the 15 peer-to-peer network is limited to a small subgroup of 16 peers whose constraints, for example, delay 17 requirements are most stringent? 18 A I'm -- I'm not finding what -- what you're 19 reading there. I mean -- 20 Q The last -- 21 A Yeah. Go ahead. 22 Q The very bottom of paragraph 14. 23 A Oh, very bottom. Okay. All right. Hang 24 on. 25 Q On column 1, or page 1.
Page 107 1 but -- but I think that the basic idea here is that 2 active sources have more capabilities in terms of 3 being able to generate content. Maybe a better 4 network connection, and not -- at least the -- the 5 relay/receivers are not receiving the -- generating 6 the content. 7 Q Well, do you agree that Setton discloses 8 that the active source portion is limited to a small 9 subgroup of users? 10 A It could be. I would have to read through 11 the -- read through the pattern to be able to make 12 sure if it makes that distinction. 13 Q And the active source portion is limited to 14 a small subgroup of peers because their 15 constraints -- their delay requirements are the most 16 stringent? Do you agree that's what Setton says? 17 A I don't know. If you're referring to 18 somewhere in the patent, please point to me and then I 19 will take a look. 20 Q Let's look at paragraph 14. 21 A Fourteen. Okay. 22 Q Now, I'm looking at the bottom of paragraph 23 14. It states, "Typically, the active source portion 24 of the peer-to-peer network is limited to a small 25 subgroup of peers whose constraints, for example,	Page 109 1 A Oh, at page 1. Okay. I'm reading all the 2 way at the bottom of 14 page 2. Okay. So that seems 3 to be the case here. In one embodiment -- in another 4 embodiment, they point out that the sources could be 5 back at -- as relays and relays could be back as 6 active sources. 7 Q Yeah. We're going to get there, Dr. Reddy. 8 Don't worry about it. 9 A Yeah. 10 Q My question is, does Setton disclose that 11 typically the active source portion of the 12 peer-to-peer network is limited to a small subgroup of 13 peers whose constraints, for example, delay 14 requirements, are most stringent? 15 A That's -- that's what it says here where 16 you're reading from -- 17 Q Does Setton also disclose that the relay 18 receiver portion of this network is comprised of peers 19 who do not suffer from those stringent constraints? 20 A Yes, it says so. It's -- it's right after 21 that where you read. Yes. 22 Q And the point is, the constraints -- the 23 delay requirements -- that relates to things like 24 bandwidth, for example; correct? 25 A No. Delay is different from bandwidth.

Page 110 1 Q Delay is different from bandwidth, but delay 2 would be one problem with having too many active 3 sources; right? 4 A No. Delay has to deal with the -- a 5 different notion, because if you are -- let's say 6 you're in the other end of the globe, and I'm here, no 7 matter how much bandwidth we have, there is going to 8 be delay. 9 So delay has two components. One is a 10 propagation delay, one is a transmission delay. So 11 only -- what you're referring to is only the 12 transmission delay. I'm sorry. The -- yeah. 13 Q The delay is a reason why Setton 14 distinguishes between active sources in the first 15 portion and relay/receivers in the second portion; 16 correct? 17 A At least in this paragraph 14, that seems to 18 be the case. 19 Q And if you read onto the next page 20 continuing in paragraph 14, Setton gives examples of 21 panel discussions, town hall meetings, community 22 events, presidential debates, and says, "In these 23 examples, typically only a small fraction of the large 24 number of participants are active at any point in 25 time, while the others are observing. In some cases,	Page 112 1 source, I think what they're saying is a receiver 2 could become an active source by generating content. 3 Q Is there anything in figure 1 that shows any 4 of the relay/receivers 104 switching their role? 5 A So not in figure 1, but clearly the text 6 here is offering a possibility than the different 7 embodiments. 8 Q And if a relay/receiver 104 in that second 9 portion wanted to change his or her role to be able to 10 generate content, then they would move up into the 11 active sources mesh configuration, wouldn't they? 12 A Right. The active sources are connected by 13 mesh. That's what this is showing. 14 Q And Setton teaches and wants to accommodate 15 this different quality of service requirements as 16 between the active sources and their relay/receivers? 17 A Different quality of service requirements, 18 yes. 19 Q And so Setton says, "Content generating or 20 constraint burdened peers are defined to active 21 sources and as a result of being defined to an active 22 source, do not result -- do not suffer from 23 unacceptable delays." That's what Setton teaches? 24 A Where are you reading that from? 25 Q Paragraph 28.
Page 111 1 the roles may change"; correct? 2 A Yes. 3 Q So putting aside the changing of the roles, 4 there's a small subgroup of active sources 5 participating actively in the video conference, and 6 then a larger group of passive relay/receivers who are 7 just observing? That's what Setton teaches; correct? 8 A The Setton seems to be teaching the 9 different set of users, yes. 10 Q Yes. Now, you've been jumping there. A 11 user may change his or her role. So, for example, an 12 active source user may decide to move from the first 13 portion to the second portion of relay/receivers; 14 correct? 15 A That's what it seems to be saying here, yes. 16 Q Okay. And then conversely, a relay/receiver 17 user might decide to take a more active role, but 18 would have to move up to the first portion of active 19 sources; correct? 20 A That's correct. 21 Q So you'd have to actually switch boxes to 22 change roles in the context of figure 1; correct? 23 A No. I mean, I'm not sure it's switch 24 boxes -- what you mean the switch boxes. But I think 25 in terms of what -- how they have defined an active	Page 113 1 A Okay. 2 Q But it starts off and talks about several 3 significant advantages are achieved by the embodiment 4 of the present invention. Specifically, embodiments 5 in accordance with the present invention accommodate 6 the different quality of service requirements of the 7 peers. Do you agree that's what Setton teaches? 8 A Yes. 9 Q Hence content generating or constraint 10 burden peers are defined to active sources and as a 11 result do not suffer from unacceptable delay issues. 12 Do you agree that's what Setton teaches? 13 A It's content generating or constrained 14 burden peers are defined to -- oh, so it says it 15 here -- it's constrained burdened peers are also 16 defined as active sources. 17 Now it's expanding the definition, so it's 18 expanding the active sources here to be both content 19 generating and constrained. 20 Q Right. 21 A So -- so I think we would -- so it's 22 actually expanding the thing now to be an active 23 source. Okay. Additionally, the architecture 24 employed -- the complexity of having a large set of 25 peers -- okay. I think -- I think that they are --

Page 114 1 okay. What is the question? 2 Q So does Setton teach that content generating 3 or constraint burdened peers are defined at active 4 sources and as a result do not suffer from 5 unacceptable delay issues? 6 A That's what it says here. 7 Q Okay. So if you did something, would you 8 agree that if you tried to modify Setton in a way that 9 eliminated this distinction that they've made between 10 active sources and relay/receiver sources -- the first 11 and second portion -- that would be contrary to what 12 Setton wants to achieve? Do you agree with that? 13 A I'm not sure what you mean by -- I think -- 14 I think that here the mind -- they're being mindful 15 about quality of service constraints. 16 And the -- the intent here seems to be is 17 that if you're not generating content or constrained 18 burdened, then you could be just receiving and don't 19 have to participate in sending data to lots of 20 users -- a lot of lot of other stations. So they're 21 just trying to be mindful of the quality of service 22 constraints. 23 Q Correct. So the active sources, based upon 24 Setton's teaching, are the -- that's the portion that 25 Setton wants to give the best quality of service to?	Page 116 1 Foundation. 2 A I mean -- yeah. I mean, I'm -- I'm not sure 3 where the -- the broad -- broad idea here seems to be 4 is what's laid out here and -- and I would have to go 5 through this clearly to be able to answer your 6 question. 7 But I've already answered that I think is 8 that the -- the way this thing is being organized is 9 that if you don't want to generate content, and you're 10 not participating actively as defined here, there is 11 no need for you to transmit that video from your side, 12 and you can save on the network resources, and be 13 mindful of the quality of service questions. 14 Q So the non-mesh-connected relay/receivers 15 who are not generating content -- they don't need as 16 good of quality of service or as much reduction in 17 delay as the active sources connected in a mesh; 18 correct? 19 A I -- yeah. I mean, so the -- the 20 clear -- clear thing would be is that if you're 21 observing, you're able to tolerate more delay while 22 you're participating. You definitely would need 23 smaller delays. And that's the general rule for most 24 of the teleconferencing systems. 25 MR. VARE: Why don't we take a break?
Page 115 1 A Yes. I mean, the -- one embodiment it says 2 there -- there -- they should have a lower delay. And 3 there's other ones that are generating the content and 4 they want to be able to aggregate that content to send 5 it to others. So they're making a distinction between 6 active sources versus relay/receivers. 7 Q And so if you've modified Setton in a way 8 that exacerbated the delay, and reduced the quality of 9 service for the active sources, that would be contrary 10 to what Setton wants to achieve? 11 A I mean the -- the -- I think what they're 12 trying to distinguish here is that some -- some of the 13 sources are generating content, and they would have an 14 additional -- what should they say -- the task of just 15 transmitting that content to others, and they're being 16 mindful of that issue, and being mindful of the 17 network constraints of quality of service. 18 Q Okay. Setton being mindful of those 19 constraints, avoiding delay, providing quality of 20 service to the active sources -- you would agree with 21 me that if you modified Setton where you eliminated 22 all those things -- you reduced quality -- you 23 increased delay -- that would be contrary to what 24 Setton wants to achieve? 25 MR. GORYUNOV: Objection. Form.	Page 117 1 It's 1:22 Eastern, 12:22 Central. Why don't we take a 2 lunch break at this point in time? 3 THE VIDEOGRAPHER: Going off the record 4 of 12:22. 5 (Off the record.) 6 THE VIDEOGRAPHER: 1:07. 7 BY MR. VARE: 8 Q Dr. Reddy, during the lunch break, did you 9 review any materials relating to your declaration or 10 today's deposition testimony? 11 A No. 12 Q And did you talk to anybody relating to your 13 declaration or today's deposition testimony? 14 A No. 15 Q I have introduced what's been labeled as 16 Exhibit 1007. 17 (Reddy Exhibit 1007 was marked for 18 identification.) 19 If you refresh, you should be able to see 20 it. It's the Apostolopoulos patent application. 21 A Yes, I see it. 22 Q So this reference you rely upon in rendering 23 your opinions with respect to the 099 patent in this 24 case; correct? 25 A Hang on one second. It hasn't loaded yet

Page 118 1 here. Okay. Yes. 2 Q So Exhibit 1007 -- I'm just going to have 3 you turn to kind of the first page of text, and in 4 particular, paragraph 2, the technical field. 5 A Yes. 6 Q And I'm just trying to get a better 7 understanding what this is all about. And so it says 8 it's directed to communication in a virtual 9 environment. Is that like virtual reality? 10 A -- communication in a virtual environment. 11 I think that's broadly what this is referring to, 12 because it's talking about three-dimensional. 13 Q Three-dimensional virtual reality? 14 A Right. 15 Q Like, a online video game, like, Minecraft 16 or Fortnite? Something like that? 17 A That could also be exactly. Right. So, but 18 it could be just -- not necessarily a -- a game 19 environment alone, but it could also be a virtual 20 reality kind of environment, so. 21 THE REPORTER: And Doctor, could I 22 please just remind you again -- 23 MR. VARE: And if you look at -- 24 THE REPORTER: -- to try and speak up 25 wherever possible if you could?	Page 120 1 Q And so in that case, that's not a mesh 2 network -- what they're describing in paragraph 23? 3 A Here they're talking -- seems to be talking 4 about star topology. 5 Q Right. And if you go back to figure 3B? 6 A Yes. 7 Q And that's what was -- that figure was 8 referenced in paragraph 23 that we just looked at. 9 Figure 3B shows a star topology; correct? 10 A Shows -- it shows -- yes -- a star topology. 11 Q And you've got four nodes connected all 12 communicating through -- necessarily through that 13 central server 330? 14 A That's what this figure is showing. 15 Q Does that central server -- I mean, it says 16 it provides processing capabilities for the nodes; 17 correct? 18 A That -- that's what it says in figure -- 19 paragraph 23, yes. 20 Q Okay. Do you recall seeing any disclosure 21 in this reference Exhibit 1007 where the server serves 22 a filmstrip of reduced-size video feeds? 23 A I mean, clearly this figure is showing that. 24 the -- the central server is going to enable 25 communication between those nodes, so these nodes are
Page 119 1 THE WITNESS: Sure, I will. 2 THE REPORTER: Thank you. I appreciate 3 that. You guys can keep going. 4 BY MR. VARE: 5 Q So in paragraph 22, it also says in figure 1 6 the network supports an N-way collaborative virtual 7 environment. 8 A Yes. 9 Q See that? 10 A In -- in one embodiment. Yes -- yes. 11 Q Yeah. And part of that environment includes 12 what they call a central node or central server? 13 A Are you referring to somewhere in the text 14 here? 15 Q Well, I think it's in the text, and it's 16 also, you know, labeled 365 and sometimes labeled 130. 17 But, for example, in paragraph 23, it says, "One or 18 more central nodes are also coupled to the network 140 19 to facilitate communication topologies that require 20 central server capabilities." Do you see that? 21 A Yes -- yes. 22 Q "For example, a star topology implements a 23 central node 130 for providing processing 24 capabilities." 25 A Okay.	Page 121 1 involved in a video transmission. Obviously the 2 central server or node is going to be transmitting 3 that information to this node 340A, 340B, 340C, 340D. 4 Q But is there any specific disclosure that 5 that server serves a filmstrip of reduced-size video 6 feeds? 7 A Okay. That's -- let me see if there 8 is -- there here anywhere. Think -- on combination 9 here. It is talking about performance metrics -- 10 using performance metrics to enable communication. 11 So if you have -- don't have bandwidth, it's 12 likely that it is going to reduce your quality of the 13 video or compress. 14 Q But there's no disclosure -- there's no 15 teaching of actually the server serving a filmstrip or 16 reduced-size video fees? 17 A It says the metrics are concerned -- 18 adapting network topology. Give the best performance 19 and quality of communication between the 20 collaborators, at least in paragraph 75. I'm sure 21 there's more of this in the -- in the patent, if I can 22 take time to review it. 23 Q What paragraph? 24 A Paragraph 75. 25 Q And it's your opinion that paragraph 75

Page 122 1 talks about serving reduced-size video feeds in a 2 filmstrip? 3 A It's talking about adapting the network 4 topology and the -- and the other things based on the 5 performance metrics. 6 Q So you would agree with me that this central 7 server of Exhibit 1007 generates what's called view 8 dependent video streams for the virtual reality 9 environment? 10 A Depends on what -- what is being produced. 11 So based on what -- what I'm reading here, this 12 central server -- it's going to use performance 13 metrics, and then based on that it is going to adapt 14 the topology and -- sorry -- and the video that maybe 15 just sent to the -- the different nodes. 16 Q There's no express teaching of that there, 17 is there? The paragraph you're -- they don't say one 18 example that the central server can do is serve 19 reduced-size video feeds? 20 A And that's something that's well known in 21 the art at the time because bandwidth has been a 22 constraint for sending video for a long periods of 23 time. 24 And since the time people started 25 transmitting video, there's been a lot of attention to	Page 124 1 adjust the video feed based on where the user's view 2 is. 3 Q And that is focused on generating and 4 presenting a view in a 3D virtual environment from the 5 user's perspective in that environment; correct? 6 A Right. So I mean, this is the video that's 7 being generated at that -- at that -- at that point, 8 yes. 9 Q Would you agree that Apostolopoulos 10 describes that the images of sending collaborators are 11 generated from the viewpoint of the receiving 12 collaborator? 13 A That's what the next sentence says. "Images 14 in real time of a sending collaborator are generated 15 from the viewpoints of receiving collaborator within a 16 virtual --" yes. In this embodiment, that seems to be 17 the case. 18 Q And in that embodiment, the generated images 19 are synthetic and different from the sample video 20 streams of sending collaborators? 21 A Okay. So images are generated by new view 22 synthetic techniques based on sample video streams of 23 the sending collaborator. That seems to be the case 24 here, followed by what you just read. 25 Q And again, in that embodiment, the
Page 123 1 how to reduce the bandwidth demands and how to 2 effectively compress the video without losing a lot of 3 quality, and to be able to adapt if you have multiple 4 different users to be able to get different qualities 5 of video to them through, you know, various techniques 6 called layered video transmission. So this is well 7 known in the art at the time. 8 Q So I asked you this before. The central 9 server of Apostolopoulos generates view dependent 10 video streams for the virtual reality environment. Do 11 you agree that's taught? 12 A So maybe it's easy to -- if you point to a 13 particular paragraph and -- and I think that's 14 definitely there in -- in this somewhere -- and 15 somewhere in the text of the description, yes. 16 Q So you agree with me? So what I'm trying to 17 understand is what does view dependent and user 18 dependency mean? So let's look at paragraph 26. 19 A Okay. 20 Q In paragraph 26, the reference says, "User 21 dependency is defined by the user's viewpoint within 22 the N-way collaborative virtual environment. 23 A Okay. I think this is referring to if you 24 have a scene and you want to be able to render what 25 the user is seeing, and so you want to be able to	Page 125 1 view-dependent three-dimensional virtual environment 2 involves presenting that generated view dependent 3 images of the sending collaborators in a display of 4 the receiving collaborator; correct? 5 A From the viewpoint of receiving 6 collaborator, yes. 7 Q And you would agree then, that the receiving 8 collaborator in that embodiment of Apostolopoulos 9 displays the generated images instead of video 10 streams? 11 A Not sure I understand your question. It 12 says, "Images in real time of a sending collaborator 13 example, sending collaborator are generated from the 14 viewpoints of receiving collaborator." Okay. 15 Images are generated by new view synthesis 16 technique based on sample video streams of the sending 17 collaborator. Okay. I'm not sure what you are 18 asking. 19 Q So you would agree that the receiving 20 collaborator in this embodiment displays the generated 21 images instead of the actual video stream? 22 A The images are generated by -- yeah. That 23 seems to be the case here. So there seems to be 24 receiving the sample video streams, and they're 25 somehow processing it to generate a -- something

Page 126 1 different, yes. 2 Q So let's go to the next paragraph, 27. 3 A Okay. 4 Q And this talks about construction of new 5 views of a sending collaborator. Do you see that? 6 A Yes. 7 Q And you would agree that in this embodiment, 8 the phrase "new view" refers to a view dependent 3D 9 virtual environment that was just described in 10 paragraph 26? 11 A That seems to be the case, yes. 12 Q And you would agree that that generated new 13 view is different from various real-time video streams 14 of the sending collaborators? 15 A The view seems to be generated from the 16 sample video streams. 17 Q And that's different from the various 18 real-time video streams? 19 A Not sure what you mean by different, but it 20 is -- you know, you may have to stitch a bunch of 21 these video streams together to generate what is being 22 presented there, so -- 23 Q And this new view is taken from a new and 24 arbitrary perspective? 25 A The new view synthesis technique construct	Page 128 1 generated, glued, or however you want to call it from 2 the video streams that are coming from the sender's 3 cameras. 4 Q And then in paragraph 28, it also describes 5 creating avatars that represent the sending 6 collaborators in the view of the receiving 7 collaborator? 8 A Yes -- yes. 9 Q And the avatars -- that's like a -- it's 10 described as a synthesized graphic of the sending 11 collaborators that's positioned within the 12 three-dimensional space of the virtual environment; 13 correct? 14 A Right. 15 Q And again, would you agree that the avatars 16 described here are different from the real-time video 17 streams of the sending collaborators? 18 A Right. So this avatar would be a 19 representation of the sender in that environment. 20 Q So you would agree? 21 A Yes. 22 Q And you would agree that the sending 23 collaborators -- that the sending collaborator renders 24 its avatar from the perspective of another 25 collaborator as generated?
Page 127 1 from various real time streams -- it says here new and 2 arbitrary perspective. Yes. 3 Q Okay. And that new view described in that 4 paragraph 27 corresponds to the information that's 5 presented visually in the display of a receiving 6 collaborator; is that correct? 7 A Respective received collaborator, yes. 8 Q And that receiving collaborator displays the 9 generated images instead of video streams? 10 A It seems like they're taking the video 11 streams and then gluing them back to what is being 12 presented at the receiving collaborator. 13 Q All right. Let's move on to paragraph 28. 14 A Okay. 15 Q I want you to read through that paragraph 16 28, and let me know when you're done. 17 A Okay. 18 Q You would agree, Dr. Reddy, that in 19 paragraph 28, that builds on and refers to that same 20 view-dependent 3D virtual environment described in 21 paragraph 26 and 27? 22 A That seems to be following that, yes. 23 Q And that the 3D model is different from the 24 real-time video streams of the sending collaborators? 25 A Yeah. It seems like this model is being	Page 129 1 A It seems -- not sure what the question is, 2 but the avatar is being generated from the perspective 3 of the sender, but it's being displayed on the 4 receiver's perspective. 5 Q Right. And that collaborator, once that 6 avatar has been generated, transmits its avatar to the 7 receiving collaborators? 8 A Right. 9 Q And that the receiving collaborator displays 10 the avatar instead of any real-time video stream? 11 A Well, I think it seems to be doing both. 12 Q In paragraph 28? 13 A No, because it's talking about avatar and 14 also the environment. So the environment could be 15 from the real video stream and the avatar could be 16 synthetically generated. Seems to be -- 17 Q So the avatar is synthetically generated? 18 A That's right. That's what I just said. 19 Q Okay. And that avatar is rendered from the 20 perspective of other collaborators; correct? 21 A That's what this paragraph seems to say, 22 yes. 23 Q And I'm just reading it -- "As a result, the 24 images of the avatars are sent to the receiving 25 collaborators"; correct?

Page 130 1 A Yes. And that's what's -- what the 2 paragraph says, yes. 3 Q Okay. So I want to step back a little bit 4 to paragraph 25. 5 A Yeah. 6 Q And so in paragraph 25, it's talking about 7 nodes within the communication network that can 8 produce data streams or other nodes within the 9 communication network. 10 A Yes. 11 Q And in the embodiment we've been talking 12 about, the data streams are user dependent? 13 A Okay. 14 Q Do you agree? 15 A I mean, that's what it says. Yeah. 16 Q Okay. And the data stream that's generated 17 by the sending collaborator is dependent upon to which 18 receiving collaborator is receiving the data stream? 19 A That is, the sending collaborator sends 20 potentially different data streams to each of the 21 other receiving collaborators. Yes. 22 Q And the sending collaborator that's sending 23 different data streams to other collaborators 24 described in paragraph 25 -- that relates to these 25 avatars that is -- you know, we looked at in paragraph	Page 132 1 A Let me read through this. It says in other 2 embodiments, so I don't know if it is talking about 3 the same or not. Okay. What is your question? 4 Q Okay. So again, this embodiment is talking 5 about the rendering of a 3D model of the sending 6 collaborator? 7 A That seems to be the case. 8 Q And it also relates to a view-dependent 3D 9 virtual environment? 10 A It seems to be the case. 11 Q And the new views of sending collaborators 12 in that 3D space that we've been talking about in 13 paragraphs 26 through 28? 14 A It seems like it's using a different 15 technique to do that, but yes. 16 Q Same result? 17 A Could be. Yes -- yes. 18 Q And let's move to paragraph 30, and now it's 19 talking about other embodiments. So now we've talked 20 about an embodiment in paragraphs 26, 27, and 28. We 21 just talked about in other embodiments discussed in 22 paragraph 29. And now we're going to paragraph 30, 23 and we're talking about in other embodiments. Do you 24 see that? 25 A Mm-hmm.
Page 131 1 28; correct? 2 A Could be, but it also could be this -- at 3 least for at that time it was well known depending on 4 the network connection, you might send different 5 quality data streams, for example, to others. 6 So if I have a bandwidth connection that's 7 very good, I might get high-quality video stream. If 8 somebody else does not have a good network connection, 9 you might get a slightly lower-quality video stream. 10 Q Does paragraph 25 say anything about that? 11 A Well, it's saying it's sending different 12 data streams. And I'm just trying to -- 13 Q And then -- 14 A -- I'm telling you what that could mean. 15 Q And then paragraphs that we just read -- 26, 16 27, 28 -- those are all -- that embodiment that 17 follows paragraph 25 is all talking about the avatar 18 that gets rendered -- the user -- the 19 perspective-based avatar; correct? 20 A In those embodiments; right. So it is in 21 one embodiment that that's the case, yes. 22 Q Let's go to paragraph 29. 23 A Okay. 24 Q So paragraph 29 also relates to the 25 three-dimensional model of the sending collaborator.	Page 133 1 Q Again, would you agree that the other 2 embodiments talked about in paragraph 30 also relate 3 to the view-dependent 3D environment and the new views 4 of sending collaborators in that 3D space? 5 A Yes. 6 Q Moving onto paragraph 31. And would you 7 agree that paragraph 31 is talking about 8 view-dependent 3D environments and the new views of 9 sending collaborators in a 3D space? 10 A Seems to be talking about virtual 11 environments and rendering, yes. 12 Q And moving to paragraph 32. 13 A Mm-hmm. 14 Q Paragraph 32 says, "While the present 15 embodiment is described within the context of an N-way 16 collaborative agreement --" the present 17 embodiment -- that's relating to the embodiment that 18 was just described -- the view-dependent 3D virtual 19 environment and the new views of sending 20 collaborators; correct? 21 A Sorry. What is the question? 22 Q So 32 refers to the present embodiment. You 23 see that paragraph 32 says, "While the present 24 embodiment"? 25 A Right.

Page 134 1 Q The present embodiment is the embodiment 2 that we've just been talking about, or the embodiments 3 that we've been talking about from paragraphs 26 4 through 31 that are all view-dependent 3D virtual 5 environments; correct? 6 A It seems to be, in the sense it's here -- in 7 the context of N-way collaborative environments. 8 Q So you agree? 9 A Well, those -- all those embodiments are 10 the -- the patent writer is saying they're all N-way 11 collaborative environments. 12 Q They're all the view-dependent 3D virtual 13 environment? 14 A I mean, the -- the stuff that we looked 15 at -- they were view dependent, but here he's saying 16 they are N-way collaborative environments -- video 17 conference. It says here -- that's example -- an N- 18 way collaborative video conference. 19 So it seems to be a bit more broader here, 20 because it's also bringing up video conference as an 21 example. 22 Q But again, my question is focused on the 23 present embodiment that's talked about in paragraph 24 32. At this point, the only present embodiment are 25 those embodiments that are the 3D-view dependent	Page 136 1 space, like the paragraphs 26 through 32 above. 2 A It says, "N-way collaborator environment," 3 so it's also -- in the example it says, "video 4 conference". Yes. 5 Q Again, these are in paragraph 54. Again, 6 these are view-dependent 3D virtual environments that 7 this is referring to? 8 A I'm not sure. It says, "N-way collaborative 9 environment." And then earlier we saw -- 10 Q So it's not view-dependent 3D virtual 11 environments? 12 A That's one of the -- that's one of the -- 13 that's one of the embodiments, but there are other 14 embodiments as well. 15 Q Well, the next paragraph, in 55 -- see if 16 that -- we can get some clarity on what environment is 17 actually being discussed. 18 In the next paragraph 55, it talks about the 19 full mesh topology that we were just referring to is 20 able to generate a 3D model and viewpoint for other 21 users by the local collaborator. So again, that's a 22 3D view-point embodiment that we're talking about in 23 paragraph 55? 24 A That's correct. 25 Q And then 56, it refers to a star
Page 135 1 embodiments that we've been talking about? 2 A The ones that are in the paragraphs 29, 3 31 -- 31 are view-dependent renderings. Yes. 4 Q Okay. So let's flip ahead to paragraph 54. 5 A Okay. 6 Q Let me back up. In paragraph 53, this 7 reference, Exhibit 1007, discusses a full mesh 8 communication topology; correct? 9 A -- diagram -- yes. 10 Q And the reference notes teaches that the 11 full mesh topology that they're discussing is focused 12 on where there's a lesser amount of collaborators and 13 most appropriate when the number of users N is small, 14 approximately two to ten? 15 A Yes. 16 Q And the full mesh topology is not 17 appropriate if the number of participants becomes much 18 larger? 19 A Yes. 20 Q You agree? 21 A That's what -- that's what it says there, 22 yes. 23 Q Okay. And so in paragraph 54, again, we're 24 talking about view-dependent 3D virtual environments. 25 And new views of sending collaborators in that 3D	Page 137 1 communication topology in figure 3B; correct? 2 A Yes. 3 Q Moving on to paragraph 61. 4 A Yes. 5 Q And now we get -- we're introduced to a 6 central node 330. And this central node is a server 7 that performs most or all of the processing on the 8 videos of the local collaborator; correct? 9 A It says, "Central node 330 performs most or 10 all of the processing on the captured video." Yes. 11 Q Those are computer computational 12 tasks -- processing tasks being performed by the 13 server? 14 A Could be, yes. It says processing, yes. 15 Q And one of the processing tasks is that it 16 uses new view synthesis techniques to render output 17 video, images, streams from the perspective of 18 collaborators. You see that? 19 A Yes, I see it. 20 Q Again, that's a synthesized output? 21 A New view synthesis. It seems to be. That's 22 what -- they're doing synthesis here. 23 Q That's not a real time video. It's a 24 synthesized output? 25 A On the new view synthesis -- synthesis

Page 138 1 techniques here. I mean, it's not talking necessarily 2 synthesizing, but it's just saying synthesis 3 techniques. Synthesis is a bit broader than what we 4 saw earlier. 5 Q You would agree that as being described in 6 paragraph 61, that the output video image streams from 7 the perspective of collaborators are being displayed 8 by the receiving collaborator, not the real-time 9 video? 10 A -- output video image streams. It says, 11 "Video streams from the perspective of the 12 collaborators that are viewing the local 13 collaborator." Okay. What is the question? 14 Q Yeah. That the output video image streams 15 that have been rendered through these synthesis 16 techniques -- that's what's being displayed by the 17 receiving collaborator and not real-time videos? 18 A I think it could be a combination because 19 earlier they were talking about both video streams and 20 renderings. So it's -- I think it's a combined -- it 21 could be a combination. 22 Q Is there anything in paragraph 61 that says 23 it combines with real-time video? 24 A It says video image streams, so synthesis 25 techniques -- so synthesis could be just sending it as	Page 140 1 Q Is it your opinion that when it calls it a 2 synthetic collaborative environment, that can include 3 a real environment? 4 A I think it's potentially possible, yes, if 5 you're not generating any synthetic images. 6 Q You would agree that in the preceding 7 paragraph 61, it says, "The central node would perform 8 the new view synthesis techniques to render output 9 video image streams," so it's applying a synthesis 10 technique to render something? 11 A Yes. 12 Q Okay. So let's move to another topology 13 reflected in figure 3C. Are you familiar with figure 14 3C? 15 A Going up there. Yes. 16 Q And is that a hybrid topology? 17 A Let me look at what it says in the 18 description. I think that's what it calls it. Yes. 19 Hybrid topology. 20 Q And would you agree that -- or is it in your 21 opinion that nodes 350A, 350B, and 350C are in a mesh 22 configuration as shown in figure 3C? 23 A Could you repeat that question? 350A? 24 Q 350A, 350B, and 350C are in a mesh 25 configuration?
Page 139 1 it is. It still would be considered synthesis. 2 Q So you're synthesizing -- you're using 3 synthesis techniques. Is that your opinion? You're 4 using synthesis techniques to render output video 5 imaging streams by not synthesizing? 6 A Well, it depends on what the -- what the 7 synthesis technique requires the output to be. If it 8 needs to be as it is, we would send it as it is, 9 depending on the perspective of the collaborator as it 10 says later on. And further down, 62 says it's 11 compressed as a video signal. 12 Q That's processing performed by this central 13 server? 14 A Central node -- yes -- 330, yes. 15 Q But that's referring to the synthetic N-way 16 collaborative environment? 17 A It says, "The synthetic N-way collaborative 18 for each collaborator can be generated and compressed 19 as a video signal." 20 Q And synthetic is referring to this 3D 21 virtual environment? 22 A Well, I think we just went over that again, 23 just a bit of a -- a while ago. It depends on the 24 application. Depends on the perspective that's being 25 generated.	Page 141 1 A Yes. 2 Q And then you've got other nodes 361A, 361C 3 and 361 -- looks like C is repeated. Looks like there 4 may be a typo, but 361 -- those nodes -- they're not 5 in a mesh configuration, are they? 6 A No. 7 Q But they're coupled to a central node 365? 8 A That's correct. 9 Q And that central node 365 is a server that 10 provides processing power for generating communication 11 data streams? 12 A That seems to be the case, yes. 13 Q And one objective, I guess, it looks like is 14 being stated is that this star topology reflected in 15 360 could include a group of low power cell phone 16 clients at those nodes 361A through C? 17 A Is there a question? 18 Q Yeah. So the star topology 360 of figure 19 3C? 20 A Yes. 21 Q That's directed to -- or at least in part to 22 the group of low power cell phone clients at nodes 23 361A through C? 24 A Okay. Let me see. It could be one of those 25 embodiments, but let me see what the description says.

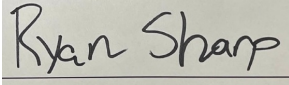
Page 142 1 Q I'm referring to paragraph 70. 2 A Seventy? Okay. And it says for example, 3 yes. 4 Q So we were going back and forth on using 5 this synthesis technique to render video image 6 outputs; correct? 7 A You mean when you were asking me questions 8 earlier? 9 Q Yeah. 10 A Yes. 11 Q And do you know whether the reference, 12 Exhibit 1007, describes synthetic renderings? 13 A What is your question? 14 Q Do you know whether this reference describes 15 what it means by synthetic rendering? 16 A Oh, I'll have to look through the document 17 carefully. 18 Q But would you agree that the outputs that 19 synthetic rendering refers to when you take outputs 20 combined with 3D computer generated synthetic render 21 of the background, to provide photorealistic versions 22 of sending collaborator within this virtual 23 environment -- is that a fair -- 24 A That could be -- 25 Q -- understanding of Apostolopoulos?	Page 144 1 you one more time if you could speak up a little bit. 2 THE WITNESS: Okay. Sure -- sure. 3 Okay. 4 BY MR. VARE: 5 Q Let's go to paragraph 80. Paragraph 80 is 6 talking about another embodiment, and here the 7 communication topology supports generating view 8 dependent video image streams in a format 9 substantially complying with MPEG-4 communication 10 standards. Do you see that? 11 A I see it. Yeah. 12 Q And in this embodiment here -- this 13 embodiment describes representing 3D objects in 3D 14 space through the use of 2D images encoded in MPEG-4? 15 A Generating view-dependent video through MPEG 16 video, yes. 17 Q And in this embodiment in paragraph 80, it 18 describes representing portions of collaborators, such 19 as just their head and shoulders, as separate objects? 20 A Head and shoulders -- okay. Say what is the 21 question. 22 Q So this embodiment in paragraph 80 describes 23 representing portions of collaborators, such as just 24 their head and shoulders as separate objects. 25 A The motivation is that objects/people in a
Page 143 1 A That could be one -- one understanding, and 2 I think there could also be an understanding of where 3 if you have multiple cameras and you're stitching that 4 feed from the multiple cameras -- that could also be 5 considered a synthetic rendering. 6 Q What's IBVH? 7 A I think we saw that earlier in a -- there's 8 a technique for -- that was in the earlier paragraph 9 that we just saw here. 10 Q Is it a synthesis technique? 11 A It looks like it's a rendering technique 12 here. It says image-based virtual hull. 13 Q And that renders a 3D model? 14 A It's -- apparently so. 15 Q And other reconstruction techniques other 16 than IBVH can also render 3D models? 17 A The other reconstruction techniques -- IBVH 18 and image-based polygonal reconstruction. It is at 19 least talking about two of them here. 20 THE REPORTER: And Doctor, can I remind 21 you one more time to speak up a little bit? Sorry, 22 but I have to do that. 23 THE WITNESS: Sorry, what is -- what 24 did you say? 25 THE REPORTER: Oh, I was just asking	Page 145 1 scene can be expressed as a two-dimensional image with 2 potentially arbitrary shape. The arbitrary shape 3 portrays 3-D spatial position, perspective -- okay. 4 What is it -- okay. 5 Q So you agree that's what the embodiment is 6 describing? 7 MR. GORYUNOV: Objection to form. 8 A I'm not sure what is your question. Could 9 you repeat the question again? 10 Q Yeah. Would you agree that the embodiment 11 in paragraph 80 describes representing portions of 12 collaborators, such as their head and shoulders, as 13 separate objects? 14 A The motivation. Okay. Yes. It says here, 15 "The motivation is that objects/people in a scene can 16 be expressed as a two-dimensional image, with 17 potentially arbitrary shape and shoulder shape." Yes. 18 THE REPORTER: Doctor, could you speak 19 up whenever you're kind of reading from there? I 20 understand that it's probably pretty easy to, like, 21 mute yourself or decrease your -- your voice volume, 22 but please just make sure it's a standard audible one. 23 THE WITNESS: Okay. All right. 24 BY MR. VARE: 25 Q And these objects described in paragraph 80

Page 146 1 are separately transmitted to be rendered in a 2 synthesized 3D environment? 3 A The objects are then transmitted in a 4 different MPEG-4 streams. It says so at the end of 5 the paragraph. 6 Q So you agree with that -- that that's what's 7 being described? That the object -- that it describes 8 representing and transmitting objects separately to be 9 rendered in a synthesized 3D environment? 10 A -- streams. That's what it's describing at 11 the end of that paragraph. Yes, in this embodiment. 12 Q And in paragraph 81, it talks about yet 13 another embodiment in which the collaborators -- some 14 of them may be human and some of them are computers. 15 Do you agree? 16 A That's what it says at the beginning of 81. 17 Yes. 18 Q All right. And in this embodiment described 19 in paragraph 81, the computer -- at least one of the 20 nodes may generate an avatar to provide the visual and 21 audio attributes? 22 A That's what it says. 23 Q And again, that's a view-dependent 3D 24 virtual environment involving avatars for 25 collaborators?	Page 148 1 broad term in computer programming, so this could be 2 here -- mean dependent -- because it says it's in 3 another embodiment -- in another embodiment object 4 could be video, for example. 5 Q And in this context, at least, just a couple 6 of paragraphs earlier, the objects were 7 two-dimensional arbitrary shape objects; correct? 8 A In 80 -- let's -- you're talking about 9 paragraph 80? 10 Q Yes. 11 A It says here, again, "Object/people." So 12 even here it's hedging what it says here. "A scene 13 can be expressed as a two-dimensional image with 14 potentially arbitrary shape --" example -- head and 15 shoulder shape. Okay. Now what is the question? 16 Q So in the context of paragraph 82, referring 17 back to paragraph 80, the objects being discussed at 18 paragraph 80 are expressed as two-dimensional images 19 with potentially arbitrary shapes? 20 A If you're referring to the embodiment in 80, 21 that's correct. Objects here in paragraph 80 are 22 represented as two-dimensional images with potentially 23 arbitrary shapes. 24 Q Dr. Reddy, have you read the board's 25 institution decision in this IPR?
Page 147 1 A In this embodiment, the computer is being 2 shown as an avatar. 3 Q Moving on to yet another embodiment 4 described in paragraph 82. This communication 5 topology is selected as capable of prioritizing data 6 traffic based upon the importance of objects 7 associated with the data traffic. Do you see that? 8 A Yes. 9 Q Okay. And these objects -- is that 10 referring back to paragraph 80 where the objects or 11 the people in the scene are expressed as 12 two-dimensional images? 13 A No. It could be broader because it starts 14 off saying it's still in -- it's still another 15 embodiment. 16 Q Does it describe any other objects other 17 than the ones referenced in paragraph 80? 18 A In 82? Object is a general notion in terms 19 of computer programming, so it could be associated 20 with a video stream as an object, for example, or a 21 video stream as an -- an image as an object. So 22 depending on the context, object would mean various 23 things. 24 Q So it depends upon the context? 25 A Right. I mean, an object is a very general	Page 149 1 A No. I have not. 2 Q You have not? 3 A No. 4 Q Have you had any discussions with anyone 5 regarding the institution decision in this particular 6 IPR? 7 A No. I have not. 8 Q Do you understand that the IPR was, in fact, 9 instituted, otherwise we wouldn't be here today? 10 A That's my understanding. 11 Q And do you know -- are you aware that the 12 board found that Apostolopoulos' Central Server 365 is 13 designed to perform processing based upon the -- on 14 the behalf of the nodes? 15 A No. I'm not sure -- I've not seen that 16 before. 17 Q Are you aware that the board did not agree 18 with your contention, or Cisco's contention that 19 Exhibit 1007 suggests, or otherwise motivates 20 incorporating that central server 365 into one of the 21 nodes? 22 MR. GORYUNOV: Objection. Form. 23 Foundation. 24 A I have not seen the decision, so I wouldn't 25 be able to tell you.

Page 150 1 Q I'll represent to you that the board stated 2 that the fact that a node may offload its computation 3 to a central server 365 does not suggest that central 4 server 365 is or should be a node. So do you agree 5 with that? 6 A I will need time to -- 7 MR. GORYUNOV: Objection. Form. 8 THE WITNESS: I will need time to 9 understand what -- what the decision was. 10 BY MR. VARE: 11 Q So you would need time to study the 12 institution decision and consider the board's analysis 13 and determinations in order to respond? 14 A That's correct. 15 Q And you're not prepared today, assuming my 16 representation was correct -- it is -- but you're not 17 prepared today to give me any opinions about why you 18 would think the board is wrong as to the function of 19 the server 365? 20 A I mean, I -- I cannot respond without seeing 21 what the original statement was. 22 Q So Dr. Reddy, I've introduced Exhibit 1006, 23 which is a U.S. patent to Baker. 24 (Reddy Exhibit 1006 was marked for 25 identification.)	Page 152 1 Setton or Apostolopoulos anywhere in Exhibit 1006? 2 A I don't see it on the -- at least on the top 3 page. 4 Q You do not see it? 5 A I don't see it on the top page. Sometimes 6 references are -- there are additional references, but 7 I don't see it on the top. 8 Q You don't know whether HP ever disclosed 9 Setton or Apostolopoulos as relevant prior art to 10 Baker? 11 A I'm not sure. 12 Q If you look at Baker -- the abstract -- it 13 relates to methods and systems for using portable 14 electronic devices in video conferences. Do you see 15 that? 16 A Yes. 17 Q And figure 1 is a representation of a video 18 conference for using the methods and systems of Baker? 19 A Yes. 20 Q See figure 1? 21 A Yes. 22 Q And are all of the participants in the video 23 conference at figure 1 providing video feeds to the 24 videoconference? 25 A Pardon?
Page 151 1 Let me know when you have it in front of 2 you. Do you have it? 3 A Not yet. It's coming. Okay. I have it 4 now. 5 Q So you combine -- in your declaration, you 6 combine Baker with Setton for one of your -- 7 A That's correct. 8 Q -- grounds? 9 A Yes. 10 Q Do you recall that? 11 A Yes. 12 Q And you combine Baker with Apostolopoulos in 13 another one of your grounds; correct? 14 A That's correct. Yes. 15 Q And are you aware that Setton, 16 Apostolopoulos, and Baker are all assigned to 17 Hewlett-Packard or HP? 18 A I've seen that, yes. 19 Q Okay. Are you aware of HP combining the 20 teachings of Setton with Baker, or combining the 21 teachings of Apostolopoulos with Baker, in any way 22 that relates to the claims of the 099 patent? 23 A I'm not sure what they've done with this. 24 Q Baker was filed after Setton, and also after 25 Apostolopoulos. Do you see where Baker cites to	Page 153 1 Q Are all of the participants in the video 2 conference shown in figure 1, providing video feeds to 3 the video conference? 4 A Okay. So let me read through there and see 5 what it says. Slide 1, slide 2 -- figure 1 seems to 6 be the case. I can -- I can go through it in detail 7 to make sure it is correct. 8 Q And, in fact, in column 2, line 43 -- 9 A Okay. 10 Q -- Baker states, "The video and audio 11 streams generated by each of the remote participants 12 are sent to the network and received by the PED 104;" 13 correct? 14 A Hang on, I'm reading there. Video and audio 15 streams entered by each of the remote participants are 16 sent to the network, yes. 17 Q And so all of the participants in Baker are 18 generating content of video feed? 19 A At least in this embodiment, it seems to be 20 the case. 21 Q And all of the participants in Baker 22 generating these video feeds are then sending these 23 video feeds to the PED -- to the network. 24 A To the network. 25 Q And that's received by the PED?

Page 154 1 A That's correct. 2 Q And that's shown in figure 1? 3 A That's what this description seems to 4 be -- what you're pointing to here. 5 Q And then there's another figure, figure 11. 6 A Figure 11, you said? 7 Q Yes. 8 A Okay. 9 Q And again, all of the participants in figure 10 11 are generating and sending video feeds? 11 A Yes, that's what this figure is showing. 12 Yes. 13 Q Are you aware of any disclosure in Baker 14 where any of the participants in the video conference 15 do not generate or provide a video feed? 16 A Okay. Let me look through it. Now, I would 17 have to look through this carefully, but it's not 18 unusual for -- to allow a participant not to transmit 19 a video, for example, because let's say if the network 20 bandwidth is tight, one way to reduce the impact would 21 be just to not transmit the video. 22 Q Are you aware of any disclosure in Baker -- 23 MR. GORYUNOV: Counsel, please let him 24 finish answering. 25 THE WITNESS: I'm not sure if that	Page 156 1 Q Are you aware that Baker gives that control 2 to the audience members? 3 A What do you mean by audience members? 4 Q Well, there are remote participants and then 5 there are speaking participants; correct? 6 A Okay. Let me -- let me read through that. 7 Where do you see that? I want to make sure I speak 8 correctly. So if there is a difference in that, I 9 should read through that. 10 Q If you look at column 8, for example, you 11 understand that there there's a difference between 12 remote participants and local participants in Baker? 13 A Yes. 14 Q And what's your understanding of the 15 difference? 16 A It says here -- I'm reading through -- "A 17 strip of miniaturized remote participant viewing areas 18 are located along an edge of the display." Remote 19 participants are remote from where you are. 20 Q And you recall -- and if you move over to, 21 for example, column 9, it refers -- column 9, 22 beginning at the top, talks about figure 11. 23 A Hold on. Let me get there. Okay. 24 Q And figure 11 shows a representation of 25 video and audio streams generated by the remote
Page 155 1 embodiment is disclosed here, but that would be 2 something a position of somebody in the art would 3 know. 4 BY MR. VARE: 5 Q Okay. So you're not aware of any disclosure 6 in Baker in which any of the participants do not 7 generate and transmit a video feed? 8 A I will have to look through the thing 9 carefully to be able to answer the question. 10 Q Are you aware of any disclosure in Baker in 11 which Baker teaches how any of the participants or 12 audience members of a video conference can have 13 control over the display of video feeds? 14 A I think that's what this -- the -- this 15 thing is about because this is what the 09 -- and I 16 mean, the whole invention is about that. 17 Q Again, with respect to Baker, are you aware 18 of any disclosure in Baker where Baker discusses 19 giving an audience member of a video conference 20 control over the display of video feeds? 21 A My understanding here is that we can choose 22 one of these things and you will highlight what the 23 video feed is going to be on your personal device. So 24 you are controlling the video feed that you're 25 getting.	Page 157 1 participants from the point of view of the local 2 participant? 3 A Yes. 4 Q And so as we discussed earlier, each of the 5 remote participants are generating and sending video 6 to the local participant. 7 A Yes. 8 Q And in that same paragraph, it talks about 9 how the video of a non-speaking participant can be 10 sent with lower bit rate quality -- 11 A Yes. 12 Q -- based upon the assumption that 13 participants are less likely to be looking at the 14 non-speaking participant. Do you see that? 15 A Yes. 16 Q And then a little bit further down, it 17 talks -- Baker discloses talking about decoding video 18 streams at a slower frame rate to save processing 19 power and battery power. That's at column 9, line 19. 20 A Yes. 21 Q So would you agree that the bit rate quality 22 at which a video feed is set is different than the 23 frame rate at which a video stream is decoded? 24 A The frame rate refers to how many images per 25 second are displayed to give the impression of a

Page 158 1 video, and the bit rate typically is measured as per 2 second. So bit rate -- bit rate is a function of 3 frame rate plus the image size, so it's a bit 4 rate -- bit rate is -- can be controlled with frame 5 rate. 6 Q But the bit rate or quality of which a video 7 feed is sent is different than the frame rate at which 8 the video stream is decoded. They're two different 9 things? 10 A The frame rate is different from bit rate. 11 Bit rate, as I said is a function of frame rate and 12 the image size. 13 And so if you don't have enough bandwidth, 14 and you want to be able to reduce bit rate, there are 15 multiple ways of reducing the bit rate. One way is to 16 reduce the image size. One way is to reduce the frame 17 rate. 18 Q All right. And the rate at which a video 19 stream is decoded -- let me back up. I think what you 20 just said was the bit rate at which a video feed is 21 sent impacts the amount of bandwidth needed to 22 transmit that video; correct? 23 A That's correct. 24 Q And the rate at which the video stream is 25 decoded, that impacts something different -- that	Page 160 1 Q And have you reviewed any declarations 2 submitted by the patent owner? In particular, a 3 declaration by Dr. Sharoney? 4 A No. 5 Q Do you know Dr. Sharoney? Do you recognize 6 him? 7 A Sharoney? No. 8 Q No? 9 A I mean, I don't know -- I don't know if -- 10 I'm not sure I'm getting the name correctly from you. 11 Q But you've not reviewed his declaration in 12 this case? 13 A No, I have not. I don't know. I don't know 14 a Dr. Sharoney. 15 MR. VARE: I don't have any further 16 questions. 17 MR. GORYUNOV: All right. 18 MR. VARE: Thank you Dr. Reddy. 19 MR. GORYUNOV: Collin, you said you 20 need some time at 2:30 for about 20 minutes; is that 21 correct? 22 THE REPORTER: Yeah, if that would be 23 okay. 24 MR. GORYUNOV: Right. I need to go and 25 take a look at my notes before we end our day. I may
Page 159 1 impacts the amount of the computer or CPU processing 2 power that is needed? 3 A In general, that's true. And it will also 4 impact -- if you reduce the frame rate, you're also 5 going to reduce the bit rate, and so you will also 6 reduce the demand on packet receiving capability and 7 hence you'll also proceed to reduce the processing 8 rate. 9 Q And generally, the more processing power 10 that you use, the more energy is needed, and that 11 would cause battery power to be used up faster? 12 A That will be generally the case, yes. 13 MR. GORYUNOV: Counsel, let's take a 14 break. 15 THE WITNESS: I think there was a -- 16 there was a request for 2:30 break. Maybe that's the 17 ideal time. 18 MR. VARE: I have just a few -- 19 THE VIDEOGRAPHER: Going off the record 20 at 2:17. 21 (Off the record.) 22 BY MR. VARE: 23 Q Dr. Reddy, have you reviewed the patent 24 owner's response in the IPR that we're here for? 25 A No, I have not.	Page 161 1 have some questions. So let's accommodate your phone 2 call. Shall we say, what, 2:50 Central? 3 THE REPORTER: If that's okay with you 4 guys? 5 MR. GORYUNOV: Okay. 6 THE WITNESS: Okay -- okay with me. 7 THE VIDEOGRAPHER: All right. Off the 8 record at 2:19. 9 (Off the record.) 10 THE VIDEOGRAPHER: On the record, 2:53. 11 MR. GORYUNOV: Excellent. Welcome 12 back, everyone. No questions from us. 13 MR. VARE: Thank you Dr. Reddy. 14 Appreciate your time today. 15 MR. GORYUNOV: We'll reserve and sign. 16 THE WITNESS: Bye bye, everyone. 17 THE VIDEOGRAPHER: All right. Going 18 off the record at 2:53. 19 (Signature reserved.) 20 (Whereupon, at 2:53 p.m. CDT/3:53 p.m. 21 EDT, the proceeding was concluded.) 22 23 24 25

Page 162 1 CERTIFICATE OF DEPOSITION OFFICER 2 I, COLLIN CUNNINGHAM, the officer before 3 whom the foregoing proceedings were taken, do hereby 4 certify that any witness(es) in the foregoing 5 proceedings, prior to testifying, were duly sworn; 6 that the proceedings were recorded by me and 7 thereafter reduced to typewriting by a qualified 8 transcriptionist; that said digital audio recording of 9 said proceedings are a true and accurate record to the 10 best of my knowledge, skills, and ability; that I am 11 neither counsel for, related to, nor employed by any 12 of the parties to the action in which this was taken; 13 and, further, that I am not a relative or employee of 14 any counsel or attorney employed by the parties 15 hereto, nor financially or otherwise interested in the 16 outcome of this  COLLIN CUNNINGHAM Notary Public in and for the State of Ohio 21 [X] Review of the transcript was requested. 22 23 24 25	Page 164 1 Veritext Legal Solutions 1100 Superior Ave 2 Suite 1820 Cleveland, Ohio 44114 3 Phone: 216-523-1313 4 June 18, 2024 5 To: Eugene Goryunov, Esq. 6 Case Name: Cisco Systems, Inc. v. Video Solutions PTE. LTD. 7 Veritext Reference Number: 6744494 8 Witness: A.L. Narasimha Reddy , PhD Deposition Date: 6/11/2024 9 Dear Sir/Madam: 10 The deposition transcript taken in the above-referenced 11 matter, with the reading and signing having not been 12 expressly waived, has been completed and is available 13 for review and signature. Please call our office to 14 make arrangements for a convenient location to 15 accomplish this or if you prefer a certified transcript 16 can be purchased. 17 If the errata is not returned within thirty days of your 18 receipt of this letter, the reading and signing will be 19 deemed waived. 20 21 Sincerely, 22 23 Production Department 24 25 NO NOTARY REQUIRED IN CA
Page 163 1 CERTIFICATE OF TRANSCRIBER 2 I, RYAN SHARP, do hereby certify that this 3 transcript was prepared from the digital audio 4 recording of the foregoing proceeding, that said 5 transcript is a true and accurate record of the 6 proceedings to the best of my knowledge, skills, and 7 ability; that I am neither counsel for, related to, 8 nor employed by any of the parties to the action in 9 which this was taken; and, further, that I am not a 10 relative or employee of any counsel or attorney 11 employed by the parties hereto, nor financially or 12 otherwise interested in the outcome of this action.  RYAN SHARP 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 165 1 DEPOSITION REVIEW CERTIFICATION OF WITNESS 2 3 ASSIGNMENT REFERENCE NO: 6744494 CASE NAME: Cisco Systems, Inc. v. Video Solutions PTE. LTD. DATE OF DEPOSITION: 6/11/2024 4 WITNESS' NAME: A.L. Narasimha Reddy , PhD 5 In accordance with the Rules of Civil Procedure, I have read the entire transcript of 6 my testimony or it has been read to me. 7 I have made no changes to the testimony as transcribed by the court reporter. 8 9 Date A.L. Narasimha Reddy , PhD 10 Sworn to and subscribed before me, a Notary Public in and for the State and County, 11 the referenced witness did personally appear and acknowledge that: 12 They have read the transcript; 13 They signed the foregoing Sworn Statement; and 14 Their execution of this Statement is of their free act and deed. 15 I have affixed my name and official seal 16 this ____ day of _____, 20____. 17 18 _____ Notary Public 19 _____ Commission Expiration Date 20 21 22 23 24 25

Page 166 1 DEPOSITION REVIEW CERTIFICATION OF WITNESS 2 ASSIGNMENT REFERENCE NO: 6744494 3 CASE NAME: Cisco Systems, Inc. v. Video Solutions PTE. LTD. DATE OF DEPOSITION: 6/11/2024 4 WITNESS' NAME: A.L. Narasimha Reddy , PhD 5 In accordance with the Rules of Civil Procedure, I have read the entire transcript of 6 my testimony or it has been read to me. 7 I have listed my changes on the attached Errata Sheet, listing page and line numbers as 8 well as the reason(s) for the change(s). 9 I request that these changes be entered as part of the record of my testimony. 10 I have executed the Errata Sheet, as well 11 as this Certificate, and request and authorize that both be appended to the transcript of my 12 testimony and be incorporated therein. 13 _____ Date A.L. Narasimha Reddy , PhD 14 Sworn to and subscribed before me, a 15 Notary Public in and for the State and County, the referenced witness did personally appear 16 and acknowledge that: 17 They have read the transcript; They have listed all of their corrections 18 in the appended Errata Sheet; They signed the foregoing Sworn 19 Statement; and Their execution of this Statement is of 20 their free act and deed. 21 I have affixed my name and official seal 22 this _____ day of _____, 20____. 23 _____ Notary Public 24 _____ 25 Commission Expiration Date	
Page 167 1 ERRATA SHEET VERITEXT LEGAL SOLUTIONS MIDWEST 2 ASSIGNMENT NO: 6/11/2024 3 PAGE/LINE(S) / CHANGE /REASON 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____ 11 _____ 12 _____ 13 _____ 14 _____ 15 _____ 16 _____ 17 _____ 18 _____ 19 _____ 20 _____ 21 SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ 22 DAY OF _____, 20____ . 23 _____ Notary Public 24 _____ 25 Commission Expiration Date	

&	1		
& 2:13,22,24 5:16,25	1 31:23 32:22 33:3,4 48:5,13	1005 3:10 59:10,13,15,17 59:19,21 61:6 62:12 96:18	104 63:3,5,22 98:18 99:16 100:1,12,16,22 101:10,13
0			
00 12:25 09 155:15 099 3:8 7:25 12:2,5,12,16,19 12:21 13:1,4 14:8,24 15:3 15:24 16:7,24 17:3,9 18:20 19:4 20:21 23:5 24:22 25:4,19 26:12 27:17 28:3,18 28:25 29:25 30:9 31:16,24 32:21,23 33:22 35:4,12 36:6 36:12,22 37:18 37:25 38:13,21 39:3 40:6,20 41:13,18,25 43:8 47:11,15 47:21 48:12,20 50:1,11 60:10 62:10 64:20 66:18 70:22 71:1,7 77:2,8 79:6 117:23 151:22	61:21 62:12,15 64:13 68:23 87:13 97:6 98:2,12 100:10 102:6,11 103:11,13,16 108:25,25 109:1 111:22 112:3,5 119:5 152:17,20,23 153:2,5,5 154:2 10 3:9 20:16,20 48:5 51:20 52:4,13 53:1,5 53:15,16,19 54:1,18 55:2 55:11,25 56:6 56:9,12,21 57:17,17,23 58:12,15,19 65:24 68:12 10.0 55:8,20 100 61:8 1001 3:8 12:5,7 26:12,25 31:21 1003 3:9 10:12 10:13 11:24 17:8 29:16 36:22 54:15	1006 3:11 150:22,24 152:1 1007 3:12 117:16,17 118:2 120:21 122:7 135:7 142:12 149:19 102 62:9 63:12 63:17,17 97:7 97:18 98:13,14 98:17 99:11 100:12 102:8 103:9 104:7 102a 61:22 62:13,20,21,23 62:24 63:18 96:21 97:10,19 99:7 102b 62:23 97:10 102c 97:10,25 102d 97:10,24 102e 61:22 62:21,22,24 64:14,15,18,21 64:23,25 65:1 65:13,17 97:11 97:24 99:6,7 99:15	102:9 104:17 104:19 112:4,8 153:12 104a 98:4 99:7 107 97:9,13 10:00 43:21 10:06 1:14 4:16 10:09 43:24 11 1:13 2:14 4:3,20 49:2 154:5,6,10 156:22,24 1100 164:1 117 3:12 11:08 78:23 11:19 79:3 11:27 83:10 12 3:8 9:1 49:15 12:19 79:1 12:22 117:1,4 130 119:16,23 134 54:14,15,17 55:2 135 56:5,10,20 136 56:9,11,20 14 67:25 107:20,23 108:22 109:2 110:17,20

140 119:18 15 38:25 46:3 49:14,19 77:11 150 3:11 16 45:24 61:18 102:5,21 17 71:7 72:7,19 73:3,13,18,24 74:12,21 75:1 75:17 76:6,8 76:10 101:16 18 101:2,4 103:3 164:4 180 2:6 1820 164:2 19 48:7 49:11 157:19 1:07 117:6 1:22 117:1	204 104:14 208 99:23 216-523-1313 164:3 22 119:5 23 97:5,6 99:21 119:17 120:2,8 120:19 231-7735 2:17 25 130:4,6,24 131:10,17 26 123:18,20 126:10 127:21 131:15 132:13 132:20 134:3 136:1 27 126:2 127:4 127:21 131:16 132:20 28 112:25 127:13,16,19 128:4 129:12 131:1,16 132:13,20 28660 163:14 29 131:22,24 132:22 135:2 29018 162:16 2:17 159:20 2:19 161:8 2:30 159:16 160:20 2:50 161:2 2:53 161:10,18 161:20	2d 144:14 2e 63:18 3 3 20:13,14,16 20:20 26:20,21 26:22 27:2,8 27:12 28:1,4 32:25 33:4 34:22 35:2 48:2,3,4 51:20 51:21,22 52:12 52:24 53:6,11 54:2,22,25 55:4,12,22 56:1,13,22,25 57:1,5 58:8,15 58:18,22 64:9 65:24 68:2,10 69:3,4,7,14 70:2 71:24 72:16 74:15,17 74:21 75:18 76:7,9,12 77:17,24 79:5 80:9 83:15,22 85:22 87:2,23 88:4 89:8,17 89:21 90:12 145:3 3.0 54:21,24 55:3,16 3.1 88:15 3.11 54:21,24 55:3,16	3.12 54:22,24 55:3 3.12. 55:17 3.2. 56:15 3.3 56:15 3.4 88:7 30 29:17,21,24 30:11 35:8,13 35:16 132:18 132:22 133:2 31 36:19 37:8 37:13 38:1 76:23 77:1,25 133:6,7 134:4 135:3,3 317 2:17 32 133:12,14,22 133:23 134:24 136:1 330 120:13 137:6,9 139:14 34 32:2 340a 121:3 340b 121:3 340c 121:3 340d 121:3 35 17:21,23 19:10 20:8 23:21 350a 140:21,23 140:24 350b 140:21,24 350c 140:21,24 36 17:21 19:11 19:24 26:2
2			
2 33:7,10,15,16 33:17 61:18 92:25 99:24 103:19,20,24 105:13 109:2 118:4 153:5,8 20 160:20 165:16 166:22 167:22 202 104:12 2024 1:13 4:3 4:20 164:4 2024-00194 12:2			

360 141:15,18	46204 2:15	8	89 45:19 91:5
361 141:3,4	49 77:11	8 34:6,7,10,13	9
361a 141:2,16	5	34:17 40:18,22	9 34:6,7,11,13
141:23	5 22:2 47:25	44:11,15 90:21	34:17 44:11,15
361c 141:2	48:4 68:1	156:10	156:21,21
365 119:16	53 135:6	80 144:5,5,17	157:19
141:7,9 149:12	54 135:4,23	144:22 145:11	9,204,099 1:9
149:20 150:3,4	136:5	145:25 147:10	9204099 7:22
150:19	55 136:15,18,23	147:17 148:8,9	9:06 1:14 4:3
3:53 161:20	56 72:13 73:3	148:17,18,20	a
3b 120:5,9	73:13 136:25	148:21	a&m 1:16 6:24
137:1	57 72:13	81 41:2 45:1,5	a.l. 1:12 2:2
3c 140:13,14,22	58 72:13 73:3	45:11,13	4:17 6:7 164:8
141:19	73:13	146:12,16,19	165:4,9 166:4
3d 124:4 126:8	59 3:10	82 41:2,4 45:1	166:13 167:20
127:20,23	6	45:5,12,13,19	a.m. 1:14,14
132:5,8,12	6 3:3 20:16,20	91:1,11 147:4	4:16
133:3,4,8,9,18	6/11/2024	147:18 148:16	ability 162:10
134:4,12,25	164:8 165:3	83 41:2 45:1,6	163:7
135:24,25	166:3 167:2	46:6	able 10:25 11:8
136:6,10,20,22	60601 2:7	84 41:3 45:19	40:9 45:12,12
139:20 142:20	61 137:3 138:6	71:12,17,21	47:8 60:19
143:13,16	138:22 140:7	72:1,19 73:24	90:12,17,20
144:13,13	62 139:10	90:23 91:1,10	94:8 100:8
146:2,9,23	66 46:3	91:14	107:3,11 108:8
4	6744494 1:20	847 2:9	112:9 115:4
4 21:18 28:15	164:7 165:2	85 40:25 41:5,7	116:5,21
42:18 144:9,14	166:2	41:11 44:23	117:19 123:3,4
146:4	7	46:4	123:24,25
400 1:17	70 142:1	86 40:25 41:5,7	136:20 149:25
43 153:8	75 121:20,24,25	41:11 44:24	155:9 158:14
44114 164:2	778-3923 2:9	46:4	above 22:4
46 71:9,10	77843 1:18	87 40:25 44:23	36:24 37:8
77:11		88 45:1	77:4 92:9

136:1 164:10 absent 4:25 abstract 26:14 26:16 152:12 accommodate 112:14 113:5 161:1 accomplish 164:15 accordance 61:24 99:24 102:14 103:21 108:8 113:5 165:5 166:5 accurate 162:9 163:5 achieve 114:12 115:10,24 achieved 113:3 acknowledge 165:11 166:16 acknowledg... 4:23 act 165:14 166:20 action 162:12 162:16 163:8 163:12 active 61:9,11 61:14,21,25 62:1,8,13,20,21 63:11 64:21 96:21 97:7,9 97:14,18,18,23 97:24,24 98:4	98:8,13 99:11 100:12,14 101:15,23,24 102:2,7,16,24 103:8,14 104:7 104:21 105:2,8 105:20 106:2,8 106:21 107:2,8 107:13,23 108:6,14 109:6 109:11 110:2 110:14,24 111:4,12,17,18 111:25 112:2 112:11,12,16 112:20,21 113:10,16,18 113:22 114:3 114:10,23 115:6,9,20 116:17 actively 111:5 116:10 acts 60:7 actual 11:8 125:21 actually 15:21 40:22 46:2 93:22 111:21 113:22 121:15 136:17 adam 2:24 adapt 122:13 123:3	adapting 121:18 122:3 additional 22:7 22:10 49:1 115:14 152:6 additionally 4:25 108:7 113:23 address 48:7,8 adjust 124:1 administer 4:23 advantages 113:3 affixed 165:15 166:21 aggregate 115:4 aggregated 99:25 104:24 105:6,7 ago 10:5 139:23 agree 4:24 5:2 16:23 17:2 19:24 20:23 23:12 25:6 27:17 28:3,11 28:18,25 29:8 30:6,19 31:4 33:21 34:13,23 41:12 44:12 68:21 70:19 71:1 73:11 74:2,6 81:5	85:25 88:17 93:16 94:4 96:11 98:12 102:11 103:20 106:7 107:7,16 113:7,12 114:8 114:12 115:20 122:6 123:11 123:16 124:9 125:7,19 126:7 126:12 127:18 128:15,20,22 130:14 133:1,7 134:8 135:20 138:5 140:6,20 142:18 145:5 145:10 146:6 146:15 149:17 150:4 157:21 agreed 23:4 agreement 8:12 133:16 ahead 5:23 101:4 108:21 135:4 allow 41:25 91:14,17 94:25 97:14 99:18 100:8 154:18 allowed 57:3 89:10 allowing 41:19 allows 71:11,25 72:6 100:15
--	--	---	--

almeroth 15:11 15:13,16,21,23 16:2,6,9 aloud 95:6 ambiguous 84:20 amount 135:12 158:21 159:1 analysis 150:12 analyze 16:24 17:3 andrew 22:13 annapareddy 4:18 6:4 announcements 4:11 answer 15:22 19:8 21:8 27:4 28:10 43:2,7 78:14,15 99:2 116:5 155:9 answered 42:7 116:7 answering 62:19 154:24 anybody 13:9 44:8 117:12 apostolopoulos 3:12 117:20 123:9 124:9 125:8 142:25 149:12 151:12 151:16,21,25 152:1,9	apparently 143:14 appeal 1:2 appear 165:11 166:15 appended 166:11,18 applicable 5:6 application 3:10 46:22 59:11 117:20 139:24 applying 26:3 140:9 appreciate 43:25 119:2 161:14 approach 80:8 appropriate 32:9 38:5 77:14 135:13 135:17 approximately 135:14 arbitrary 126:24 127:2 145:2,2,17 148:7,14,19,23 architecture 113:23 areas 156:17 arises 35:10 arrangements 164:14	arrow 63:22 97:13 98:3,18 100:13 104:2 arrows 63:10 63:11,14,15 96:24 97:8 98:15 art 18:10 20:6 26:4 34:10 122:21 123:7 152:9 155:2 article 22:20,22 aside 111:3 asked 20:15 25:10 42:22 123:8 asking 22:25 23:14 25:8,10 31:1,4 68:16 89:19 94:5 125:18 142:7 143:25 asserted 14:8 26:4 assigned 4:14 151:16 assignment 165:2 166:2 167:2 associated 56:10,18 64:19 93:1 147:7,19 assume 65:2 assuming 150:15	assumption 157:12 attached 166:7 attendance 5:15 attention 122:25 attorney 162:14 163:10 attorneys 18:5 attribute 66:9 attributes 146:21 audible 145:22 audience 155:12,19 156:2,3 audio 45:14 46:9,17 47:5 62:6 67:12 70:24 97:20 98:6 102:16 146:21 153:10 153:14 156:25 162:8 163:3 authorize 166:11 authorized 4:22 available 28:20 29:2,9 30:1 42:10,13 164:12 avatar 128:18 128:24 129:2,6
---	---	---	---

129:6,10,13,15 129:17,19 131:17,19 146:20 147:2 avatars 128:5,9 128:15 129:24 130:25 146:24 ave 164:1 avoiding 115:19 aware 14:7 15:1,5,6,16,22 15:25 16:9,12 100:21 149:11 149:17 151:15 151:19 154:13 154:22 155:5 155:10,17 156:1	135:6 142:4 147:10 148:17 158:19 161:12 background 31:24 142:21 backwards 99:20 baker 3:11 150:23 151:6 151:12,16,20 151:21,24,25 152:10,12,18 153:10,17,21 154:13,22 155:6,10,11,17 155:18,18 156:1,12 157:17 bandwidth 109:24,25 110:1,7 121:11 122:21 123:1 131:6 154:20 158:13,21 barbara 15:21 barnes 2:13,22 2:24 5:16,25 based 22:5 30:8 95:7 100:2,25 106:14 114:23 122:4,11,13 124:1,22 125:16 131:19 143:12,18 147:6 149:13	157:12 basic 107:1 basically 75:20 battery 157:19 159:11 beginning 32:2 46:2 48:4 146:16 156:22 behalf 2:2,11 5:19 9:8,18 12:1 16:10 149:14 believe 13:6 benefits 71:3 best 114:25 121:18 162:10 163:6 better 107:3 118:6 bidirectional 44:22 45:2,6,9 45:20 46:14,25 47:4,7 60:2,4 60:11,14,23 63:15 91:3 96:25 97:8,13 97:15,17,22 98:14 99:12 bit 16:19 29:23 50:13 55:18 58:23 62:18 96:20 130:3 134:19 138:3 139:23 143:21 144:1 157:10	157:16,21 158:1,2,2,3,4,6 158:10,11,14 158:15,20 159:5 bizzell 1:17 block 35:11,16 37:25 blocks 49:9 board 1:2 149:12,17 150:1,18 board's 148:24 150:12 bold 35:17,22 35:22,25 36:3 38:3,9 book 22:14 boone 2:5 5:20 8:12,13 13:20 13:22 14:15,19 18:6 bottom 107:22 108:22,23 109:2 box 61:8 63:3 boxes 111:21 111:24,24 break 42:8,25 43:4,19 44:4,5 76:19,21 78:19 78:20 83:6 116:25 117:2,8 159:14,16
b			
b 3:5 back 23:19 34:9 45:17 56:14,16 57:2 61:12 64:22 66:24 68:2 70:13 71:19 74:15 78:25 79:5 80:4,7 83:22 87:22 88:13,14 90:8 90:21 91:19 96:18 103:3 109:5,5 120:5 127:11 130:3			

brett 13:18 brief 42:7,25 bringing 134:20 broad 18:24 19:7 116:3,3 148:1 broader 76:1 134:19 138:3 147:13 broadly 87:23 118:11 btlaw.com 2:16 building 7:1 50:7 builds 127:19 bunch 126:20 burden 113:10 113:14 burdened 112:20 113:15 114:3,18 bye 161:16,16	122:7 123:6 calling 22:20 calls 140:1,18 camera 4:8 32:10 cameras 49:14 49:19 68:1 128:3 143:3,4 campus 6:24 7:1 capabilities 66:12,14,18 107:2 119:20 119:24 120:16 capability 60:11 63:16 159:6 capable 147:5 captured 137:10 careful 55:18 55:24 56:3 75:12 94:21 carefully 67:9 142:17 154:17 155:9 carolina 15:14 case 1:6 9:20 19:3 23:6 45:16 46:6 48:23 64:2,4 65:15 82:8 97:21 105:4 106:13 109:3 110:18 117:24	120:1 124:17 124:23 125:23 126:11 131:21 132:7,10 141:12 153:6 153:20 159:12 160:12 164:6 165:3 166:3 cases 9:11 110:25 cause 159:11 cdt 1:14 161:20 cell 141:15,22 central 30:24 31:7,11,17 32:13 33:18,20 39:25 40:1,2,3 40:12 117:1 119:12,12,18 119:20,23 120:13,15,24 121:2 122:6,12 122:18 123:8 137:6,6,9 139:12,14 140:7 141:7,9 149:12,20 150:3,3 161:2 centralized 60:6 centripetal 9:25 certain 15:3 certificate 162:1 163:1	166:11 certification 165:1 166:1 certified 5:3 164:15 certify 162:4 163:2 cetera 62:7 102:16 challenge 20:9 20:17,19 26:5 27:2 28:19 29:1,8,25 33:22 35:4 challenged 20:1 change 47:3 66:5,10,12 108:4 111:1,11 111:22 112:9 166:8 167:3 changes 165:7 166:7,9 changing 46:24 111:3 chart 103:20,25 104:3,10 105:3 chicago 2:7 choose 155:21 chris 5:21,25 christopher 2:22 cisco 1:4 2:2 4:4,18 5:19 7:20 8:4,10,11
c 2:1 4:1 141:3 141:16,23 ca 164:25 call 33:13 48:6 48:8 49:11 83:2 119:12 128:1 161:2 164:13 called 6:8 17:25 18:4 23:6 44:19 61:1			

8:14,16,20 9:3 9:7,9,18 10:2,8 12:1 13:23 14:9,14,18,23 15:1,9,17,23 16:11 164:6 165:3 166:3 cisco's 7:21 149:18 cited 25:8 cites 151:25 civil 165:5 166:5 claim 15:8 16:25 17:4,8 18:8,22 19:5 19:12,16 20:20 21:2,9 23:2,13 23:18,22,25 24:5,15,21 25:4,13,18,25 26:20,21,22 27:2,8,9,12,15 27:23,24 28:1 28:1,4,15 29:14,15 32:22 32:24,25 33:4 33:4 34:22 35:2 51:20,20 51:21,22 52:4 52:12,13,23,24 53:1,5,6,11,15 53:16,19 54:1 54:2,17,22,25 55:2,4,12,22,25	56:1,6,9,9,12 56:13,21,22,25 57:1,5,17,17 58:8,18,19,21 58:22 64:9 65:24,24,24 67:19 68:2,2 68:10,10,12 69:3,4,7,14 70:2 71:24 72:16 73:12,19 73:22 74:4,7 74:15,17,21 75:1,12,17,18 75:18,25 76:6 76:7,8,12 77:17,24 79:5 80:9 81:17,23 82:5 83:15,21 84:13,19 85:7 85:22 86:3,6 87:1,2,13,23,24 88:1,4 89:8,17 89:21 90:12 92:13 94:5 95:9,9 claimed 27:11 27:12 33:4 71:24 77:25 claims 15:3 16:25 17:3,6 17:10,12,25 19:5 20:1,9,10 20:11,16,17,19 20:20 23:5	24:9 26:5 27:2 29:15 54:5,9 54:12 56:17 58:15 62:10 64:20 68:23 73:10 76:3,15 76:16,16,17 151:22 clarity 136:16 clause 79:8,19 80:9 85:11,13 85:22 87:2,15 88:7,15 91:20 clear 84:19 94:23 116:20 116:20 clearly 66:13 89:10,22 96:7 99:13 102:23 105:15 112:5 116:5 120:23 cleveland 164:2 click 11:7 client 60:8 clients 141:16 141:22 collaboration 32:10 collaborative 119:6 123:22 133:16 134:7 134:11,16,18 136:8 139:16 139:17 140:2	collaborator 124:12,14,15 124:23 125:4,6 125:8,12,13,14 125:17,20 126:5 127:6,7 127:8,12 128:7 128:23,25 129:5,9 130:17 130:18,19,22 131:25 132:6 136:2,21 137:8 138:8,13,17 139:9,18 142:22 collaborators 121:20 124:10 124:20 125:3 126:14 127:24 128:6,11,17,23 129:7,20,25 130:21,23 132:11 133:4,9 133:20 135:12 135:25 137:18 138:7,12 144:18,23 145:12 146:13 146:25 colleagues 13:17 collection 47:10,16,18,22 48:6,14,21 49:15,20,25
--	---	--	---

65:22 67:11 college 1:18 6:23 collin 1:19 4:10 4:14 160:19 162:2,17 column 31:23 38:25 42:18 45:24 46:3 47:25 48:4 61:17,17 68:1 71:7 72:7,19 73:3,13,18,24 74:11 75:1 76:8,10 77:11 108:25 153:8 156:10,21,21 157:19 columns 61:18 73:9 combination 105:23 106:6 121:8 138:18 138:21 combine 151:5 151:6,12 combined 138:20 142:20 combines 138:23 combining 151:19,20 come 17:11,15 18:3 87:5,6 108:11	comes 11:13 84:11 coming 10:21 16:19 82:16,21 87:9 128:2 151:3 comma 80:10 80:15,24 81:3 81:24 82:4 commas 81:5 commission 165:19 166:25 167:25 common 48:6 48:14 communicate 30:24 32:19 40:8,9,11 51:2 51:6 60:1,5 67:12 communicating 68:7 120:12 communication 50:18 51:4,5 51:11 60:2,11 60:17,23 63:16 64:1 91:3,9,13 96:25 97:15 98:25 99:11 118:8,10 119:19 120:25 121:10,19 130:7,9 135:8 137:1 141:10 144:7,9 147:4	communicati... 16:6 22:6 41:10 50:11,14 community 110:21 comparable 38:21 39:4 completed 164:12 complexity 113:24 complying 144:9 components 29:7 63:18 110:9 compress 121:13 123:2 compressed 139:11,18 comprise 46:9 82:16 comprised 102:7,8 109:18 comprises 48:5 49:20,25 comprising 49:16 51:23 52:6 101:9 computation 150:2 computational 137:11 computer 22:14 49:6,13	65:1,2,3,4,6,7 65:11,14,15 137:11 142:20 146:19 147:1 147:19 148:1 159:1 computers 49:7 49:13 51:14 146:14 concerned 121:17 concluded 161:21 conclusion 17:11,16 conducted 4:7 conference 27:18,21 28:20 29:1,11 32:5 32:11 33:23 34:11,12,22,23 34:25 37:19,20 41:19,21 42:1 42:2 43:10,12 65:8 66:23 67:20,22,22,25 68:3,5,8,11,13 68:17,19,20,24 69:3,6,16,20 70:1,15,19 71:12 72:1 79:22 81:12 82:21,22,23 83:15,16,18 84:7,11,14,24
--	--	---	--

85:6,7,16,20,21 86:7,9,10,16,16 86:19,22,23,24 87:4,6,7,8,10 87:12 88:2 89:3,4,6,8,16 89:24 90:1,3 93:10 111:5 134:17,18,20 136:4 152:18 152:23 153:2,3 154:14 155:12 155:19 conferences 15:15 32:3 152:14 conferencing 70:21 configuration 30:13,17 31:7 31:13 32:17 33:11,14,24 34:2,18,19,24 35:1 37:4 39:13 40:16,24 41:4,8,22 50:21,22,23,25 51:24 52:1,7,9 62:14,17,22 63:1,6,7 79:10 79:11 80:20,21 81:14 103:12 103:14,16 112:11 140:22 140:25 141:5	configure 82:5 configured 45:11 60:10 62:22 63:1,5,6 81:4,6,8,10 82:4,6,10 84:5 84:15,16 confirm 77:11 confirmed 99:12 connect 41:10 46:5 connected 28:22,23 29:4 29:5,6,7,9,10 30:2,3,11,12,15 30:16,21,21 31:5,6,9,14 33:13 35:18,19 36:7,8,13,14 37:1,4,5,9,10 37:20 38:17,21 39:5,9,15 40:1 41:3,4,5,7,14 41:15,21,22 42:2,3,3,14,15 42:19,20 43:9 43:11,12,16,17 46:5 50:21 51:24,25 52:1 52:5,7,8 53:4 53:12,12,14,14 53:21,22 54:6 54:6 55:10,11 55:21 56:17	57:6,6,7,7,9,10 57:13,19,24 58:3,4,7 62:16 62:17 63:1 64:8,9 66:1,1,6 66:7,11,11,13 66:14,19,20 68:3,11,13,14 68:24 69:2,5,9 69:13,23,25 70:17,20 71:2 71:4,18,22,23 72:18,22,25 73:22,23 74:17 75:3 77:6,18 77:21 78:1,5,9 78:12,16 79:10 79:11,12,16,17 79:24,25 80:20 80:21,25 81:1 82:2,3 84:1,2 84:22 85:1,1,8 85:8,10,17,18 85:24,24 86:7 86:8,12,15,17 86:19,22,23 87:7,8,10,11 88:11,14,16,21 88:21 89:1,6 89:13,15,23,25 90:4,6,11,12,24 91:10,10,14,15 91:23 92:2,6,7 92:8,11,16,19 92:19,21,22,24	93:1,3,5,8,9 94:10 95:11 96:8 112:12 116:14,17 120:11 connecting 64:9 connection 4:9 31:15 46:10,10 46:13,14,18,25 47:1,7 56:7 57:18 58:1 69:8,22 70:8 74:5 87:15 88:7 91:18,19 91:24 93:16 94:2,11,14,15 94:22,25 95:8 95:10,15,15 97:22 99:6,20 107:4 131:4,6 131:8 connections 46:8 60:14 91:6,7 92:23 consider 21:14 150:12 considered 14:22 22:3 139:1 143:5 consolidate 32:7 constitute 5:10 constrained 113:13,15,19
---	---	--	---

114:17	content 61:14	115:23	42:15,21 43:13
constraint	61:24 62:1,4	contrast 63:21	46:15,25 47:11
112:20 113:9	70:5,24 90:13	97:23 101:15	49:8 50:12
114:3 122:22	100:16,17,23	control 31:17	51:12 54:23
constraints	101:7,13,16,21	32:4 36:25	56:4,24 60:12
106:15,22	101:22,24,25	37:23 48:6	62:2,5 63:7,8
107:15,25	102:2,4,15,24	49:11 69:8,22	63:23 64:1
108:9,16	103:6 104:21	70:8 74:4 77:5	66:2 67:17,23
109:13,19,22	104:23 105:8	87:14 88:6	68:8 70:22
114:15,22	106:19,20	91:19,23 93:16	71:4,18,23
115:17,19	107:3,6 112:2	94:2,11,14,15	72:19 73:25
construct	112:10,19	94:22,25 95:8	74:13,18 79:17
126:25	113:9,13,18	95:10,14,15	80:13,14,17
constructed	114:2,17 115:3	155:13,20	81:1,2,18
76:3	115:4,13,15	156:1	82:24 83:17,23
construction	116:9,15	controlled	84:2,16 85:1,2
20:2 24:21	153:18	158:4	85:4,9 86:7,25
26:6,9 126:4	contention	controller 49:2	87:25 88:4,23
constructions	149:18,18	49:12	90:25 91:3,16
15:2,9	context 12:24	controlling	93:2 94:14
construe 70:15	24:1 27:12	155:24	95:12 96:6,13
construed	45:18 46:16	controls 48:22	96:17,22,23
17:12,17,25	47:11 50:11	convenient	97:4,15,16
23:5 67:9	53:6 67:1,9,19	164:14	98:8,19,20
70:18	69:13 70:2,21	conversely	99:12 101:10
containing	81:23 83:15	111:16	101:11,17
27:19 79:21	89:21 91:2	correct 9:9	103:17,18
81:11 82:11	97:17 111:22	18:1,12,14,15	104:8,15,18
84:6,10 85:6	133:15 134:7	23:7,23 24:6	105:11 106:10
87:3	147:22,24	26:1 27:14	106:17 108:2
contemplated	148:5,16	30:13 32:14	109:24 110:16
34:22	continuing	33:25 34:19,20	111:1,7,14,19
contemplates	110:20	35:5,14 39:17	111:20,22
41:18	contrary	40:13,14,16,17	114:23 116:18
	114:11 115:9	40:25 41:8	117:24 120:9

120:17 124:5 125:4 127:6 128:13 129:20 129:25 131:1 131:19 133:20 134:5 135:8 136:24 137:1,8 141:8 142:6 148:7,21 150:14,16 151:7,13,14 153:7,13 154:1 156:5 158:22 158:23 160:21 corrections 166:17 correctly 156:8 160:10 corresponds 127:4 counsel 8:13 13:23 14:4 76:18 99:1 154:23 159:13 162:11,14 163:7,10 count 9:1 county 165:10 166:15 couple 148:5 coupled 119:18 141:7 court 4:10 9:18 9:22 165:7	cover 11:17,19 cpu 159:1 creating 128:5 cunningham 1:19 4:14 42:22 162:2,17 current 72:10 73:6 74:20,25 customary 18:9 19:16 20:5 23:23	dear 164:9 debates 110:22 decide 111:12 111:17 decision 148:25 149:5,24 150:9 150:12 declaration 3:9 8:7 9:2 11:25 12:13 14:16 16:10,14 17:7 17:24 21:21 66:17 70:11 76:24 88:8 117:9,13 151:5 160:3,11 declarations 160:1 decoded 157:23 158:8,19,25 decoding 157:17 decrease 145:21 dedicated 60:5 deed 165:14 166:20 deemed 164:19 define 20:17 70:15 102:14 103:1,5 defined 104:20 111:25 112:20 112:21 113:10 113:14,16	114:3 116:10 123:21 defines 103:4 defining 30:20 104:3,11,12,13 definitely 21:4 21:12 24:19 55:19,21 116:22 123:14 definition 113:17 delay 106:23 107:15 108:1,9 108:16 109:13 109:23,25 110:1,1,4,8,9 110:10,10,12 110:13 113:11 114:5 115:2,8 115:19,23 116:17,21 delays 112:23 116:23 delivered 105:9 delivering 105:5 delivery 101:21 demand 159:6 demands 123:1 denote 97:9 department 164:23 dependency 123:18,21
	d		
	d 3:1 4:1 22:13 145:3 data 45:10,10 45:14,15,16 46:9,17,19 97:19 98:6 114:19 130:8 130:12,16,18 130:20,23 131:5,12 141:11 147:5,7 date 1:13 4:3 164:8 165:3,9 165:19 166:3 166:13,25 167:20,25 day 160:25 165:16 166:22 167:22 days 164:17 deal 110:4 dealing 35:2		

dependent 122:8 123:9,17 125:1,2 126:8 127:20 130:12 130:17 132:8 133:3,8,18 134:4,12,15,25 135:3,24 136:6 136:10 144:8 144:15 146:23 148:2 depending 31:13 50:4,9 50:21 60:18 65:17 66:6,10 76:3 95:4 131:3 139:9 147:22 depends 4:8 100:20 122:10 139:6,23,24 147:24 depicted 102:6 depicts 34:10 34:11 48:5 deposition 1:11 4:6,17 5:8 6:22 13:4,10,24 14:2,5,20 67:2 67:14,17 117:10,13 162:1 164:8,10 165:1,3 166:1 166:3	describe 37:13 75:19 147:16 described 36:24 40:6 73:3,11,12 74:11 77:4,25 100:21 101:16 104:6 126:9 127:3,20 128:10,16 130:24 133:15 133:18 138:5 145:25 146:7 146:18 147:4 describes 28:19 29:1,25 31:16 124:10 128:4 142:12,14 144:13,18,22 145:11 146:7 describing 29:6 31:24 32:13,15 37:18 75:7 77:17,24 120:2 145:6 146:10 description 3:6 64:4 65:4 82:1 123:15 140:18 141:25 154:3 designed 149:13 desirable 35:18 36:7,13 37:9 37:18 42:17,18 43:15	desktop 65:14 detail 153:6 determinations 150:13 device 47:10,16 65:21 155:23 devices 47:11 47:16,18,22 48:6,14,21,22 49:16,21,21 50:1,2 65:22 67:11 152:14 diagram 135:9 dictionaries 21:25 22:11,17 dictionary 21:2 21:9 difference 58:14,21 59:4 74:23,24 98:23 98:24 99:10 156:8,11,15 differences 58:13,17 73:18 different 26:18 50:5,6 58:12 60:8 63:18 65:6,16 66:14 66:25 70:6 75:4,6,19 89:11 98:21 99:7 106:16 108:9 109:25 110:1,5 111:9 112:6,15,17	113:6 122:15 123:4,4 124:19 126:1,13,17,19 127:23 128:16 130:20,23 131:4,11 132:14 146:4 157:22 158:7,8 158:10,25 differently 70:16 106:10 106:14,18 differs 53:5 difficult 51:16 digital 162:8 163:3 dimensional 118:12,13 125:1 128:12 131:25 145:1 145:16 147:12 148:7,13,18,22 direct 31:14 directed 27:18 118:8 141:21 direction 63:23 98:7 directly 31:10 92:25 directory 61:2 disabled 10:22 disagree 9:4 disclose 108:13 109:10,17
---	---	--	--

disclosed 50:1 100:19 106:9 152:8 155:1 discloses 102:19 107:7 157:17 disclosure 105:18,25 120:20 121:4 121:14 154:13 154:22 155:5 155:10,18 discussed 55:22 132:21 136:17 148:17 157:4 discusses 135:7 155:18 discussing 135:11 discussions 110:21 149:4 display 27:22 49:2,11 95:6 125:3 127:5 155:13,20 156:18 displayed 27:21 80:3 81:13 84:7 129:3 138:7,16 157:25 displays 125:9 125:20 127:8 129:9	distinction 70:10,12 86:22 107:12 114:9 115:5 distinguish 85:17 115:12 distinguishes 110:14 doctor 16:18 118:21 143:20 145:18 document 11:9 11:13 39:1 49:18 104:17 142:16 documents 6:17 7:7,8,11 14:11,23 21:22 21:24 22:3 44:5 doing 64:23 65:8 129:11 137:22 download 10:25,25 downloads 10:22 dr 5:19 6:4,16 6:19,21 14:7 15:11,13,16,21 15:23 16:6,9 16:16,23 44:4 53:24 78:21 79:5 109:7 117:8 127:18	148:24 150:22 159:23 160:3,5 160:14,18 161:13 duly 6:8 162:5 e e 2:1,1 3:1,5 4:1 4:1 62:13 96:22 97:19 98:17 e.g. 48:7 earlier 23:4 35:7 60:9 86:21 91:4,12 96:21 136:9 138:4,19 142:8 143:7,8 148:6 157:4 early 84:23 eastern 117:1 easy 123:12 145:20 edge 156:18 edt 1:14 161:21 effectively 123:2 eighteen 101:3 eighty 45:7,7,7 either 98:15 electronic 152:14 element 28:9 28:15 55:8 87:13 92:25	elements 46:24 47:2 eliminated 114:9 115:21 email 16:5 embodied 49:2 embodiment 48:10,15,24 50:9 60:13 61:23 62:3 71:5 72:6,19 74:11 75:17 76:1,6,8,11,15 99:5,5 100:20 100:21 101:14 102:6 103:5,23 105:16 109:3,4 113:3 115:1 119:10 124:16 124:18,25 125:8,20 126:7 130:11 131:16 131:21 132:4 132:20 133:15 133:17,17,22 133:24 134:1,1 134:23,24 136:22 144:6 144:12,13,17 144:22 145:5 145:10 146:11 146:13,18 147:1,3,15 148:3,3,20 153:19 155:1
--	--	--	--

embodiments	45:10,19,19	endpoints	ends 96:25
50:4 75:13	46:6 47:10,15	30:16,23 31:6	energy 159:10
76:4 99:24	47:20 48:5,11	32:8,9,18	engage 70:21
102:3,13 108:7	48:12,17,19	33:12,18 34:2	engaged 7:20
112:7 113:4	49:7,16,19,20	34:18,18 35:20	8:19 9:7,13
131:20 132:2	49:25 51:3,9	36:8,9,15 37:5	15:17
132:19,21,23	52:4,5,12,13	37:10 40:25	enjoy 35:19
133:2 134:2,9	53:3,4,20,21,22	41:2,5,7,10,15	36:8,14 37:5
134:25 135:1	55:10,20,21	42:3,4,11,14,19	37:10,20 41:14
136:13,14	56:17 57:6,7	42:20 43:10,11	41:20 42:1,19
141:25	57:13,25 58:3	43:13,16,17	43:11,16
employed	58:5,7,9 64:8,9	44:19,24 45:1	enjoyed 66:19
113:24 162:11	65:21 66:5,10	45:5 46:4 47:9	ensured 101:21
162:14 163:8	66:22,25 67:2	50:10,12,19,20	entered 153:15
163:11	68:7,7,14 69:2	51:3,10,23	166:9
employee	69:9,13,23	52:2,6,24 53:1	entire 165:5
162:13 163:10	70:1,17,20	53:11,12,14,15	166:5
enable 37:5	71:3,4,12,17,18	54:6 55:12,22	environment
50:11,18 51:11	71:21,22 72:1	57:8,9,10,19	118:9,10,19,20
67:12 120:24	72:18,19,22,25	60:10 62:9	119:7,11 122:9
121:10	73:22,24 74:17	65:18,19,25	123:10,22
enables 51:4	75:3 77:3,15	66:1,13,15,19	124:4,5 125:1
61:2 67:15	77:18,21 78:2	66:20 67:8	126:9 127:20
encoded 144:14	78:5,9,12,16	68:25 69:5	128:12,19
encompass	79:17,25 80:13	79:9,12,15,16	129:14,14
65:25	84:16 88:11,14	79:24 80:3,12	132:9 133:3,19
endpoint 32:23	88:17 89:1,7	80:17,19,24	134:13 136:2,9
33:3,6 35:18	89:16 90:1,4,6	81:7,7,13,15,24	136:16 139:16
36:13,23 37:9	90:12,16,19,23	82:2,7,9,17,24	139:21 140:2,3
37:21 38:6,12	90:24 91:9,10	83:17,19,20,23	142:23 146:2,9
38:17,18,20,22	91:11,14,16,23	84:4,15 85:4	146:24
38:24,25 39:4	92:7,12,20,21	85:23 86:11,17	environments
39:5,8,9,15	92:22 93:4,8	88:16,20 89:14	133:8,11 134:5
40:11,11 41:3	94:10,16 95:11	92:8,17,24	134:7,11,16
41:14 42:14	96:8	93:6	135:24 136:6

136:11 errata 164:17 166:7,10,18 167:1 es 162:4 especially 16:20 esq 164:5 esquire 2:4,12 et 62:7 102:16 eugene 2:4 5:18 13:15 164:5 eugene.goryu... 2:8 evaluate 26:4 58:17 evaluation 19:25 events 110:22 everybody 62:15 evidence 21:5,6 evidentiary 5:7 exacerbated 115:8 exactly 73:2 118:17 examination 3:2 6:13 examined 6:10 example 31:17 33:3,10 37:24 46:4 51:9 62:4 70:9 73:23 76:4,6,8 88:3	95:18 97:10 98:17 99:8 101:19 102:15 107:25 108:16 109:13,24 111:11 119:17 119:22 122:18 125:13 131:5 134:17,21 136:3 142:2 147:20 148:4 148:14 154:19 156:10,21 examples 34:14 34:17 44:12,15 108:4 110:20 110:23 excellent 161:11 exception 18:16 exchanges 97:9 executed 166:10 execution 165:14 166:19 exercise 36:24 37:22 77:4 exhibit 3:8,9,10 3:11,12 10:12 10:12,13 11:5 11:23 12:5,5,7 12:9 17:8 26:12,25 29:16 29:22 31:21	36:21 54:15 59:9,10,10,13 59:15,17,19 61:5 62:12 96:18 117:16 117:17 118:2 120:21 122:7 135:7 142:12 149:19 150:22 150:24 152:1 expanding 113:17,18,22 expect 45:8 experience 22:5 expert 8:16 9:7 10:3,9 15:17 17:23 21:1 25:20 36:21 54:14 76:24 expiration 165:19 166:25 167:25 explore 84:23 express 20:2 26:5,9 122:16 expressed 145:1,16 147:11 148:13 148:18 expressly 164:12 external 21:4	f facebook 22:20 facilitate 119:19 fact 17:8 19:15 31:16 35:11 47:3 48:25 66:16 90:21 149:8 150:2 153:8 fair 142:23 fairly 9:14 familiar 12:16 13:6 140:13 faster 159:11 feature 37:3 75:20 features 28:20 29:2,9,25 35:19 36:8,14 37:10,14,17 41:14,20 42:1 42:10,13,20 43:11,17 71:3 feed 28:7,15 69:23 72:10,11 72:22 73:5,6 74:5,9,18,19,20 74:22,25 75:1 75:2,21,22 77:20 78:3,10 78:17 89:11 90:5 91:15,24 92:4 93:13 94:9,16 95:2,3
---	---	---	---

95:12 105:20 106:2 124:1 143:4 153:18 154:15 155:7 155:23,24 157:22 158:7 158:20 feeds 27:14 28:5,6 32:8,11 57:8 62:5 77:19 78:3 79:21,23 81:12 82:11,15,21 84:6,11 87:4,5 92:8,23,24 93:4,5,9,17,23 94:3 95:23 96:12,15 120:22 121:6 122:1,19 152:23 153:2 153:22,23 154:10 155:13 155:20 fees 121:16 field 22:5 118:4 figure 32:22 33:3,7,10,15,16 33:17 34:6,6,7 34:7,10,11,13 34:13,17,17 40:18,22 46:8 47:18 48:5,13 49:8,9,14,17 59:7 61:5,21	62:12,15,15 63:8,24 64:2 64:13,17 68:23 90:21 97:6 98:2,12 99:23 100:10 102:6 102:11,20 103:11,13,16 103:19,20,24 105:13 111:22 112:3,5 119:5 120:5,7,9,14,18 120:23 137:1 140:13,13,22 141:18 152:17 152:20,23 153:2,5 154:2 154:5,5,6,9,11 156:22,24 figures 44:11 44:15 file 11:3,7,9,10 filed 9:3 14:12 14:23 15:9 151:24 film 77:19 78:3 filmstrip 27:19 28:5,8,16 36:24 37:22 38:4 72:9,23 73:4 74:5,9,12 74:15 77:4,13 77:19 78:2,10 78:17 79:20,23 81:11 82:10,13	82:16 84:5,10 85:5 87:3 91:24 92:3 93:2,4,8,24,25 95:24 96:12 105:20 106:2 120:22 121:5 121:15 122:2 filmstrips 27:13 financially 162:15 163:11 find 24:13 106:5 finding 24:7 108:18 fine 6:18 11:1 20:24 finish 99:3 154:24 first 6:8 10:2 12:18,22,25 16:25 17:4 23:13 26:16 79:8 80:9 84:24 85:11,13 85:15,15,21 87:2 88:15 97:7,14 98:13 102:7,17,24 103:8,25 104:3 104:6,11,21,24 105:2,6 110:14 111:12,18 114:10 118:3	five 10:8 42:8 42:25 61:22 flip 135:4 floors 50:6 flow 103:20,25 104:3,10 105:3 focus 57:12 focused 124:3 134:22 135:11 follow 94:20,24 followed 124:24 following 22:7 127:22 follows 6:10 131:17 foregoing 162:3,4 163:4 165:13 166:18 form 24:24 25:7 28:13 29:12 39:7 52:17,20 53:7 53:17 54:3,10 59:2 67:4 68:9 69:21 70:3 72:3 73:7,15 75:9,23 76:13 77:22 78:7 82:18 84:17 86:2 89:9 90:14 95:20 115:25 145:7 149:22 150:7
---	--	---	---

format 144:8 forming 22:3 forms 60:25 forth 18:17,21 19:4,11,17,21 20:11 23:6,10 35:10 45:17 142:4 fortnite 118:16 found 149:12 foundation 29:13 52:21 53:8,18 54:4 54:11 67:5 72:4 73:8,16 75:10,24 76:14 82:19 84:18 90:15 116:1 149:23 four 120:11 fourteen 107:21 fourth 28:9 fraction 110:23 frame 72:9,11 72:14 73:4,6 74:12,20 75:1 157:18,23,24 158:3,4,7,10,11 158:16 159:4 frames 79:20 81:11 82:10 84:5,10 87:3 free 165:14 166:20	front 7:13 10:17 26:14 29:21 68:1 87:11 151:1 full 28:6,8,16 72:10,23,24 73:6 74:6,9,16 74:18,20,22,25 75:2,22 77:20 78:4,10,11,17 91:25 93:13,19 94:4,9,17 95:3 95:25 96:16 105:21 106:3,4 135:7,11,16 136:19 function 150:18 158:2 158:11 functional 49:9 functionality 50:17 75:7 functions 32:7 65:17 further 29:24 48:25 53:21 55:10 84:21,21 85:10 139:10 157:16 160:15 162:13 163:9	116:23 147:18 147:25 159:3 generally 36:2 59:25 60:18 64:2 90:16 91:6 159:9,12 generate 61:14 61:24 62:1 70:20,23 100:16,23 101:7,13,20,24 101:25 102:2,3 102:15,24 103:6 104:21 104:23,24 105:3,14 107:3 112:10 116:9 125:25 126:21 136:20 146:20 154:15 155:7 generated 101:22 124:7 124:11,14,18 124:21 125:2,9 125:13,15,20 125:22 126:12 126:15 127:9 128:1,25 129:2 129:6,16,17 130:16 139:18 139:25 142:20 153:11 156:25 generates 122:7 123:9	generating 101:16 105:17 106:19 107:5 112:2,19 113:9 113:13,19 114:2,17 115:3 115:13 116:15 124:3 140:5 141:10 144:7 144:15 153:18 153:22 154:10 157:5 generation 62:4 105:8 getting 29:22 54:16 58:21 83:2 102:10 155:25 160:10 give 66:18 83:1 114:25 121:18 150:17 157:25 given 18:8 19:16 81:4 gives 37:24 110:20 156:1 giving 155:19 globe 110:6 glued 128:1 gluing 127:11 go 5:23 6:19 18:25 23:19 26:11,22 29:17 30:24 31:7,21 32:18,21 33:1 33:18 34:9
	g		
	g 4:1 22:21 game 118:15,18 general 47:1 61:4 90:19		

35:15 40:12 42:23 45:24 51:21 56:14,15 57:2 61:12 64:22 66:24 68:2 70:13 71:19 76:23 78:22 79:5 80:4 83:4,22 87:18 90:8,21 91:19 95:23 101:4 103:3 108:21 116:4 120:5 126:2 131:22 144:5 153:6 160:24 goes 81:4 going 17:18 31:11 33:24 43:20 59:10 60:18 63:22 83:1,9 98:3,7 98:17 100:14 104:2 109:7 110:7 117:3 118:2 119:3 120:24 121:2 121:12 122:12 122:13 132:22 140:15 142:4 155:23 159:5 159:19 161:17 good 4:13 6:15 76:18 80:1 94:18 116:16	131:7,8 google 22:20 goryunov 2:4 5:18,18 24:24 25:7 28:13 29:12 39:7 52:17,20 53:7 53:17 54:3,10 59:2 67:4 68:9 69:21 70:3 72:3 73:7,15 75:9,23 76:13 76:18 77:22 78:7 82:18 83:5 84:17 86:2 89:9 90:14 95:20 99:1 115:25 145:7 149:22 150:7 154:23 159:13 160:17 160:19,24 161:5,11,15 164:5 grammatically 80:8 graphic 128:10 grounds 151:8 151:13 group 111:6 141:15,22 groups 106:8 106:16 guess 34:6 50:4 50:8 141:13	gui 95:18 guidance 17:14 20:7 guys 44:2 119:3 161:4 h h 3:5 22:20 half 11:18,22 hall 110:21 hand 6:5 handle 65:16 hang 10:15,18 31:20 35:6 44:14 71:19 77:16 82:25 92:14 102:10 103:4 108:3,23 117:25 153:14 hangouts 22:21 hardware 48:16,20 49:11 51:18 haynes 2:5 5:19 8:11,13 13:20 13:22 14:15,19 18:6 haynesboone.... 2:8 head 144:19,20 144:24 145:12 148:14 hear 12:18 heard 39:19 hearing 6:2	hedging 148:12 help 18:5 henschel 2:20 5:13 hereto 162:15 163:11 hewlett 151:17 high 131:7 highlight 35:16 36:1,3,16 38:3 155:22 highlighted 37:7 77:12 highlights 43:9 hired 10:2 history 18:11 24:14,19,20 25:1,3,9,11,12 25:17,22,24 hit 11:12 12:9 hmm 22:9 27:3 38:2 54:19 57:15 72:20 80:18 82:12 92:10 98:1 132:25 133:13 hoff 2:22 5:21 5:21,23,25 hold 156:23 hosted 32:3 hours 14:6 hp 151:17,19 152:8 hull 143:12
---	---	---	--

human 146:14 hybrid 140:16 140:19	images 27:20 32:9 124:10,13 124:18,21 125:3,9,12,15 125:21,22 127:9 129:24 137:17 140:5 144:14 147:12 148:18,22 157:24 imaging 139:5 immediately 37:8 98:11 impact 154:20 159:4 impacts 158:21 158:25 159:1 implement 95:5 implemented 51:18 implementing 49:1 96:2 implements 119:22 implied 21:17 imply 49:10 importance 147:6 important 36:1 36:5,11,18 38:10 83:2 impression 157:25 include 34:17 45:14 46:20	79:23 140:2 141:15 included 49:19 includes 48:20 49:14 79:15 83:25 88:16 119:11 incorporated 166:12 incorporating 149:20 increased 115:23 independent 27:8 indianapolis 2:15 indicate 63:15 96:25 101:22 indicates 98:24 individual 68:6 individuals 67:21 influence 50:17 information 121:3 127:4 informed 24:8 24:14,21 25:3 25:12,17,24 initiate 72:24 74:21 75:2 78:11 94:8,13 94:16,23 96:4 106:3	initiating 75:15 94:12 instance 19:9 instituted 149:9 institution 148:25 149:5 150:12 integration 49:11 intended 5:5 intent 114:16 inter 7:21 interact 77:18 interacting 92:3 interaction 38:4 77:12 interacts 78:2 interested 162:15 163:12 interesting 108:5 interface 36:24 37:22 77:4 95:18 internet 4:9 interpret 16:25 17:4,8 interpreted 17:12 interpreting 94:19 97:2,4 interrupt 16:17
---	--	--	--

intervening 46:23 introduce 59:10 introduced 117:15 137:5 150:22 invalidate 9:9 invention 18:13 31:25 35:5 49:1 99:25 102:14 103:22 108:8 113:4,5 155:16 inventor 18:17 18:21 19:3,11 19:17,20 41:12 72:8 involved 121:1 involves 125:2 involving 14:24 15:24 146:24 ip 46:10,13,25 47:1,7 48:7 60:14 91:3,6,8 91:18 ipr 7:11,25 8:8 9:3,8,13 12:1 12:24 14:16 16:7 148:25 149:6,8 159:24 ipr2024-00194 1:7 iprs 10:9	issue 115:16 issues 113:11 114:5 j january 4:20 job 1:20 jumping 111:10 june 1:13 4:3 4:20 164:4 k kaufmann 2:24 keep 16:18 119:3 kevin 15:11 16:2 kind 16:19 46:19 61:2 87:22 118:3,20 145:19 kinds 7:9 know 8:12,19 9:5 10:7,10,22 15:11,13 20:9 21:16 24:17,23 25:6 35:23,24 38:12 43:4 53:24 55:6 58:10,11 59:15 79:6 89:18 90:23 91:1,5 95:15 99:19 107:17 119:16 123:5 126:20	127:16 130:25 132:2 142:11 142:14 149:11 151:1 152:8 155:3 160:5,9 160:9,13,13 knowledge 22:5 162:10 163:6 known 32:4 122:20 123:7 131:3 kurt 2:20 4:12 5:13 l labeled 61:8 62:20 63:3,22 90:23 96:21 97:7 101:10,13 104:7,12,14,17 117:15 119:16 119:16 laid 116:4 language 16:25 17:4,9 18:25 23:13,18,22,25 55:19 56:25 57:16,17 58:12 58:21 67:19 75:12,18,25 76:7 80:9 81:17,23 83:21 100:25 laptop 67:15	large 110:23 113:24 larger 111:6 135:18 lasalle 2:6 law 23:14 laws 5:7 lawyer 23:15 lawyers 13:20 14:14,15,18,19 layered 123:6 learn 18:3 leg 46:5 legal 22:4 67:7 164:1 167:1 lesser 135:12 letter 164:18 light 18:10 likely 121:12 157:13 limitation 52:13,24,25 54:20 55:25 56:6 58:18,19 64:6 69:8 72:16 limitations 53:10 54:21,22 54:25 55:1,3 56:1,11,13,21 56:22 limited 106:21 107:8,13,24 108:15 109:12
--	--	--	--

line 32:2 45:19 46:3,8 48:2,3,4 71:9,10 91:1 98:3,15,17,21 98:24 99:15 153:8 157:19 166:7 167:3 lines 44:18,21 45:1,5 46:24 63:10,14 72:13 96:24 98:13 99:10 list 21:21 listed 22:4,10 22:17 166:7,17 listener 101:19 listing 166:7 litigation 9:17 10:9 14:9,12 14:24 15:2,24 16:11 little 16:19 18:24 62:18 96:20 130:3 143:21 144:1 157:16 llp 2:5,13 loaded 117:25 local 136:21 137:8 138:12 156:12 157:1,6 located 4:5 6:22 64:24 65:11 69:9,12 69:22,25 70:16	72:17,21 73:21 78:8,16 88:10 88:25 91:22 93:7 94:15 95:11 96:8 156:18 location 1:15 49:22 50:3 59:5 65:12 164:14 locations 26:19 long 14:4 43:19 78:20 83:8 122:22 look 12:18 19:1 19:9 21:14 23:25 24:4 29:16 33:7 36:19 38:14,23 40:18 44:5,25 45:21 47:13 49:17 53:2 54:14 55:16 57:17 64:22 67:24 69:4 70:4,13 71:7 72:16 80:1,8 81:15 87:22 90:9 97:3,5 100:24 101:2 102:5 103:19 105:22 107:19 107:20 118:23 123:18 140:17 142:16 152:12	154:16,17 155:8 156:10 160:25 looked 17:10 17:13 18:22 19:6 21:1,4,12 24:12,19 25:1 77:1 103:2 120:8 130:25 134:14 looking 21:8 34:4 44:11,25 45:18 46:1 47:19 72:12 75:18 81:17 83:21 85:11 87:2 107:22 157:13 looks 12:3,3,15 33:5,12 48:9 65:17 141:3,3 141:13 143:11 loose 75:13 losing 123:2 lot 114:20,20 122:25 123:2 lots 114:19 low 141:15,22 lower 115:2 131:9 157:10 lunch 117:2,8	maintenance 61:3 make 30:11 42:9,10 43:1,6 45:23 64:4 70:11 86:21 96:5,5 97:3 104:19 106:3 107:11 145:22 153:7 156:7 164:14 makes 93:15 94:7 96:11,14 107:12 making 28:19 29:1,9,25 31:3 84:19 115:5 managed 47:22 48:6,14 managing 41:9 manner 5:8 marked 10:11 10:13 12:7 26:12 59:10,13 117:17 150:24 material 22:19 32:10 materials 22:7 22:10,11,17 117:9 matter 4:4,18 20:16 110:7 164:11 mcu 31:18 32:4 32:7,16,18
		m	
		madam 164:9 made 30:7 114:9 165:7	

33:15,16 40:6 40:25 41:5,8,9 41:11 44:19,23 46:5 mean 9:14 11:23 19:7,13 19:13 20:4 21:15 22:18 23:8 24:17 29:14 30:20 31:12,19 36:2 40:8 51:7,15 58:20,22 59:24 60:22 68:22 75:4,11 76:16 89:4,22 95:4 99:4 100:25 105:15 108:19 111:23,24 114:13 115:1 115:11 116:2,2 116:19 120:15 120:23 123:18 124:6 126:19 130:15 131:14 134:14 138:1 142:7 147:22 147:25 148:2 150:20 155:16 156:3 160:9 meaning 18:9 18:17 19:4,12 19:17,18,21 20:5 21:16 23:1,23 24:9	24:10,15 25:4 25:13,18,25 66:4,5,9 68:16 98:14 99:10 meanings 17:19 18:22 25:9 means 5:9 23:10 59:25 60:4 61:4 80:12 89:18,20 97:18 98:6 108:5 142:15 meant 44:21 measured 158:1 mechanism 36:23 37:14 77:3,24 media 46:9,17 59:23 99:25 103:21 104:25 105:3,6,7,14 meet 13:9,11,12 13:14,19,22 14:4 15:14 meetings 14:1 110:21 member 155:19 members 101:7 103:6 155:12 156:2,3 memory 27:25 mentioned 76:15	meridian 2:14 mesh 28:22,22 29:4,4,6,7,9,10 30:2,3,11,13,15 30:16,21,22 31:5,6,14 32:17 33:10,14 33:24 34:2,18 34:19,24,25 35:18,19 36:7 36:8,13,14,23 37:1,4,5,9,10 37:19,20,21 38:17,21 39:5 39:12 40:15 41:3,14,15,21 41:22 42:3,3 42:14,15,19,20 43:9,11,12,16 43:17 45:11 46:6 50:21 51:24,25 52:1 52:5,7,8 53:4 53:12,12,14,14 53:21,22 54:6 54:6 55:10,11 55:21 56:17 57:6,6,7,9,10 57:13,19,24 58:3,4,7 60:10 62:14,17,22 63:1,6 64:8,9 66:1,1,6,7,11 66:11,13,14,19 66:20 68:3,11	68:13,14,24 69:2,5,9,13,25 70:17,20 71:2 71:4,13,18,22 71:23 72:2,18 72:22,25 73:22 73:23 74:17 75:3 77:3,6,18 77:21 78:1,5,9 78:12,16 79:10 79:11,12,16,17 79:24,25 80:3 80:20,21,25 81:1,13,14 82:2,3 84:1,2 84:15,16,22 85:1,1,8,8,10 85:17,18,24,24 86:7,8,12,15,15 86:17,19,22,23 87:7,8,10,11 88:11,14,16,21 88:21 89:1,6 89:13,15,23,25 90:4,6,12,24 91:10,10,14,15 91:23 92:2,7,8 92:12,16,19,21 92:22,24 93:3 93:5,8,9 94:10 95:11 96:8 103:11,14,16 112:11,13 116:14,17 120:1 135:7,11
--	---	--	--

135:16 136:19 140:21,24 141:5 methods 152:13,18 metrics 121:9 121:10,17 122:5,13 microphone 4:9 midi 47:5 midwest 167:1 mind 6:15 57:16 114:14 mindful 114:14 114:21 115:16 115:16,18 116:13 minecraft 118:15 miniaturized 156:17 minute 42:8,25 83:7 minutes 160:20 mistaken 9:23 13:18 17:19 mixed 28:21 29:3 30:1 32:14 34:7,10 34:11,14,16 40:22 41:1 44:13,15 mm 22:9 27:3 38:2 54:19	57:15 72:20 80:18 82:12 92:10 98:1 132:25 133:13 model 127:23 127:25 131:25 132:5 136:20 143:13 models 143:16 modes 40:9 modified 115:7 115:21 modify 114:8 money 10:7 monitors 49:15 68:1 morning 4:13 6:15 motivates 149:19 motivation 144:25 145:14 145:15 mouse 95:22 96:3 move 87:14 96:18 111:12 111:18 112:10 127:13 132:18 140:12 156:20 moving 133:6 133:12 137:3 147:3 mpeg 144:9,14 144:15 146:4	multi 31:17 39:19,23 65:15 multicast 99:18 99:18 100:3,7 101:1 multiparty 32:3,4 multiple 26:17 46:4 47:2 65:5 65:16 123:3 143:3,4 158:15 multipoint 32:5 multiway 59:22 mute 145:21	138:1 need 10:23 17:5 30:23 31:7 33:18 43:19 51:14 58:13,16 62:18 64:24 75:11 78:20 83:2,4 94:24 116:11,15,22 150:6,8,11 160:20,24 needed 17:17 31:12 158:21 159:2,10 needs 94:25 139:8 neither 162:11 163:7 network 22:6 28:21 29:3 30:2 32:14 34:8,14,16,21 39:23 40:23,24 41:3,6,9 44:13 45:11 46:23 47:2 48:7 50:24,25 60:16 60:20,22 102:7 102:17,25 104:4,11,14 106:17 107:4 107:24 108:15 109:12,18 115:17 116:12 119:6,18 120:2
		n	
		n 2:1 3:1 4:1 119:6 123:22 133:15 134:7 134:10,16,17 135:13 136:2,8 139:15,17 name 4:13 6:16 11:9,10 13:18 160:10 164:6 165:3,4,15 166:3,4,21 narasimha 1:12 2:3 4:18 6:7 164:8 165:4,9 166:4 166:13 167:20 necessarily 33:24 57:24 60:3,22 65:10 118:18 120:12	

121:18 122:3 130:7,9 131:4 131:8 153:12 153:16,23,24 154:19 networks 22:14 44:16 61:1 new 124:21 125:15 126:4,8 126:12,23,23 126:25 127:1,3 132:11 133:3,8 133:19 135:25 137:16,21,25 140:8 nice 57:3 node 39:25 40:1,2,5,12 60:7 61:2 119:12,23 121:2,3 137:6 137:6,9 139:14 140:7 141:7,9 150:2,4 nodes 28:22 29:4 30:2,12 30:15,23 31:5 31:9 32:17 39:25 119:18 120:11,16,25 120:25 122:15 130:7,8 140:21 141:2,4,16,22 146:20 149:14 149:21	non 28:22 29:4 29:7,9 30:3 34:19,25 35:18 36:7,13,23 37:5,9,19,21 38:17,21 39:5 41:14,22 42:3 42:15,19 43:9 43:10,16 51:25 52:8 53:12,14 53:22 54:6 55:11 57:6,8 57:10 66:1,7 66:11,14,19 68:14 69:2,9 69:13,25 70:17 71:2,18,22,23 72:18,22,25 73:22,23 74:17 75:3 77:3,18 77:21 78:1,5,9 78:12,16 79:11 79:17,25 80:21 81:1 82:3 84:16 85:1,8 85:18,24 86:23 87:8 88:11,14 88:16,21 89:1 89:6,15,25 90:4,6,12,24 91:10,14,23 92:2,12,19,21 92:24 93:3,8 94:10 95:11 103:16 116:14	157:9,14 north 2:6 15:14 notary 4:22 162:18 164:25 165:10,18 166:15,23 167:23 note 4:6 notes 135:10 160:25 notion 89:11 110:5 147:18 number 7:22 59:22 110:24 135:13,17 164:7 numbers 166:7 o o 4:1 oaths 4:23 object 146:7 147:18,20,21 147:22,25 148:3,11 objection 4:25 6:2 24:24 25:7 28:13 29:12 39:7 52:17,20 53:7,17 54:3 54:10 59:2 67:4 68:9 69:21 70:3 72:3 73:7,15 75:9,23 76:13 77:22 78:7	82:18 84:17 86:2 89:9 90:14 95:20 115:25 145:7 149:22 150:7 objective 141:13 objectives 41:24 43:8 66:17 71:1 objects 144:13 144:19,24,25 145:13,15,25 146:3,8 147:6 147:9,10,16 148:6,7,17,21 observing 69:15,17 89:18 90:2,3 108:7 110:25 111:7 116:21 obviously 121:1 occasions 9:6 occurs 98:25 offering 112:6 office 1:1 7:9 7:10,17 164:13 officer 162:1,2 official 165:15 166:21 offload 150:2 oh 5:23 7:8 43:3 108:23 109:1 113:14
--	--	--	---

142:16 143:25 ohio 4:23 162:19 164:2 okay 6:19,21 7:10,16 11:14 11:23,23 12:4 12:11,14,15 15:22 16:21 17:22 19:15 20:22,24 26:13 26:23 27:1,8 28:2 29:23 30:18 32:1,6 33:1 36:20 39:2 40:21 42:8,24 43:3 44:14 45:25 46:16 48:1,3 50:6 51:10,19 52:10,22 53:2 53:9,19 54:16 55:14,16,17 56:8,14,16,19 56:19 57:2,4 57:20 59:18 61:7,13,13,18 62:18 64:10,22 64:23 66:16,24 67:16 68:4,14 69:24 70:4 71:8,8,14,19 72:14 73:14 74:1 76:12,25 78:19 80:3,3,7 80:10 81:19	82:9,11 83:1,3 84:23 85:11 86:10 87:16,19 87:22 88:9,19 90:16,22 91:21 92:14 94:1,17 94:18 96:3,10 96:19,19 98:10 101:2,3,6,18,23 102:10,23 103:5,24 106:14 107:21 108:6,10,12,23 109:1,2 111:16 113:1,23,25 114:1,7 115:18 118:1 119:25 120:20 121:7 123:19,23 124:21 125:14 125:17 126:3 127:3,14,17 129:19 130:3 130:13,16 131:23 132:3,4 135:4,5,23 138:13 140:12 141:24 142:2 144:2,3,20 145:3,4,14,23 147:9 148:15 151:3,19 153:4 153:9 154:8,16 155:5 156:6,23 160:23 161:3,5	161:6,6 once 42:6 46:18 97:21 129:5 ones 102:23 108:11 115:3 135:2 147:17 online 118:15 open 10:16,20 11:6,7 57:3 59:16 opened 10:18 11:5 opinion 18:20 19:3,25 26:3,8 36:5,11 52:11 52:15,23 53:5 53:10,25 54:7 55:1,7,14 56:23 57:21 58:6 62:8 77:8 84:20 121:25 139:3 140:1,21 opinions 8:7 12:13 20:15,25 22:3 23:1 24:8 24:14,21 25:3 25:12,17,24 66:17 70:11 117:23 150:17 order 16:23 17:2 51:2,6,11 51:13 150:13 ordinary 17:19 18:9 19:16 20:5 21:16	23:23 24:9 organized 116:8 original 150:21 outcome 162:16 163:12 output 137:16 137:20,24 138:6,10,14 139:4,7 140:8 outputs 142:6 142:18,19 own 22:4 96:4 owner 1:8 2:11 9:13 14:8 160:2 owner's 159:24
			p p 2:1,1 4:1 p.m. 79:1 161:20,20 packard 151:17 packet 97:9 159:6 page 3:2,6 10:17 11:17,19 11:22 26:14,24 33:8 61:18 108:25 109:1,2 110:19 118:3 152:3,5 166:7 167:3 paid 8:3,5,6 10:8

panel 110:21 paragraph 17:23 19:10,11 19:22,24 20:13 20:14 21:18 22:2 23:21 26:2 29:17,18 29:21,24 30:11 35:8,12,16 36:19 37:8,13 38:1 54:14,15 54:17 55:2 56:5,10 61:18 72:7 76:23 77:1,25 97:5,6 99:21 101:2,4 101:16 102:5 102:21 103:3 107:20,22 108:22 110:17 110:20 112:25 118:4 119:5,17 120:2,8,19 121:20,23,24 121:25 122:17 123:13,18,20 126:2,10 127:4 127:13,15,19 127:21 128:4 129:12,21 130:2,4,6,24,25 131:10,17,22 131:24 132:18 132:22,22 133:2,6,7,12,14	133:23 134:23 135:4,6,23 136:5,15,18,23 137:3 138:6,22 140:7 142:1 143:8 144:5,5 144:17,22 145:11,25 146:5,11,12,19 147:4,10,17 148:9,16,17,18 148:21 157:8 paragraphs 17:21 19:13 23:19 56:20 131:15 132:13 132:20 134:3 135:2 136:1 148:6 pardon 39:14 50:16 152:25 parse 18:25 73:21 87:18 part 27:19 40:23 49:15 50:23,25 65:9 71:13 72:2 89:12 119:11 141:21 166:9 partes 7:21 participant 66:22,25 68:5 68:19 70:9,16 81:13 85:16 87:7,8 154:18	156:17 157:2,6 157:9,14 participants 4:9 27:21 28:21 29:3,10 30:1 33:23 34:24,25 37:19 37:20 41:19,21 41:25 42:2 43:10,12 67:13 67:20,25 68:4 68:11,13,17,24 69:6 70:6,20 79:22 82:21,22 82:24 83:16,18 84:7,12,14,22 84:25 85:6,7 85:20,22 86:7 86:9,10,16,17 86:20,23,24,25 87:4,6,10,12 89:12,23,24 93:10 106:1 110:24 135:17 152:22 153:1 153:11,15,17 153:21 154:9 154:14 155:6 155:11 156:4,5 156:12,12,19 157:1,5,13 participate 26:18 71:12 72:1 106:16 114:19	participating 65:7 67:16,18 67:21 68:8,20 69:3,20 70:1 89:5,7,16,18,20 90:1 111:5 116:10,22 particular 12:24 16:7 19:21 21:2 23:2 33:17 49:10 55:8 57:12 70:7 92:3 118:4 123:13 149:5 160:2 parties 4:23 5:1 26:17 60:1 162:12,14 163:8,11 partner 2:22,24 5:25 parts 65:6 party 9:24 60:19,19 passive 111:6 past 8:17 patent 1:1,2,8,8 2:11 3:8,10,11 3:12 7:22,24 7:25 9:9,13 12:2,6,12,16,19 12:21 13:1,4 14:8,9,24 15:4 15:24 16:7,24
--	---	--	--

17:3,9 18:21 19:4 20:21 22:19 23:5 24:22 25:5,19 26:12 27:17 28:3,18,25 29:25 31:16,24 32:21 33:22 35:4,12,12,17 36:6,12,22 37:4,18,25 38:13,14,21 39:3 40:7,20 41:13,18,25 43:8 44:22 46:7 47:12,15 47:21,25 48:12 48:20 50:1,11 59:11,22 60:10 62:10 64:20 66:18,24 67:10 67:24 70:22 71:2,7 72:8 77:2,9 79:6 91:2 107:18 117:20,23 121:21 134:10 150:23 151:22 159:23 160:2 patentability 20:1 26:4 patents 22:1,24 pattern 32:23 34:9 107:11	paying 8:10 pcworld 22:19 pdf 11:9,10 ped 153:12,23 153:25 peer 59:23,23 59:24,24,25,25 60:16,16,20,20 60:22,22,23,24 61:1,1,4,4 100:3,3,7,7 101:1,1 102:6 102:6,17,17 103:21,21 104:4,4,11,11 104:14,14 106:16,16 107:24,24 108:15,15 109:12,12 peers 61:14 97:10 102:15 103:6 106:22 107:14,25 108:16 109:13 109:18 112:20 113:7,10,14,15 113:25 114:3 people 122:24 144:25 145:15 147:11 148:11 perform 140:7 149:13 performance 121:9,10,18	122:5,12 performed 137:12 139:12 performs 137:7 137:9 periods 122:22 permit 35:18 36:7,13 37:9 37:19 41:13 42:18 43:15 permits 95:10 permitted 5:5 95:14 permitting 69:8,22 70:8 94:15,22 person 18:10 20:6 68:6 personal 155:23 personally 13:11 165:11 166:15 perspective 124:5 126:24 127:2 128:24 129:2,4,20 131:19 137:17 138:7,11 139:9 139:24 145:3 petition 7:21 petitioner 1:5 2:2 9:8 phd 1:12 2:3 4:18 164:8	165:4,9 166:4 166:13 167:20 phillips 18:1,4 18:7 23:6,9,12 23:17,21 phone 7:13,15 51:7,8 141:15 141:22 161:1 164:3 photorealistic 142:21 phrase 126:8 phrases 15:3 physical 48:16 48:20 49:22 50:2 65:12 physically 58:8 58:11 64:24 65:11 placement 81:5 plaintiffs 9:23 9:25 please 4:6 5:15 6:4 10:20 76:24 79:6 99:2 107:18 118:22 145:22 154:23 164:13 plenty 7:8 plurality 51:23 52:6 65:25 79:9,15 80:10 80:12,17,19,24 81:6,7,24 82:1 82:6,9,16,24
--	--	---	--

83:16,23,25 84:4 85:3,23 86:11 88:15,20 plus 158:3 pocket 7:15 point 7:17 17:21 25:16 35:23 36:18 46:6 47:25 50:10,15 55:9 66:6,11 96:10 107:18 108:11 109:4,22 110:24 117:2 123:12 124:7 134:24 136:22 157:1 pointer 95:22 pointing 154:4 points 80:10 polygonal 143:18 popped 59:16 pops 59:15 portable 152:13 portion 97:7,14 98:14 101:8,9 102:7,8,17,25 103:7,8,15 104:3,6,11,13 104:16,21,22 104:24 105:3,6 105:7,11,17,19 106:21 107:8	107:13,23 108:14 109:11 109:18 110:15 110:15 111:13 111:13,18 112:9 114:11 114:24 portions 22:7 106:8 144:18 144:23 145:11 portrays 145:3 posita 21:16 position 145:3 155:2 positioned 128:11 possibilities 51:17 possibility 112:6 possible 19:1 51:15 118:25 140:4 potential 100:8 potentially 46:21 50:8 60:5 99:6,19 100:15 130:20 140:4 145:2,17 148:14,19,22 power 141:10 141:15,22 157:19,19 159:2,9,11	powerful 61:2 practical 46:22 preceding 140:6 precise 62:19 prefer 164:15 preference 101:22 preparation 21:20 prepare 13:9 13:23 14:2 prepared 12:1 16:10 150:15 150:17 163:3 preparing 8:6 14:15,19 17:7 20:25 22:25 present 2:19 37:3 99:24 102:14 108:8 113:4,5 133:14 133:16,22,23 134:1,23,24 presentation 36:25 77:5 presented 12:4 126:22 127:5 127:12 presenting 124:4 125:2 presents 32:8 presidential 110:22	pretty 145:20 prevent 43:9 prior 13:4 14:1 26:4 34:10 152:9 162:5 prioritizing 147:5 probably 8:23 8:25 13:2 36:2 45:23 75:13 91:17 145:20 problem 11:21 33:21 35:10 110:2 procedural 5:6 procedure 165:5 166:5 proceed 44:2 159:7 proceeding 1:15 4:15 5:4 5:12 7:11 9:13 12:25 161:21 163:4 proceedings 162:3,5,6,9 163:6 process 103:21 processing 119:23 120:16 125:25 137:7 137:10,12,14 137:15 139:12 141:10 149:13 157:18 159:1,7
--	--	---	---

159:9 processor 65:8 65:14 processors 65:5 65:16 produce 130:8 produced 5:3 122:10 production 164:23 professor 15:14 programming 147:19 148:1 promote 28:5 77:19 78:3 93:13 94:4 95:25 105:21 promoted 72:10 73:5 74:19,24 95:3 96:15 promoting 75:22 promotion 28:8 28:16 72:9,23 73:5 74:6,9,13 74:16 78:10,17 91:25 93:19 prompt 101:21 prompted 36:16 propagation 110:10 properly 16:24 17:2	proposed 15:2 15:8 proposes 36:22 77:2 prosecution 18:11 24:5,8 24:14,19,20 25:1,3,8,11,12 25:17,22,24 protocol 100:3 100:7 101:1 provide 7:20 9:7 10:3,8 20:15 71:2 91:15 142:21 146:20 154:15 provided 8:16 9:2 20:7 21:6 provides 120:16 141:10 providing 115:19 119:23 152:23 153:2 proxy 56:6,10 56:16,18,25 57:5,13,18,23 58:1,6,8,15,18 58:18 64:6,8 64:14,18,20 65:9 71:11,24 72:6 92:6,11 92:16 93:2 pte 1:7 2:11 4:19 164:6 165:3 166:3	public 162:18 165:10,18 166:15,23 167:23 publication 21:3,10 59:11 publications 21:25 22:12,16 pull 12:10,14 17:19 31:19 purchased 164:16 purposes 8:8 12:1 14:5 15:24 19:25 26:3 35:5 41:24 put 24:16,17,22 25:5,19,21 35:17,22,25 36:2 38:9 putting 8:7 111:3	157:21 158:6 question 17:1 17:15 19:2,7 24:25 25:9,16 28:10,24 31:1 31:4 36:10 37:6 39:2,2,18 40:21 42:6 43:2,6 45:3 47:14 48:18 52:22 53:9,25 56:19 62:19,19 68:5,15,16 69:24 71:20 76:20 78:15 80:1,5 81:21 82:4,13 83:14 90:10 92:15 93:20,21,22 94:18 99:2 101:23 105:24 108:12,13 109:10 114:1 116:6 125:11 129:1 132:3 133:21 134:22 138:13 140:23 141:17 142:13 144:21 145:8,9 148:15 155:9 questions 51:19 116:13 142:7 160:16 161:1 161:12
		q	
		qualified 162:7 qualities 123:4 quality 4:7,8 108:9 112:15 112:17 113:6 114:15,21,25 115:8,17,19,22 116:13,16 121:12,19 123:3 131:5,7 131:9 157:10	

quick 43:19 83:5 quicker 45:23 quickly 87:17 quite 16:3 92:25 quote 35:11,17 37:25	165:6,12 166:5 166:6,17 reading 23:13 23:18 28:1 92:14 102:18 106:25 108:3 108:12,19 109:1,16 112:24 122:11 129:23 145:19 153:14 156:16 164:11,18 reads 27:23 29:14 ready 43:4 real 124:14 125:12 126:13 126:18 127:1 127:24 128:16 129:10,15 137:23 138:8 138:17,23 140:3 reality 118:9,13 118:20 122:8 123:10 reason 9:3 10:21 12:14 61:18 110:13 166:8 167:3 recall 9:12,15 9:20 10:2 12:21 20:25 21:7,8 22:25 23:3 24:7	25:23 26:6 31:18 64:5 65:19,22 66:16 66:20 120:20 151:10 156:20 receipt 164:18 receive 45:10 45:12 46:17 47:5 57:8 90:13,17,20 97:19 received 38:5 77:13 105:20 106:2 127:7 153:12,25 receiver 98:18 100:8 109:18 111:16 112:1,8 114:10 receiver's 129:4 receivers 63:3 63:5,22 98:4,8 99:16 100:1,11 100:14,16,22 101:10,12,25 102:3,9 103:1 103:2,15 104:17,22 105:9,14,19 106:1,9 107:5 110:15 111:6 111:13 112:4 112:16 115:6 116:14	receives 92:7 receiving 92:23 105:17 106:19 107:5 114:18 124:11,15 125:4,5,7,14,19 125:24 127:5,8 127:12 128:6 129:7,9,24 130:18,18,21 138:8,17 159:6 recitations 53:25 54:2 recite 37:14 56:12,21 recites 27:13 28:4 51:22 52:4 57:5 79:8 85:23 recognize 59:17,19 160:5 reconstruction 143:15,17,18 record 4:11,15 4:16 5:1,15 42:23 43:20,22 43:23 78:23,23 78:24 79:1,3 83:9,11,12 117:3,5 159:19 159:21 161:8,9 161:10,18 162:9 163:5 166:9
r			
r 2:1 4:1 raise 6:4 rate 157:10,18 157:21,23,24 158:1,2,2,3,4,4 158:5,6,7,10,10 158:11,11,14 158:15,17,18 158:20,24 159:4,5,8 rather 19:8 reach 60:19 read 13:3 23:19 25:11,22 27:6 27:24 41:17 42:5,16 56:14 61:12 73:9,12 73:18 87:17,20 91:4,12 98:9 101:4,18 107:10,11 109:21 110:19 124:24 127:15 131:15 132:1 148:24 153:4 156:6,9 165:5			

recorded 5:8 5:12 162:6 recording 4:8 162:8 163:4 recordings 5:3 reddy 1:12 2:3 3:7,9 5:19 6:7 6:16,19,21 10:11,13 12:7 14:7 16:16,23 44:4 53:24 59:13 78:21 79:5 109:7 117:8,17 127:18 148:24 150:22,24 159:23 160:18 161:13 164:8 165:4,9 166:4 166:13 167:20 reduce 121:12 123:1 154:20 158:14,16,16 159:4,5,6,7 reduced 28:5 75:21 77:19,20 78:2,3 79:21 79:23 81:12 82:11,15,20,23 84:6,11 87:3,5 92:4 93:4,9,12 93:17,24 94:3 94:3 95:2,2,12 95:23 96:12,15 115:8,22	120:22 121:5 121:16 122:1 122:19 162:7 reducing 158:15 reduction 116:16 refer 6:15 7:24 20:20 64:3 67:20 90:7 reference 51:20 63:11,21 64:13 64:14,20 84:24 85:3,15,21 98:2 117:22 120:21 123:20 135:7,10 142:11,14 164:7 165:2 166:2 referenced 48:12 120:8 147:17 164:10 165:11 166:15 references 152:6,6 referred 88:7 91:5 referring 8:1 32:24 39:9 54:17 55:24 56:2 61:16 81:14 82:6 86:19 89:13 97:6 99:23	107:17 110:11 118:11 119:13 123:23 136:7 136:19 139:15 139:20 142:1 147:10 148:16 148:20 refers 56:5 80:16 81:6 88:14 126:8 127:19 133:22 136:25 142:19 156:21 157:24 reflected 40:24 140:13 141:14 refresh 11:12 12:9 27:25 59:9 117:19 regard 27:18 regarding 149:5 relate 44:5 133:2 related 22:19 162:11 163:7 relates 56:6,9 109:23 130:24 131:24 132:8 151:22 152:13 relating 7:11 12:2 15:2 16:7 44:8 52:24 53:1,11 117:9 117:12 133:17	relative 162:13 163:10 relay 63:3,5,22 98:4,8,18 99:16 100:1,11 100:16,22 101:10,12,25 102:3,9 103:1 103:2,15 104:17,22 105:9,14,19 106:1,9 107:5 108:6 109:17 110:15 111:6 111:13,16 112:4,8,16 114:10 115:6 116:14 relays 109:5,5 relevance 62:20 relevant 22:4 152:9 rely 117:22 remember 8:21 9:5,10,21,23 10:6 12:20 13:5 14:13 24:11 25:14 remind 118:22 143:20 remote 1:15 153:11,15 156:4,12,17,18 156:19,25
--	--	--	---

157:5 remotely 4:20 4:24 13:12 render 123:24 137:16 139:4 140:8,10 142:5 142:20 143:16 rendered 129:19 131:18 138:15 146:1,9 rendering 117:22 132:5 133:11 142:15 142:19 143:5 143:11 renderings 135:3 138:20 142:12 renders 128:23 143:13 repeat 17:1 24:25 45:3 48:18 77:23 80:6 90:10 140:23 145:9 repeated 141:3 report 17:18,20 20:12,13 21:1 21:6,12,13,18 23:1 24:16,18 24:23 25:5,20 29:17 36:17,21 38:10 54:14 55:5,6,25 57:2 59:3 70:14	78:1 90:9 reported 1:19 reporter 4:10 4:12,14 6:1,11 10:24 42:6,24 43:3,25 78:25 118:21,24 119:2 143:20 143:25 145:18 160:22 161:3 165:7 represent 5:17 128:5 150:1 representation 128:19 150:16 152:17 156:24 representations 49:10 represented 148:22 representing 5:19 8:13 13:23 27:20 144:13,18,23 145:11 146:8 request 159:16 166:9,11 requested 162:21 require 20:2 26:5,9 58:23 119:19 required 164:25	requirements 106:15,23 107:15 108:1 108:17 109:14 109:23 112:15 112:17 113:6 requires 58:8 139:7 reserve 161:15 reserved 161:19 resources 116:12 respect 49:7 97:23 117:23 155:17 respective 127:7 respond 150:13 150:20 response 159:24 rest 22:18,24 41:6 result 112:21 112:22 113:11 114:4 129:23 132:16 results 38:5 77:13 retained 7:19 15:17,23 returned 164:17	review 7:21 117:9 121:22 162:21 164:13 165:1 166:1 reviewed 14:11 14:22 159:23 160:1,11 right 4:2 6:5 8:15 13:21 15:25 18:2 21:23 23:24 27:10 31:22 33:20 34:7 35:9 39:1 43:18 45:25 50:14 55:17 57:20 60:13 62:25 64:17 66:23 78:22 80:11 81:22,25 82:22 84:23 86:21 87:24 91:25 94:13 95:13,19,25 101:3 103:10 106:21,24 108:10,23 109:20 110:3 112:12 113:20 118:14,17 120:5 124:6 127:13 128:14 128:18 129:5,8 129:18 131:20 133:25 145:23
--	--	--	---

146:18 147:25 158:18 160:17 160:24 161:7 161:17 role 111:11,17 112:4,9 roles 108:4 111:1,3,22 room 7:3,6 49:23 50:3 rooms 50:5 rule 116:23 rules 5:7 165:5 166:5 run 49:5,12,21 ryan 163:2,15	112:1 131:11 134:10,15 138:2 147:14 says 10:22 17:18 23:20 24:5 26:17 27:15,15,15 28:7,15 29:15 29:15 32:2 34:10 35:9 37:21 38:25 42:17 43:14 45:22 46:7 47:24 53:24 55:5,6 58:11 59:3,22 61:13 61:13,13,24 62:6 67:24,25 70:5,9 71:11 72:8,8,17 73:3 74:7,20,21 75:1 77:9,11 78:6 79:20 80:2,9,16 84:13 85:14,20 86:4,24 87:1 95:9,9 99:13 99:17,23 100:2 100:25 101:6 101:12,19 102:1,5,13,23 103:5 104:23 106:24 107:16 108:2,4 109:15 109:20 110:22	112:19 113:14 114:6 115:1 118:7 119:5,17 120:15,18 121:17 123:20 124:13 125:12 127:1 130:2,15 132:1 133:14 133:23 134:17 135:21 136:2,3 136:8 137:9,14 138:10,22,24 139:10,10,17 140:7,17 141:25 142:2 143:12 145:14 146:4,16,22 148:2,11,12 153:5 156:16 scene 123:24 145:1,15 147:11 148:12 scope 24:15 25:4,13,18,25 screens 27:22 scroll 11:20 26:19 seal 165:15 166:21 sec 71:19 second 10:15 10:19 26:24 31:20 35:6 44:14 77:16 82:25 83:1	101:7,9 102:8 103:7,15 104:13,16,22 105:7,11,16,19 110:15 111:13 112:8 114:11 117:25 157:25 158:2 security 22:6 see 10:11,15,17 11:2,6,8,9,10 11:14,17,18,23 11:24 12:10,11 12:18 18:18 19:14 20:2,3 20:18 21:18 22:7 26:14 30:3,10 31:25 32:11,12 33:1 33:16 34:5,9 35:20,21 37:1 37:11,14 38:7 38:8,23,24 39:1 40:20 41:2,2 44:18 45:22 46:10 47:23 48:8,9 49:2 52:2,3,9 54:15,18 56:5 56:13 57:1,10 57:14 59:18 61:8,22 63:2 63:10 68:2,12 68:22 69:7,10 71:11,15 72:11
s			
s 2:1 3:5 4:1 166:8,8 167:3 sample 124:19 124:22 125:16 125:24 126:16 santa 15:21 save 90:9 116:12 157:18 saw 12:25 136:9 138:4 143:7,9 saying 25:21 27:7 30:21 53:20 58:16 65:13 75:5 82:20 85:10,13 89:19 94:24 96:7 111:15			

72:15,25 73:1 77:6,15 79:12 79:19 80:7,22 81:9 84:7,9 88:11 89:10 90:8 92:9,12 93:10 97:11,12 97:25 98:5,9 98:10 100:1,2 102:9 103:4 104:4,25 108:10 117:19 117:21 119:9 119:20 121:7 126:5 132:24 133:23 136:15 137:18,19 141:24,25 144:10,11 147:7 151:25 152:2,4,5,7,14 152:20 153:4 156:7 157:14 seeing 120:20 123:25 150:20 seem 22:1,18 22:24 34:15 41:2 62:16 66:13 91:6 seems 20:24 27:11 39:6,9 47:17 48:23 49:18 53:2 55:20 56:16 57:23 58:14,20	59:4 66:25 68:2,23 70:10 71:5 76:11 81:9 82:8,20 84:21 85:5 86:18 87:9 89:13 99:5 105:4 106:13 109:2 110:17 111:8,15 114:16 116:3 120:3 124:16 124:23 125:23 125:23 126:11 126:15 127:10 127:22,25 129:1,11,16,21 132:7,10,14 133:10 134:6 134:19 137:21 141:12 153:5 153:19 154:3 seen 6:16 9:1 15:8,10 16:13 149:15,24 151:18 select 28:7,15 69:23 72:9,14 72:22 73:4 74:5,8,12 78:9 78:16 91:24 92:3 94:2,16 94:23 95:1,11 95:24 96:9 105:19 106:1	selected 52:1 56:17 57:5,13 58:7 74:16 79:12 92:7,12 92:16,21 147:5 selecting 75:14 93:19 selection 28:4 75:20 93:15,23 94:8 96:5,6,11 96:14 selects 93:12 send 45:10,12 45:17 46:17,18 47:4 90:13,17 90:20 97:19 115:4 131:4 139:8 sender 128:19 129:3 sender's 128:2 sending 114:19 122:22 124:10 124:14,20,23 125:3,12,13,16 126:5,14 127:24 128:5 128:10,17,22 128:23 130:17 130:19,22,22 131:11,25 132:5,11 133:4 133:9,19 135:25 138:25 142:22 153:22	154:10 157:5 sends 130:19 sense 134:6 sent 122:15 129:24 153:12 153:16 157:10 158:7,21 sentence 26:16 101:12 124:13 sentences 16:20 separate 49:7 49:13 58:2 144:19,24 145:13 separately 146:1,8 serve 122:18 server 30:24 31:8,11,17 32:13 33:18,20 34:12 38:5,24 39:10,12,16 40:3,4,12 44:19 56:10 60:5,6,8 64:19 64:23 65:9 77:13 93:1 119:12,20 120:13,15,21 120:24 121:2,5 121:15 122:7 122:12,18 123:9 137:6,13 139:13 141:9 149:12,20
---	---	---	---

150:3,4,19 serves 120:21 121:5 service 108:9 112:15,17 113:6 114:15 114:21,25 115:9,17,20 116:13,16 serving 56:18 121:15 122:1 set 18:17,21 19:4,11,17,20 20:11 23:6,10 87:5 111:9 113:24 157:22 setton 3:10 59:12 62:13 64:13,21 96:18 96:20 97:5 100:19,22 102:1,19 103:19,22 104:7,17 105:18,25 106:9,11,24 107:7,16 108:2 108:13 109:10 109:17 110:13 110:20 111:7,8 112:14,19,23 113:7,12 114:2 114:8,12,25 115:7,10,18,21 115:24 151:6	151:15,20,24 152:1,9 setton's 114:24 setup 48:8 seven 16:4 seventh 76:10 seventy 142:2 several 21:22 70:25 113:2 shape 145:2,2 145:17,17 148:7,14,15 shapes 148:19 148:23 share 10:12 11:5 12:10 59:9 shared 49:6,13 sharoney 160:3 160:5,7,14 sharp 163:2,15 sheet 166:7,10 166:18 167:1 short 44:4 shoulder 145:17 148:15 shoulders 144:19,20,24 145:12 show 33:17,20 34:7,13 showed 35:7 showing 11:22 33:6 34:1,3 41:1 47:17	62:15 63:24 64:17 65:1 99:5 100:10,13 103:13,23 112:13 120:14 120:23 154:11 shown 34:16 46:8 47:21 48:13 49:8 55:2 62:9,12 62:25 65:3 97:8,13 102:11 103:11,16 140:22 147:2 153:2 154:2 shows 40:22 63:9 105:13 112:3 120:9,10 120:10 156:24 side 9:24 116:11 sign 161:15 signal 139:11 139:19 signature 161:19 162:16 163:14 164:13 signed 165:13 166:18 significant 113:3 signing 164:11 164:18 similar 55:19 75:14	simple 81:21 simply 20:4 75:19 simultaneous 27:20 sincerely 164:21 single 46:8 48:7 65:14,14 sir 73:2 85:12 164:9 sit 67:25 sitting 58:24 67:3,12 68:6 69:1 situation 9:12 six 16:3 sixteen 45:25 61:19 size 28:5,6,16 72:11,23,24 73:6 74:6,10 74:16,18,20,22 74:25 75:2,21 75:22 77:19,20 77:20 78:2,3,4 78:10,11,18 79:21,23 81:12 82:11,15,23 84:6,11 87:3,5 91:25 92:4 93:4,9,12,13,17 93:19,24 94:3 94:4,9,17 95:2 95:2,3,12,23,25
---	---	---	--

96:12,15,16 105:21 106:3,4 120:22 121:5 121:16 122:1 122:19 158:3 158:12,16 sized 28:8 skill 18:10 20:6 skills 162:10 163:6 slide 153:5,5 slightly 60:7 131:9 slow 29:23 slower 157:18 small 106:22 107:8,14,24 108:15 109:12 110:23 111:4 135:13 smaller 116:23 soft 16:19 software 47:22 48:7,14,17,21 49:1,5,6,12,12 49:21 51:3,8 51:11,14 solutions 1:7 2:11 4:4,19 5:17 14:8 164:1,6 165:3 166:3 167:1 somebody 13:12 69:19 131:8 155:2	somebody's 69:15 sorry 15:19 16:17 29:18 38:19 53:18 64:7 68:10,22 76:7 78:8 83:22 100:6 102:21 104:12 104:13 110:12 122:14 133:21 143:21,23 sort 58:13 source 61:21 62:9 64:21 97:24,24,24 98:4,8 101:23 106:3,21 107:8 107:13,23 108:6,14 109:11 111:12 112:1,2,22 113:23 sources 61:9,11 61:15,25 62:1 62:13,20,21 63:11 96:21 97:7,10,14,18 97:18 98:13 99:11 100:12 100:14 101:15 101:24 102:2,8 102:16,24 103:8,14 104:7 104:21 105:2,8	105:21 106:8 107:2 109:4,6 110:3,14 111:4 111:19 112:11 112:12,16,21 113:10,16,18 114:4,10,10,23 115:6,9,13,20 116:17 south 2:14 space 128:12 132:12 133:4,9 136:1 144:14 span 47:1 spatial 145:3 speak 101:20 118:24 143:21 144:1 145:18 156:7 speaking 156:5 157:9,14 special 18:17 18:21 19:4,11 19:17,21 24:10 specific 19:9 76:2 121:4 specifically 19:8 21:7 53:3 55:9 102:13 113:4 specification 17:13 18:11 19:1 24:1 41:17 42:17 43:15 48:13	71:6,25 72:5 73:24 77:10 81:16 90:7 99:13 specified 76:1 specify 19:23 standard 18:1 18:4,7 23:9,12 23:17,21 145:22 standards 22:4 23:6 144:10 star 34:12 38:5 38:6,12,16,20 38:24,25 39:3 39:8,10,12,15 39:15,16,19,19 39:22,23,24 40:10,10,11,23 40:24 41:4,8 46:4 77:13,15 119:22 120:4,9 120:10 136:25 141:14,18 start 23:13,17 23:22 46:2 103:25 started 122:24 starting 68:13 starts 53:19 113:2 147:13 state 18:16 29:24 36:22 54:20 77:2 162:19 165:10
---	--	---	--

166:15 stated 17:24 26:2 71:24 141:14 150:1 statement 30:4 30:6,10 31:3 36:1,6,12 37:7 38:4 55:24 71:15 150:21 165:13,14 166:19,19 states 1:1 21:20 48:4 49:5 97:8 100:22 107:23 153:10 station 1:18 6:23 stations 114:20 stenographic 5:9 step 103:25 104:3,10,13,20 104:23 105:5 130:3 stipulation 5:10 stitch 126:20 stitching 143:3 straight 44:18 44:21 46:24 stream 38:6 62:6,7 77:14 99:25 102:16 102:16 104:25 105:3,6,7,14	125:21 129:10 129:15 130:16 130:18 131:7,9 147:20,21 157:23 158:8 158:19,24 streaming 59:23 103:21 streams 122:8 123:10 124:20 124:22 125:10 125:16,24 126:13,16,18 126:21 127:1,9 127:11,24 128:2,17 130:8 130:12,20,23 131:5,12 137:17 138:6 138:10,11,14 138:19,24 139:5 140:9 141:11 144:8 146:4,10 153:11,15 156:25 157:18 street 1:17 2:6 2:14 stringent 106:23 107:16 108:1,17 109:14,19 strip 156:17 structured 105:16	studied 13:4 14:22 21:21 study 58:23 150:11 stuff 134:14 subgroup 106:22 107:9 107:14,25 108:15 109:12 111:4 subject 7:25 20:16 submitted 14:23 15:1,9 16:10 160:2 subscribed 165:10 166:14 167:21 substantially 144:9 substantively 52:12,25 53:13 54:1,8,21 55:2 55:15 56:1,12 56:22 57:22 58:25 substituted 72:10 73:5 74:19,25 substituting 75:21 suffer 109:19 112:22 113:11 114:4	suggest 11:11 150:3 suggests 149:19 suite 164:2 sum 86:11 supercomputer 65:5 superior 164:1 supplying 93:2 support 7:20 9:2 supporting 21:5 supports 119:6 144:7 supposed 76:4 sure 8:11 9:10 9:14 14:10 23:15 35:23 36:16 37:6 39:18 43:2,7 47:23 58:24 64:4 67:6 70:5 70:7,13 83:19 94:17 97:3 98:9,11 99:17 104:19 106:25 107:12 108:10 111:23 114:13 116:2 119:1 121:20 125:11 125:17 126:19 129:1 136:8 144:2,2 145:8 145:22 149:15
---	--	--	--

151:23 152:11 153:7 154:25 156:7 160:10 swear 4:24 6:2 switch 111:21 111:23,24 switching 112:4 sworn 5:1 6:8 162:5 165:10 165:13 166:14 166:18 167:21 synthesis 125:15 126:25 137:16,21,22 137:25,25 138:2,3,15,24 138:25 139:1,3 139:4,7 140:8 140:9 142:5 143:10 synthesized 128:10 137:20 137:24 146:2,9 synthesizing 138:2 139:2,5 synthetic 124:19,22 139:15,17,20 140:2,5 142:12 142:15,19,20 143:5 synthetically 129:16,17	system 26:17 27:8,10,13,18 29:6,22 40:5 51:23 52:6 87:23 88:1,3 88:19 systems 1:4 2:2 4:4,19 116:24 152:13,18 164:6 165:3 166:3 t t 3:5 take 4:15,22 16:5,13 20:5 24:9 42:7,25 43:19 59:8 76:19,21 78:19 79:8 83:2,5,8 95:22 107:19 111:17 116:25 117:1 121:22 142:19 159:13 160:25 taken 4:18,20 76:4 126:23 162:3,12 163:9 164:10 talk 16:5 31:10 44:8 51:8 60:14 61:4 117:12 talked 14:14,18 16:1 64:5,11 65:18 96:20	132:19,21 133:2 134:23 talking 31:23 44:23 45:4 46:3 47:9 48:10 50:20 53:3,22 54:5 55:9,11,12,20 63:17 67:7 68:3,11,12 69:5 72:5 75:14 76:11 80:2 84:22 86:13 89:23 93:18 118:12 120:3,3 121:9 122:3 129:13 130:6,11 131:17 132:2,4 132:12,19,23 133:7,10 134:2 134:3 135:1,24 136:22 138:1 138:19 143:19 144:6 148:8 157:17 talks 60:13 113:2 122:1 126:4 136:18 146:12 156:22 157:8,17 tanenbaum 22:13 task 115:14	tasks 137:12,12 137:15 taught 123:11 tautology 30:22 teach 114:2 teaches 111:7 112:14,23 113:7,12 135:10 155:11 teaching 111:8 114:24 121:15 122:16 teachings 151:20,21 techcrunch 22:22 technical 21:2 21:9,24 22:11 22:12,16 118:4 technique 125:16 126:25 132:15 139:7 140:10 142:5 143:8,10,11 techniques 123:5 124:22 137:16 138:1,3 138:16,25 139:3,4 140:8 143:15,17 technology 5:13 teleconference 26:18 101:20
---	--	---	---

teleconferenc... 26:17 27:10,13 51:22 52:5 87:23 88:1,3 88:19 116:24	58:2 65:19,22 117:10,13 165:6,7 166:6 166:9,12	20:11 21:5,11 23:4 24:1 25:14,21 27:6 27:6 34:1,5 35:6,8 37:18 41:16 43:7 44:12 50:13 51:15,17 52:14 55:17,17 60:9 60:21 61:23 64:3 70:18 77:10 88:7 91:4,12 93:18 99:1 105:22 106:5 107:1 111:24 112:1 113:21,25,25 114:13,14 115:11 116:7 118:11 119:15 121:8 123:13 123:23 129:11 138:18,20 139:22 140:4 140:18 143:2,7 150:18 155:14 158:19 159:15	thought 36:18 three 8:22 14:6 45:7 54:24 118:12,13 125:1 128:12 131:25 tight 154:20 time 1:14 4:3 5:14 7:17 8:5,6 9:16 10:2 11:12 12:22,25 16:1 18:13 21:7 25:15 36:17 38:10 57:4 58:13,16 59:6,8 76:18 90:9 106:5 108:5 110:25 117:2 121:22 122:21,23,24 123:7 124:14 125:12 126:13 126:18 127:1 127:24 128:16 129:10 131:3 137:23 138:8 138:17,23 143:21 144:1 150:6,8,11 159:17 160:20 161:14 times 8:19,22 8:24 9:2 13:3 70:25
telephone 67:22	texas 1:16 4:5 6:23,24		
tell 6:9,21 101:5 149:25	text 76:2 100:15 112:5 118:3 119:13 119:15 123:15		
telling 131:14	textbook 22:14		
ten 8:24 10:5 53:2 135:14	textbooks 7:9		
term 18:17 19:12,18 20:19 23:2,8 38:20 47:20 48:11 66:4,5,9 67:20 85:16 86:15 148:1	thank 4:12 6:1 6:11 43:25 46:1 79:3 119:2 160:18 161:13		
terms 15:3 17:16 18:8,22 19:5,16 20:2,4 21:2,9 24:5,15 24:22 25:4,13 25:18,25 26:5 26:9 32:23 59:5 70:18 106:11 107:2 111:25 147:18	thing 11:6 38:17 39:4 40:15 45:21 70:7 86:18 89:12 95:7 105:16 113:22 116:8,20 155:8 155:15		
testified 6:10 9:17 60:9	things 25:21 28:4 75:4 100:8 109:23 115:22 122:4 147:23 155:22 158:9	thinking 34:5 95:5	
testifying 162:5	think 7:16 8:18 9:19,22 13:3,8 13:21 17:18 18:5,24 20:7	thirty 29:19,20 164:17	
testimony 7:20 8:3,16 9:7,22 10:3,9 44:6,9		thornburg 2:13 2:22,24 5:17 5:25	

titled 61:8 today 4:5 8:3 13:4 26:8 44:6 58:24 149:9 150:15,17 161:14 today's 4:2 13:10,23 14:2 14:5,20 67:1 117:10,13 todd 2:12 5:16 5:23 todd.vare 2:16 together 31:6 126:21 tolerate 116:21 took 44:4 top 39:1 89:13 103:24,25 152:2,5,7 156:22 topologies 119:19 topology 28:21 29:3 30:2,12 30:15 31:5,14 32:14,14 34:8 34:11,12,14,16 34:21 39:17,20 39:23,24,25 40:10,22 41:1 44:13,16 46:23 71:13 72:2 119:22 120:4,9 120:10 121:18	122:4,14 135:8 135:11,16 136:19 137:1 140:12,16,19 141:14,18 144:7 147:5 towards 16:20 town 110:21 trademark 1:1 traffic 147:6,7 transcribed 165:7 transcriber 163:1 transcript 5:3 162:21 163:3,5 164:10,15 165:5,12 166:5 166:11,17 transcriptionist 162:8 transfer 72:24 74:22 75:2,15 78:11 94:8,12 94:17 106:4 transferred 74:18 transmission 100:11 110:10 110:12 121:1 123:6 transmit 100:9 116:11 154:18 154:21 155:7 158:22	transmits 129:6 transmitted 38:6 77:14 99:25 146:1,3 transmitting 115:15 121:2 122:25 146:8 treated 106:10 106:14,18 tree 63:6 100:2 100:25 trial 1:2 tried 10:24,25 114:8 true 159:3 162:9 163:5 truth 6:9,9,10 try 16:18 118:24 trying 9:21 42:10 51:15,16 51:16 67:7 70:4 71:6 81:9 93:20 94:21 99:2 114:21 115:12 118:6 123:16 131:12 tuesday 1:13 4:20 turn 35:15 57:16 61:5 118:3 two 8:22 45:7 46:10,13,25	75:13 81:5 91:3,6,8,13,18 93:19 100:8 106:7,8,16 110:9 135:14 143:19 145:1 145:16 147:12 148:7,13,18,22 158:8 tx 1:18 typewriting 162:7 typical 34:10 48:5 typically 32:3 46:9 97:8 107:23 108:14 109:11 110:23 158:1 typo 141:4
u			
u.s. 1:8 3:11 7:21 59:11 150:23 unable 90:17 unacceptable 112:23 113:11 114:5 under 5:6 17:25 18:7 23:5,12,17 underneath 63:2 understand 5:2 7:19 8:1 16:24			

17:3,5,24 18:8 30:10 32:22 36:6 37:6 39:18 43:7 68:17 69:12 80:5 81:10 89:20 93:20 98:23 123:17 125:11 145:20 149:8 150:9 156:11 understanding 21:15 23:16 39:22 75:25 118:7 142:25 143:1,2 149:10 155:21 156:14 understood 18:9 20:6 91:2 unidirectional 60:17 64:1 98:3 99:16 unit 31:18 32:4 32:5 united 1:1 universities 22:15 university 1:16 unusual 154:18 url 48:8 use 17:18 20:19 27:13 36:23 37:22 51:7 52:5,11 53:11 53:13,20 74:4	75:6 77:3 87:11 94:2 122:12 144:14 159:10 used 22:15 34:21 38:12,20 39:3 47:15,20 48:8,12,19 57:17 58:7,12 62:9 105:23 106:6 159:11 user 36:24 37:1 37:22 38:4 68:6,19 69:1,8 69:12,22,25 70:5,9,16 71:17,21,25 72:8,14,17,21 73:4,21,23 74:4,12,16 77:4,6,12,17 78:1,8,15 88:6 88:10,13,25 89:3,5,6,7,10 89:15,25 90:4 90:6,11,19 91:14,22 92:2 93:3,7,12,15,22 94:1,7,8,13,15 94:22 95:1,10 95:14 96:5,8 96:10,14 111:11,12,17 123:17,20,25 130:12 131:18	user's 94:9 123:21 124:1,5 users 36:23 37:22 41:19,25 67:21 71:2,3 77:3 107:9 111:9 114:20 123:4 135:13 136:21 uses 5:5 91:23 137:16 using 70:6 75:19 93:15 94:14 99:18 121:10 132:14 139:2,4 142:4 152:13,18 utilizing 104:24 v v 1:6 164:6 165:3 166:3 vare 2:12 3:3 5:16,16,22,24 6:14 11:4,16 16:22 28:17 39:11 42:12 43:1,5,18 44:3 52:18 53:23 54:13 73:20 75:16 76:20,22 78:13,19 79:4 83:4,13 86:5 99:9 116:25 117:7 118:23 119:4 144:4	145:24 150:10 155:4 159:18 159:22 160:15 160:18 161:13 various 123:5 126:13,17 127:1 147:22 verbally 27:4 veritext 2:20 4:7,15 5:13 164:1,7 167:1 versions 142:21 versus 115:6 video 1:7 2:11 4:4,19 5:13,17 14:7 22:20 27:14,18,21 28:5,6,7,15,19 29:1,10 32:3,8 32:9,10,11 33:23 34:22,23 34:25 36:25 37:19,20 38:6 41:19,20 42:1 42:2 43:10,12 46:9,17,20 49:14,19 51:4 51:11,13 57:8 62:5,6 66:23 67:13,22,25 68:8,20 69:3 69:20,23 70:1 70:21,23 72:22 72:24 74:5,8 74:18,22 75:2
---	---	---	--

75:21,22 77:5 77:14,20 78:3 78:9,11,17 79:21,23 81:12 82:11,15,20 84:6,11 85:5 87:4,5 88:2,2 89:3,4,5,7,11 89:16 90:1,5,5 90:13,17,20 91:15,24 92:4 92:7,23,24 93:4,5,9,13,16 93:23 94:3,9 94:16,17 95:2 95:3,12,23 96:12,15 97:15 97:20 98:7 99:18,18 100:3 100:7,11,17 101:1 102:15 105:20 106:2,4 111:5 116:11 118:15 120:22 121:1,5,13,16 122:1,8,14,19 122:22,25 123:2,5,6,10 124:1,6,19,22 125:9,16,21,24 126:13,16,18 126:21 127:9 127:10,24 128:2,16 129:10,15	131:7,9 134:16 134:18,20 136:3 137:10 137:17,23 138:6,9,10,11 138:14,19,23 138:24 139:4 139:11,19 140:9 142:5 144:8,15,16 147:20,21 148:4 152:14 152:17,22,23 153:1,2,3,10,14 153:18,22,23 154:10,14,15 154:19,21 155:7,12,13,19 155:20,23,24 156:25 157:5,9 157:17,22,23 158:1,6,8,18,20 158:22,24 164:6 165:3 166:3 videoconfere... 2:4,12,21,23,25 152:24 videographer 2:20 4:2 11:11 16:17 42:22 43:20,23 78:22 79:2 83:9,12 117:3,6 159:19 161:7,10,17	videos 94:3 137:8 138:17 videotaped 1:11 view 77:20 122:7 123:9,17 124:1,4,21 125:1,2,15 126:8,8,13,15 126:23,25 127:3,20 128:6 132:8 133:3,8 133:18 134:4 134:12,15,25 135:3,24 136:6 136:10,22 137:16,21,25 140:8 144:7,15 146:23 157:1 viewed 78:4 viewing 138:12 156:17 viewpoint 123:21 124:11 125:5 136:20 viewpoints 124:15 125:14 views 126:5 132:11 133:3,8 133:19 135:25 virginia 9:22 virtual 9:21 118:8,9,10,13 118:19 119:6 122:8 123:10	123:22 124:4 124:16 125:1 126:9 127:20 128:12 132:9 133:10,18 134:4,12 135:24 136:6 136:10 139:21 142:22 143:12 146:24 virtually 4:7 visual 45:15 146:20 visually 127:5 voice 16:19 145:21 volume 145:21 vs 4:4,19 22:20 w wait 45:23 waived 164:12 164:19 want 10:15 19:9 26:21 27:23 31:19 36:3 43:1 45:17 57:12 59:6,16 76:23 87:14 103:3 115:4 116:9 123:24,25 127:15 128:1 130:3 156:7 158:14
--	---	---	---

wanted 36:1 41:13 112:9	11:2,14 15:18 16:21 28:14	33:2 35:9 42:24 43:1,3
wants 37:4 112:14 114:12 114:25 115:10 115:24	39:8 42:9 53:19 54:12 73:17 75:11 78:8 83:7 86:3	48:11,23 49:18 56:14 60:7 61:23 63:13,25 64:12 67:6
way 28:14 46:10,13,25 64:17 71:13 72:2 77:17 88:15 91:3,6,8 91:13,18 94:19 96:1 97:1,4 105:15 109:2 114:8 115:7 116:8 119:6 123:22 133:15 134:7,10,16,18 136:2,8 139:15 139:17 151:21 154:20 158:15 158:16	99:2,4 119:1 143:23 144:2 145:23 150:8 154:25 159:15 161:6,16 162:4 164:8 165:1,4 165:11 166:1,4 166:15	68:18 74:8 77:16 80:6 82:8 83:5,7 85:15 86:8 90:10,16 91:5 94:23 96:1 97:1 101:6 102:10,23 105:23 108:21 109:7,9 110:12 116:2,19 119:11 125:22 127:25 130:5 130:15 138:14 141:18 142:9 144:11 145:10 160:22
ways 158:15	word 87:11	years 10:5,8 16:3,4
we've 47:9 65:18 70:25 75:18 130:11 132:12,19 134:2,3 135:1	words 56:3 70:6 75:6,19 81:7	yesterday 13:25 14:1,5
welcome 161:11	work 22:5	z
went 139:22	worry 109:8	zoom 4:21 67:1 67:13,17,18
wish 101:20	writer 134:10	
wishes 101:21	writing 36:17	
witness 4:5,24 5:1,2 6:3,8	written 5:10 30:8	
	wrong 150:18	
	wrote 38:10	
	x	
	x 3:1,5 162:21	
	y	
	yeah 5:22,24 11:2,21 20:7 20:15 22:13 23:8,9,9 26:22 27:6 30:8,20	

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.