

Page 1

1 UNITED STATES PATENT AND TRADEMARK OFFICE
 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
 3
 4 Case IPR2014-01366; U.S. Patent No. 6,108,704
 5 Case IPR2014-01367; U.S. Patent No. 6,009,469
 6 Case IPR2014-01368; U.S. Patent No. 6,131,121
 7
 8 Samsung Electronics Co., Ltd.,
 9 Samsung Electronics America, Inc.
 10 & Samsung Telecommunications
 11 America, LLC,
 12 Petitioners,
 13 v.
 14 Straight Path IP Group, Inc.,
 15 Patent Owner.
 16 - - - - - x
 17 DEPOSITION OF
 18 HENRY HOUH, PH.D.
 19 Tuesday, May 26, 2015 at 9:00 a.m.
 20 DLA PIPER LLP
 21 33 Arch Street, 26th Floor
 22 Boston, Massachusetts 02110
 23
 24 Reporter: Lori-Ann London, RPR

Page 2

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Page 3

I N D E X

2	DEPOSITION OF:	PAGE
3	HENRY HOUH, Ph.D.	
4	EXAMINATION BY MR. NEWMAN	6
5	EXAMINATION BY MR. ERICKSON	284
6		X
E X H I B I T S		
8	NO.	PAGE
9	Exhibit 1004 Declaration of Henry Houh in	6
10	the '704 IPR	
11	Exhibit 1012 Document titled "Microsoft	22
12	Windows NT Server"	
13	Exhibit 1010 Prior Markman Ruling	33
14	Exhibit 1014 NetBIOS Reference	41
15	Exhibit 2017 Document titled Modifying	141
16	WINS server defaults	
17	Exhibit 2013 '704 patent	187
18	Exhibit 2011 '121 patent	187
19	Exhibit 1001 '469 patent	187
20	Exhibit 2016 Document titled "Patent Rule	191
21	4-3 Joint Claim Construction	
22	and Prehearing Statement"	
23		
24	*Original exhibits attached to original transcript	

Page 4

P R O C E E D I N G S

1 HENRY HOUH, Ph.D.,
 2 a witness called for examination by Straight Path,
 3 having been satisfactorily identified by the
 4 production of his Massachusetts driver's license,
 5 and duly sworn by the Notary Public, was examined
 6 and testified as follows:
 7 MR. NEWMAN: Counsel, introduce
 8 ourselves.
 9 Michael Newman, on behalf of Straight
 10 Path, Boston office of Mintz Levin. With me is
 11 Nicholas Armington, and also in-house counsel for
 12 Straight Path, Vandana Koelsch, is attending by
 13 telephone.
 14 MR. ERICKSON: Brian Erickson, with
 15 DLA Piper, representing the witness and petitioner,
 16 Samsung.
 17 MR. LISS: Jason Liss, WilmerHale,
 18 representing Cisco Systems, Inc. and Avaya, Inc.,
 19 petitioners.
 20 MR. NEWMAN: Just for the record, the
 21 parties have an agreement -- with respect to this
 22 deposition, the parties have agreed to a single
 23
 24



Page 5

1 consolidated deposition for all of IPR2014-01366,
2 01367, and 01368.
3 The parties agree that this single
4 consolidated deposition can be used in each of the
5 three separate IPRs. So when I reference the
6 asserted patents, therefore, I'm discussing the
7 '704 patent, the '121 patent, and the '469 patent
8 involved in those IPRs.
9 The parties have also agreed to
10 attempt to limit depositions in this matter to a
11 single day but have reserved a second day should
12 that attempt not be successful.
13 Anything to add, Counsel?
14 MR. ERICKSON: That's correct. The
15 agreement also extends to any declarant the patent
16 owner might use in their patent owner response.
17 (Off record.)
18 MR. NEWMAN: In addition, counsel for
19 Cisco and Via is in the room. There's a pending
20 motion to join this -- these three IPRs by Cisco,
21 et al. We have no objection to counsel for Cisco
22 being in the room during this deposition.
23 MR. LISS: And if I may add one
24 thing, the -- those motions have not been granted,

Page 6

1 so whereas Michael described an agreement by which
2 this deposition would apply to those, I'm not sure
3 what the effect would be if those motions are not
4 granted.
5 (Off record.)
6 EXAMINATION
7 BY MR. NEWMAN:
8 Q Good morning, Dr. Houh.
9 A Good morning, Mr. Newman.
10 Q Could you please state your full name for
11 the record?
12 A My name is Henry Houh, H-O-U-H is how
13 Houh's spelled.
14 Q And what's your date of birth?
15 A November 29th, 1967.
16 Q And where do you currently reside?
17 A I live in Lexington, Mass.
18 (Document exhibited to witness.)
19 (Off record.)
20 Q So I just handed you what is marked as
21 Samsung Exhibit 1004. Do you recognize this
22 document?
23 A Yes, I -- yes, I do.
24 Q And for the record, this is your

Page 7

1 declaration of Henry Houh in the '704 IPR, correct?
2 A Yes. It's -- oh, this -- yes, this is
3 declaration of -- that I wrote, and it's signed on
4 page 56.
5 Q It's a 67-page document. That's about
6 right. There -- if you count the first couple of
7 pages, it might only be 66.
8 It's marked from page 1 to page 67.
9 That's just for the record.
10 A Oh, I see. Yes, 67 pages.
11 Q Did you draft this declaration?
12 MR. ERICKSON: I'm going to caution
13 the witness, I mean, the -- the -- you can answer
14 that with yes or no, but, you know, the -- the
15 drafting process involved in the declaration is
16 beyond the scope of discovery and protectable work
17 product.
18 So you can answer that -- that
19 prefatory question yes or no, but I'm going to
20 instruct you -- depending on the next question,
21 it's likely I'll instruct you not to answer.
22 But go ahead.
23 A There are portions that I -- I drafted,
24 yes.

Page 8

1 Q Are the statements in this declaration
2 true, to the best of your knowledge?
3 A Yes.
4 Q You mentioned that you drafted at least
5 portions of this. What portions did you draft?
6 MR. ERICKSON: I instruct the witness
7 not -- not to answer. It's beyond the scope of
8 discovery and protected under Federal Rule of Civil
9 Procedure 26.
10 MR. NEWMAN: To the extent that the
11 parties agree that that rule will apply to Straight
12 Path as well, I'll forego further questioning on
13 that matter.
14 MR. ERICKSON: That's fine.
15 BY MR. NEWMAN:
16 Q What's your current occupation?
17 A I do some technical consulting, and I
18 also run a children's STEM education center. It's
19 called "Einstein's Workshop."
20 Q Is that in Lexington?
21 A It's actually in Burlington, Mass.
22 Q How long have you been doing that for?
23 A It depends how you count, but I started
24 doing work with kids' robotics teams about five or

Page 9

1 six years ago, and then I incorporated and -- and
2 got a facility about three years ago.
3 Q That's interesting.
4 The -- what, do the kids come in and
5 learn about scientific concepts, that type of
6 thing?
7 A We have science classes, robotics
8 classes, computer programming classes, 3D modeling
9 classes, all sorts of classes for kids of all ages.
10 Q Of all ages?
11 A Yes, preschool all the way through
12 adults, actually.
13 Q And is that your sole profession right
14 now?
15 A Well, I do that as well as technical
16 consulting.
17 Q And your technical consulting is done
18 through the Houh Consulting?
19 A That's right.
20 Q And you've been doing that since 2009,
21 right?
22 A Thereabouts. I also did it before I
23 incorporated as a business; but, yes, I was doing
24 it maybe -- maybe a little bit earlier than that.

Page 10

1 I was employed by BBN where I was -- I started to
2 do some of this work, consulting work.
3 THE STENOGRAPHER: Is that B, as in
4 boy, BBN?
5 THE WITNESS: Yes. BBN.
6 THE STENOGRAPHER: Thank you.
7 THE WITNESS: And that actually -- I
8 don't think it stands for anything now, but it --
9 it was -- used to stand for Bolt, Beranek & Newman,
10 because there's a different BBN in this area as
11 well. It's a school. It's -- it's not the school,
12 BBN.
13 Q That's a great name.
14 So have you been deposed before?
15 A Yes, I have.
16 Q A number of times, right?
17 A A number of times, yes.
18 Q Have you been deposed with respect to an
19 IPR before?
20 A Yes, I have.
21 Q So you'll understand that once you've
22 begun your testimony, you're not to consult with
23 counsel with respect to that testimony, correct?
24 A I do understand that.

Page 11

1 Q What IPRs have you been involved in,
2 besides this one?
3 A There have been a number of them. I
4 can't remember all of them. I certainly can't tell
5 you the numbers offhand.
6 Q Are they disclosed in your -- in your CV
7 here? And your CV begins at page 60 of
8 Exhibit 1004.
9 A I don't see them on here. I usually have
10 a separate thing that I list things like that. But
11 it only says "trials and depositions," but I guess
12 it's incomplete.
13 Q Let me see if we can fill it out.
14 There -- there's been Apple versus Evolutionary
15 Intelligence, correct?
16 A That sounds right, yes.
17 Q And you represented the petitioner in
18 that case?
19 A Yes, that's right.
20 Q And there were a number of cases, right,
21 68 in the '82 investigations or --
22 A I don't remember how many, but that
23 sounds right.
24 Q And there was Microsoft versus BE

Page 12

1 Technology, correct?
2 A That's correct.
3 Q And that was on behalf of petitioner
4 again?
5 A Yes.
6 Q And then there was Microsoft versus
7 Telecommunication Systems, correct?
8 A I don't remember that one, but probably
9 it's correct, since you've got the list.
10 Q All right. And you represented the
11 petitioner again? You would not have represented
12 Telecommunication Systems?
13 A That's right, it would have been the
14 petitioner that I represented.
15 Q Have you always represented the
16 petitioner when representing a client for an IPR?
17 A So far up till now, that's true. I think
18 I've only been doing this for a year or a year and
19 a half for IPRs.
20 Q And so also there was Cisco versus AIP
21 Acquisitions, correct?
22 A Yes, that's right.
23 Q And Verizon and AT&T versus Solocron
24 Media, right?



Page 13

1 A That sounds right.
2 Q Any others that you can think of that I'm
3 missing?
4 A I think there's one called Microsoft
5 versus Biscotti.
6 Q Anything else?
7 A That's all that comes to mind at the
8 moment.
9 Q Thank you.
10 So let's turn to the background
11 section of your declaration, which begins on what
12 is marked as Exhibit 1000 -- zero -- 1004, page 3.
13 When I refer to page numbers throughout the day,
14 I'll be referring to that page number at the bottom
15 right-hand corner as opposed to the larger centered
16 page number --
17 A Okay.
18 Q -- just for convenience.
19 In -- in 1995, the Internet as we
20 know it was relatively new, correct?
21 A That depends what you mean by the
22 Internet, but it was pretty well established by
23 1995.
24 Q There were not a lot of web servers, were

Page 14

1 there, in '95?
2 A Yeah, I think -- I think the Internet
3 encompasses more than just web servers. But in
4 '95, there were a fair number, and I was at -- at
5 that time tracking the number, but there certainly
6 weren't as many as today.
7 Q You started building web servers in 1993,
8 correct?
9 A That sounds about right.
10 Q In -- in the servers that you built for
11 MIT -- is that where you were building them?
12 A Yes, I was at MIT when I started working
13 on -- on setting up web servers.
14 Q And in 1993 the web servers that you
15 work -- were working on, you considered those to be
16 among the first hundred or so web servers in
17 existence, right?
18 A The -- the -- I believe they were, if not
19 the first hundred, several hundred web servers set
20 up.
21 Q And in that time frame, you believe that
22 you went on to provide what is likely one of the
23 first live Internet video initiated from a website,
24 correct?

Page 15

1 A That's right.
2 Q What year was that?
3 A I believe it might have been 1994 or late
4 '93. I -- I don't remember exactly the date.
5 Q But this was pretty exciting stuff back
6 then, right? This was new technology?
7 A It was pretty exciting. It was using the
8 Internet, which had existed for many years before
9 that, but the web made it a lot easier to access
10 data on the Internet.
11 Q How is that?
12 A It provided a graphical user interface to
13 information on the web, and it -- and there was a
14 markup language which allowed people to easily link
15 to other resources and provide graphical images.
16 Q So in your declaration at paragraph 9 and
17 forward to paragraph 14, all of the technology
18 described there took place after 1995, correct?
19 A That's -- that's -- well, paragraph 13
20 says I was the author of several publications.
21 Some of those would have occurred before '95.
22 Q And I just wanted to point something out.
23 In paragraph 9, you reference a patent that a
24 company that you founded received?

Page 16

1 A Yes.
2 Q I notice that you have that patent listed
3 in a number of other declarations for other IPRs,
4 and there's a typo, so I just want to point it out
5 for you.
6 A Oh, is there?
7 Q I think it's patent 6967963.
8 A Oh, so there's a typo. I apologize. I
9 never caught that. I guess it's a transposition
10 error. Thank you. It's -- it's listed correctly
11 in my CV, apparently.
12 Q Right. I just wanted to point it out.
13 You know, because I know it's been propagated.
14 A Yes, I -- sometimes I use the same text
15 and --
16 Q Absolutely. That makes all the sense in
17 the world.
18 Do you remember the first time you
19 used Windows NT Server -- let me back up.
20 Have you ever used Windows NT Server?
21 A I believe I did, yes.
22 Q Do you remember the first time you used
23 it?
24 A I don't -- I don't recall the exact date.

Page 17

1 Probably sometime in the mid '90s.
2 Q And do you remember the last time you
3 used it?
4 A Not more than -- not -- less than 15
5 years ago, because I remember doing it for a class
6 I was helping with at MIT doing some work on an NT
7 Server. I don't remember exact date.
8 Q Have you ever used an NT Workstation?
9 A Yes.
10 Q Do you remember the first time you used
11 an NT Workstation?
12 A Probably was about the same time as the
13 NT Server.
14 Q What's the difference between the Windows
15 NT Server and the Windows NT Workstation?
16 A My understanding is that the NT Server
17 had a lot more features for providing additional
18 services.
19 Q What do you mean by "services"?
20 A Things like a web server. Number of
21 active connections that -- that could be made with
22 such a service I think was higher in -- in NT
23 Server versus NT.
24 Q NT Server allowed you to administer the

Page 18

1 WINS system, correct?
2 A That sounds -- that sounds right.
3 Q And NT Workstation did not, right?
4 A I think it could participate, but I
5 don't -- I don't -- I don't know if it could
6 administer.
7 THE STENOGRAPHER: What's that, WINS,
8 or --
9 MR. NEWMAN: It starts WINS. It's
10 capital W-I-N-S.
11 THE STENOGRAPHER: Thank you.
12 Q Do you remember the -- have you ever used
13 a system configured to support NetBIOS?
14 A I believe so, yes.
15 Q And when did you first do that?
16 A Probably -- again, probably around the
17 early to mid '90s. I don't remember the exact
18 date.
19 Q Prior to your use of Windows NT Server?
20 A I think so probably, but I don't recall
21 exactly.
22 Q Windows NT Server was not your first time
23 using a system that implemented NetBIOS, was it?
24 A I don't think it was.

Page 19

1 THE STENOGRAPHER: NetBIOS?
2 THE WITNESS: Right. It's --
3 THE STENOGRAPHER: Okay.
4 MR. NEWMAN: Capital N-E-T, capital
5 B-I-O-S.
6 THE STENOGRAPHER: All together?
7 MR. NEWMAN: Let me help you out.
8 BY MR. NEWMAN:
9 Q What does NetBIOS stand for?
10 A I think it's -- I think it -- believe
11 stands for network, you know, basic input/output
12 system, something like that.
13 Q And have you heard the acronym NBNS?
14 A I believe so, yes.
15 Q What does that acronym mean?
16 A I believe it's something like the NetBIOS
17 name server or something.
18 Q And the acronym WINS, what does that
19 mean?
20 A I think that stands for the Windows
21 Internet or name service or something like that.
22 I -- yeah, I -- I mean, I may have got the details
23 wrong, but I think I generally understand what
24 you're -- you're talking about when you use these

Page 20

1 acronyms.
2 Q Thanks.
3 And WINS is an implementation of
4 NetBIOS, correct?
5 A I believe so, yes. I believe it has
6 more, but -- but it encompasses NetBIOS.
7 Q And what do you mean by "it encompasses
8 NetBIOS"?
9 A It's an implementation, but it has more
10 features such as administration and -- and, you
11 know, the -- it's a service that runs rather than
12 the name of a standard or whatever.
13 Q In paragraph 91 of Exhibit 1004, this
14 footnote 5 in which you say, Because Microsoft
15 Manual is based on NetBIOS, compatible with the
16 NetBIOS protocol specifications, and interoperable
17 with the NetBIOS-compliant implementations, the
18 Microsoft Manual and RFCs 1001 and 1002 should be
19 treated as a single anticipatory reference.
20 Do you agree that WINS, Windows NT
21 Server, and NetBIOS are a single reference?
22 MR. ERICKSON: Objection to the
23 extent it calls for a legal conclusion.
24 A I -- I think what I'm saying here is it's

Page 21

1 the manual, the Microsoft Manual and the RFCs that
2 should be treated as a single anticipatory
3 reference, but that it's the -- out of -- you know,
4 it says -- it goes on to say, Out of the abundance
5 of caution, Petitioner treats the references as an
6 obvious combination.
7 Q But when I'm -- when I'm referring to
8 WINS, I'm also necessarily referring to NetBIOS,
9 right?
10 A I -- I think it would depend on the exact
11 context you're -- you're talking in. I mean, if --
12 if you're referring about -- referring to a
13 document or -- I -- I would have to know more about
14 how you're referring to WINS, I think, to answer
15 that.
16 Q Because WINS does more than NetBIOS,
17 right?
18 A I don't think -- I think it's just the
19 context. I just need to hear more. You know,
20 sometimes it's the server; sometimes it's the
21 document. You know, it's -- you know, the
22 references we talk about here are the manual and
23 the RFCs as opposed to a physical device running.
24 Q Right. So in an IPR, the physical device

Page 22

1 is not at issue; it's just the manuals. Do you
2 understand that?
3 A It's the -- this is based on the
4 teachings of the manual combined with the RFCs.
5 Either -- you know, the statement here says that it
6 should be treated as a single reference, but -- but
7 the -- it's being treated as an obvious
8 combination.
9 Q I'm handing you a document that's marked
10 Samsung Exhibit 1012.
11 A Yes, I have it.
12 Q And for the record, it goes from page 1
13 to page 278.
14 A Yes, I see that.
15 Q Can you please turn to page 12 of
16 Exhibit 1012.
17 A Okay. I'm on page 12.
18 Q See there's a list of requests for
19 comments or RFCs there?
20 A Yes.
21 Q In your opinion, are all of these RFCs
22 incorporated within this document in the same way
23 as NetBIOS?
24 A I didn't think I said that the -- the

Page 23

1 one -- the RFCs 1001 and 2 were incorporated.
2 These are simply a list of RFCs. The title is
3 "Request for Comments (RFCs) supported by Microsoft
4 TCP/IP."
5 Q Do you see RFC 826, Address Resolution
6 Protocol, ARP?
7 A Yes.
8 Q What's that?
9 A My understanding is that's a protocol
10 used to resolve MAC addresses, media access
11 protocol addresses, on an ethernet or other link
12 layer.
13 Q Do you know how ARP does that?
14 A Yes. I have a general understanding.
15 MR. ERICKSON: Just for the record,
16 I'm going to object -- object. This is outside the
17 scope of his declaration.
18 But you can go ahead.
19 Q Is ARP a network protocol?
20 A In the sense it's used on a network to
21 resolve MAC addresses, sure.
22 Q See RFC 854 right below that, Telnet
23 Protocol?
24 A Yes, I see that.

Page 24

1 Q Is Telnet a network protocol?
2 A Again, it's generally used over a network
3 between machines, so I would say sure.
4 Q Are you familiar with the hypertext
5 transport protocol?
6 A Yes, I am.
7 Q Is that a network protocol?
8 A Again, it's generally used over a network
9 to request and transfer data between machines, so
10 it's part -- in addition, it's generally considered
11 one of the -- protocols in the networking stack,
12 so, sure.
13 THE STENOGRAPHER: Networking what?
14 THE WITNESS: Stack. Sorry.
15 Q Would you consider DNS a network
16 protocol?
17 A Well, DNS typically refers to domain name
18 system, if you're referring it to be the protocol
19 used in that system, but as -- as a system, I
20 wouldn't call a system a protocol.
21 Q So back to NetBIOS and WINS and their
22 similarities. Is it fair to say that aspects of
23 NetBIOS are inherent in the WINS system?
24 A Well, if you -- if one implemented WINS

Page 25

1 in a different manner and didn't use NetBIOS, I
2 would say it's not inherent, but it -- the teaching
3 is that that's what it is. So -- so you could
4 certainly violate the standard and not do it --
5 certain things that are required, I suppose.
6 But -- but if you think about WINS generally,
7 it's -- it's an implementation of NetBIOS.
8 Q Do you see at the bottom of page 13 of
9 Exhibit 1012, it says, "In this version of Windows
10 NT, Microsoft TCP/IP does not include a complete
11 suite of TCP/IP connectivity utilities, Network
12 File System (NFS) support, or some TCP/IP server
13 services (daemons) such as routed and telnetd."
14 Did I read that correctly?
15 A Almost. I think most people would say
16 route-d and telnet-d.
17 Q Most smart people.
18 A "Routed" is a word, but I think it refers
19 to a route daemon as opposed to something being
20 "routed," and telnetd refers to the -- the serve --
21 the -- the service offering telnet.
22 Q Thanks.
23 And what is routed?
24 A I believe it's a -- it's with respect to,

Page 26

1 I believe, a IP layer routing some sort of service.
2 I'm not -- I don't recall exactly what features it
3 has.
4 Q What's a router?
5 A Generally speaking, a router is some -- a
6 device that provides lookup and forwarding for --
7 for network layer packets.
8 Q Is it a server?
9 A I would generally not call a router a
10 server, but I believe it depends on the context of
11 whatever we're talking about. I would generally
12 not call it a server.
13 Q Can routers have FTP servers on them?
14 A I wouldn't think of as -- a pure router
15 as -- as something that always has an FTP server.
16 But it's certainly possible to put an FTP server on
17 a -- on the device that -- that is running as a
18 router. Excuse me.
19 Q Would you consider a router that had an
20 FTP server on it to be a server?
21 MR. ERICKSON: Objection, incomplete
22 hypothetical, outside the scope of his declaration.
23 A I think it depends on the context.
24 Q Give me an example of a context upon

Page 27

1 which it would depend.
2 MR. ERICKSON: Same objections.
3 A So if I'm thinking about the Internet
4 generally and where it has lots of routers all over
5 forwarding traffic and routing traffic for -- for
6 all the users, I generally wouldn't consider a
7 router a server in that -- in that way.
8 It may have other services that --
9 that administrators may use to get into the router
10 and configure it. But being a very specialized
11 device, I would still think about it as a router
12 and not a server, and I believe most people think
13 of it as just a router.
14 Q And what about a gateway, is that a
15 server?
16 A Again, I think a gateway is typically
17 some sort of router that acts as a -- as a gateway
18 to the rest of the network for a particular
19 subnetwork. It's -- generally, if you're just
20 talking about a gateway implement as just a
21 gateway, I wouldn't generally consider it a server,
22 but it depends, again, on the context and what it's
23 running on and whatnot.
24 Q So back to this statement in the bottom

Page 28

1 of page 13 of Exhibit 1012, it says that it does
2 not include a complete suite of TCP/IP, ellipses,
3 such as routed. What does it mean that it does not
4 include that?
5 A Well, this is in a section talking about
6 overview of TCP/IP for Windows NT, and mine -- I
7 would interpret that as -- as being it doesn't come
8 by default with a standard NT installation.
9 Q We'd have to go to a separate resource to
10 get it, correct?
11 A The separate re -- yes, it may be on
12 install disk, but it just might not be installed by
13 default.
14 Q It says it does not include it. So it
15 would be unlikely that it would be on an install
16 disk, right?
17 A I wouldn't necessarily say that. I mean,
18 oftentimes when you're installing these machines
19 from disks or CDs, the disks or CDs include a lot
20 of -- more things that are required for the
21 particular install.
22 And I think it -- you'd have to try
23 to install this and ask -- and it may decide to ask
24 you for one of those install disks to insert. And

Page 29

1 that was very common at the time when installing
2 network services, that many of them came on the
3 install disks that were not installed by default.
4 Q So if I was to install Windows NT Server,
5 you believe that the statement here that it doesn't
6 include routed means that it could still be
7 included?
8 MR. ERICKSON: Objection to form.
9 A Well, this is talking about Windows NT,
10 and -- and it does say NT Server on the cover.
11 But this overview and saying that
12 it's not -- does not include in this version,
13 again, as I've stated, you know, I installed many
14 machines like this at the time, and there were many
15 network services and many network features that --
16 that were often included in the CDs but not
17 installed by default.
18 Q But this -- does this suggest to you that
19 this disk would not have routed and telnetd on it
20 just by the statement?
21 THE STENOGRAPHER: Routed and?
22 MR. ERICKSON: Telnetd,
23 T-E-L-N-E-T-D, small D at the end.
24 A I -- I probably wouldn't draw the

Page 30

1 conclusion necessarily that it's not included on
2 the disk, but then, again, I don't know that it
3 was. So I don't think this statement in isolation
4 would have told me that one way or the other.
5 Q All right. Let's go back to your
6 declaration for a minute. I'd like to discuss the
7 materials you considered in forming your
8 declaration. On Exhibit 1004, page 7, it's the
9 little page number --
10 A Um-hm, yes.
11 Q -- it begins a list of your materials
12 considered, which continues on to page 8. So I'll
13 give you a second to review that, and then I've got
14 a couple questions for you.
15 (Witness perusing document.)
16 (Off record.)
17 A Yes, I've -- I've looked at this list.
18 Q There's a number of RFCs referenced in
19 here, right? There's NetBIOS, and then there's
20 also dynamic host configuration protocol,
21 transmission control protocol, and Internet
22 protocol. Why do you consult -- why do you feel
23 the need to consult those protocols?
24 A I -- I believe -- I may have referenced

Page 31

1 it somewhere in my -- in this declaration or --
2 but...
3 (Witness perusing document.)
4 A For example, in paragraph 35, starting on
5 33 to 35, I talk about the DHCP RFC, so certainly I
6 referenced it.
7 Q Are those protocols necessary to
8 understand Microsoft's Windows NT Server?
9 MR. ERICKSON: Objection to form.
10 A I mean, I think it was what someone might
11 have -- you know, people would have known generally
12 about TCP. I'm not sure if I specifically
13 referenced TCP elsewhere in this -- in my
14 declaration.
15 Q But you don't need to combine those
16 references with Windows NT Server to -- for your
17 opinion; is that correct?
18 A No, I don't believe it was an explicit
19 combination.
20 Q You also mention this book by Comer,
21 which is a -- second to last bullet point. There's
22 no need to combine that book with Windows NT Server
23 or NetBIOS, is there, in your analysis?
24 A I don't think my analyses relied on a

Page 32

1 combination with that particular book.
2 Q And you didn't rely on any NT Workstation
3 documents, did you?
4 A Well, I think one of the references is
5 what I -- what -- I believe this document
6 (indicating).
7 Q For the record, you're referring to the
8 Windows NT Server document, correct?
9 A Yes, Exhibit 1012.
10 Q But the separate Windows Workstation --
11 NT Workstation, that was a separate product, right?
12 A Yeah -- yes, I believe Workstation/Server
13 were distinct products.
14 Q You didn't need to rely on any of the
15 Windows NT Workstation documents, correct? They're
16 not listed here.
17 MR. ERICKSON: Objection, form.
18 A I don't believe that any of these
19 documents listed on page 6 -- page 8, excuse me, of
20 this declaration specifically refers to Windows NT
21 Workstation, at least not in the title.
22 Q So just to make it clear for the record,
23 you did not rely on documents from Windows NT
24 Workstation, correct?



Page 33

1 MR. ERICKSON: Objection.
2 A That -- that -- that's right, I don't see
3 any, at least listed here on page 8.
4 Q Did you consider any -- let me back up.
5 I'm not sure this is a complete list.
6 I want to make sure that we -- we get a complete
7 list. So let me work with you on that for a
8 minute.
9 A Okay.
10 Q Did you consider any prior Markman
11 rulings in your opinion?
12 A I believe I had read about other prior
13 Markman rulings.
14 Q Did you -- did you give those prior
15 Markman rulings any weight? I can point you to
16 paragraph 74.
17 A Okay.
18 (Witness perusing document.)
19 Q And I can represent to you that
20 Exhibit 1010 is a -- a prior Markman ruling.
21 (Witness perusing document.)
22 Q I can actually give you the ruling.
23 A Okay.
24 Q There you go.

Page 34

1 A Thank you.
2 Q For the record, I'm handing the witness
3 Exhibit 1010, which is marked Samsung Exhibit 1010,
4 from pages 1 to 15, entitled "Memorandum Opinion
5 and Order Construing Claims," and it's from the
6 case 1:13-CV-00932-AJT-IDD. And it's document
7 No. 107 from that case.
8 A Yes, I have it.
9 Q You consulted this as well?
10 A I did look at a number of documents
11 regarding claim construction. It's probably why
12 it's an exhibit.
13 Q Did you consider any materials related to
14 SipNet's challenge to the asserted patents?
15 A I don't remember the timing of all those
16 documents, but I -- it's likely -- I mean, it
17 sounds familiar, so I believe I may have.
18 Q Did you give those documents any weight
19 in your analysis?
20 A Again, I can't remember when I looked at
21 those documents or, you know, if there was one
22 that -- where there was a claim construction out at
23 the time. If so, I probably would have looked at
24 it and -- and considered it.

Page 35

1 Q And back to the Markman ruling, 1010,
2 Exhibit 1010, do you give the -- the district
3 court's prior Markman ruling any weight when
4 construing claims?
5 A I think it depends on the context.
6 Generally speaking, if I looked at them, I would
7 have considered it.
8 Q Did you review any agreements between
9 Samsung and Straight Path?
10 A Do you mean as to agreed-upon
11 constructions for certain claim elements?
12 Q That's right.
13 A Again, I can't remember specifically, but
14 if there -- if there was one, I probably would have
15 construed that as well. I just don't understand
16 the timing. I remember the timing.
17 And I look at -- since I've done a
18 few RPRs, I've looked at a lot of stuff. I just
19 don't remember which is which case and when I would
20 have looked at something like that.
21 Q Right.
22 So please turn to paragraph 76. I
23 just want to make sure we can flesh out this --
24 materials considered. There you -- you rely on

Page 36

1 Exhibit 1023. Did you consider Exhibit 1023 in
2 coming up with this opinion in your declaration?
3 A Sure. In -- in this section, I -- it
4 looks like it's identical to the previous one, but
5 the paragraph in between is -- is just saying
6 that -- telling me why -- I was saying, I think,
7 why I think it's consistent.
8 Q So that document supports your finding,
9 correct? Better put, it supports your opinion,
10 correct?
11 A Sure. It probably would have been one of
12 the reasons.
13 Q In paragraph 114, you reference
14 Exhibit 22. And that's Straight Path's preliminary
15 response to the Sony IPR. Did you rely on that
16 document as well, or did you con -- consider that
17 document?
18 (Witness perusing document.)
19 Q If you don't remember, it's fine.
20 A I remember the Sony documents. I
21 remember looking at them at some point. I mean, I
22 think I'm certainly just talking about them here
23 and discussing -- I don't believe this is -- this
24 is discussing a claim construction, but I -- I

Page 37

1 don't see that it's referencing agreed upon or
2 con -- a ruling of a construction.
3 Q But you did consider the Sony IPR
4 documents?
5 A Well, I'm -- I -- I remember looking at
6 them. I'm not sure what I would have -- I think if
7 I relied on something from them, I might have
8 referenced it more in -- in a context that isn't
9 just saying -- just talking about it.
10 Q Did you consider the claim charts in
11 Samsung's various petitions?
12 A Related to this case?
13 Q Yes.
14 A Yes, I -- I did.
15 Q Did you -- did you draft those claim
16 charts?
17 A I -- I probably -- I recall working on
18 them.
19 Q In preparing for today's deposition, did
20 you rely on any documents that are not listed in
21 the documents that you've considered here?
22 A I mean, I looked at a number of documents
23 that aren't listed in page 8.
24 Q What documents are those?

Page 38

1 A I -- I looked at the '704 file history,
2 for example. Oh, it's listed here. Sorry.
3 Q That one's listed.
4 A I believe I looked at some other related
5 file histories. And the reexamination histories,
6 that -- that's listed here too.
7 Q But you also considered the re -- the
8 file history and reexamination histories for the
9 '121 and '469 patents; is that correct?
10 A I did look at them. My understanding is
11 that there -- there's -- there is not a reliance
12 upon those histories from any of the arguments
13 and -- but I -- I did look at them.
14 Q Have you read Samsung's amicus brief?
15 A Yes.
16 Q In Samsung's amicus brief, they -- they
17 state that issues in this IPR are identical or
18 nearly identical to issues that are before the
19 Federal Circuit Court of Appeals. Do you agree
20 with that assessment?
21 MR. ERICKSON: Objection, vague.
22 A Are you -- are you referring to the '704
23 SipNet ruling and appeal?
24 Q That's correct.

Page 39

1 MR. NEWMAN: And, Counsel, object --
2 vague objections are not permitted. Just objection
3 will be fine.
4 MR. ERICKSON: Okay.
5 A Sorry, what was -- was there a question?
6 Q Yeah. So I think the -- you asked if I
7 was referring to the '704 SipNet ruling and appeal,
8 and I asked if you agreed with Samsung's assessment
9 in their amic -- amicus brief that the issues in
10 these IPRs before us today are identical or nearly
11 identical to issues that are before the Federal
12 Circuit Court of Appeals in the SipNet case.
13 MR. ERICKSON: Objection.
14 Q Do you agree with that?
15 MR. ERICKSON: Objection.
16 A I mean, certainly, the -- the patents --
17 the '704 patent is -- is also the subject of this
18 one. I can't remember exactly what they said in
19 the amicus brief, but I could take a look at it.
20 MR. NEWMAN: We've been going for
21 about an hour. You want to take a break real
22 quick?
23 MR. ERICKSON: Yeah. Why don't you
24 step out. We'll stay on the record for a second.

Page 40

1 You step out. I just don't want to...
2 (Witness left room.)
3 MR. ERICKSON: So with respect to
4 objections, you know, one point of objections is to
5 give you an opportunity to rephrase your question
6 if you choose to do so. And, you know, in some
7 jurisdictions, I will have been held to have waived
8 an objection if I don't make it with enough
9 specificity to allow you to restate the question,
10 if that's your choice.
11 All right. So, you know, I'm okay
12 with using a shorter form of objection as long as
13 you'll agree that you're not going to argue I have
14 waived an objection by not stating it specifically
15 enough for you to rephrase the question.
16 MR. NEWMAN: Understood. I just
17 wanted to caution you. I mean, there's -- there's
18 a recent case, I think the Medtronic case, in which
19 a party made vague objections, and the Court
20 threatened to throw out the entire declaration.
21 So I just wanted to make -- make sure
22 you were aware of that, especially with the
23 objections as to vagueness.
24 If I don't understand your objection

Page 41

1 or if I think that your objection's improper, I --
2 I will ask you to clarify that point. Obviously,
3 we -- we wouldn't mind if you say that it was
4 because it was vague, and then I will rephrase my
5 question.
6 MR. ERICKSON: Okay. As long as
7 you're -- you're okay with me just saying
8 objection, and then you're not gonna argue -- if
9 you don't ask me to rephrase, you're not going to
10 argue I waived a particular objection.
11 MR. NEWMAN: I think that's what the
12 rules require.
13 MR. ERICKSON: Okay. And I assume
14 that agreement will apply to any deposition of a
15 Straight Path expert or declarant?
16 MR. NEWMAN: Thank you.
17 (Off record.)
18 BY MR. NEWMAN:
19 Q I'm handing you a large document which
20 has a mark as Samsung Exhibit 1014, and it goes
21 from page 1 to page 535. This is the NetBIOS
22 reference, correct?
23 (Witness perusing document.)
24 Q And I'll direct you to page 368.

Page 42

1 A Yes, the RFC 1001 and 1002 are included
2 in this -- this big document.
3 Q RFC 1001 and RFC 1002, those are the only
4 parts of this large reference upon which you rely,
5 correct?
6 (Witness perusing document.)
7 A So it would be the -- the NetBIOS
8 portions RFC 1001, 1002 that would -- would have
9 been the -- the combination references that I
10 discuss in my declaration.
11 Q And since that's the case, if you want,
12 you can discard everything up until page -- in 368,
13 because I'll limit my questions to that. It might
14 make it a little bit more manageable for me to get
15 through that reference.
16 A Sure. I'll just set those aside.
17 Q Now before you are the two primary
18 references: One is Exhibit 1012, which is the
19 Windows NT Server; and one is Exhibit 1014, which
20 is the NetBIOS references.
21 And with that, I'd like to go through
22 your declaration in some detail.
23 A Sure.
24 Q That is Exhibit 1004. And for the

Page 43

1 record, this is in the '704 IPR, Houh declaration
2 from the '704 IPR.
3 A Okay.
4 Q Paragraph 20 -- paragraph 20, you say,
5 Most networks operate in accordance with protocols
6 that specify how one device communicates with
7 another device.
8 We were mentioning some protocols
9 earlier. We mentioned ARP, telnet, HTTP. I'd like
10 to go into a little bit more detail about at least
11 a couple of those. First with ARP.
12 A Okay.
13 Q Does ARP employ the TCP/IP protocols?
14 A Typically not.
15 Q Does telnet employ the TCP/IP protocols?
16 A Typically, yes, it's run over TCP/IP.
17 Q What do you mean by "run over"?
18 A Well, in networking, there -- people
19 think of networking stack in which the lower --
20 lowest layer are -- kind of signals the physical
21 links and the signal sent over the physical links.
22 And there's an instruction on top of
23 that, which would be a link layer, which defines
24 addressing and encoding on that. And typically,

Page 44

1 above that layer would be the network layer, such
2 as IP, which involves IP addressing and -- and
3 routing at the IP layer.
4 And above that would be TCP, which
5 is -- which is used over IP but specifies a
6 reliable transport protocol over IP, which is
7 generally considered not -- not guar -- no
8 guaranteed delivery in the Internet protocol or IP.
9 TCP is the transmission control
10 protocol. And then other applications which want
11 reliable data delivery would utilize the TCP
12 protocol, which runs over IP, which runs over the
13 link layer, which runs over physical connection.
14 Q TCP as opposed to UDP, which would be for
15 a less reliable data transfer, correct?
16 A UDP doesn't provide guarantees about
17 delivery of data.
18 Q UDP is a network protocol?
19 A Yes. It's in the network stack, same
20 layer as -- as TCP generally.
21 Q Does it have its own RFC?
22 A Yes, I believe so.
23 Q Does telnet employ ARP?
24 A It wouldn't directly employ it, no.



Page 45

1 Q Can you turn to page 225 of Exhibit 1012,
2 which is NT Server reference.
3 A Yes.
4 Q This page is called "Troubleshooting
5 TCP/IP," and it says, "Troubleshooting Other
6 Problems, Troubleshooting Telnet."
7 And in the second paragraph under
8 No. 2, it says, "The ethernet and IP address
9 mapping is done by the ARP (address resolution
10 protocol) module, which believes the first response
11 it receives. Therefore, the impostor computer's
12 reply sometimes comes back before the intended
13 computer's reply."
14 Why is ARP being referenced there?
15 A It's being referenced as something can go
16 wrong with networking in general when you're using
17 IP for any application.
18 Q Specifically when you're using ARP,
19 though, right?
20 A ARP is generally used on an ethernet to
21 resolve MAC-layer addresses as I previously was
22 discussing. So if the computer is on an ethernet,
23 then any higher-level networking app that runs
24 through the IP stack would typically use ARP at

Page 46

1 that layer to resolve ethernet addresses.
2 Q Some of the other problems mentioned with
3 Telnet here, in the first paragraph next to No. 2,
4 is that two of the computers might mistakenly be
5 configured with the same IP address, right?
6 A That's what it says, sure.
7 I mean, it says specifically, "Make
8 sure that two computers on the same network are not
9 mistakenly configured with the same IP address."
10 Again, that's generally something
11 that can go wrong with networking that would make
12 any application, network application, using IP not
13 work.
14 Q Well, this is specifically with respect
15 to telnet in this paragraph, correct?
16 A Sure. The title is about troubleshooting
17 telnet, but the category at the top is
18 troubleshooting TCP/IP.
19 Q So back to your declaration, on
20 paragraph 21, you mention routers or gateways
21 again. I just want to discuss some more devices
22 that would potentially intervene in network
23 traffic. A router intervenes in network traffic,
24 correct?

Page 47

1 A I mean, first of all, I understand that
2 there's a -- there's construction that we talked
3 about earlier has -- uses the word intervene, but
4 that would -- if I can look at that quickly.
5 Q Sure. Take your time.
6 (Witness perusing document.)
7 A Sorry, it doesn't use intervene; it uses
8 a different word. I wouldn't -- I wouldn't call a
9 router, generally speaking, that it's intervening;
10 it's just doing its job. It's what it's supposed
11 to do.
12 Q The same thing with a gateway?
13 A Typically, a gateway would just be a
14 router just by a different name, but as the only
15 access point to the network, it's still a router,
16 and it's just doing what it has to do as well.
17 Q And what does it have to do?
18 A It has to look at the -- the IP address
19 that -- of the destination and determine which
20 output port of the router it should forward that IP
21 address to and then -- forward that IP packet to
22 and then forward that packet to the appropriate
23 output port.
24 Q The communication goes through a router,

Page 48

1 correct?
2 A Some -- some communications goes through
3 a router, yes.
4 Q What about bridges, gateways, firewalls,
5 switches -- I mean, I guess we've already talked
6 about gateways. What about bridges, firewalls, and
7 switches, do you consider those to be servers? And
8 you can take them one by one. Is a firewall a
9 server?
10 A I mean, generally speaking, as a pure
11 firewall function, I wouldn't think a firewall
12 would be generally a -- a server. It depends on
13 the context. One could install firewall software
14 on a server that is actually a full server. But I
15 wouldn't consider the highly specialized devices
16 that you buy from a firewall company to be a real
17 server -- a server in that sense -- in the other
18 sense.
19 Q So the firewall functionality itself is
20 not a server functionality then?
21 MR. ERICKSON: Objection, form.
22 A I mean, oftentimes, there are firewalls
23 that can be installed and run on a server as a
24 separate service that the firewalls provide, but I



Page 49

1 would say typically for -- certainly for high
2 volume applications, that wouldn't be typical.
3 Q What about switches?
4 A I would not consider a switch to be a
5 server.
6 Q How about a bridge?
7 A I would not consider a bridge to be a
8 server.
9 Q Firewall, sometimes they can be a server;
10 sometimes not?
11 A Let me -- let me go back to bridge for a
12 second. There are bridging applications that can
13 be run on, you know, another computer or a server.
14 Actually, I don't think it's really done that way
15 much, if -- if at all.
16 But the function of a bridge is to
17 interconnect two link layer or, say, ethernet, for
18 example, networks just to keep traffic on one side
19 versus the other and not have all the traffic spill
20 over -- all missions spill over to both.
21 So there used to be actual boxes you
22 could buy that were bridges, but they -- they were
23 very primitive at the time, and I certainly
24 wouldn't have ever considered a bridge device like

Page 50

1 that to be a server. I -- I saw you had -- asked a
2 follow-up question. I apologize, I forgot it.
3 Q Firewall, sometimes it could be a server
4 and sometimes not; is that correct?
5 A I didn't quite say that. I think
6 sometimes you could install a firewall application
7 on a server, and it could act as a firewall. But
8 generally speaking, if you were to buy a firewall
9 device, you know, it's -- it's too specialized to
10 be considered what I consider a general purpose
11 server. It's, you know, providing a very specific
12 function.
13 Q Right. So you can install applications
14 on a server that are not server applications,
15 correct?
16 MR. ERICKSON: Objection.
17 Q They don't pro -- they don't provide a
18 server functionality?
19 A I mean, again, I think it depends on the
20 context. Some people would call any service
21 running on a computer to be some sort of server
22 process or daemon process, like a file server or
23 whatnot, specialized apps that do do work. Again,
24 it depends on the context and what we're talking

Page 51

1 about here.
2 The firewall would be, you know, a
3 service. I don't know that I'd call "it" alone, as
4 the application, a server by itself.
5 Q Firewalls intervene in the
6 communications, correct, between two devices?
7 A Well, to the extent that a firewall is
8 going to block something, obviously, it's going to
9 intervene. The purpose of a firewall is to keep
10 out bad stuff. And it -- from -- you know, when
11 someone's trying to send bad stuff into a corporate
12 network that has a firewall and the firewall rule
13 is said to block it, I would say it's -- it's
14 actually intervening in the traffic.
15 But for the normal traffic which is
16 passing through, it's just -- again, it's doing its
17 job. I mean, its job is to let the right traffic
18 through and block the bad traffic or the specified
19 traffic.
20 Q All right. So when it's -- when it's
21 letting the traffic through, then it's not behaving
22 as a server, or is it?
23 A I wouldn't call blocking the traffic
24 behaving as a server. I mean, it's -- it's -- it's

Page 52

1 doing its job in both cases. It's just a program
2 designed to evaluate firewall rules. And if you're
3 using the word "intervene," you know, it's
4 certainly intervening in the intended bad traffic,
5 right?
6 You know, I was trying to go hack
7 into this machine over there using some back door,
8 and if the firewall is configured to block that
9 back door, it's certainly intervening in intended
10 sender's traffic, but -- but that's its job.
11 Q And it's not intervening, then, in the
12 traffic that makes it through?
13 A Oh, it's looking at it. I wouldn't -- I
14 wouldn't call it an intervention.
15 Q In paragraph 21, four lines from the
16 bottom, you talk about a destination host computer
17 such as a LAN?
18 (Witness perusing document.)
19 Q What's a -- what do you mean by a "host
20 computer"?
21 A I don't see where you're referring to.
22 Would you --
23 Q Sorry, in paragraph 21. Did I misspeak?
24 Par -- I'm sorry, paragraph 21 of your declaration,

Page 53

1 Exhibit 1 --
2 A 1004.
3 Q -- 004, '704 IPR.
4 I'll read it. It says, Local area
5 networks, LANs, such as ethernets may be connected
6 to routers and gateways. And an IP packet may be
7 delivered to one of its destination host computer
8 in such a LAN.
9 What -- what do you mean by a "host
10 computer" there?
11 A Oh, I see. You misread that a little
12 bit. It's, May be delivered to its destination
13 host computer in such a LAN.
14 But, I mean, it's -- it's a
15 computer -- it's a computer host. It's a computer.
16 Q You also use that term in paragraph 25,
17 When data is received by a host computer. I'm just
18 trying to get an understanding of what the word
19 "host" means.
20 A It -- it -- it -- well, for one, it -- it
21 may -- it's a general term. I think we -- we use
22 that to -- if you -- for example, in some
23 computers, the host name is the name of the
24 computer. If it didn't say computer name, it's the

Page 54

1 host name. So in one sense, the host computer is
2 just reiterating that that is the computer that
3 has -- that's a host. I mean...
4 Q It's like a computer, computer?
5 A It's a computer, computer, sure. I
6 suppose it's a bit redundant, but...
7 Q All right. In paragraph 22, you mention
8 modern network protocols. What do you mean by
9 "modern" there? Is that prior to 1995 or after
10 1995?
11 A I suppose I would have meant prior. I'm
12 discussing things like IP in -- in the headers
13 there.
14 Q You mention that the header typically --
15 well, let me back up.
16 So paragraph 22 is discussing network
17 protocols that typically contain a header portion
18 and a data portion, right? The header typically
19 contains the source and the destination address for
20 the data, and the data portion's basically the
21 payload, right?
22 A Yes.
23 Q Can you give me some examples of network
24 protocols that behave in that typical way?

Page 55

1 A That would be, for example, the Internet
2 protocol IP. That behaves in this typical way.
3 Q What about UDP? Or is it -- UD -- strike
4 that.
5 UDP over IP, would that behave the
6 same way?
7 A Since it's using IP, IP has the source
8 and destination addresses. Anything using IP
9 would -- would -- would have an IP header
10 containing source and destination addresses.
11 Q What are some other network protocols
12 that behave in that way?
13 A Well, IP is the winner now, but -- but
14 back in the la -- in the '80s, perhaps into the
15 early '90s, there were things -- there were other
16 networking protocols. IB -- IBM had one, DEC had
17 one, Lotus had one, I believe. And so they -- all
18 these other networking protocols would typically
19 have some sort of addressing mechanism like that.
20 Q Would ARP?
21 A So AR -- ARP -- ARP packets are at the
22 ethernet level, and in ethernet, there is a header,
23 and there is a source MAC address and a destination
24 MAC address and a payload.

Page 56

1 Q So, yes, that would behave, then, in this
2 typical manner, correct?
3 A Yes.
4 Q And what about FTP?
5 A FTP typically would use TCP, which uses
6 IP. So, you know, the IP headers would -- would --
7 would carry this information for networking
8 purposes.
9 Q What about HTTP?
10 A And -- and HTTP is also typically run
11 over TCP and IP, so, you know, pretty much I would
12 say all HTP traffic would have IP headers.
13 Q HTP has a specific header portion,
14 though, to it, right, that's separate from -- from
15 IP?
16 A Yes, the HTTP protocol does specify, you
17 know, the format of the -- of -- of that portion of
18 the -- the data, which I guess you could call it a
19 header. Oftentimes, there's a GET command in the
20 header. Or maybe that's not the -- there's other
21 information in the header that usually is in the
22 HTP portion of the -- of the data.
23 Q So are there -- this word "typically"
24 that you're using in paragraph 24, when -- when

Page 57

1 are -- do network protocols not act in this way?
2 A There are other networking protocols, for
3 example, ATM, which would have a circuit number, an
4 identifier, but not typically a source address, for
5 example.
6 Q Anything else you can think of?
7 A Well, ATM is the big one, I think. There
8 may be others I can't think of right now.
9 ATM, by the way, isn't the thing you
10 get your money from; it's -- it's asynchronous
11 transfer mode. Sorry.
12 Q Thank you.
13 So ARP would be -- be considered a
14 modern network protocol?
15 A It's been around a long time. I'm not
16 sure why I used "modern" there, but it's been
17 around a long time.
18 Q In paragraph 26, you -- you're discussing
19 a layered protocol stack for transmitting data
20 between applications running on networked
21 computers. What's -- what do you mean by "layered
22 protocol stack" there? Is that the seven-layer
23 stack?
24 A Yes, formally, it would be the

Page 58

1 seven-level model. But, you know, in -- you know,
2 there's -- there's extraction layers, so you can
3 extract the physical link away, so you can just use
4 the facilities of the physical link at the next
5 layer -- layer up.
6 And then if you're -- you know, for
7 example, once you've extracted the physical stuff,
8 you can -- you can think of it as an ethernet. And
9 then whatever's on -- hosts are connected to an
10 ethernet could use IP over ethernet. But it
11 doesn't have -- you don't have to think about
12 ethernet; you just think about IP.
13 And so the layers are a way of
14 different abstraction points in -- in networking
15 features. And -- and sometimes they're strictly
16 adhered to. Some -- you know, sometimes the upper
17 layers of the stack kind of -- kind of get melded
18 together a little bit.
19 Q So -- so that we're clear when we're
20 talking about the upper levels and the lower levels
21 of a stack, we're talking, there's a -- there's a
22 physical layer, right? And on top of the physical
23 layer, there's a link layer, correct?
24 A Yes.

Page 59

1 Q And on top of a link layer, what's the
2 next layer?
3 A The network layer.
4 Q The network layer. And on top of that
5 would be the --
6 A I think session layer.
7 THE STENOGRAPHER: What is it?
8 THE WITNESS: Session layer.
9 THE STENOGRAPHER: Session layer?
10 Q And then let's keep building the stack
11 up.
12 A And then the next one is one that I -- I
13 can't remember what -- what it is because it's --
14 but then the application layer is at the top.
15 Q And the transport layer is --
16 A Oh, oh, sorry, it's transport, session,
17 application. Sorry, transport's -- network --
18 transport's four, I think.
19 Q All right. So let's -- let's try to
20 clean the record up.
21 A Sorry.
22 Q Can you list them -- can you list them in
23 order starting at the hardware layer?
24 A So I think this is the way it formally

Page 60

1 goes, but, you know, upper layers get melded.
2 So physical layer is the lowest
3 layer, layer 1. Next is link layer, two. I
4 believe network layer is three. Transport layer is
5 four. Oh, session layer is five. So I'm still
6 missing one, because I think application layer is
7 eight -- seven. Sorry. There's only seven layers.
8 I don't know why I said eight.
9 I mean, formally, you know, they have
10 these numbers, but, you know, generally, I think if
11 it has the IP layer, the ethernet layer, the
12 physical layer, the TCP layer or UDP, and then
13 whatever is above that, it's usually kind of all
14 mashed together.
15 Q The application layer, you mean there's a
16 lot of different things happening at that layer?
17 A Well, the formal -- the formal separation
18 some -- I don't believe it's really strictly
19 adhered to.
20 Q Right.
21 So as information moves up through
22 these layers, there's -- there's headers and
23 payloads, right, as they move up? And then inside
24 of these -- well, frames at the ethernet level,



Page 61

1 correct?
2 A Yes.
3 Q And moves up into packets, and those
4 packets at the IP layer have information regarding,
5 say, TCP, correct?
6 A Yeah. I can't remember exactly the
7 wording used, but it sounds generally right.
8 Actually, you -- you did use frames at the ethernet
9 layer, which actually I -- is the way they talk
10 about it, but very few people make the distinction
11 or say frames.
12 Q For packets?
13 A Yeah. For -- for -- for -- sometimes
14 packets is all encompassing, but, you know, I would
15 say frame at the -- at the ethernet layer and
16 packet at the -- at the IP layer.
17 Q And there's always this payload that's
18 making its way up through the layers to its
19 destination using those headers, correct?
20 A So, typically, a header would contain
21 information about the -- the layer -- the next
22 layer, what protocol it's using, and as the -- as
23 the data rises up, the headers get -- the header of
24 that layer gets stripped off.

Page 62

1 So you -- so, you know, when you get
2 to the IP layer, you have no information about the
3 ethernet addresses, because you don't really care
4 about it, or the applications don't care about it.
5 And so -- and then as you go up from -- get to the
6 TCP stack, there's no IP header, because IP process
7 it end up. So as -- as you go up, the headers kind
8 of get removed.
9 Q And eventually, you end up with just the
10 payload, correct?
11 A Yes.
12 Q And that's at the application layer?
13 A Yes. Yeah.
14 Q So computers have app -- have
15 applications or can -- let me strike that and give
16 you a better question.
17 Computers can run computer programs,
18 correct?
19 A Yes, generally.
20 Q And when you turn a computer on, some
21 computer programs start automatically, correct?
22 A Generally, that's the way -- operating
23 systems are configured to start certain things
24 automatically.

Page 63

1 Q Like the service -- the operating system
2 itself and the services, correct?
3 A Whatever services are automatically
4 configured to start, generally, yes.
5 Q In some computer programs a user would
6 need to go and actually these days double click on
7 it to get it to actually launch and substantiate a
8 running instance of that application?
9 A Yes. Sometimes there are actually helper
10 applications running in the background, or if
11 you're on UNIX, you would -- you might still type
12 it.
13 Q Well, thank goodness, we're not on UNIX
14 today.
15 I guess my question is that some
16 applications are -- are not running even though the
17 computer is -- is on, correct?
18 A Yes. Some -- yes. Not -- not every
19 computer is running all the programs it has on its
20 hard disk, for example, all the time.
21 Q And a user, upon double clicking these
22 days or in UNIX typing the name of the program you
23 want to run, would start that program up, and that
24 would be the first time that that program would

Page 64

1 have the ability to execute its commands, correct?
2 A I mean, the commands wouldn't be
3 executing until the program is actually running,
4 and so in the case where -- double clicking the
5 icon, the application isn't already running. There
6 are many cases today in, say, Windows where double
7 clicking icons simply brings to the fore the
8 application that was already running.
9 But if it wasn't running and there
10 wasn't any helper app running in the background for
11 that application, then -- then it would be the
12 first time it would be loaded into the computer's
13 memory to be executing in that particular instance.
14 Q Have you programmed applications before?
15 A Yes.
16 Q What language are -- have you programmed
17 applications in?
18 A I've written in -- some in Visual Basic
19 and C and C# and LISP, a little bit in Java and
20 Python and Perl and Shell. I don't know if that's
21 comprehensive of a list, but --
22 Q That's --
23 A -- Ruby.
24 Q That's a pretty good list.



Page 65

1 A Sorry.

2 Q So I'm more familiar with C, so let's

3 talk about C or Java. Those pro -- programs that

4 are written in C and Java have meth -- methods that

5 call other methods or functions, correct?

6 A Generally, yes.

7 Q And some of these programs have methods

8 that can retrieve an IP address of the computer

9 upon which the programs are running, correct?

10 A There may be. Most people don't

11 necessarily want to retrieve their own IP address,

12 so...

13 Q Some of those applications have the

14 ability to inter-network with other applications

15 running on different machines, correct?

16 A That's right. If you link the proper

17 libraries for -- for networking, for example,

18 then -- then you would be able to access networking

19 facilities of the computer in the operating system.

20 Q When those types of programs, those that

21 have the ability to inter-network with other

22 computers, are launched for the first time, when do

23 they actually connect to the network?

24 MR. ERICKSON: Objection, form.

Page 66

1 A I think you'd have to look at the

2 specific code of an application to determine

3 exactly when.

4 Q But those applications that require a

5 user to start them up, they don't connect to the

6 network until after the user starts the program,

7 correct?

8 MR. ERICKSON: Objection, form.

9 A I think overall the -- the computer may

10 already be connected to the Internet or the

11 network, for example.

12 Q When does the computer connect to the

13 Internet, let's -- if we're talking in these layers

14 again?

15 A Well, you have to have some facility to

16 access an active connection to the Internet. So

17 if -- if a connection were not available, then it

18 wouldn't be talking to the Internet, as capital I

19 Internet, but it may be able to talk to other

20 computers within its local area network.

21 But if it had somewhere configured

22 properly a gateway in the host computer and an

23 actual gateway that actually could route packets to

24 the Internet, then pretty much as soon as the

Page 67

1 commuter is up and running and has started the

2 networking portion, and then I would say that that

3 computer is -- has Internet access.

4 Q So by the time a user could actually

5 launch a program, that computer would have been

6 connected to the network on startup?

7 MR. ERICKSON: Objection, form.

8 A Well, I mean, given as I've mentioned

9 earlier, there's -- there's a -- there's an active

10 connection provided somewhere. Today it's

11 typically done through, you know, a connection

12 through like a cable modem or something. But if

13 you're all properly configured and everything was

14 up and running and the network was, you know,

15 available with no issues, then, typically, you

16 know, sometime during the boot-up process the

17 network stack is -- is initiated and typically by

18 the time a user is able to log in, although, you

19 know, things can take a long time to start up

20 sometimes.

21 Q Especially if you use Microsoft.

22 A I think any -- any computer might be

23 prone to delays, you know, parts of -- of -- of

24 software.

Page 68

1 Q So there are situations in which a

2 computer can be on but not connected to the

3 Internet when these problems that you're describing

4 are presented?

5 A Did you say -- were we talking about some

6 of the problems we were talking about earlier in

7 this document or just general, you know, you don't

8 have, say, a Wi-Fi password or something like that?

9 Q Or if you turn your Wi-Fi off, would you

10 be connected to the Internet still?

11 A If you had no other physical wire, like a

12 physical ethernet cable and you had Wi-Fi off, I

13 would say you were not connected to the network.

14 Q So the computer can be on but not

15 connected to the network?

16 A Yes. In that situation, assuming there's

17 no other method of -- of doing networking, you

18 know, except those -- you know, a wire or Wi-Fi.

19 Q But when the computer is off, it

20 definitely can't be connected to the network,

21 correct?

22 A No, that's right.

23 Q So at some point between the computer

24 being off and the computer turning on, it actually

Page 69

1 connects to the network?
2 MR. ERICKSON: Objection, form.
3 MR. NEWMAN: I'll withdraw the
4 question.
5 Q How about back -- back in 1995, a little
6 time travel here --
7 A Okay.
8 Q -- do you remember you'd have to use your
9 telephone in order to get onto the Internet?
10 A Sure. Most people from home, that was
11 one of the -- probably the predominant way
12 around -- in the early to mid '90s of accessing the
13 Internet.
14 Q It was an effective network, right,
15 because everyone was already connected to it?
16 A Many people weren't necessarily connected
17 to the Internet, for example. Like AOL was -- I'm
18 not sure at what time they opened up. But it was
19 more what people called a wall garden back then
20 where you could only dial into AOL and then access
21 information within AOL.
22 There were other things like bulletin
23 boards and things like that as well.
24 THE STENOGRAPHER: Ultimate what?

Page 70

1 Lords, is that what you said? I just need to know
2 what you said.
3 THE WITNESS: I'm not sure where --
4 bulletin boards.
5 THE STENOGRAPHER: Oh, sorry.
6 THE WITNESS: Bulletin boards.
7 THE STENOGRAPHER: Sorry.
8 THE WITNESS: I can see how it
9 sounded like that.
10 THE STENOGRAPHER: Thank you.
11 THE WITNESS: Yeah, bulletin boards,
12 or they were known as BBSs.
13 BY MR. NEWMAN:
14 Q So back then, in '95, when a person had a
15 personal computer at home, they weren't online
16 really until they connected their telephone on,
17 they dialed in, or you heard that obnoxious
18 telephone dialing sound, and then you would come
19 online, correct?
20 A Generally, at that time period, most --
21 that would be how most people accessed from home,
22 although people from work or school locations --
23 some people had, you know, direct connections at
24 the time.

Page 71

1 Q Without using a telephone?
2 A Yes. For example, if you were on campus
3 at a university or within a big company.
4 Q And back in '95, when you were using your
5 telephone in order to get onto the Internet, it --
6 your telephone company would charge you for that
7 time, correct?
8 A Well, at the time, depending on the phone
9 plan you had and the number you were calling,
10 sometimes it was an 800 number, sometimes it was a
11 local exchange number, you might get billed a lot
12 if you were calling a nonlocal, you know, number
13 that's out of your calling area plan. So it
14 depended on what plan the people had typically and
15 what number you dialed.
16 Q Right.
17 And if your -- if your phone was
18 connected to the Internet, that phone was unable to
19 receive regular telephone calls, right?
20 A Well, I mean, sometimes there are --
21 there is these people, I can't remember -- I think
22 people probably had call waiting back then, but if
23 you got a call, it might kill your modem with the
24 call waiting tone.

Page 72

1 And there were other methods later of
2 people -- yeah, so you typically couldn't have a
3 phone ring and pick it up while you were logged in
4 using that phone line to -- to your Internet
5 service provider.
6 Q And really all I'm getting at is -- is
7 people were not perpetually online. They would
8 hang up their phones, hang up their Internet
9 connection so that they could use their phone. It
10 was a common occurrence to go on and offline in
11 1995.
12 A For dial-in users, it was probably pretty
13 common, yes, to -- to cont -- you know, dial in and
14 then hang up.
15 Q But today it seems -- seems a much
16 different world, right?
17 A I understand there are a few people that
18 still use dial-up, but, yes, most people are --
19 probably have cable modem access. So you're almost
20 always -- you can think about that being always
21 online as long as your computer is on.
22 Q With personal telephones and smartphones,
23 with the cellular network, it's almost like you're
24 always online, right?



Page 73

1 A Well, whether you're directly -- always
2 online, it's debatable whether it's a good thing or
3 not, I suppose.
4 Q That's fair.
5 A Yeah.
6 Q All right. So let's get back into your
7 declaration.
8 All right. In paragraph 32, again,
9 you refer to the word "post IP address." I -- you
10 mean the computer's IP address there?
11 A Yes, I mean computer.
12 Q In this paragraph, you mention this
13 dynamic host configuration protocol, DHCP. And
14 it's published in 1993, right?
15 A The RFC was published in October of '93,
16 RFC 1531, as I state.
17 Q And that's a -- when was that BIOS RFC
18 again?
19 A I think it was earlier than that.
20 Q It was in the '80s, correct?
21 A Yeah, March '87 is the date on RFC 1001.
22 March '87. Did I say '87?
23 Q So this is some time after BIOS.
24 So the NetBIOS standard didn't really

Page 74

1 need to consider this DHCP standard, correct?
2 A Well, I mean, if -- I'm not sure what you
3 mean consider, but, you know, one pre -- NetBIOS
4 did predate the -- the earliest version of the HCP.
5 I don't -- I don't know offhand if concepts were
6 being discussed at that time. But it's -- it's a
7 lot -- it's a big -- it's -- it's six years
8 difference.
9 Q Let's talk a little bit about the
10 functionality of a DHCP server. You say -- and
11 this is, like, five lines, six lines from the
12 bottom of paragraph 32 in your declaration -- A
13 DHCP server may assign a specific host to the same
14 IP address each time based on a host's name or MAC
15 address static.
16 So DHCP not only assigned dynamic IP
17 addresses; it also could assign static, correct?
18 A There were features of DHCP servers that
19 could do that, do both.
20 Q How did that work? Did -- did a specific
21 host request a static IP address?
22 A I can tell you how I know it works today
23 on my home router, for example, and the routers I
24 run at work or the -- sorry, the DHCP servers,

Page 75

1 which is, you give it specific character six for,
2 like, a printer. You know, rather than going to a
3 printer and configuring a static IP address in
4 there, I might add information about that printer
5 to the DHCP service configuration file.
6 And then whenever that particular
7 printer asks for an IP address, I've -- I've got a
8 mapping as opposed to the dynamic ones where
9 generally they could change. They don't always
10 change. But, you know, you have a pool that -- of
11 dynamically assigned addresses, and some servers
12 may try to give you the same address every time,
13 but if someone -- it's not guaranteed.
14 Q You mentioned a printer. You consider a
15 printer a computer?
16 A Well, I mean, today printers have
17 computing power in them, but I -- I don't think
18 people would generally consider them a
19 general-purpose computer.
20 Q And printers are managed by print servers
21 typically, right?
22 A Well, today there are many printers that
23 are standalone, maybe, if what you're saying is
24 there's some print service or spooling service

Page 76

1 built into the printer itself that you can just
2 send files to it over the network.
3 (Brief interruption.)
4 Q So paragraph 33 is the first time I think
5 we're really getting into the Windows NT Server
6 reference. And this was in -- this was published
7 in 1994 according to this, right?
8 A Yeah. It says that it was publicly
9 available no longer than -- no later than
10 August 31st, '94.
11 Q And that's right on the heels of DHCP,
12 right?
13 A If you're referring to the formal
14 publication as an RFC at 1531 in October '93, there
15 is a roughly 10-month separation between the two.
16 Q And in your opinion, did Windows NT solve
17 any problems created by DHCP?
18 A I'm not -- I'm not sure what problems
19 created by DHCP that you're referring to.
20 Q What about dynamic addressing?
21 A Can you -- what -- I don't know what the
22 question is. Sorry. I don't understand the
23 question.
24 Q Did DHCP create any problems?



Page 77

1 A I'm not aware of any big problems, you
2 know, created by DHCP. I think it -- yeah, I -- I
3 don't know. If you say more, I might be able to
4 give you an answer.
5 Q Sure. That's -- that's fine.
6 So we were talking earlier about the
7 old days when people would call in, you know, the
8 telephone line in order to get on the Internet,
9 right? Now, if you hung up and then you got a new
10 address dynamically assigned through DHCP, that
11 would be a problem because others might not know
12 how to get back in touch with you, correct?
13 And I'll point you to paragraph 37 of
14 your -- of your declaration, if that assists. And
15 I believe you refer to this as the name to address
16 problem in your declaration.
17 (Witness perusing document.)
18 A Well, what I refer to in 38 is a -- is a
19 different problem than I think what you're saying
20 the problem at DHCP would create.
21 Q Okay. To clarify, the -- the problem in
22 paragraph 38 is this problem where people don't
23 like long numbers, but they like names in English
24 instead, right?

Page 78

1 A Certainly that's one issue that -- yes,
2 it's -- you know, you can easier -- much more
3 easily remember a domain name than you can an IP
4 address, but there are other benefits to that as
5 well.
6 Q Right.
7 And computers use IP addresses to
8 identify each other where people typically use
9 names to identify each other, right?
10 A If you're referring to the IP layer in
11 the networking packets that's sent by computers at
12 the IP layer, they contain IP addresses, not names
13 in the source and destination addresses, that's
14 true.
15 Q Back in paragraph 37, you end with this
16 idea, One benefit of this additional redirection is
17 that names may be given out in printed -- on
18 printed materials without fear of -- that the name
19 will change.
20 Does that have anything to do with
21 DHCP, or is that just merely named to IP
22 identification?
23 A Really that's talking about named IP
24 resolution.

Page 79

1 Q Thank you.
2 In paragraph 38, there's a sentence,
3 second -- no, the third sentence begins, The DNS
4 mapped domain names, example, FTP.symbolics.com is
5 the first dot-com domain registered in 1985 to IP
6 addresses, and you give an IP address there of
7 100.100.200.20. That's an example of a name to IP
8 address resolution, correct?
9 A Yes, that would be an example of -- of a
10 mapping. I might -- as an aside, the company I
11 used to work for, BBN, was, I believe, the second
12 domain ever registered, but that's just --
13 Q How long -- how long after Symbolics?
14 A I think right away. I think actually BBN
15 may have had a lot to do with setting up the BNS
16 servers and had the first contract that set up the
17 first -- the ARPANET. The first routers were built
18 by BBN, but --
19 Q Symbolics gets the glory?
20 A Symbolics got the glory. I don't know
21 how they did, but..
22 Q So this symbolics.com name here
23 because -- it's an FTP.symbolics.com, and that's
24 resolved to 100.100.200.20, right?

Page 80

1 A In this example. That's probably, you
2 know, not the real address that it would be
3 resolved to.
4 Q Could you also have a -- something like a
5 telnet.symbolics.com that would resolve to that
6 same address?
7 A You could have any legal name resolve to
8 an IP address.
9 Q What I mean is the address of the
10 computer that it's resolving to, correct?
11 A Yes, that's the intent.
12 Q In the computer, it could have FTP, or it
13 could have telnet, or it could have both, and it
14 would resolve to that address?
15 A I mean, lots of machines could have FTP.
16 It's just the name that happened to be picked to --
17 to be FTP. Perhaps for in this example, it would
18 have been like a publicly accessible FTP site run
19 by Symbolics. It's not to say that there's no
20 other machines that can run FTP in the Symbolics
21 domain.
22 Q And would that FTP.symbolics.com resolve
23 to a single computer, or can it resolve to more
24 than one computer?



Page 81

1 A Today it can resolve to a number of
2 different IP addresses actually.
3 Q But back when this -- when they first
4 registered this domain name.
5 A Then it was designed to resolve to just
6 one IP address at -- in '85.
7 Q And could you have multiple names resolve
8 to the same computer's IP address?
9 A Yes. That was possible.
10 Q You mention, as part of a networked
11 computer application, for example, an FTP or
12 telnet, making a connection to a remote site, it
13 would access the DNS server and, like a telephone
14 book, mapped domain names to IP addresses.
15 Do you consider FTP an application?
16 A I think it depends on the context that
17 you're referring to the client site application.
18 There were lots of client command line and
19 graphical user interface applications designed
20 to -- to access FTP sites.
21 Q FTP itself, is that an application?
22 A FTP itself usually refers to the file
23 transfer protocol, which could be used by
24 applications to transfer files.

Page 82

1 Q That's similar to telnet, right?
2 A Yes. A telnet is a protocol. It could
3 be used by applications to -- I don't know what it
4 stands for, but it's like providing a remote access
5 command line -- interface to a computer.
6 Q Paragraph 40, I think this is just
7 reiterating that it's difficult for people to
8 remember the IP addresses, right? The name to IP
9 address resolution was important for folks to be
10 able to use the -- the Internet effectively, right?
11 A I mean, it's not necessarily just the
12 Internet; it can just be an office network, for
13 example.
14 Q But network in general?
15 A It's definitely -- it's very helpful to
16 have name mappings.
17 THE STENOGRAPHER: To have name
18 mappings?
19 THE WITNESS: Mappings. It's helpful
20 to the users.
21 Q When -- when was the first name mapping
22 that you can remember? Was it at BIOS?
23 A I mean, the domain name system goes back
24 to '85. Is that what you mean?

Page 83

1 Q That's a name to address mapping, right?
2 DNS?
3 A Well, I mean, telephone books, for
4 example, used to look up by names and it gives you
5 a phone number. And, I mean, that's certainly an
6 example that's existed for a long time.
7 Q With respect to computer networking, was
8 DNS the first name to address mapping that you can
9 think of?
10 A It's the first that comes to mind that's
11 the earliest. I mean, there may have been other
12 methods doing name resolution earlier, but I -- I
13 don't recall what those were, if there were.
14 Q And then NetBIOS came along. NetBIOS was
15 for IBM and Windows machines, right?
16 A That's my understanding, but, actually, I
17 believe there was a method -- I don't know when
18 this was introduced in UNIX -- of having host files
19 on a -- on a UNIX machine that provided mapping
20 through the host file.
21 Q That's separate from NetBIOS?
22 A Separate from NetBIOS. Although on a
23 Windows system, there are -- there is another
24 mapping mechanism through I think it was the

Page 84

1 LMHOSTS file, which probably -- probably copied
2 over some concepts from the UNIX name -- name
3 resolution through the host file.
4 Q But UNIX machines themselves never
5 implemented the NetBIOS protocols, right?
6 A I'm not aware of any. It doesn't
7 necessarily mean that they -- they never did.
8 Q So then in -- in summary, paragraph 41 of
9 your declaration, you say, According to Microsoft,
10 WINS solved the problem that occurred with name
11 resolution and complex inner networks.
12 Now, that's Microsoft's words, right?
13 Do you agree with those, do you agree with that
14 sentence?
15 (Witness perusing document.)
16 A Sure, I -- I believe it was a solution to
17 this name resolution issue.
18 Q There are -- there are other solutions
19 previous to -- to this, right, to WIN -- previous
20 to WINS?
21 A I think it was -- it depends what -- you
22 know, I don't know what all the features, you know,
23 of all the previous name resolution things, but it
24 could be that -- I mean, certainly, there were

Page 85

1 other name resolution systems in place like DNS,
2 for example.
3 Q In 40 -- paragraph 41, you mention, like,
4 DNS WINS was essentially a directory assistance
5 operator. By "directory assistance operator,"
6 your -- your -- you mean someone they would use for
7 resolving a telephone number. You would call
8 directory assistance, 9 -- not 911, you'd get the
9 police. 4 -- I forget what it is.
10 A 411. Because no one ever uses it anymore
11 probably.
12 Q Yeah, so 411 you would call, and someone
13 would get on the line and say, Who are you looking
14 for. I'd say, Mr. Smith. And they'd give me
15 Mr. Smith's phone number, right? But directory
16 assistance couldn't tell me whether or not
17 Mr. Smith was home, right?
18 A No, I don't think your operator would
19 know who's home and who's not.
20 Q Right.
21 All right. Let's -- let's take
22 another break so that we can finish up the next
23 session for lunch.
24 (Off record.)

Page 86

1 BY MR. NEWMAN:
2 Q Before the break, we were talking about
3 computers that had come online and then
4 applications that come online after the computer's
5 online or after the computer connects to the
6 network. In that discussion, we didn't mention
7 anything about a database, right?
8 A I don't recall talking about a database
9 as part of that -- that discussion. I mean,
10 certainly there are database servers.
11 Q Can a computer or -- back in -- in '95
12 when you were calling on a telephone, right, and
13 the computer went online, did it necessarily
14 register its name with a server?
15 MR. ERICKSON: Objection to form.
16 A I mean, certainly, if it were running,
17 you know, a suite of networking protocols that
18 allowed for that and your -- then it was necessary
19 for communicating within an office network, for
20 example, that may not have even been connected to
21 the Internet, it certainly would have had that
22 capability.
23 Q But it's a capability as opposed to a
24 necessity, right?

Page 87

1 A I think the network administrators would
2 decide whether or not they were gonna do such an
3 implementation within an office network.
4 Q Let me ask it this way.
5 In order for a computer to interface
6 with a remote server, wouldn't it have to be
7 online first?
8 A What do you mean by "remote, remote
9 server"?
10 Q A server that's not part of the same
11 machine, right, I suppose. A server could be on
12 the mission I'm talk -- what I'm talking about is a
13 terminal that interfaces with a server that's some
14 other place in the world.
15 A Is that what -- do you mean online to be
16 on the Internet, or do you mean to be just --
17 Q Connected to the network.
18 A I mean, certainly, there were office
19 networks at the time where -- where -- which
20 were -- may not have had Internet connections.
21 And -- and to the extent you consider that online
22 and to the extent, you know, remote, I don't know
23 how remote does a remote server need to be? But
24 there might have been an office -- you know, a

Page 88

1 server in the -- in the office network that one
2 could register with for sure.
3 Q But I would have to be connected to the
4 network in order to even register with the server,
5 right?
6 A Well, one would -- might have been, you
7 know, in an office environment. Certainly, in an
8 office environment, lots of little networks were
9 available that you were just on your office
10 network.
11 Certainly, I'd agree at home if you
12 are the only computer at home, you had to have some
13 dial-up -- predominantly dial-up networking access
14 to access anything. But today, for example,
15 there's lots of computers in the home, and I can
16 talk to them even if my -- my -- my cable modem
17 were dead.
18 Q And you can do so without registering
19 their names in a database, correct?
20 A There are -- probably using other methods
21 of name resolution, but, you know, having a central
22 database may have been one solution to that -- that
23 issue.
24 Q I guess what I'm -- I'm trying to



Page 89

1 understand is if -- if my local computer needs to
2 register some information with a remote server,
3 doesn't it need to be connected somehow to a
4 network upon which that remote server is also
5 connected?
6 A So if you're running just an office
7 network, then it didn't have access to the Internet
8 at -- at all, there could -- if you consider a
9 server that's in a closet or in an IT, you know,
10 room somewhere as remote, it might be in a
11 different -- it might be in a different building
12 for -- for big campuses, for example, then -- then
13 certainly there's that possibility even without
14 being connected to all the rest of the world, i.e.,
15 through the Internet, for example.
16 Q Can one computer on a network communicate
17 with another computer on a network if the computer
18 is not connected to the network?
19 A If it has no connection to the network
20 and the networking stack were not even available,
21 for example, or off because the inter -- there was
22 no interface, then, there would be no external
23 connectivity to any other computers unless they
24 were physically wired together somehow.

Page 90

1 Q And if they were physically wired
2 together somehow, they wouldn't be separate
3 computers?
4 A No. You can take an ethernet cable, for
5 example, and -- the right type of ethernet cable
6 and plug it into one computer and plug it into
7 another computer, and they probably would be able
8 to talk to -- you know, if you knew how to get them
9 to talk to each other, you could.
10 Q And they would be connected to each
11 other, though?
12 A Through this wire, just one wire, not a
13 network, per se.
14 Q Well, how small can a network be? Can a
15 network be two computers?
16 A Sure.
17 Q So that would be a two-computer network,
18 and both of the computers would be connected to it,
19 right?
20 A Well, their connective is a physical
21 wire. You know, I would think of -- more of a
22 network, like, if you could run a serial cable
23 between the two, for example, I wouldn't have
24 really thought of that as a network, but, you know,

Page 91

1 you might say that it could be considered a
2 network.
3 Q And those two computers would be
4 connected to the network even though they didn't --
5 they don't have access to any database, right?
6 A When you say "the network," are you
7 implying like the Internet, or are you just saying
8 any network?
9 Q Yeah, the two -- we were just talking
10 about a two-computer network where they're
11 connected by an ethernet cable. Those two
12 computers would be connected to each other without
13 any databases being involved, correct?
14 A They could be involved. I'm not saying
15 that it's exclusionary of, you know, a database.
16 It just depends on any implementation.
17 Q Right. But they don't need -- a database
18 does not need to be involved for those two
19 computers to be connected to each other?
20 A I wouldn't say it's required, certainly
21 not just to be connected to each other.
22 Q And it wouldn't be required for them to
23 communicate with each other, correct?
24 A No. Certainly, if you didn't run any

Page 92

1 application that you use the network or there
2 weren't services running that they were utilizing
3 on the other computers, there wouldn't -- it
4 wouldn't be going over the network.
5 Q Well, the two computers or computer -- if
6 the two computers in our two-computer network were
7 communicating, it would be going at least over that
8 two-computer network, right?
9 A Sure. There would be -- there might be
10 traffic on that, even -- even though you think
11 there's nothing going on. There's a lot of,
12 sometimes, background chatter in the network
13 generated by the hosts.
14 Q The hosts being the --
15 A The computers.
16 Q -- the two computers?
17 A Yes.
18 Q Background chatter, what type of
19 information do you mean by "chatter"?
20 A Well, there probably -- even though
21 there's not any application, per se, running,
22 they're -- they're oftentimes part of the services
23 and -- and things that computers by default start
24 up with.



Page 93

1 Oftentimes, there's -- there are
2 requests going out over the network interface if --
3 if it's active, and I think you just have to look
4 at the traffic and see in specific situations in
5 that context what kind of traffic that was.
6 But I would say typically there's --
7 there's background chatter from a computer even
8 though you think it's doing nothing.
9 Q And there could be, say, 10 computers on
10 this network now. Imagine a situation where we
11 have 10 computers networked together with an
12 ethernet cable. Can that --
13 A In the old days, you could use a
14 single-shared ethernet cable to interconnect 10
15 computers. Today, it can be done, but typically
16 it's not done that way, especially with the --
17 the -- the plug-type ethernets.
18 There still exists today shared
19 coaxial ethernet, which was what was in place
20 probably even in the early '90s, we had it in our
21 office, that you could just run a cable and connect
22 into the coaxial cable 10 computers into one cable.
23 It had offshoots, but it was effectively a big,
24 long cable.

Page 94

1 Q When did that start changing?
2 A I would say that started changing by the
3 mid '90s, you know, mid to -- so there was the
4 shared coaxial ethernet. And then there were --
5 there was a shared hubbed ethernet. That was the
6 next stage in -- in kind of the evolution of the
7 ethernet.
8 And then there became a switched
9 ethernet. I would say the switched ethernet really
10 didn't arrive until late '90s. It was still quite
11 uncommon and much more expensive on a per port
12 basis than the hub -- the hubbed pseudo shared
13 ethernet, and certainly a lot more expensive than
14 the single coaxial cable.
15 Q Right.
16 So let me just make sure I can get a
17 visual of all these different systems. There's a
18 system in which every single computer has a single
19 cable connecting them all, right? That's the
20 ethernet cable?
21 A So there's a shared coax -- coaxial
22 ethernet cable. If you imagine like the cable TV
23 cable, it's a different resistance but -- impedance
24 on -- on the cable, but you could get these Ts,

Page 95

1 right, so you'd cut the cable, put connectors on
2 them, connecting the T, and then have a short -- I
3 think it could have been 5 feet long going to your
4 computer's ethernet card.
5 And then you could have this long --
6 it's -- it's a bunch of cable segments, but
7 effectively it's a long cable, and there was a
8 limit in the specification about how long this
9 cable could be, but as long as you could, you know,
10 just tap it, however many points.
11 There's also a recommendation in the
12 specification about how many computers you could
13 actually put on it, and the number was quite large.
14 I think it was over a hundred that you could put on
15 this single ethernet segment. And in that case,
16 you could think of it as just one big, long cable
17 that provided networking between dozens or a
18 hundred or more computers as long as you have all
19 the right equipment, right, the right ethernet card
20 in your computer.
21 Q And the 100 computers would have IP
22 addresses that one computer could use to
23 communicate with the other computer, right?
24 A I mean, it depended what you impl -- if

Page 96

1 you chose to implement IP on them, then -- then,
2 yes. At the time, IP wasn't necessarily standard
3 on, for example, Windows computers in the early
4 '90s, but a lot of UNIX machines certainly would --
5 would have had IP stacks already.
6 Q Then you mentioned a hub. And that is a
7 situation in which all the computers are -- are --
8 have a cable that goes into some common device that
9 then distributes the --
10 A Yes, just much like the hub from a wheel,
11 like the spokes going into a hub, that -- that was
12 the concept. Although a hub as distinguished from
13 a switch, every packet going into a spoke on a hub
14 goes out all the spokes.
15 So in that sense, that's what an
16 ethernet hub would be as different from a switch.
17 The switch -- you imagine you have a lot of traffic
18 on every spoke. If you saw everyone else's
19 traffic, that's the way it was before the hub. In
20 this single cable, you saw everybody's traffic on
21 ethernet cable. That's the way it was when you got
22 a hub, you saw everybody's traffic on every spoke
23 on the hub.
24 And so that's -- that's to



Page 97

1 distinguish a hub from an ethernet -- ethernet hub
2 from an ethernet switch.
3 Q And in ethernet hubs, you'd see
4 everybody's traffic no matter what; you couldn't
5 turn it off?
6 A In hubs, generally, you couldn't turn
7 off -- I mean, that's the way hubs were designed to
8 operate is you were seeing all the traffic.
9 Q And then in switches, what year do you
10 think switches started?
11 A I don't know what year they started, but
12 certainly they became -- to become more
13 commercially feasible and affordable probably in
14 the late '90s.
15 And the reason I remember that is
16 because I was already working at a voice or IP
17 startup at the time, and we put an ethernet hub
18 into every phone, because the per port price of
19 hubs -- I mean, we did all this analysis
20 marketing-wise. Most people had hubs. They had
21 marketing studies to back it up.
22 The per port price of a switch was
23 much more expensive. So we were targeting our
24 device to be, you know, plugged into hubs which had

Page 98

1 lots of ramifications for the device itself,
2 because you were seeing all this other -- a lot
3 more traffic than you'd see on a switch.
4 And so that was late '97, '98, and I
5 think we switched over to hubs -- and I'm not sure
6 when we switched to switches in our -- in my
7 research group at MIT. It may have been that time.
8 I don't recall. But I know that hub ports were
9 still the predominant number by even as late as the
10 late '90s.
11 Q Were you working on UNIX machines at the
12 time?
13 A I was working on both UNIX and Windows
14 machines at the -- at the time.
15 Q And on a switching ethernet, when -- you
16 could still have broadcast messages, right, that
17 could get to every single machine, right?
18 A That's correct, but the unicast messages
19 would only go on the ports where the two computers
20 talking to each other were, in a switch. In a hub,
21 even unicast packets would be broadcast to
22 everybody.
23 Q So ARP, for example, would be one of the
24 protocols where you just blast everybody and to

Page 99

1 determine whether some particular MAC address was
2 available?
3 A Yes, there is a meth -- a mode in art
4 where the ARP requests are broadcast over an
5 ethernet.
6 Q And then once in ARP, once you determine
7 where you're -- the person you want to talk to is,
8 it can be switched so that you can have a direct
9 connection between those?
10 A Well, the protocol might -- like the
11 reply might be a unicast reply. Like, you ask
12 everybody, but that person doesn't reply all, it
13 just replies directly to you. I believe that's the
14 way it works.
15 There are other -- there are reasons
16 to broadcast a reply, but I don't know that that's
17 the way it's designed.
18 So -- but if you are still in a
19 hubbed ethernet or a shared ethernet coax, even
20 though it was Unicast, every computer's ethernet
21 card would see the -- the pack -- the ARP reply,
22 even though it was unicast. It would just filter
23 it out, but it would -- it would arrive at all the
24 computers' in ports to the ethernet network card.

Page 100

1 Q All right. And in -- in those systems,
2 there was no requirement for a database on -- an
3 external database that you would register your
4 names with, right? Because ARP, you would
5 register -- you would have a database on your own
6 machine as opposed to a separate machine, right?
7 A If you're referring to the ARP cast as
8 you build up as you get ARPs, you would put them in
9 your own, you know, system as -- as to all the
10 different machines you're talking to, but the ARP
11 protocol doesn't specify that there is a database
12 that I know of.
13 Q What -- what does it mean to register
14 with a database?
15 And I'll point to you your
16 declaration so we're on the same page. I'm
17 specifically looking at paragraphs 46 through 49.
18 On 47, it says, The device is then registered, its
19 name, in this dynamically assigned network address
20 with the WINS directory.
21 What does it mean to register your
22 name with the WINS directory?
23 (Witness perusing document.)
24 A Sorry, since we were talking about WINS



Page 101

1 specifically, I thought I'd look -- I knew there
2 was a section here, which I just found, that talks
3 about WINS name registration. So I'm on page 68.
4 And it talks about if -- if WINS is
5 enabled, the name registration request is sent
6 directly to the WINS server to be added to -- to
7 the database.
8 And then it talks about, A WINS
9 server accepts or rejects a computer name
10 registration depending on the current contents of
11 its database.
12 And it goes on to talk about how it
13 maintains uniqueness and what happens if you try to
14 register a name that's already in there.
15 Q So my question was: What does it mean to
16 register your name with the WINS directory?
17 A So I think it means this, which is
18 that -- that this is the name registration process.
19 What it does is, there's a request that's sent to
20 the WINS server from your computer. And then it's
21 added to the database. And it's possible that
22 there's some handshaking, either accepts or rejects
23 your name registration.
24 So if there's no other device using

Page 102

1 that name, that it can determine, it would then --
2 the WINS accepts the entry and adds it to its local
3 database together with the time stamp and
4 incremental unique version number and other
5 information.
6 Q So is registering adding to the database?
7 A That's one form, but it -- it describes
8 here, If the database contains a different address
9 for that name, WINS challenges the current entry to
10 determine whether that device still claims the
11 name. If another device is using that name, WINS
12 rejects the new name registration.
13 But presumably if no one -- it
14 doesn't -- it doesn't say that in this sentence,
15 but if they didn't -- if it was challenged and the
16 computer wasn't there, then presumably it would --
17 may -- may, for example, update the existing record
18 with your new address, for example.
19 Q So adding to the database and updating an
20 existing new record are both forms of registration,
21 correct?
22 A That's what this document describes about
23 WINS name registration here on page 68 of
24 Exhibit 1012.

Page 103

1 Q All right. So if you have a record in
2 the database that has the computer name and its IP
3 address and its time stamp, that -- that computer
4 is registered in the database, correct?
5 A That -- that computer is registered with
6 the WINS server, as -- as it's describing here.
7 Q And the WINS server contains a database,
8 right?
9 A Yes, it says that right here.
10 Q In order for a computer to communicate
11 with a WINS server, isn't it true that both the
12 WINS server and the computer need to be connected
13 to the network?
14 A There must be some sort of communication
15 capability between the two. It may or may not be
16 IP, but as long as there's some communications
17 mechanism, they -- they could talk to each other.
18 If there were no communications mechanism, they
19 couldn't talk to each other.
20 Q In the WINS -- the Windows NT Server
21 records, there's a number of pictures here on
22 pages 66 and 67 all showing a number of client -- a
23 number of clients and a WINS server.
24 So let's start with the one on top of

Page 104

1 page 66.
2 A Okay.
3 Q Is there communications capability
4 between the WINS-enabled computer there, the second
5 from the left, and the WINS server?
6 A So there -- there -- there are several
7 WINS servers; but, you know, ones connected to
8 subnet 2; I think the WINS computer you're talking
9 about, the WINS-enabled computer, is connected to
10 subnet 1. It's the only WINS-enabled computer
11 labeled connect to subnet 1, and there's a router
12 in between.
13 So, you know, it would appear that
14 that implies that they're using some sort of routed
15 protocol like IP. And so they're assuming that
16 they're running, you know, the IP stacks, which,
17 you know, this is what it's teaching here. There
18 would be connectivity between the WINS-enabled
19 computer and the WINS server.
20 Q So for that WINS-enabled computer to
21 register its name and address with the WINS server,
22 both the WINS-enabled computer and the WINS server
23 need to be connected to the network, right?
24 A Sure. They are connected. This is like



Page 105

1 an office network. There's no Internet, per se.
2 This doesn't show a connection to the cloud, what
3 people consider the Internet. But it's perfectly
4 fine to have this within an office network, for
5 example.
6 Q What I'm trying getting at -- what I'm
7 trying to get at is this -- there's, like, two
8 steps: The first thing is you -- you connect to
9 the network; the second thing is you register with
10 a database; the third thing is you might go offline
11 and -- there -- there's an order is what I'm
12 getting at. The first thing is you connect to the
13 network; the second thing is you register with the
14 database, correct?
15 MR. ERICKSON: Objection, form.
16 A Sure, sure, there would be an order. I
17 mean, certainly you couldn't register and
18 communicate with the device before the network
19 stack and the computer was actively up and running.
20 It can't -- it can't work in the reverse order in
21 this particular case.
22 Q You mentioned a second WINS server here.
23 A It could work if your -- if the WINS
24 server itself -- registering itself, I suppose.

Page 106

1 Q Does that happen?
2 A Probably.
3 Q But then the WINS server wouldn't be
4 connecting to a network; it would just be
5 connecting to itself, right?
6 A Sure, that's right.
7 Q This second WINS server here, there's a
8 database replication. Again, we're at the top of
9 page 66.
10 A Yeah.
11 Q What -- what's going on with that?
12 A I don't see it talking about it in this
13 particular page, but my general understanding of --
14 of it is that WINS servers can replicate the data
15 so that they're serving up the same information to
16 different devices. You know, maybe some are
17 talking to WINS server 1; some are talking to WINS
18 server 2. But they all can get the whole domain's,
19 you know, WINS information.
20 Q So by replication, it's copying the
21 database from one WINS server to another WINS
22 server, thus allowing separate...
23 A Yes, that's typically what database
24 replication would be is syncing updates to each

Page 107

1 database between the two.
2 Q Do you know how many WINS servers there
3 could be in one of these systems?
4 A Offhand, I don't know.
5 Q Do you think more than two?
6 A I don't know for sure. I believe it
7 probably is possible, but I don't know for sure.
8 Q Do you know how regularly the WINS server
9 would be replicated to the second WINS server?
10 A I don't recall -- I don't know based --
11 off -- off the top of my head, I don't know.
12 Q There's at least a chance that the
13 servers would not be completely synced, right?
14 A That's the danger you have with -- with
15 any devices that are communicating that are, you
16 know, separated, that the information at one is
17 stale, but -- but there probably isn't -- yeah, I
18 mean, that's -- that's -- that's possible with
19 any -- any sort of information.
20 Q Whenever you're duplicating a database,
21 there's always going to be a time or a danger that
22 they will be out of sync?
23 A So my understanding of database
24 replication, you're really syncing updates, and

Page 108

1 there's typically an update queue, and it's -- my
2 understanding would be that you'd be trying to push
3 the update queue as -- out as fast as you can.
4 Sure, there might be situations where
5 there's a break in communications for some reason
6 that some update is delayed, and information is
7 stale based on the fact that it wasn't immediately
8 transferred. And there can be no immediate
9 transfer over physical separation because of the
10 speed of light. You can't have information
11 propagate any faster than that. And in cables,
12 it's slower than the speed of light.
13 Q But if it's done very quickly, if this
14 replication is done within a few seconds, then the
15 information in one WINS server would be
16 sufficiently reliable with the information from the
17 second WINS server, right?
18 MR. ERICKSON: Objection to form.
19 A I mean, there still could be this period
20 where -- where they're out of sync. As you said,
21 it's a couple seconds. So it depends what's
22 happening in that couple of seconds whether it
23 matters or not.
24 Q What if it was, say, five minutes? A



Page 109

1 couple seconds is hard for me to conceptualize.
2 Say it's five minutes between replication of the
3 WINS server and the second WINS server, and in that
4 five minutes, five new people come on and register
5 on the first WINS server.
6 The second WINS server would not have
7 that data, and, therefore, someone that -- a
8 computer that referenced a database on the second
9 WINS server would not know the information that was
10 on the first WINS server.
11 A I think you're assuming that replication
12 happens at these intervals that are preprogrammed.
13 But as I stated earlier, typically, it's -- it's
14 these -- these, you know -- it's not that a system
15 is going to necessarily -- I mean, this -- my
16 general understanding of database replications for
17 any --
18 THE STENOGRAPHER: Of database
19 replications -- go ahead.
20 A Sorry.
21 -- of database replications, not --
22 I'm not saying that this is how, you know --
23 this -- you know, as I stated, I haven't looked
24 through this right now. I don't recall what -- you

Page 110

1 know, how you set up parameters for database
2 replication. Actually, I think there is a section
3 on here.
4 But if you assume that the
5 replication only occurs at predetermined intervals,
6 and no replication occurs in between; and that if
7 you've just missed a replication interval that's
8 finished with this registration on one server and
9 you -- you're assuming in this -- in this
10 hypothetical situation that, say, it's another five
11 minutes before the other -- before this
12 replication, and I think that's the issue that I'm
13 saying, it probably doesn't necessarily work like
14 that, then you're right, then someone asking, you
15 know, one minute after the registration happened,
16 that was right after the replication time, they
17 check the other -- other WINS server, they're
18 querying that one, then it wouldn't have the
19 information, but that's because you stated that's
20 how it's -- the replication is done.
21 Q But a -- a query to the second database
22 in that situation where a computer was connected to
23 the network but had not yet been replicated from
24 one WINS server to the next, if you queried the

Page 111

1 second database, it would look as if that computer
2 was not connected to the network, right?
3 A Well, all you can -- you would not -- if
4 the second server that did not yet receive the
5 update data because of this interval between
6 replications, which is not the way I would
7 understand these things to work in general, but if
8 you programmed this interval and you missed the
9 interval for registering on server A and there was
10 another four minutes before that server A pushed
11 the update to server B and after one minute you
12 asked server B, it simply wouldn't -- server B
13 wouldn't know yet that there was some registration
14 by this host on server A until four minutes later.
15 But if you just came in a minute
16 before then, then you would not -- I suppose you
17 wouldn't get the right immediate answer from server
18 B. You wouldn't get the name result, because that
19 information wasn't there yet. But that's just on
20 this made-up situation.
21 Q Right.
22 So -- so if -- but if -- if it
23 happened -- if this replication happened very
24 quickly for all intents and purposes, it really

Page 112

1 wouldn't matter, right? There might be the outside
2 chance that you'd get the wrong information, but
3 for the most part, you would have accurate
4 information no matter which server you queried?
5 A I mean, there are probably situations,
6 you know, even if it happened quickly, that -- that
7 you would not get the most current -- most current
8 answer. But, again, that's due to any propagation
9 of information between two places.
10 You can't know what's going on over
11 there until they can communicate with me. And then
12 when I receive it, it's out of date by some amount
13 of time that it took for that information to get to
14 me.
15 Q Right. What do you mean by "out of
16 date"?
17 A It's out of date, because if it took a
18 minute, a second, a year, for that information to
19 get to me, then all I know about the situation over
20 there was what it was telling me at the time it
21 sent the information.
22 So, like, a good example, if you're
23 looking -- I have a telescope. I like to look at
24 the stars and stuff. But, you know, if you're

Page 113

1 looking at something that -- that might have taken
2 the light five years to get to me, so I don't know
3 what's happening there right now, but I know that
4 when the light left it, this is what it looked like
5 when the light left it. But that's some time in
6 the past.
7 In this extreme case, it's five years
8 or a hundred thousand years, a million years, a
9 billion years old. But I -- I don't know what's
10 happening there now.
11 Q In paragraph 47, you mention WINS mapping
12 dynamic network addresses to device names. The
13 device there is a computer, right?
14 A Yes. It would be a computer name, post
15 name.
16 Q And then you say, WINS, thus, maintains a
17 mapped -- mapping of dynamically assigned network
18 addresses to device names that's updated -- it was
19 updated each time a device connected to the
20 network.
21 So let's -- let's explore that. This
22 database is updated when a device connects to the
23 network, right?
24 A Typically, yes, or when it turns on and

Page 114

1 it's connected, because it doesn't realize it's
2 connected until the right software runs.
3 Q The -- the computer is connected, though,
4 right? What software are you talking about?
5 A Well, there's all this networking
6 software running on a particular computer host, and
7 it's that software that has to run before you have
8 the capability to communicate.
9 I mean, the physical wire might be
10 plugged in, but the computer doesn't know until the
11 software, you know, that uses the network runs.
12 And even typically today, if you disconnect the
13 plug from the network wire or you turn off Wi-Fi,
14 your networking stack will shut down, right, so it
15 knows that there's a connection being plugged in
16 and out or your Wi-Fi is turned on and off.
17 Q So if your networking stack is not -- I
18 hate to use a negative -- strike that.
19 If your network stack is running, are
20 you -- are you connected to the network for all
21 intents and purposes?
22 A Well, I think -- I think the networking
23 stack runs -- I should be more accurate about this.
24 The -- the object interface representing the

Page 115

1 network interface can be on or off, right. But the
2 networking stack is probably -- is still running.
3 I mean, you can actually send packets to this
4 loop-back IP address through the networking stack
5 when there are no -- when you're not on any
6 network.
7 So the stack is still running, but
8 there's software, typically, at least on Windows
9 machines and UNIX machines that I'm familiar with,
10 that will detect the network being plugged in or
11 not -- or unplugged. And there's also ability on
12 some -- many devices, as you're familiar with, to
13 turn on or off a Wi-Fi interface.
14 And so you can still send IP packets
15 actually with Wi-Fi interface off. You can try to
16 send them. And, in fact, most stacks have a
17 loop-back IP address which you can still send
18 through even when all the interfaces are disabled.
19 Q So back to how WINS actually works. When
20 a device comes online, when it connects to the
21 network, it then updates the WINS database,
22 correct? And I'm looking at paragraph 47 of your
23 declaration.
24 A Yes, generally -- generally speaking,

Page 116

1 that's true. When -- when the interfaces come
2 online and you're now able to communicate to a
3 network, there's a bunch of different things that
4 happen, including, you know, you -- you re-get an
5 IP address. There's a bunch of things, if you're
6 running DHCP, and so a lot of these things happen
7 automatically, generally.
8 Q Was the replication server, the
9 replication WINS server also updated each time a
10 device comes online?
11 A I mean, I would say if there's a change
12 to the state of the database, those are the kinds
13 of things that typically would get replicated.
14 Q But the replication was not caused by a
15 device coming online, correct?
16 A You know, as I stated when -- when --
17 when an interface comes up and there's a bunch of
18 things that -- that automatically happen, and one
19 of those is you register with a WINS server.
20 Typically, there's a lot of things that happen when
21 you start up a work stack and an interface gets
22 initialized or it's active.
23 Then I would say that is -- that --
24 that process is, you know, kicked off. This is



Page 117

1 what this teaches, this document. That whenever
2 you're connected or reconnected, there's this
3 process that happens.
4 Q But not both the WINS server and the
5 replicated WINS server are updated at the same
6 time, right?
7 **** BREAK HERE ****
8
9 A No, typically not, if -- if there's even
10 a replication server at all. Oftentimes -- I mean,
11 I believe it's an option; I don't believe it's a
12 requirement.
13 Q And actually, I'm not sure the record is
14 clear, so let me just see if I can clean this up.
15 A device connects to the computer
16 network and then registers its name with the WINS
17 server, correct?
18 A Generally, yes, I believe that that's
19 what this reference is teaching.
20 Q And then at some later point, that WINS
21 server could be replicated to replicate a WINS
22 server?
23 A If there is one, yes. Yes. If -- if it
24 resulted in a change, I would presume it would, a

Page 118

1 change to the database.
2 Q And adding a record to the WINS database
3 is what you consider registering with the database,
4 correct?
5 A I mean, I think this -- this teaches
6 right here that the name registration request is
7 sent directly to the WINS server -- I'm on page
8 68 -- to be added to the database. So I think
9 there's a whole set of processes described here,
10 but certainly it results in your computer being
11 registered with the WINS server.
12 I don't think it would -- if you had
13 some other implementation, for example, that didn't
14 use a database, per se, I think you could still
15 call it that. But in this example, this is what
16 it's saying here in this reference.
17 Q And then when a computer goes offline or
18 is no longer connected to the network -- and I'm
19 looking at your paragraph 48 -- that database
20 record persists, right?
21 A Well, in the case of WINS, the next page
22 on page 69 talks about, If WINS is enabled,
23 whenever a computer is shut down properly, it
24 releases its name to the WINS server, which makes

Page 119

1 the related database entry as -- which marks -- I'm
2 sorry, which marks the related database entry as
3 released.
4 So it would -- the original record
5 that it was registered I wouldn't say persists if
6 the record has been changed so that the state is
7 now released.
8 And it says, If the entry remains
9 released for a certain period of time, the WINS
10 server marks it as extinct, and the version number
11 is updated so that the database changes will be
12 propagated among the WINS servers.
13 Extinct entries remain in the
14 database for a designated period of time to enable
15 the change to be propagated to all WINS servers.
16 And then it goes on, that paragraph.
17 But basically, the state of the record has changed,
18 but there is a record that persists. I think -- I
19 think that was the answer to your question. I'm
20 not sure if I answered your question the way you --
21 I can't remember the question anymore. I'm sorry.
22 Q I can't see it here either. I'll ask it
23 again.
24 A Okay.

Page 120

1 Q In your opinion, can an entry in -- in
2 the WINS database represent something that's not
3 registered?
4 MR. ERICKSON: Objection, form.
5 A Well, I think there's various states that
6 this document talks about. One -- I don't know
7 what this state is, but I presume it's registered.
8 But there are these other states called released.
9 So the database knows about it, but
10 it -- it -- if it's been -- if there's an entry
11 that says released, then this -- this reference
12 teaches right here that the computer has been shut
13 down properly, right, because it says, Whenever a
14 computer is shut down properly, it releases its
15 name to the WINS server, which marks the related
16 database entry as released.
17 So I think you can have an entry for
18 a host, but there's a state attached to it, whether
19 it's released or extinct, and I -- I don't know
20 that it says in this previous page what the state
21 was when it initially registers, but I assume it's
22 something like registered or, you know, boot -- you
23 know, active or something. I don't know what the
24 state name is. But it's clearly a state that's



Page 121

1 distinct from released or extinct.
2 MR. NEWMAN: All right. Maybe it's a
3 good time to break for lunch.
4 (Lunch recess taken at 12:24 p.m.)
5 (Back on the record at 1:25 p.m.)
6 BY MR. NEWMAN:
7 Q Welcome back.
8 A Thank you.
9 Q Before we broke for lunch, we were
10 discussing your declaration, Exhibit 1004,
11 paragraphs 47 to 49. So if you could turn to
12 there.
13 A Okay. I'm here.
14 Q In paragraph 47, you say that each time
15 the device connects to the network it updates the
16 database. Is that correct?
17 A It says here, yes, WINS thus maintained a
18 mapping of dynamically assigned network addresses
19 to device names that was updated each time a device
20 connected to the network.
21 MR. NEWMAN: Can we go off the
22 record.
23 (Off record.)
24 Q Sorry about that.

Page 122

1 In paragraph 48 of your declaration,
2 you say that WINS needed to update its database
3 regularly. Why did WINS need to update its
4 database regularly?
5 A Well, the previous paragraph talks about
6 with the use of DHCP. And so that's -- in
7 paragraph 47, so that's an environment whereby
8 devices are configured not with -- to talk to a
9 server to get an IP address, and, therefore,
10 whenever a computer would go -- be connected to a
11 network, like the interface would go from down to
12 up, it would need to actually get a dynamic -- it
13 would get an address from a DHCP server.
14 And then -- then it would register
15 that it was coming up as I described here in this
16 Windows reference. It would -- it would send -- it
17 would be in contact with the WINS server, and then
18 whenever it would go offline or it was being shut
19 down gracefully, it would send a release message.
20 In paragraph 48, it talks about sending the release
21 message as well.
22 Q Let me get this straight. So when a
23 computer came connected to the network, the first
24 thing that happened was it went out to a DHCP

Page 123

1 server, is that correct, to get its IP address?
2 A I don't know if it would be the first
3 thing, but certainly it has to be early in the
4 process; otherwise, you can't get -- send IP
5 packets.
6 Q So it would connect to the network, get
7 its IP address, then contact the WINS server, and
8 register its name, right?
9 A It would send a -- what's the exact
10 language it says here? It says, A name
11 registration request is sent directly to the WINS
12 server to be added to the database. So that's
13 reading from page 68 of Exhibit 1012.
14 Q In addition to that language, though, I
15 want to -- I want to get your opinion. The WINS
16 computer connected to the network. The first -- it
17 would -- it would -- maybe it wasn't the first
18 thing, but before it went to the WINS server, it
19 would go to a different server to get its IP
20 address, correct?
21 A Yes, it would -- it would get an IP
22 address from a DHCP server.
23 Q And then it would register that IP
24 address with the WINS server subsequently?

Page 124

1 A It would send -- it would subsequently
2 send a name registration request to the WINS
3 server.
4 Q And if the name was available, it would
5 register it?
6 A Right. If there's not a conflict and
7 then if -- if the -- if the name wasn't being
8 used -- actively used at the moment and when it was
9 challenged there was no reply, then it would be
10 able to register that name.
11 Q And so there's a moment in time in which
12 the computer would be connected to the network but
13 not registered in the WINS database, right?
14 MR. ERICKSON: Objection, form.
15 A Well, these events happen sequentially,
16 so there's definitely some time between when it
17 gets an IP address and when it can send a
18 registration request.
19 Actually, I believe it's possible for
20 WINS not to be using -- to operate a different
21 layer, so in the case you're using IP, that
22 would -- that would be true, but I don't believe
23 that it's -- I believe you can use other networking
24 protocols as well.

Page 125

1 Q My question's really just a yes or no.
2 There's a moment in time in which the computer
3 would be connected to the network, yet not yet
4 registered with the WINS server, right?
5 MR. ERICKSON: Objection, form.
6 A A computer would be -- could be connected
7 to the network and -- and not even have a DHCP
8 address yet, but, you know, there -- there's some
9 time it -- sure, it takes time for things to
10 happen.
11 Q Then when a -- when a -- a computer in
12 the WINS system goes offline gracefully, you say
13 that it sends a release message.
14 A Yes, that -- that's correct. It sends
15 some sort of message to release the name to the
16 WINS server.
17 Q And the name remains in the database
18 after that release message has been sent for some
19 time, correct?
20 A That's correct.
21 Q And if it remains in the database for a
22 long enough time, it actually is marked as extinct,
23 correct?
24 A After it's been released for a certain

Page 126

1 period of time, the WINS server is -- is -- it
2 would be marked as extinct, that record.
3 Q And even the extinct records are still in
4 the database, right?
5 A For some period of time, yes.
6 Q And what happens if the
7 computer -- strike that.
8 If the computer goes offline in a
9 nongraceful manner, suddenly just gets turned off,
10 no release message is sent, correct?
11 A That would probably be true, sure, if
12 you, like, turned the power off to the -- cut the
13 network cable or something.
14 Q In that instance, the computer would be
15 registered in the database, the WINS database, yet
16 it would be no longer connected to the network,
17 correct?
18 MR. ERICKSON: Objection, form.
19 A Sure. That's not the standard case. Of
20 course, there are all -- I would consider that an
21 error case.
22 Q But it was common in 1995, as we were
23 discussing earlier, that people would get bumped
24 off of their dial-up connections quite often when a

Page 127

1 phone call came in, right? That would be an
2 example of a nongraceful disconnect from the
3 network, right?
4 A Sure. If someone -- if someone tripped
5 over the phone cord and -- and pulled it out of the
6 wall from the computer, then that would certainly
7 be a nongraceful exit.
8 Q So they happened with some frequency?
9 A I'm certain it happened. I can't say how
10 often it happened.
11 Q Now, this release message and the
12 extinct -- let me back up. Strike that.
13 So the release message informs the
14 server that the name is no longer being used, and
15 the computer associated with that name is no longer
16 connected to the computer network, correct? And
17 I'm reading from paragraph 48 of your declaration.
18 A Sure, during a graceful shutdown.
19 Q That release message informs the server,
20 correct? It doesn't -- doesn't inform any of the
21 other clients that are connected to the network,
22 right?
23 A Yes, it's informing the WINS server.
24 Q And that information is used by the WINS

Page 128

1 server to determine whether or not the record goes
2 extinct, that mapping goes extinct, right?
3 A Well, the first state that it goes to is
4 released, and -- and then after a certain period of
5 time, it goes from released to extinct.
6 Q And that's the server acting, correct?
7 A Yes, the server marks the related
8 database entry as released.
9 Q And it's the server that uses the
10 information, correct?
11 A Which information are you referring to?
12 Q The -- the status as released.
13 A Well, I mean, the server may use it, but
14 I -- it may -- it may distribute that to other --
15 other people as well under certain circumstances.
16 I don't recall.
17 But if you're referring to the
18 release request, sure, the server uses the release
19 request to then mark the record for that host or
20 computer to be released.
21 Q There's nothing in the WINS reference
22 that suggests that a -- some client computer can
23 access information about the released state of a
24 WINS registration, can -- is there?



Page 129

1 A I think I'd have to look more carefully
2 at this -- this whole document for -- for that
3 specific question.
4 Q But you don't recall any situation in
5 which a client is accessing a release status of
6 a -- of a registered computer, do you?
7 A I don't recall that offhand, although I'd
8 assume that if you tried to ask for that name you
9 just wouldn't get -- if you asked to resolve the
10 name, you wouldn't get -- there's no reason to get
11 back an IP address because it's no longer released.
12 So I don't think it's impossible for a computer to
13 ask for the IP address of a host name that's been
14 released; it just may not get one.
15 Q There's nothing in -- in this reference
16 that discloses that situation presenting itself,
17 right?
18 A I'd have to go -- I'd have to look at the
19 document in more detail. I think if I'm looking at
20 this -- the paragraph I'm looking at on page 69
21 doesn't appear to talk about that particular
22 situation.
23 Q All right. On paragraph -- on page 68 of
24 Exhibit 1012, it actually suggests that this

Page 130

1 information is not available to the clients in --
2 when it says, WINS servers accept and respond to
3 UDP name queries, any name to IP address mapping
4 registers -- registered with a WINS server can be
5 provided reliably as a response to a name query.
6 However, a mapping in the database does not ensure
7 that the related device is currently running, only
8 that a computer claimed the particular IP address,
9 and it is currently valid mapping.
10 A I agree.
11 Q That's --
12 A I agree that it says that here. But
13 certainly that -- it appears to be applying to when
14 it's been registered but not been gracefully
15 released. It doesn't say what happens in the case
16 that -- that there's a record in there but whether
17 it's released.
18 Q In your opinion, would a mapping in the
19 database ensure that the related device is
20 currently running under -- if it had been
21 gracefully released?
22 MR. ERICKSON: Objection, form.
23 A I mean, there are all these -- because of
24 the delay it takes to transmit any information

Page 131

1 anywhere, there's always a situation, you know,
2 where you're -- you -- you cannot be sure about the
3 current state of -- of -- based on the propagation
4 of the information delay.
5 Q So that's fair.
6 In your opinion, though, is there
7 some amount of time that would be sufficient so
8 that a client can -- could reliably determine the
9 online status of a mapping -- a mapped computer?
10 MR. ERICKSON: Objection, form.
11 A I mean, given the circumstance where
12 every device is always properly, gracefully
13 registered, sent a registration request, there are
14 no conflicts, and every device -- and there were no
15 errors, which every device when shutting down or
16 disconnecting from the network or network stack
17 shutting down sent a proper release, then --
18 then -- and there were no possible error
19 conditions, I would say that except for the
20 propagation delay of a machine shutting down,
21 sending the request they've processed somewhere
22 between the two machines and not yet -- it may have
23 been received at the -- the WINS server even, but
24 the WINS server hasn't had time to process it, if

Page 132

1 there's some delay that if you counted for that
2 delay and you -- and it was always bounded, then I
3 would say that this would disclose that -- that --
4 the current registration state would be valid as of
5 when you -- you queried it.
6 But under those conditions, which --
7 which, you know, no machine never -- machines never
8 disconnect ungracefully and -- and the propagation
9 delay was always bounded, messages never get lost,
10 I mean, it's -- there are lots of conditions, I'd
11 say, but you can construct a hypothetical, I think,
12 that -- that would say that, that information would
13 always be valid when queried under -- under
14 those -- all those bounds and conditions.
15 Q What I'm getting at is, how -- how long
16 of a delay do you think would be reasonable for --
17 for a query as to the online status? How -- how
18 long of a delay? If it took 10 seconds between an
19 update, would that be sufficient to -- so you
20 would -- a person trying to query the online status
21 would have sufficient information to -- to
22 determine that status?
23 A What -- what do you mean by "between an
24 update"?

Page 133

1 Q So an update would be like a release. So
2 the time where the computer is disconnected from
3 the network, and the time when it's released from
4 the database, if that was two or three seconds, for
5 all practical purposes, that would be a pretty
6 accurate status, right?
7 A I mean, are you trying to account for the
8 propagation delay between, you know, when the
9 device actually decides to send the release request
10 and whenever it's received and processed by the --
11 by the WINS server? Is that what you mean by this
12 update time?
13 Q So there's a situation in a delay that
14 you were just discussing in which a computer is
15 disconnected from the network and when the database
16 is updated, right?
17 A And it's in a graceful exit.
18 Q Right.
19 A Sure. Okay.
20 Q So I'm trying to get your -- an
21 understanding, although it won't be a hundred
22 percent perfect because there could be a couple
23 seconds of delay, that's still pretty reasonable
24 for -- to -- to determine the actual status of the

Page 134

1 computer?
2 A I -- I mean, I think reasonableness is a
3 different measure. But, like, you know, at some
4 point if you account for those things and, you
5 know, there -- the packets don't get lost, they
6 don't need to be retransmitted, I mean, there's a
7 whole host of conditions I'd say, but the -- the
8 device isn't too far, I mean, maybe it's on a space
9 probe, you know, there's lots of propagation delay
10 there.
11 So under most normal circumstances,
12 I'd say there probably is some bound, but they're
13 just due to the nature of the propagation of
14 information. You -- you know, it -- it -- the
15 information as it leaves that particular host is --
16 is no longer up-to-date as it's traveling. I mean,
17 the state could have changed. It could have
18 immediately come back online, for example. I mean,
19 we don't know.
20 Q So with -- with that, then, there's
21 really no way that you can be 100 percent sure that
22 a computer is online using the WINS server,
23 correct?
24 A I think due to the nature of propagation

Page 135

1 of any information, it's -- there's -- there's --
2 there's no magic bullet method to know what
3 happened. Lots of things could happen after the
4 information starts to -- to move off the -- the --
5 the computer. And I think that applies to lots of
6 different circumstances, not just this context in
7 particular. But you just can't overcome the
8 physics of the speed of light.
9 Q So -- so it's impossible, then, to
10 accurately determine the status of whether a
11 computer is connected to the network with
12 100 percent certainty?
13 MR. ERICKSON: Objection, form.
14 A That's not exactly what I said. You were
15 talking about a specific incident of time. I think
16 there -- there -- there is -- you know, if you're
17 not -- if you're not trying to account for exactly
18 at some point in time, there probably are methods.
19 But if you're depending on this kind of reporting,
20 like you report a registration and you report a
21 release, I think in any situation where that's how
22 you operate the system, you can only get
23 information about it under no error circumstances
24 and things like that, if there are no other ways to

Page 136

1 account for these types of errors.
2 Q And upon a nongraceful disconnection from
3 the network, there would remain a mapping in the
4 database that a client process would go out, and it
5 would appear that the mapping was accurate and
6 valid, right?
7 A That sounds right. I mean, if -- if
8 there was a nongraceful exit, like the power just
9 got shut off and the computer was unable to send a
10 release message, and I agree that -- that status in
11 the database would not reflect the current status
12 of that machine.
13 Q And in that situation, the -- the
14 computer would be registered in the database yet
15 not connected to the network, right?
16 A Sure. I think you're talking about error
17 conditions that can happen with all types of
18 systems, not just in particular WINS, but any
19 system which has this registration and release-type
20 messages.
21 Q Including WINS?
22 A Including WINS, but lots of other systems
23 as well.
24 Q Including NetBIOS?



Page 137

1 A Well, including other similar
2 implementations of NetBIOS, I suppose.
3 Q Can you turn to page 131 of --
4 A Of which document?
5 Q -- Exhibit 1012, the Windows NT.
6 A Okay. I'm here.
7 Q Do you see this -- this picture that's
8 called WINS Server Configuration\\Ronald M2.
9 THE STENOGRAPHER: Ronald what?
10 MR. NEWMAN: M2.
11 A Sorry, where are you looking again? Oh,
12 in the WIN -- in the graphic image?
13 Q It's in the graphic, that's right.
14 A Yeah, I see that.
15 Q You see where it says "Renewal interval"?
16 A Yes.
17 Q That's 40-minute renewal interval, right?
18 A I would say it appears to be 40 minutes,
19 but it's -- it's -- it's configurable as you can
20 see by the up and down arrows in what I assume are
21 the hours field, the minutes field, and the seconds
22 field.
23 Q Can you go back to page 69 --
24 A (Witness complied.)

Page 138

1 Q -- of the WINS NT -- Windows NT
2 reference. See where it says "WINS name removal"
3 at the bottom of the page there?
4 A I see where it says "WINS name renewal,"
5 not removal.
6 Q Thank you.
7 Let me try that question again.
8 Do you see where it says "WINS name
9 renewal" at the bottom of the page?
10 A I do see that.
11 Q This is designed to handle a situation in
12 which there is a nongraceful disconnection from the
13 network, right?
14 A Generally, I'd -- I'd agree with that as
15 one of the purposes for having this renewal time --
16 time reregistration feature or requirement.
17 Q And renewal is a timed reregistration of
18 a computer name with a WINS server, right?
19 A It's -- yes, of a computer name with the
20 WINS server.
21 Q So when a WINS server registers a name,
22 it returns a renewal interval for the name, and the
23 client must reregister within that time; otherwise,
24 the WINS server will mark the name as released and

Page 139

1 available for use, correct?
2 A That's what it says, yes.
3 Q And that released status there is the
4 same released status we were talking about with
5 respect to a -- the graceful exit; is that correct?
6 A That's how I'd read it. It didn't --
7 didn't have the italics around release as it did
8 above, but I would assume that that makes it the
9 same -- marks it as the same state.
10 Q And that would also remain in the
11 database until it became extinct and subsequently
12 was erased after the extinct status, right?
13 A Yes, as described on this page above.
14 Q So this renewal interval, do you know how
15 long a renewal interval would typically be?
16 A I think it's configurable, and this one
17 is showing 40 minutes, but it looks like you could
18 go down to probably one second. It looks like you
19 could probably go to hundreds of hours potentially.
20 I don't know how high these little boxes go up.
21 But clearly, you could take it down
22 to one-second renewal. Oh, yeah, it does say
23 hours, minutes, seconds, I'm sorry, so -- so it is
24 hours field, minutes field, seconds field.

Page 140

1 Q If you look at the bottom of page 131, it
2 says, Renewal interval, specifies how often a
3 client reregisters its name. The default is five
4 hours.
5 What does that mean that the default
6 is five hours?
7 A Well, that would probably mean that if
8 you didn't specify anything in particular, it would
9 be five hours. But this window clearly shows that
10 it's specified as 40 minutes.
11 Q In the default configuration, there's a
12 potential for computers to be registered with the
13 WINS database yet not connected to the network for
14 as long as five hours, right?
15 A In the -- in the case of a nongraceful
16 exit, that -- that could be possible, that if I --
17 if power went out at -- at my home and -- or the
18 office and the WINS server was somewhere else where
19 the power didn't go out, may -- could be the same
20 building, then there is the potential for this in
21 that error condition where the -- the information
22 is not current.
23 Q And the configuration for the renewal
24 interval in the diagram here is 40 minutes, right?

Page 141

1 A That's what it says in this diagram,
2 but -- the figure on page 131. But as I stated, it
3 can be -- it's configurable, so it looks like you
4 can go down to one second; you can go to hundreds
5 of hours potentially.
6 Q I'm gonna hand you a document that is
7 marked Straight Path Exhibit 2017.
8 MR. NEWMAN: And I'll present this to
9 you, Counsel, for service, and we will also serve
10 it in all three of the IPRs this evening by email.
11 Q This document is called Modifying WINS
12 server defaults: Windows Internet Name Service
13 through INS. It's a three-page document.
14 Do you see the table in the middle of
15 the page on the first page?
16 A Yes, I see a table.
17 Q Do you see that table refers to renewal
18 interval?
19 A Yes.
20 Q And the renewal interval settings,
21 correct?
22 A Yes.
23 Q The default is five hours according to
24 this table, correct?

Page 142

1 A That's what it says. I note that this --
2 the date on here looks like it was updated
3 January 21st, 2005.
4 MR. ERICKSON: And for the record,
5 I'm going to object to all the questions about this
6 exhibit as beyond the scope of his declaration and
7 the references cited in the petition.
8 But you can go ahead and answer.
9 Q You see the maximum renewal interval is
10 999 hours for Windows NT Server 3.5?
11 A That's what it says on this document.
12 Q Do you have any reason to believe that
13 this document's incorrect?
14 A No.
15 Q And the minimum renewal interval for
16 Windows NT Server is 40 minutes, right?
17 A That's what it says on this document
18 dated 2005. I note that the one I relied on here
19 has a much earlier date, and at least on page 131,
20 it doesn't talk about any minimum interval.
21 Q The renewal interval on page 131 of
22 Exhibit 1012 is set to 40 minutes, right?
23 A That's what it's showing in the figure,
24 but there's nothing to indicate that that is the

Page 143

1 absolute minimum you could actually enter in that
2 field.
3 Q Do you have any reason to believe that
4 the renewal interval could be less than 40 minutes
5 based on these documents?
6 A I think one of ordinary skill at the time
7 would have looked at this and said, Oh, well, you
8 can configure all these numbers, and it doesn't say
9 what the minimum is. So I'd assume I could set it
10 as -- you know, as short as one second if I so
11 desired.
12 This -- this particular page doesn't
13 appear to say anything about a minimum or a
14 maximum, just that it has these configurable -- I
15 don't know how to describe them, but, you know,
16 up/down arrow to increase and decrease the number
17 contained within that field.
18 So I think you could look at this and
19 say, Well, you know, you could go down to one
20 second; you could go up to -- you know, four lines
21 down there it goes into the hundreds. So that's
22 why I said this probably teaches that you can go
23 into the hundreds of hours. But there's no --
24 there's no other teaching that says there is a

Page 144

1 minimum.
2 Q In the document I just sent you as
3 Exhibit 2017, it's -- on the top left-hand corner,
4 it says "Microsoft TechNet." Are you familiar with
5 that cite?
6 A I am.
7 Q And under the renewal interval minimum,
8 40 minutes, it says, All versions of Windows NT
9 Server have a minimum of 40 minutes, right?
10 A This document dated 2005 does say all
11 versions of NT -- of Windows NT Server, Windows
12 2000 Server, and the Windows Server 2003 family,
13 but when you look at the teaching of this document
14 and its date, at least this particular page doesn't
15 show that there's a minimum.
16 And -- and I note again that this --
17 this document was updated January 21st, 2005.
18 Exhibit 2017 was updated on January 1st -- 21st,
19 2005.
20 Q What do you understand the meaning of
21 "all versions of Windows NT Server" to mean there?
22 A I would understand it to be various
23 different Windows NT Servers with different version
24 numbers like 3.5 or 3.5.1 or 4.0 or 4 -- if there

Page 145

1 were a 4.1, you know, for example, that's what I
2 understand that to mean, as of this document date,
3 January 21st, 2005.
4 Q And the document, Exhibit 1012, isn't
5 that a version of Windows NT Server? Doesn't that
6 describe a version of Windows NT Server?
7 A Sure. My understanding is that this
8 document has a date. I don't recall the specific
9 date, but it's much earlier than 2005. And, you
10 know, this is the relevant one for at the time of
11 the invention. And it's -- furthermore, just this
12 document is -- what it's teaching, it doesn't talk
13 about a minimum, at least on that particular page.
14 So one of ordinary skill in the art
15 would have read this to be a very configurable
16 configuration.
17 Q If you turn to page 134 of Exhibit 1012.
18 A Okay. I'm on 134.
19 Q This is discussing the replication
20 period. Remember, we talked about these replicated
21 WINS servers earlier?
22 A Yes.
23 Q And do you understand this replication
24 period to be -- to apply to those -- that situation

Page 146

1 where there was a replicated WINS server?
2 A I would -- I would think this would apply
3 only to the cases where you are needing to
4 replicate the WINS servers.
5 Q So all map -- it says, All mapping
6 changes converge within the replication period for
7 the entire WINS system, which is the maximum time
8 for propagating changes to all WINS servers. All
9 released names are propagated to all WINS servers
10 after they become extinct based on the interval
11 specified in the WINS manager.
12 Did I read that correctly?
13 A I think you read that correctly.
14 Q And if you go back to page 131, the
15 extinction interval --
16 THE STENOGRAPHER: Interval?
17 MR. NEWMAN: Interval.
18 THE STENOGRAPHER: Thank you.
19 Q -- is eight hours, right, in this
20 configuration?
21 A Yes, there's a value that says extinction
22 interval. It also be -- can be configured, but it
23 appears to say eight hours there.
24 Q Right. And if 40 minutes is the minimum

Page 147

1 for renewal interval, wouldn't one expect that
2 eight hours is the minimum for extinction interval?
3 A I don't see how you could say that
4 looking at page 131. It's just showing that
5 there's all sorts of parameters. It doesn't even
6 say that 40 minutes is the minimum renewal interval
7 in this document, Exhibit 1012. That was a
8 different document updated at a later date you were
9 referring to, I think.
10 In fact, on the next page, it says
11 that -- it specifies the interval between when --
12 on the next page, 132, it talks about extinction
13 interval. It says, Specifies the interval between
14 when an entry is marked as released and when it is
15 marked as extinct. It is -- it's that interval
16 being shown on the first page you're referring
17 to -- me to.
18 Then it goes on to say that the
19 default is four times the renewal interval.
20 THE STENOGRAPHER: Four times the
21 what interval?
22 THE WITNESS: The renewal interval.
23 Q Can you please turn to page 148 of
24 Exhibit 1012?

Page 148

1 A Okay.
2 Q Next to the number 8, there's a paragraph
3 and then a sentence underneath it, and it says, The
4 minimum value for the replication interval is 40
5 minutes.
6 Do you see that?
7 A Yeah.
8 Q Does that suggest that you couldn't have
9 replication interval any less than 40 minutes?
10 Right?
11 A On that page, it does suggest that. As I
12 was saying, on the previous page, it didn't specify
13 that.
14 Q 40 minutes would be a considerable amount
15 of time to have your database out of sync, right?
16 MR. ERICKSON: Objection, form.
17 A Well, you're talking about a nongraceful
18 error condition, so whether it's considerable or
19 not, I think it depends on the context.
20 Q Is it really an error condition?
21 A I would -- I would say that a nongraceful
22 release as designed, an error -- like if you trip
23 over the power cord, are you saying that's not an
24 error condition? I -- I -- I would say that's --

Page 149

1 while you might expect -- one might expect certain
2 things like that to happen, you can't guarantee
3 against things like that.
4 Q Just turning your computer off would be a
5 nongraceful exit, right?
6 A It depends how you turn your computer
7 off.
8 Q Windows has this function called
9 "Shutdown," right?
10 A Yes.
11 Q And not everyone uses that, right? They
12 just turn the computer off?
13 A Well, what do you -- how do you mean
14 "turn" -- do you mean they pull the plug out of the
15 wall, or do you mean they push the button on
16 that --
17 Q Now, back in the '90s, remember, the
18 computers weren't these nice little laptops that we
19 have today. They were big things that had a
20 physical switch that you would click off. Do you
21 remember that?
22 A Some computers had a physical switch;
23 some computers, I believe, I -- some computers had
24 little buttons that when you pressed may have been

Page 150

1 actually keyed to gracefully shut the computer
2 down. But I think it depends on the specific
3 computer. I'd have to look at the computers.
4 Today, I know that the buttons on
5 computers don't actually turn the power off in a
6 hard way. They actually shut down or put the
7 computer to sleep, and it's configurable.
8 Q Right. What I'm saying is turning the
9 computer off has got to be an expected -- an
10 expected condition, not a -- not an error
11 condition --
12 MR. ERICKSON: Objection, form.
13 Q -- and it was handled by WINS in a way
14 that was expected, not in a way that would have
15 considered it as an error?
16 A If you shut down the computer gracefully,
17 it would -- would have been handled by WINS in a
18 graceful method as described in that release
19 section.
20 Certainly, if you somehow interrupted
21 the computer's ability to shut down gracefully or
22 shut down the power or cut the network cable, for
23 example, I don't think you could, you know -- you
24 know, it is what it is. You can't actually do

Page 151

1 stuff after something unexpected happens that
2 prevents you from doing anything.
3 Q I'm just not sure why you think it was
4 unexpected. I mean, it seems like it was
5 contemplated by and --
6 A Sure.
7 Q -- anticipated and handled by WINS,
8 right?
9 A It was anticipated and handled through
10 this reregistration feature, which could have been
11 set to many different values. So it's designed to
12 err -- handle those cases of -- partly of
13 nongraceful shutdown.
14 Q And it does so in a way that leaves
15 entries in the database registered for minimum of
16 40 minutes, right?
17 MR. ERICKSON: Objection, form.
18 A Well, if you follow the teachings of this
19 document, and, again, you know, there -- you don't
20 expect the registered interval to be needed as
21 such. If you always, you know, start it up
22 gracefully, you always shut down gracefully,
23 then -- then that feature probably would not be
24 needed.

Page 152

1 So -- but it's certainly able to
2 detect after some amount of time whether that's
3 happened or whether something has happened to
4 prevent a registration -- reregistration within
5 that replication interval. Replication interval --
6 no, sorry. You know what, I take -- this -- this
7 talks about replication interval. We're talking
8 now about something different.
9 This is not renewal interval. This
10 says the replication interval's 40 minutes on page
11 148. The words happen to start with R, but they're
12 different. It doesn't say what the renewal
13 interval means. This -- it's -- this is the
14 replication interval.
15 Q But when the -- when a server is not
16 replicated for 40 minutes, there's one server
17 that's out of date 40 min -- by 40 minutes, right?
18 And a query to that server would result in a
19 situation in which a record would appear to be
20 registered -- it would appear to be registered, yet
21 it would be not connected to the network, right?
22 A Not if there were no replication
23 required. If -- if you're only operating one WINS
24 server, there's no replication needed. So that

Page 153

1 database would be the only database that would be
2 queried. So you -- are you talking about
3 situations where there -- the -- there are
4 replicated databases or all situations?
5 Q What I'm getting back to is on page 68,
6 it says, A mapping in the database does not ensure
7 that the related device is currently running in
8 both situations in which, one, there's a replicated
9 database that hasn't been updated; or, two, there
10 is a database that has records that have not yet
11 been released, both of those situations comport
12 with this warning by the --
13 A Sorry. You're -- you're pointing to a
14 warning, but could you tell me where you're
15 pointing?
16 Q It's page 68.
17 A Page 68, where are you pointing?
18 Q Third paragraph down, right under the
19 number 4, it says, "WINS servers accept." And then
20 it says, "However, a mapping in the database does
21 not ensure that the related device is currently
22 running."
23 A Sure, because -- because of this
24 situation. But if you follow the teachings to

Page 154

1 always gracefully release, never, you know, shut
2 down, then the incidence of this occurring would be
3 reduced in -- but if you had a system where you
4 registered, you sent a registration request, and
5 you always gracefully exited, and you followed the
6 rules about reregistering, even though -- if the
7 system is working fine and not, you know,
8 unplugged, you wouldn't necessarily need to do
9 that, but I think what this is referring to are
10 these situations.
11 As it -- I think maybe you're taking
12 issue with I'm calling it an error condition or
13 maybe it's a boundary condition is a better word
14 for it. These are things that sometimes happen but
15 not probably under the way you'd expect the system.
16 But because they can happen, you -- protocol
17 designers in general have to design methods to
18 account for things that could happen but maybe
19 happen very infrequently.
20 And so to have that protocol be more
21 robust protocol, these are kind of features that --
22 that people add to them. This renewal interval
23 is -- is one of these things that you would add to
24 try to reduce the incidence of this situation.

Page 155

1 Q But this warning on page 68 is -- is
2 pretty much telling a user, Don't rely on my
3 database to determine that a device is currently
4 running because the database is not intended to do
5 that, right?
6 A I don't think it's saying my database is
7 totally unreliable. That's -- that's not the
8 intent of this at all. This is saying, generally,
9 you can rely on these things, but there are some
10 situations that occur where the information may
11 be -- well, it says what it says.
12 A mapping in a database does not
13 ensure that the related device is currently
14 running, only that a computer claimed the
15 particular -- only that a computer claimed a
16 particular IP address, and it is a currently valid
17 mapping. It's saying what it's saying right there.
18 It's not saying, Hey, my database is
19 totally unreliable; don't depend on any of the data
20 whatsoever. That's -- that's -- I think you're
21 reading the wrong thing into it.
22 Q Is a database entry that's marked as
23 released a valid -- a currently valid mapping?
24 A My understanding is that even when an

Page 156

1 entry in WINS is marked as released it retains the
2 old IP address, so it's a mapping whether you'd say
3 state of the mapping is -- I'm not sure what you
4 mean by "valid," but it's still in the database.
5 It just happens to be marked as released.
6 And there is a mapping, because this
7 also teaches that if you try to register the name
8 again with -- from a different IP address that --
9 here on page 68, If the database contains a
10 different address for that name, WINS challenges
11 the current entry -- that means the current IP
12 address mapping, even though it's released -- to
13 determine whether that device still claims that
14 name.
15 And so I would say there's still a
16 mapping. It's still -- there's still a mapping,
17 but it's marked as released.
18 Q But it's a valid -- currently valid
19 mapping, right? Because this here says the
20 database does not ensure that the related device is
21 currently running, but it does ensure that the
22 computer claimed to the particular IP address is a
23 currently valid mapping, right?
24 A I wouldn't agree with the way you

Page 157

1 characterize that. I would say that in the case
2 where you are actually going to return a mapping
3 and return the IP address as a currently valid
4 mapping, that it would be in the registered state,
5 not the -- not the -- is it released -- released
6 state. Because if it's released, it's released.
7 The computer told me, Hey, I'm -- I'm -- I'm
8 gracefully releasing my name. So there's no reason
9 for the WINS server to return that -- that mapping
10 when the state's released.
11 Q Why not? It seems to me that that's the
12 last known valid mapping, and that when a device
13 comes back on, it doesn't always get a new address.
14 So I don't see why you would consider that to be a
15 not -- not valid mapping, was the last known
16 address of a -- of a machine.
17 A I'd say it's a mapping, but clearly if
18 you look at this, it says, Whenever a computer is
19 shut down properly. If the computer is shut down,
20 it's not going to reply to any message no matter
21 what you try to send it. So there's no reason that
22 WINS should return that mapping of a released IP
23 address to anybody that asked for that name. That
24 doesn't make any sense.

Page 158

1 Q That's all that WINS is supposed to do is
2 to map names to IP addresses, right? It doesn't
3 really care whether or not they're connected to the
4 network. It's just trying to map the name to the
5 IP address.
6 A It cares whether it's in a -- a
7 registered state or a released state or an extinct
8 state. Clearly, WINS cares about those states. I
9 think you used a different phrase there. But the
10 fact is that it retains the IP address mapping even
11 in a released state.
12 There's no reason -- I think you're
13 the one saying, Well, why shouldn't it just return
14 it, but that doesn't make any sense.
15 Q There's nothing that suggests that it
16 doesn't return it, right?
17 A I think if you read this document, and
18 one of ordinary skill in the art would say, That
19 doesn't make any sense. You shut the computer
20 down. Why should WINS return an IP address for a
21 computer that it thinks is shut down? Why would
22 you do that? You know it's not gonna be of use to
23 anybody, that IP address.
24 Q I think that this suggests that it does

Page 159

1 return the -- the mapping, and it warns the user
2 that that mapping that you're getting back does not
3 ensure that you're -- that it's connected to the
4 network.
5 A Obviously, we disagree with that. I
6 think you're reading too much into one sentence
7 there. It's -- even using different words than
8 what you're reading over here and there.
9 I think one of ordinary skill in the
10 art at the time would have read this and thought
11 about it and said, Yeah, there's no reason to
12 return an IP address for a released computer. It's
13 released. It's been shut down.
14 This document teaches that whenever a
15 computer is shut down properly, it releases the
16 name to the WINS server, which marks the related
17 database entry as released. If one just thought
18 about that, if someone's asking for that name, I
19 would give it an IP address of a computer that's
20 been shut down, there could be all sorts of --
21 you'd never get a reply. I don't understand why
22 you would think that.
23 Well, I mean, yeah, I don't -- so,
24 obviously, we disagree.

Page 160

1 Q A mapping -- I just want to focus on this
2 line. A mapping in the database does not ensure
3 that the related device is currently running.
4 If the -- if no mapping was returned,
5 why would they say -- what's the purpose of this
6 sentence?
7 A It's because it's known, and these
8 boundary conditions -- let me use that word
9 boundary conditions -- that a computer might not
10 have gone through this proper shutdowns release
11 code, and you wouldn't -- there's another good
12 example, for example, in computer programming,
13 right. These things are called memory leaks. If
14 you don't release the memory that you're using,
15 eventually your computer runs out of memory. It's
16 known that people do that, but that's not how you
17 should be coding, to deliberately cause memory
18 leaks. It's considered bad practice.
19 And so while you can't prevent
20 against someone plugging -- unplugging a computer
21 or something bad happening like it crashes or
22 something, it's obviously not gonna be able to run
23 this code that releases it gracefully, releases the
24 name from the WINS server gracefully because it

Page 161

1 unexpectedly shut down.
2 So this other feature is designed to
3 do a form of garbage collection. That's the term
4 you would use in collecting up memory that no
5 one -- no one uses anymore. And you'd -- you'd
6 deliberate -- you'd expire or you'd -- you go
7 from -- let me find the exact teaching.
8 But, you know, generally speaking,
9 these types of systems with this kind of feature,
10 you would -- it expired if you haven't heard from
11 it, you know, within some interval; and that way if
12 it did actually get shut down and then thrown in
13 the garbage and never restarted again, it wouldn't
14 leave an entry in your database forever and ever
15 and ever.
16 Q Again, in this same paragraph, it says,
17 WINS servers accept and respond to UDP name
18 requests. Any name to IP address mapping
19 registered with the WINS server can be provided
20 reliably as a response to a name query.
21 So if that's in the database, it can
22 be provided, right?
23 A You didn't read it exactly quite right.
24 It's, Respond to UDP name queries. I think you

Page 162

1 said "requests." But what was your question again,
2 please?
3 Q WINS servers accept and respond to UDP
4 name queries. Any name to IP address mapping
5 registered with the WINS server can be provided
6 reliably as a response to a name query.
7 A It says that.
8 Q That means if there's a mapping in the
9 database it can be provided, correct?
10 MR. ERICKSON: Objection, form.
11 A For a mapping that's registered. I think
12 what you're -- getting back to what you were saying
13 where we disagree, I -- I think it doesn't make any
14 sense in terms of why you're saying what you're
15 saying.
16 It says that the registered response
17 can be -- any name to IP address mapping registered
18 with the WINS server can be provided reliably as
19 response to a name query, but one of ordinary skill
20 in the art would read this and think that really
21 applies to the ones that are in the state where
22 it's registered but not released.
23 I don't understand the point of
24 giving out an IP address, I think -- and one of

Page 163

1 ordinary skill in the art wouldn't understand that
2 either, to giving out an IP address of a machine
3 you knew to be -- had been shut down. What's the
4 purpose of that? The purpose was to contact the
5 computer, there's no point. The computer has been
6 shut down. You're not gonna be able to contact it.
7 Q Computers used to have permanent mappings
8 to other computers, right? It was -- you'd have,
9 like, a Z drive or A drive, or you'd have permanent
10 mappings.
11 A When you say "to other computers," in
12 what time frame are you talking about, or what are
13 you -- I'm not sure what you're referring to.
14 Q Strike it.
15 Typically, what I -- unless I say
16 otherwise, when I'm talking time frames, I'm
17 talking 1995 or prior.
18 A Okay.
19 Q So if -- if what you say is true that a
20 person of ordinary skill in the art would --
21 wouldn't have thought that a name inquiry would
22 have -- they wouldn't have received a mapping if
23 the computer was marked as released, why the
24 warning afterwards saying that -- expressly stating

Page 164

1 that the device -- that just being in the database
2 doesn't ensure that the device is currently
3 running?
4 A So I think it's talking about the
5 situation where a device is not marked as released,
6 so you're gonna get something back, but it's marked
7 as in this registered state which is yet unnamed.
8 It may be somewhere else in the document. But it's
9 not italicized to indicate kind of the name of the
10 state.
11 But if it's -- if it's been
12 registered and not released, there are situations
13 such as the computer crashes or someone unplugs the
14 computer from the wall or someone, you know, cuts
15 the network cable where you're not going to be able
16 to reach that machine, so you shouldn't -- you
17 should expect that.
18 But generally, if those things don't
19 happen, there's no reason you -- you -- a user
20 wouldn't or the computer wouldn't be able to
21 contact and get a reply for whatever you were
22 asking that computer for.
23 Q What if the database was being replicated
24 every 40 minutes? There would be a 40-minute delay

Page 165

1 as well, right?

2 A In the case where that's necessary, but

3 oftentimes, there were -- they're probably just one

4 WINS server. I mean, you don't need a lot of WINS

5 servers unless you have a very large network.

6 Q And in the case where a WINS -- there's

7 one WINS server and there's a renewal status and

8 that -- renewal interval and that renewal interval

9 is 40 minutes, it would also have that 40-minute

10 lag, right?

11 A Not if the computer were running

12 properly. The running -- the computer running

13 properly would reflect -- you would be able to

14 access the computer. But in the case where the

15 computer crashed unexpectedly during a particular

16 time period or was unplugged or network cable was

17 cut, then the WINS server would not have it marked

18 as released. It would be in whatever the

19 registered state was, but still not responsive or

20 not even online.

21 But as I said, that's what I would

22 call a boundary condition and not -- that's what I

23 call a boundary condition.

24 Q In the bottom of page -- of paragraph 49

Page 166

1 of your declaration, you say, This technique

2 ensured -- and this is referring to the renewal.

3 This technique ensured that the WINS server mapping

4 of computer names and network addresses was

5 relatively current and accurate.

6 What do you mean by "relatively"

7 there?

8 A Well, in the case of the boundary

9 conditions, there would be the -- you know, the --

10 the renewal time would be an upper bound on the

11 duration of time that the -- the state of the WINS

12 server could reflect -- it might be erroneously

13 reflection.

14 The WINS server simply returns

15 mapping when there's registration, and, you know,

16 it wouldn't when it was released, so it would --

17 sorry.

18 It would mean in the case of the

19 boundary conditions being activated or, you know,

20 happens, then at least you knew that that value

21 would have been reg -- recent as of under this

22 renewal time.

23 Q And the default newal time -- renewal

24 time was five hours, right?

Page 167

1 A As the document teaches, it could be

2 configured from apparently anything from a second

3 and higher.

4 Q Would you consider five hours to be

5 relatively current and accurate?

6 A I think it depends as to what -- what

7 time span you're -- you're talking about.

8 Q I don't understand what you mean by that.

9 A You know, if a computer has been on for

10 10 years connected with the same IP address, I

11 think there's a relative issue there. If you only

12 used your computer for five hours a day, then I

13 think there is -- in the case of these boundary

14 conditions, that is, you don't shut your computer

15 off properly and it gets unplugged, then -- then

16 that five-hour default interval, which, of course,

17 could be configured to be any interval within the

18 bounds of that little check box, the configuration

19 GUI, it would be recent within that renewal

20 interval.

21 Q Would you consider 40 minutes to be

22 relatively recent?

23 A Again, I think there's a -- there's a

24 context it depends on. You know, I wouldn't be

Page 168

1 upset if I found out that someone tripped over a

2 computer, and I was trying to contact it for some

3 reason, and someone tripped over the power cord 10

4 minutes ago. I don't see what -- you know, in the

5 case where things occur normally as designed when

6 you shut down your computer properly, it wouldn't

7 have any bearing on -- on that situation.

8 Q Only if the clients could access the

9 renewal flag or status, right?

10 A The kind of unsyncing you're talking

11 about only applies in the -- when the -- in the

12 boundary conditions, not under the normal

13 conditions.

14 Q What I'm saying is, there's -- the server

15 marks -- strike that.

16 In a situation where it's -- where a

17 name to IP address mapping is released, where in

18 this reference does it show us that clients have

19 access to that information?

20 A What, are you talking about some part of

21 this database record that -- or any of it? What

22 part of the -- when you say "it" or whatever you --

23 pronoun you used or whatever, what are you

24 referring to?

Page 169

1 Q There's a name to IP mapping in the WINS
2 database, correct? And there -- the server can
3 understand that that name to IP address mapping is
4 released, right?
5 A Yes.
6 Q The server can understand that?
7 A Yes.
8 Q Where in this document does it show that
9 a client would be able -- that -- that's trying to
10 access the WINS database to get a name to IP
11 address mapping would have any view into the
12 released status of the name?
13 A Well, I think you said it didn't matter.
14 I don't think I said it didn't matter. I think as
15 you had said earlier that you would get the IP
16 address.
17 Q I'm going to cut you off. I'm not
18 talking about matter. I'm asking where in the
19 document can you show me that a client can access
20 the released status on a WINS database?
21 A I -- I don't think I said it could
22 earl -- I could earlier, but I simply stated that
23 in the case of a released record, that where the
24 database retains a mapping of a name to IP address

Page 170

1 as taught here, that there's no reason that you
2 wouldn't respond with -- with the IP address.
3 And so in that sense, maybe if you
4 knew that this machine was there and you tried
5 getting -- you know, resolving the WINS name and it
6 came back with nothing, and then you tried later
7 and it came back with something, I think you could
8 infer that at some point when it came back with
9 nothing it was released.
10 Q In paragraph 53 of your declaration, you
11 describe computer programmers that develop software
12 applications. Those software applications, where
13 are they described -- are those applications that
14 are not described in this reference that you were
15 referencing there?
16 A I'm not -- I'm not sure what you're
17 referring to. You're -- you're referring to
18 paragraph 53?
19 Q Right.
20 A And you're asking what that's referring
21 to?
22 Q You're talking just in general about
23 computer programmers developing software
24 applications?

Page 171

1 A Did you say computer programmers
2 developed software applications?
3 Q That's right, that allowed for
4 communications between network devices, right?
5 A I mean, that's what it says in
6 paragraph 53.
7 Q But this reference doesn't describe the
8 operation of those particular computer programs,
9 right?
10 A I mean, I'm just talking here about the
11 foundation upon which computer programmers could
12 further develop other applications on a foundation.
13 In paragraph 53, I mean.
14 Q And those computer programs, they could
15 -- they could determine the IP address of the
16 computer they were running on; is that right?
17 A I mean, I think you asked this a little
18 earlier, but there really isn't a reason for --
19 there undoubtedly is some method, some operating
20 system, you know, call or some networking module
21 call that you can get your own IP address. But
22 when you build upon like, for example, the socket's
23 interface of a TCP, you know, implementation, you
24 don't need to know your own IP address. It's just

Page 172

1 the networking underneath handles all that stuff.
2 I mean, obviously, someone -- some
3 part of the computer knows it, your IP address, but
4 typically, when you develop a network application,
5 the network application itself doesn't really need
6 to know that.
7 Q All right. In paragraph -- one more
8 question on that. Back at computer programs. The
9 computer programs themselves aren't registered with
10 the WINS server, right, just the IP address of the
11 computer, right?
12 MR. ERICKSON: Objection, form.
13 A I mean, I think when you're running a
14 program, you know, like a networking program, it
15 uses the whole networking stack. And in that
16 sense, the software on the computer is part of
17 that -- that running program. And, you know, some
18 part of that in the operating system has, at some
19 point, done the WINS registration, for example.
20 Q But the program itself, like Microsoft
21 Word doesn't have an entry in the WINS database,
22 right? It's the computer that -- the computer name
23 that has the entry, right?
24 A Well, at least early versions of Word, as

Page 173

1 far as I know, around '95 or so, didn't have any
2 ability to access the network or -- directly, and
3 so I don't know what -- why that would need to be
4 done. But the WINS database has a name to IP
5 address mapping.
6 Q So there are some programs that just have
7 no access to the network at all?
8 A I mean, certainly Word at the time wasn't
9 designed to access the network. It could,
10 potentially, through a file system, where
11 networking was built into the file system and there
12 were remote file servers. But Word itself wouldn't
13 be -- would only be calling through file -- file
14 server -- file save and re -- you know, load, DLLs,
15 dynamically linked libraries, and wouldn't --
16 wouldn't be a need for it to be interfacing
17 directly with the network components of the
18 operating system.
19 Q But there are some programs that do
20 directly communicate with other programs, and those
21 are the programs that you're talking about here in
22 paragraph 53?
23 A Sure. There would be some network
24 programs. I think you brought up the example of

Page 174

1 Word, so I -- you know, to me, Word, at the time,
2 was not really a network program of any sort. You
3 know, again, it could -- it could, if you had
4 mounted a network file system, accessed the network
5 through the file system. But Word didn't care
6 whether that file system was local or remote; it
7 would just access, try to save, and load a file.
8 Q But there are some programs then, at
9 least, that don't have network access and some that
10 do, right?
11 A Sure.
12 Q And what -- what's an example of one, in
13 1995, one computer program that would have had
14 network access?
15 A For example, an FTP client would be a
16 good example of something which is designed to
17 transfer files over a network. It has a user
18 interface, or the nice ones had a user interface,
19 so it's not only a network, but certainly I think
20 that's a pretty -- pretty important part of an FTP
21 client.
22 Q And the FTP client didn't register its
23 name in the WINS database, right? It -- the WINS
24 database had the computer name registered, right?

Page 175

1 A I mean, so for FTP to be actually able to
2 work, it had to go and leverage all the, you know,
3 parts of the -- of the network stack, and that
4 would run as part of the FTP actually running. And
5 certainly, you know, WINS would have been part of a
6 network stack using -- for a computer using WINS,
7 and WINS would have registered the hostname and the
8 IP address when it -- when it came up gracefully,
9 the WINS portion of the -- of an operating system
10 running WINS.
11 Q You wouldn't see an entry in the table
12 that said FTP IP address, right?
13 A In the WINS table? Unless it was part of
14 the name, but there's no reason for it to be part
15 of the name. You'd just see the hostname and an IP
16 address mapping and some other state information,
17 maybe some other things too.
18 Q I don't understand. You said unless it
19 was part of the name, but there's no reason to be
20 part of the name?
21 A Well, if my computer name were called FTP
22 client 1, and then you would see in the database it
23 would say FTP.
24 Q Still just the computer name?

Page 176

1 A Yeah, still the computer name.
2 Q And -- and an FTP client, does it
3 determine its own IP address?
4 MR. ERICKSON: Objection, form.
5 A I mean, the FTP client is running on a
6 machine with an IP address. So in the sense that
7 even -- it doesn't know its own IP address, but it
8 -- you know, when it's running and it's
9 communicating with a network, you know, all the
10 software down through the network stack runs.
11 Eventually part of it -- part of the socket's
12 interface or other network library would put the
13 source IP address of that host in packets that it
14 sends out over the IP network.
15 Q Does the FTP client have a method that
16 determines its own IP address? I'm talking about
17 the program itself.
18 MR. ERICKSON: Objection, form.
19 A No. And typically when -- the client
20 itself would link and invoke other libraries,
21 because you would have to, if you're writing a
22 network application, specify that you're linking to
23 the socket's library, for example. And once you do
24 that, when you run -- when you run, you know, the

Page 177

1 FTP client, it needs to go out to the network; it
2 would go through the other code that have -- were
3 compiled into the socket's library, for example,
4 and there are portions of that which do know -- you
5 know, between there and when the packet leaves the
6 computer, it absolutely knows that there's an IP
7 address for that computer, because it has to put
8 that IP address as the source IP address in an IP
9 packet to be sent out, and it would receive it --
10 packets back from the FTP server, if we're still
11 talking about FTP, to get back to the computer.
12 Q Is FTP an application?
13 A Are you referring to the server, the
14 client, both? As a system? What?
15 Q Let's take it in parts. The FTP client,
16 is that an application?
17 A Sure, some people would consider that an
18 application.
19 Q And what would other people consider it?
20 A Yeah, they consider it an application.
21 It certainly would be part of an overall set of
22 code program that's running on a computer as well.
23 And you'd have to run other code on the computer,
24 like the link libraries and whatnot.

Page 178

1 Q And is it -- so it runs on the computer.
2 What do you mean by that?
3 A Well, the program is executed, the
4 program steps in a code are executed by the CPU of
5 the computer it's running on. It wouldn't be
6 executed by a different CPU; it would be executed
7 by the computer that the program is running on.
8 MR. NEWMAN: We've been going for a
9 while. Let's take a quick break.
10 (Off record.)
11 BY MR. NEWMAN:
12 Q I'd like to go back to this replication
13 server for one last question, hopefully.
14 The replication database, if it's
15 reproduced once every 40 minutes, then there are
16 situations in which the replicated database will
17 have mappings that are about 40 minutes old even
18 though there was a graceful exit, correct?
19 A Well, in the case where there are
20 replicated servers -- and not everyone's system
21 needs to have replicated servers, that's certainly
22 an option -- and, you know, if -- if the
23 replication interval is -- I think I'd have to look
24 in a little more detail, but if it really does not

Page 179

1 pass any data at all between the machines for that
2 whole interval, then I'd agree that you could have
3 a machine release right after a replication
4 interval released from WINS server one, and WINS
5 server two for 39 minutes may not have the updated
6 entry. But, of course, when there's only one WINS
7 server, that, of course, does not apply.
8 Q And 40 minutes to you, would you consider
9 that to be relatively current?
10 A Again, I think it depends on the specific
11 context.
12 Q In the context we were just referring to,
13 where a mapping was released, but then for 40
14 minutes it was not updated, would that -- would the
15 replicated server be relatively current, in your
16 opinion?
17 A I think I'd need to know more about how
18 these servers were being used specifically to say
19 whether it matters or not. And if it mattered a
20 whole lot, I'd probably answer differently than if
21 it only -- didn't matter at all.
22 Q If you were trying to determine whether
23 or not another computer was connected to the
24 network, would that be relatively current?

Page 180

1 A Well, that situation wouldn't exist
2 where -- where there's no replicated server, i.e.,
3 there's just one WINS server.
4 You want to just talk about the
5 subset of situations where there are replicated
6 servers?
7 Q Yeah, for now, we're talking just about
8 the situation where there's a replicated server --
9 A Okay.
10 Q -- and you were interested in determining
11 whether or not your colleague was on line on a
12 computer. Would 40 minutes be relatively current
13 in that situation?
14 A I think it would depend on why. I mean,
15 your colleague could have -- be on line, but might
16 be away from his computer for lunch. So I think it
17 would depend on a lot of things.
18 Q What about if the maximum 999 hours was
19 chosen, would that be relatively current in this
20 situation?
21 A What is that, like, 40 days or something?
22 I mean --
23 Q I'm a lawyer. I don't do math.
24 A It would probably be much less likely to



Page 181

1 be relatively current. But, again, that would only
2 arise in this -- as a network administrator, I
3 can't see why you'd want to set a replication
4 interval for databases to be that high. If there
5 were no other data exchange during that interval,
6 that you simply did full copies of the database
7 every 999 hours.
8 For this application, I think the
9 network administrators, or whoever was looking at
10 that, would probably not want to pick that as a
11 replication interval.
12 Q What about 40 hours, once a week?
13 A Well, I think it would be once every day
14 and three-quarters, roughly, right?
15 Q I meant, yeah, once every seven days.
16 A Okay. I think it -- I think it may
17 depend on a whole lot of things. Maybe it works
18 for some people running their networks, but it
19 doesn't work for other people running their
20 networks. You know, it would just be up to
21 whatever the network administrator wanted.
22 I think it would be less likely that
23 they'd set it at seven days than something lower;
24 but, you know, they're free to do what they want

Page 182

1 within the parameters of the configuration --
2 configurability of the system.
3 Q All right. So let's move away from
4 replication.
5 If you could, please, turn to
6 paragraph 55 of your declaration, Exhibit 1004.
7 A Okay.
8 Q You mention an API in which -- that's an
9 application programming interface -- in which users
10 of the Windows NT Server would have leveraged the
11 software's underlying network communication
12 capabilities.
13 Are you saying that this is inherent
14 in the reference, that a user would have -- a
15 programmer would have leveraged that?
16 A I don't think I used the word "inherent"
17 in paragraph 55, if that's what you mean.
18 Q I'm just trying to figure out, I mean,
19 does Windows NT 3.5 server teach you how to do
20 that? And by "that," I mean program from an API.
21 A I mean, I think it was pretty well known
22 if you were a programmer at the time programming
23 network applications, like the Winsock library on
24 Windows, W-I-N-S-O-C-K, would have been a

Page 183

1 networking library which you might -- a programmer
2 would have leveraged. There's no reason to rewrite
3 all that; it's been implemented; it's been vetted;
4 and someone else, probably with a lot more skill in
5 writing TCP properly, you know, IP, all the
6 networking protocols.
7 I'm just saying that there's no
8 reason for an application developer to rewrite --
9 to reinvent the wheel for everything, you know.
10 That one might as well use the facilities available
11 to all programmers at the time.
12 Q In paragraph 57 you describe Windows
13 sockets. I'm going to read this, "As of the filing
14 date of the '704 patent, many applications existed
15 that interfaced with Microsoft TCP/IP for
16 Windows NT." And then you put in parentheses
17 "describing Windows Sockets." You go on, "These
18 applications allowed users to access the underlying
19 network communication capabilities."
20 The Windows Sockets, does that
21 utilize the WINS server? Isn't that separate from
22 NetBIOS?
23 A I mean, if you're referring to NetBIOS as
24 a protocol, the WINS server and the clients and the

Page 184

1 whole system as an implementation of the NetBIOS
2 protocol may have additional features. Is that
3 what you mean?
4 Q Not necessarily. What I mean is Windows
5 Sockets is an alternative way from NetBIOS to use
6 network capabilities, right?
7 A Well, there's a specific implementation
8 that allows for the WINS server registration and
9 whatnot, I understand. Certainly it's described in
10 this document, in the pages we were looking at
11 previously.
12 But if one were to leverage the
13 existing networking structure, you know, the
14 networking libraries and whatnot, to resolve a name
15 from an application layer, you know, my
16 understanding is that you'd leverage those parts
17 of -- of the -- of the system and the code, and
18 that code would run; and if it was needed to query
19 a WINS server, it would do so as part of that
20 execution of the program.
21 Q Do UNIX machines, in 1995, did they --
22 were they WINS enabled?
23 A I'm actually familiar with a
24 implementation of a Windows file system called



Page 185

1 "SAMBA" around that time, and that I believe
2 that -- that particular server -- like, you could
3 run a SAMBA server on a Linux machine. I believe
4 that had some facilities for WINS, as a WINS
5 client, I believe, because it integrated with the
6 whole Microsoft networking infrastructure.
7 Q But your typical UNIX machine is
8 considered a separate, not WINS enabled, right?
9 A I think probably by default most UNIX
10 machines were not, you know, WINS enabled. If you
11 wanted to install SAMBA, which I did around that
12 time, it took a bunch of work to get it running,
13 but it was doable and it was available.
14 SAMBA is a Microsoft file sys --
15 if -- I had installed SAMBA on some machines that I
16 owned and at the lab, and it allowed me to access
17 files on that Linux box through the SAMBA server as
18 if it were like a Windows NT Server serving up
19 files to different Windows machines on a network.
20 Q Do you know if those SAMBA servers had
21 access to the WINS database?
22 A I don't recall exactly, but I seem to
23 recall that I could access that machine through a
24 WINS-type name. I believe that's how I accessed

Page 186

1 it. I believe that's how you can also map a SAMBA
2 drive share to a Windows machine.
3 Q Do you have an opinion as to the proper
4 construction of the claims, the '704 patent --
5 well, I'll answer that for you, you do. And I'd
6 like to explore that.
7 A Sure.
8 Q I think your claim construction begins on
9 paragraph 71 of your declaration.
10 A Okay, I'm here.
11 Q And if it's helpful, I can give you the
12 patents.
13 A Sure, that would help.
14 THE WITNESS: Are we done with these
15 other references; can I clip them up and set them
16 aside?
17 MR. NEWMAN: You can set them aside
18 for a minute, although I am not promising I'm not
19 gonna go back.
20 THE WITNESS: I won't be mad if I
21 have to take them out again. How's that?
22 MR. NEWMAN: Great. Deal.
23 Counsel, we noticed the patents that
24 were in Samsung's exhibits did not include the

Page 187

1 reexam portions, so we are gonna produce --
2 MR. ERICKSON: Okay.
3 MR. NEWMAN: -- patents anew today
4 with the reexam attached, and also serve a copy in
5 today's deposition, but we'll follow up with a copy
6 for each of the IPRs later.
7 MR. ERICKSON: Okay.
8 BY MR. NEWMAN:
9 Q So I'm handing you what is marked as
10 Straight Path Exhibit 2013, and that's the '704
11 patent, it goes from pages 1 to 32.
12 I'm also handing you, and presenting
13 for service simultaneously, the '121 patent, which
14 is marked as Exhibit 2011, and it goes from page 1
15 to page 66.
16 A Thank you.
17 Q Finally, I'm handing you the '469 patent,
18 which was properly under Samsung's previous
19 exhibit, I don't need to serve it, and this is
20 Samsung Exhibit 1001, it goes from page 1 to
21 page 67.
22 A Thank you.
23 Q And I'll direct you to the '704 patent,
24 we'll spend most of our time there.

Page 188

1 Back to your declaration,
2 Exhibit 1004, at paragraph 71 through 73.
3 I would like to get an understanding
4 of the claim construction standard that you applied
5 in coming to your opinion. You mention two
6 standards here, the district court standard and the
7 broadest reasonable construction, which I may call
8 BRC later. Which of those standards did you apply
9 in your constructions?
10 A So I understand there's a lot of law on
11 here, this is my understanding, but if I point you,
12 for example, to paragraph 74. So it says, "It is
13 my opinion that a person of ordinary skill in the
14 art would understand the term "point-to-point
15 communication link" to mean "a connection between
16 two processes over a computer network that is not
17 intermediated by a server."
18 And so that opinion I understand,
19 that's ordinary skill in the art would have
20 understood, I understand that to be the district
21 court standard.
22 Q I'll point you back up to -- well, strike
23 that.
24 So the district court standard. Is



Page 189

1 that fairly articulated in paragraph 73 in which
2 you say that the inventors did not act as
3 lexicographers?
4 A It is. My understanding of a district
5 court standard is that the patent owner or inventor
6 can articulate a specific meaning to terms in the
7 specification; and if so, that would be the
8 meaning. But if there's no expressly articulated
9 meaning, then it would be, my understanding, what a
10 person of ordinary skill in the art at the time of
11 invention would have understood the term to be.
12 Q And, in your opinion, the '70 -- in the
13 '704 patent, the inventors didn't assign a special
14 meaning for any of the claim terms, right?
15 A I think that sounds right.
16 Q And so, just to be clear, this analysis
17 is not applying the broadest reasonable
18 construction standard, right?
19 A Well, I think specifically, for example,
20 in paragraph 77, I also start out talking about one
21 of ordinary skill in the art, the same with
22 paragraph 79, 81 -- I mean, sometimes it just
23 doesn't matter, and I think in this particular case
24 that's how I did my analysis.

Page 190

1 Even though I understand, in a normal
2 IPR proceeding, where there's the ability for the
3 patent owner to amend the patents, that it would be
4 under the broadest reasonable construction.
5 Q In your opinion -- would your opinion
6 change if you applied the broadest reasonable
7 construction, or do you think that your
8 constructions are applicable under both those
9 standards?
10 A I don't think they would have changed. I
11 think they would have been applicable under both
12 standards.
13 Q Did you need to consult a dictionary at
14 all in interpreting these terms?
15 A I don't recall doing so.
16 Q Did you need to consult the patent in
17 construing these terms?
18 A No. I think one would look at the
19 patent, at the teachings, and it would be how one
20 of ordinary skill in the art would understand the
21 term in the light of the specifications. But in
22 case there isn't any sort of context around it,
23 then -- then one might consider other extrinsic
24 evidence. But I always look at these things in the

Page 191

1 light of the specifications.
2 Q In your declaration you address the plain
3 and ordinary meaning of four different claim
4 elements, right? There's point-to-point;
5 transmitting to the server a network protocol
6 address received by the first process following
7 connection to the computer network; third is
8 network protocol address; and fourth is connected
9 to the computer network online status, correct?
10 A Yes. I think it was -- those four were
11 it.
12 Q I'm gonna hand you an exhibit now that is
13 marked as Straight Path 2016, it's entitled "Patent
14 Rule 4-3 Joint Claim Construction and Prehearing
15 Statement"; it's from case 6:13-cv-00604-KNM,
16 Document 111, and it goes from page 1 to page 44.
17 A Thank you.
18 MR. NEWMAN: And I'm simultaneously
19 going to serve this document on counsel with the
20 same understanding that we'll serve the other IPRs
21 this evening.
22 Q Have you ever seen this document, the
23 Joint Claim Construction document, before?
24 (Witness perusing document.)

Page 192

1 A I certainly have seen words that are very
2 similar to what I see in these charts. I don't
3 recall if it was this exact format of this exact
4 document.
5 Q I'll represent that this is a Joint Claim
6 Construction provided in the Eastern District of
7 Texas, jointly, by Samsung and Straight Path, among
8 other parties. And I'll point you to, about, four
9 lines down on the first page, where you see
10 "Samsung Electronics" referenced.
11 A Yes, I did see that when I was looking
12 through it, but I -- I didn't seem to recall this
13 cover page, but a lot of the content looks somewhat
14 familiar.
15 Q I'd like to direct you to Exhibit A,
16 which begins on page 9 of Exhibit 2016. And,
17 specifically, on page 10, there's a table with an
18 agreed upon construction of the term "process" or
19 "processes."
20 A Yes, I see that.
21 Q And do you understand that "running
22 instance of a computer program or application" is
23 the plain and ordinary meaning of the term
24 "process"?



Page 193

1 A I generally would agree, and I think both
2 parties appear to have agreed upon this meaning, at
3 least in this particular litigation.
4 Q You don't construe the term "process" in
5 your declaration. Is this a fair construction of
6 the term?
7 A I don't recall whether I explicitly wrote
8 this down, but I do recall considering this as --
9 you know, in the writing of my declaration. I
10 think it's -- you know, I think it's fair for the
11 circumstances of this case.
12 Q So we'll move forward with that
13 understanding of the term "process" then through
14 the deposition.
15 A Sure.
16 Q Back to your declaration. Let's talk
17 about this construction of point-to-point
18 communication link.
19 In your opinion, it should be
20 construed to mean "a connection between two
21 processes over a computer network that is not
22 intermediated by a server."
23 A Yes, that's what I say in paragraph 74.
24 Q And I just want to focus on the last

Page 194

1 couple words there, "it's not intermediated by a
2 server."
3 In paragraph 75, you cite a portion
4 of the prosecution history of the '704 patent?
5 A Okay.
6 Q If you look, the last full sentence of
7 that begins three lines from the bottom, page 33,
8 it says, "Upon receipt of the network protocol
9 address of the first process, the second process
10 establishes communications with the first process
11 directly, without any intervention from the
12 address/information server."
13 So I'm just wondering why it's your
14 opinion that it's not intermediated by a server as
15 opposed to not intermediated by the address
16 information server.
17 A And so if there are these two processes
18 that are communicating with each other, the point
19 here is that there's -- there's a post-hostname and
20 IP address for process one; that process one is
21 part of the running program on. The same with
22 process two.
23 And if they are communicating with
24 the point-to-point communications link, it would

Page 195

1 be -- for example, those would be the source and
2 destination IP addresses used in the IP layer
3 communications packets; as opposed to, if the
4 address server got all those packets and then
5 repackaged them and forwarded them to the -- the
6 second server, I would say that's an inter --
7 intermediation.
8 Q Remember earlier we were talking about
9 firewalls?
10 A Yeah.
11 Q And there are situations in which a
12 firewall could be a server --
13 A Yes.
14 Q -- right?
15 In your opinion, would intermediation
16 by a firewall defeat this claim?
17 MR. ERICKSON: Objection, form.
18 Q Strike that question. I'll give you
19 something better.
20 In your opinion, is a situation in
21 which a firewall is between the two points, would
22 that still be a point-to-point communication that's
23 not intermediated by a server?
24 A So, again, there's a contextual thing

Page 196

1 here, but let me say that if the IP address of
2 the -- of the -- the source and destination
3 IP addresses are the two computer -- IP addresses
4 on the computers on which those processes are part
5 of the running, you know, that's running, then I
6 would say that the firewalls are not really
7 intermediating -- intermediated by a server in that
8 situation.
9 Because the point-to-point addressing
10 is clear; it's this host, this host. It's not --
11 packets aren't being addressed to the firewall and
12 then readdressed, you know, and, therefore, there
13 would be three different IP addresses, four pairs
14 of IP addresses being used to communicate back and
15 forth. There's -- there's only one set of two
16 IP addresses being used, and that's a
17 point-to-point IP connection is what I'd say.
18 Q What about a situation when there's, say,
19 NAT traversal, N-A-T?
20 A Yeah, so in that situation, I think NAT
21 is just a function of the network. And I
22 understand that there are situations where there
23 would be a firewall and NAT, but the -- a situation
24 in the other way, I think, is, for example, on the

Page 197

1 HTTP proxy server, these devices are known as HTTP
2 proxy servers, where you're sending your request to
3 the proxy server, and the proxy server repackages
4 the request, forwards it to the real web server
5 that you were trying to contact, and there are
6 reasons, for security, that people would want to do
7 that. I don't believe it's that -- my
8 understanding is it's just not that common, but
9 it's possible.
10 In that case I would say, if you --
11 if you have to go through another machine
12 explicitly with a -- with an IP address, and there
13 is some function on that machine, as opposed to
14 just a NAT device. I'd have to look at the context
15 of the NAT system, though. But you're right, there
16 are NATs, and they do remap IP addresses, but
17 that's typically -- sometimes that's all they do.
18 Q What about STUN server?
19 A Yeah, so I --
20 MR. ERICKSON: Objection. It's
21 outside the scope of the report. You can answer.
22 A My understanding is they came much, much
23 later in time than this, and I've heard of them, I
24 just -- I can't recall exactly. I think there's

Page 198

1 another related server called a Tern server too,
2 but I -- I have to look at some materials to
3 refresh my memory about those.
4 Q The prosecution history here on -- in
5 your paragraph 75, it was pretty clear that the
6 intervention that the inventers are contemplating
7 is intervention by the address information server,
8 right, not just any old server?
9 (Witness perusing document.)
10 A Sorry, could you repeat the question
11 again, please?
12 Q The prosecution history here in
13 paragraph 75, it's pretty clear that the
14 intervention that the inventers are contemplating
15 is intervention by the address information server,
16 not just any old server, right?
17 A I think it's what the citation says, it's
18 -- "Upon receipt of the network protocol address of
19 the first process, the second process establishes
20 communications with the first process directly
21 without any intervention from the
22 address/information server."
23 So I think the point there is that
24 the first process isn't sending all the

Page 199

1 communications to the address server which knows
2 the address and it's forwarding it along; it's, I
3 got the address of the first, the second -- the
4 second process, and I'm just gonna send -- or if it
5 was the other way around, "the second process
6 establishes communications with the first process
7 directly." So it's saying that the second process
8 got the address of the host the first process was
9 running on, and it's just gonna address packets
10 directly to that host computer that the first
11 process is on, is running and is part of.
12 Q All right, so once the -- the caller
13 who's out to get the address from the address
14 server receives the address, and then it tries to
15 establish a communication with the callee, it
16 doesn't really matter if there's NATs and STUNs and
17 any other type of server between those two points,
18 right, as long as it's not continuing to go through
19 the server on which the address was sent, right?
20 MR. ERICKSON: Objection, beyond the
21 scope.
22 A I mean, I think -- you'd have to look at
23 that. I mean, sometimes there are proxies; you
24 know, it depends on the context.

Page 200

1 Voiceover IP systems today are pretty
2 complex, and my understanding is many are designed
3 so that you cannot tell the other side's IP
4 address. So there are intervening servers today
5 that have all sorts of functions.
6 Q That's not what the inventers were
7 contemplating, right? What they meant by
8 point-to-point was that you don't need to be
9 intermediated by the address server?
10 MR. ERICKSON: Objection, calls for
11 speculation.
12 (Witness perusing document.)
13 A I think stand by this construction. It's
14 simply -- it's not intermediated by a server and
15 they're -- I think even if it was a different
16 server intermediating that was not the address
17 information server, and you were forwarding things
18 through that server, I wouldn't call that a
19 point-to-point link.
20 Q Did it -- did the construction of the
21 term -- did it affect your analysis of the prior
22 art?
23 (Witness perusing document.)
24 A I don't think it impacted that analysis.

Page 201

1 Q I'm just wondering why you construed it.
2 That was my take as well, that it wasn't really
3 important to your analysis.
4 A Because I think a point-to-point
5 communication link is broader than a link that
6 doesn't go through the address information server.
7 I mean, I think it's pretty clear.
8 Q Do you understand that the Eastern
9 District of Virginia has construed this term in the
10 past?
11 A I don't recall one way or the other at
12 the moment off the top of my head. I've looked at
13 a lot of documents, and sometimes I don't remember
14 which jurisdiction even I saw them from.
15 Q No, that's understandable. If you take a
16 look at paragraph 74 of your declaration, you
17 reference Exhibit 1010, which I've already sent
18 your way.
19 A Okay.
20 Q And if you look at page 8 of that. Now,
21 your declaration says that you understand that
22 Straight Path has construed the claim term
23 consistent with this construction. But that's not
24 really true, is it, right? Straight Path has

Page 202

1 construed the term to -- to mean that the
2 connection doesn't involve the connection server,
3 right? And we see that construction in
4 Exhibit 1010. See that?
5 A What line are you looking at?
6 Q Under C, "The term point-to-point
7 communications found in claims 1 through 3 and 6."
8 "Straight Path proposes the
9 construction of point-to-point adopted in ICTI,
10 viz.," and in quotes, communications between two
11 processes over a computer network that are not
12 intermediated by a connection server.
13 So are you agreeing with Straight
14 Path here or not?
15 A I think I'm saying it's consistent, and I
16 think it is pretty consistent it's not
17 intermediated by a server. But Straight Path wants
18 to put this special type of server in here,
19 connection server. But, overall, I think it's
20 consistent. There's not some server you're sending
21 the packets to and addressing those packets to, and
22 then whereby that server forwards them,
23 readdressing the IP packets somewhere else. I
24 think that's not a point-to-point link.

Page 203

1 And no matter what server type we do
2 that to, if you address the packets to a server, a
3 connection server or an alpha server or a zed
4 server, I don't see how changing the type of server
5 that you're addressing the packets to and having it
6 forward on, readdressing the packets, would --
7 would be -- I mean, would make any difference as to
8 whether it's a point-to-point connection. It's not
9 a point-to-point connection regardless of what
10 server you would go through that you address the
11 packets to.
12 So I think it -- my point is it's
13 consistent, because it doesn't really matter what
14 types of servers there are.
15 Q But, in your opinion, just going through
16 any server, it wouldn't meet this claim element?
17 A If I've addressed the -- if I've
18 addressed packets -- if you and I are trying to
19 have a conversation, we're computers, pretend we're
20 computers, and -- and that phone thing there is --
21 is a server, and I'm sending packets to the phone
22 thing, and the phone thing is -- and I use its IP
23 address, and then it's using its IP address as the
24 source to send you, that's not a point-to-point

Page 204

1 connection.
2 The point is that you and I should be
3 able to connect and address packets to each other
4 directly, without having the phone thing in the way
5 and handling the packets and readdressing them.
6 And that's the point.
7 I mean, I don't think anyone of
8 ordinary skill in the art would say a connection
9 there and a connection there, that we have -- you
10 and I have a point-to-point connection.
11 Q What about the concept of, you know,
12 rerouting, that that would -- would that still be
13 point-to-point in your opinion?
14 A What -- what -- what do you mean, when
15 you say "the concept of rerouting"?
16 Q Gateways and routers.
17 A So gateways and routers don't change the
18 source and destination IP addresses in any way.
19 They simply use the source and destination IP
20 address to determine, of its plurality of different
21 interfaces it could send packets out on, which one
22 to select.
23 There is a field that a router does
24 adjust in an IP header, it's called "a time to



Page 205

1 live" field; but other than that, a router is not
2 allowed to touch any of the data in a packet, in a
3 packet header, for example, an IP header, and so
4 it's only using that information to make a
5 determination.
6 Now, if you mean -- rerouting, you
7 mean that the Internet is congested here and then
8 there's a better route to some address here? Sure,
9 that happens. It doesn't affect what a router
10 does, except that the tables now say, Oh, this IP
11 address, shortest prefix match -- or there's a way
12 to match these addresses that are not individual in
13 a router, right? So this block of IP addresses,
14 it's really busy this way on this old interface I
15 was using. This other interface can get there in a
16 more efficient manner, so I'm gonna change the
17 routing to go out this interface. And if that's
18 what you mean by rerouting, but that doesn't affect
19 the fact that the network layer IP connection is
20 the source -- source and destination addresses are
21 -- are one of -- one's yours, one's mine, and vice
22 versa for the other way.
23 Q So you disagree with the construction
24 from the Eastern District of Virginia; is that

Page 206

1 right?
2 A I'm looking on page 13 of Exhibit 1010,
3 which I think is what you're referring to, and it
4 says, "The Court will therefore construe the term
5 "point-to-point communication" as "communication
6 between two processing units or processes,
7 established by one of the processing units or
8 processes using the IP or network protocol address
9 of the other processing unit or process, that is
10 not intermediated by a connection server."
11 So I think what -- what I've just
12 described is very consistent. It's using -- I'm
13 using your IP address. I'm not using the IP
14 address of the phone thing to send a package to
15 you; and, therefore, that device, if it were a
16 connection server, isn't in -- in the path. It may
17 be a router in the path, but that's different than
18 a server in the path. And I think that if you call
19 that an alpha server, I think it would still not be
20 a point-to-point communication. So I think -- I
21 don't think I've said anything inconsistent with
22 the Court's claim construction there.
23 Q Okay.
24 A This is a big mouthful.

Page 207

1 Q Yeah, I mean, I guess back -- back to the
2 first principle here, it didn't really affect your
3 opinion as to the validity of the patents, right?
4 A No, I don't think there was any prior art
5 that I looked at that had any sort of device you
6 addressed IP packets to to communicate; that was
7 not the other end point. So you're right, it
8 didn't -- I don't think it affected my analysis.
9 Q All right. Let's move on to...
10 (Pause.)
11 Q Let's move on to the claim element, B,
12 here, page 34 of your declaration, "transmitting to
13 the server a network protocol address received by
14 the first process following connection to the
15 computer network."
16 Again, your analysis doesn't really
17 turn on this claim construction either, right? Let
18 me strike that and we can dig a little deeper into
19 what -- what --
20 A Okay.
21 Q -- term -- you've construed this term to
22 mean.
23 You've construed it to mean "program
24 logic capable of transmitting, to the server

Page 208

1 process, the network protocol address of the first
2 process," right?
3 A Yes. That's what it says in 77.
4 Q Do you agree with that construction?
5 A Yeah, that's my opinion.
6 Q So it seems like you -- that construction
7 doesn't take into consideration this following
8 connection to the computer network. Why did you
9 remove that portion of the claim element?
10 (Witness perusing document.)
11 A So I'm just reading from here,
12 paragraph 77. It says "During reexamination of the
13 parent '704 patent -- actually, "this patent," I
14 think that's probably a typo. Probably strike
15 "parent." Is that right? "Of the parent '704
16 patent," which is this one, "Straight Path argued
17 that the term, quote, received ... following
18 connection to the computer network, close quote,
19 "introduces a requirement that the network protocol
20 address must be dynamically assigned," and there's
21 a citation at 1002 at 1076. "While the Examiner
22 credited this argument during the reexamination,"
23 same reference, citation at 1772 to 74, "the Sipnet
24 Board disagreed, finding that the broadest

Page 209

1 reasonable construction of the claim in which the
2 phrase appears does not require dynamic element."
3 So I think the reasoning goes that if
4 -- if receipt following connection to the computer
5 network requires this dynamically assigned address,
6 and that was accepted, this argument, during the
7 examination, but disagreed with during the Sipnet
8 case, that -- that doesn't require a dynamically
9 assigned address, that that would, therefore, kind
10 of strike out the receipt following connection to
11 the computer network, which introduces the
12 requirement for dynamically assigned address.
13 Q But the Sipnet Board applied the broadest
14 reasonable construction standard, right, and that
15 doesn't apply now, right?
16 A True. That's -- well, it -- it -- I
17 don't know if -- I'm not an attorney, so I don't
18 know if it applies one way or the other yet until
19 the patent actually expires. But, you know, it's
20 possible all these rulings could come out before it
21 expires, but I don't know that to be the case yet.
22 I don't know how I'd tell. But --
23 Q But your opinion was under plain and
24 ordinary meaning, not the broadest reasonable

Page 210

1 construction?
2 A Well, except for this carve-out, and you
3 were asking me why that was struck from what I
4 propose as a construction. This was written some
5 time ago; there was a lot more time before the
6 patent would have expired than there is today. But
7 either way, the -- this document here, the
8 Windows NT Server document, which is used, already
9 discloses DHCP, and that the machines can get DHCP
10 addresses.
11 So one way or another, I mean, I
12 think I address this later on, that requirement
13 being in there or not one way or the other, again,
14 didn't affect the analysis, because this reference
15 discloses dynamically assigned IP addresses.
16 Q And you're referring to the WINS
17 document?
18 A I'm referring to, yes, Exhibit 1012.
19 Q In previous prosecution it was found that
20 the NetBIOS reference does not disclose dynamic
21 addressing, right?
22 A I understand that's true, but -- but --
23 but I've -- this was instituted based on this WINS
24 -- this document combined with NetBIOS is my

Page 211

1 understanding for certain of the claims.
2 Q I just want to understand this. I think
3 what you're getting at, and tell me if -- if you're
4 [sic] wrong, is that this rather lengthy claim
5 element doesn't require dynamic addressing, right?
6 A That's my understanding, unless there is
7 a claim, and I think there are some claims I've
8 read about, that explicitly require dynamically
9 assigned addresses. I would say the claims where
10 it's explicit, it's pretty clear. The ones where
11 it's due to this particular construction, the
12 argument in a particular case that -- that part of
13 this phrase required dynamically assigned protocol
14 addresses, I understand was disagreed with by the
15 Sipnet PTAB Board -- or I don't know what you call
16 it -- and, therefore, doesn't require.
17 But with respect to the analysis,
18 this WINS reference already discloses that. So, I
19 mean, I don't -- yeah, so it -- it -- it didn't
20 really impact my analysis.
21 Q Right. I just want to understand. I
22 think what you're getting at is the dynamic nature
23 of the allocation of the IP addresses, rather than
24 the timing of when the IP address is received,

Page 212

1 right?
2 A Yes, but my understanding is that's what
3 they argued that timing aspect to really mean,
4 is -- is it had to get this dynamically assigned IP
5 address. And I recall reading those arguments. I
6 think I could look at this to give you more
7 details, but --
8 Q Right. So just to be clear, in your
9 opinion, the -- you still need to transmit to the
10 server a network protocol address received by the
11 first process following connection to the computer
12 network, but it -- you disagree with our
13 additional -- with Straight Path's additional
14 requirement that that IP address, therefore, needs
15 to be dynamic?
16 A Well, I -- I -- I disagreed partly
17 because Sipnet Board disagreed, but it's not --
18 it's not in the claim language of the claim. But,
19 as I stated, the WINS server discloses this --
20 sorry -- the WINS reference, Exhibit 1012, already
21 discloses that, you know, after you connect to the
22 computer network, you get a DHCP address assigned
23 to you.
24 Q Right.

Page 213

1 A So I -- you know, it didn't really impact
2 the analysis, because this WINS reference document
3 already discloses that.
4 Q And WINS does, in your opinion, receive a
5 network protocol address by the first process
6 following connection to the computer network and
7 its dynamic?
8 A Yes. The WINS server reference, this
9 document, does teach that. And I think if we
10 looked at the charts that were on the petition. I
11 hope it's actually in this part of the -- the
12 claims that require -- that have this phrase in it.
13 So I think if you look at all of this in
14 combination, it's already -- it does receive this
15 address following connection with the computer
16 network, and then it is transmitted to the WINS
17 server. So...
18 Q The protocol address in WINS -- strike
19 that.
20 In WINS, the protocol is that of the
21 computer, though, right?
22 MR. ERICKSON: Objection, form.
23 A Well, the WINS server would register IP
24 addresses, and DHCP does provide to a computer, as

Page 214

1 taught in this reference of 1012, that -- that
2 the -- that it receives that DHCP address obviously
3 after it can -- you know, it is connected to the
4 network, and then it's -- and then it's forwarded
5 on through the WINS registration process.
6 And I believe that's -- if you look
7 at the charts in the petition accompanying this
8 declaration, I believe they -- that supporting
9 evidence is provided in those -- those charts.
10 Q Let's take a look at network protocol
11 address, which is paragraph 79 of your declaration?
12 MR. ERICKSON: Counsel, we've been
13 going for about an hour. We can keep going, if you
14 want, but I need to take a break soon.
15 MR. NEWMAN: Hopefully this one will
16 be very quick for network protocol address.
17 MR. ERICKSON: Okay.
18 Q In your construction of network protocol
19 address, you construe it to mean an address
20 assigned according to a network protocol layer; for
21 example, an IP address, that acts as a pointer to
22 the device associated with the address.
23 Why did you add all that language in
24 there?

Page 215

1 A Which language?
2 Q The -- so the term is "network protocol
3 address." You added "network protocol layer" and
4 then all this information about acting as a pointer
5 to a device. Why is that information added to the
6 construction?
7 A Because I think it's a -- a clear,
8 concise interpretation of the term; that is,
9 network protocol address doesn't necessarily refer
10 to IP, for example. So I didn't want to say it was
11 IP. It can be any protocol at the network layer.
12 I mean, today IP has won the battle
13 -- or, you know, there wasn't much of a
14 competition, but at certain points there were lots
15 of vendors providing lots of different network
16 routing protocols, and transport network protocol
17 layers, and software implementing them. But the
18 term "network protocol address," it encompassed all
19 of those.
20 Q There is a bunch of network protocols,
21 right? We had discussed some of them earlier.
22 There is Telnet, yeah, FTP, right, we discussed?
23 A Those -- those were not the network
24 protocols. I think those were the higher layer

Page 216

1 protocols that utilize -- ran over something such
2 as IP or TCP and IP, but I think we did discuss
3 this earlier, and as I stated, I think IBM had
4 their own network protocol, I think it was called
5 SNA; Lotus had their own protocol, I think; DEC had
6 their own protocol, network -- network layer
7 protocol at kind of layer three in the -- in the
8 stack. And it's those that I'm referring to.
9 Q Are there network protocols that function
10 at different layers in the stack?
11 A If you want to be concise in that
12 seven-layer model, the network layer is only that
13 layer. You wouldn't consider an ethernet layer to
14 be a network layer; it's -- it's a link layer, for
15 example. So it depends on how concise you want to
16 be in what context.
17 Q Well, HTTP, does that function at the
18 network layer?
19 A I wouldn't say so, no. I think it
20 utilizes all the various transport layers below it,
21 but it's certainly not a layer three protocol.
22 Q But it's still a network protocol, right?
23 A It's a "networking" protocol, as distinct
24 from a "network layer" protocol.

Page 217

1 Q As distinct from a "network layer," but
2 it's still considered a network protocol, right?
3 A I mean, again, I think you have to --
4 there's probably more context; but, generally, I'd
5 say, no, it's not a network protocol. It's a
6 networking -- it uses networking, like many other
7 network applications do. That doesn't make all of
8 these applications and the network protocols --
9 they're -- they're network layer protocols.
10 They're -- they're app -- HTTP is an application
11 layer protocol more so than a network protocol.
12 MR. NEWMAN: All right. We'll take a
13 break.
14 (Off record.)
15 BY MR. NEWMAN:
16 Q So the last of the terms that you've
17 offered a construction for are -- or that you've
18 offered a meaning to are "connected to the computer
19 network," in claim 1, and "online status," in
20 claims 11 and 22 of the '704 patent.
21 In paragraph 81 of your declaration,
22 which is Exhibit 1004, you -- it's your opinion
23 that these terms should be construed to mean the
24 same thing, right?

Page 218

1 A Sorry, which -- which two are you...
2 Q "Connected to the computer network" and
3 "online status," in your opinion, should be
4 construed to mean the same thing, right?
5 (Witness perusing document.)
6 A I think they're generally directed to the
7 same thing. I think if you actually substituted
8 the words, you know, in the various claims, I think
9 you'd have to either maybe put back in "status" or
10 take out "status"; do you know what I mean?
11 Q Right. Let's -- let's do that.
12 In claim 1, there's a query as to
13 whether the second process is connected to the
14 computer network, and in claim 11 there is a query
15 querying the server as to the online status of the
16 first called process.
17 In your opinion, those are both to be
18 construed to mean the same thing?
19 (Witness perusing document.)
20 A I think that's generally directed towards
21 that same meaning. I think if you actually looked
22 at the literal words, I think you could understand
23 them if you -- I was just looking at claim 11,
24 right? So it says, Querying the server -- this is

Page 219

1 c.1 in claim 11 of the '04 patent. Is there a
2 correction or update? I should look at the back
3 page. The last page, page 32 of Exhibit 2013.
4 It's still element c.1.
5 Q That's right, yeah.
6 A "Querying the server as to the online" --
7 for example, registered with the server -- "status
8 of the first called [process] process." I'm not
9 sure what that means, the extra process means.
10 Q I'll represent the extra "process" has
11 been removed by the Patent and Trademark Office.
12 So you can read over that word.
13 A All right. The called process. And --
14 and so I think in that sense it's -- the sense
15 would be whether it's registered with the server,
16 not literally those same words put in there. It --
17 it -- you know, I think that's -- that's the
18 mean -- that's the intention.
19 Q But both claim 1 and -- strike that.
20 Claim 1's a query as to whether or
21 not a process is connected to the network, and
22 claim 11 is a query as to the status of whether a
23 process is online. And in your construction here,
24 they're construed to mean the same thing.

Page 220

1 A I think that's -- generally, they're
2 directed toward the same meaning, but I think it's
3 just tweaked for the -- the literal replacement.
4 It would make sense if you, you know, put -- put
5 the right -- the right meaning in.
6 Q The right meaning would be the same in
7 both instances, right? And the reason I ask is I'd
8 like to say "online status" or "connected to"
9 interchangeably. Would you agree that that is
10 appropriate?
11 A Sure, if we're talking about different
12 claims when you're talking about it, or do you mean
13 to be, you know -- you know, one is used in
14 claim 1, and the other is used in claims 11 and 22.
15 Q That's right. But when I say "connected
16 to the computer network," that means "online,"
17 right?
18 A Yeah, for example, registered with the
19 server.
20 Q We'll get into the meaning of that --
21 A Okay.
22 Q -- later, but -- and when I say "online,"
23 I mean "connected to the computer network." I'm
24 not talking about like online gambling or



Page 221

1 something. Right? It's -- "online" means
2 "connected to the computer network," and "connected
3 to the computer network" means "online," correct?
4 A Sure. That's one exam -- that's the
5 general sense with an example of being registered
6 with the server also being online.
7 Q All right, so in claim 11, there's a -- a
8 query to the online status. I want to get your
9 understanding of what "status" means there. That's
10 the -- "status" means the current state, right?
11 A Are you talking about c.1 now, "querying
12 the server as to the online status of the first
13 called process"?
14 Q That's right.
15 A Sure.
16 Q And the same with claim 1, where it's a
17 query as to whether the second process is connected
18 to the computer network. That's whether the second
19 process is currently connected to the computer
20 network, right? "Is," is present tense there --
21 MR. ERICKSON: Objection, form.
22 Q -- correct?
23 MR. ERICKSON: Objection, form.
24 A I mean, the claim only says whether the

Page 222

1 second process is connected to the computer
2 network. I think you added the word "currently."
3 But my construction -- proposed construction here
4 doesn't say "currently." It's just connected to
5 the network is online, for example, registered with
6 the server.
7 Q But "is" there means "presently," right?
8 A Well, I think you have to look at the
9 meaning of the -- of that in terms of what the
10 specification discloses, and I think the right
11 construction in that context is registered with the
12 server; online, for example, registered with the
13 server.
14 Q But the patent applicants didn't
15 specifically define the term "is" to mean "was,"
16 right? It's a -- it's a query as to whether the
17 process is connected to the computer network at the
18 time of the query, right?
19 A That's right. I'd like to point you
20 toward something in this, if you'd just give me a
21 minute to look for it, please.
22 Q Take your time.
23 (Witness perusing document.)
24 A So I'm looking around column 5 of the

Page 223

1 '704 patent, around line 25, and this describes the
2 process of -- of registering with the server. It
3 starts out, "Upon the use" -- "upon the first
4 user" -- let me skip down a bit. Hold on.
5 (Witness perusing document.)
6 A Oh, that's the right place. So it says,
7 "Upon the first user initiating the point-to-point
8 Internet protocol when the first user is logged on
9 to the Internet 24, the first processing unit 12
10 automatically transmits its associated email
11 address and its dynamically allocated IP address to
12 the connection server 26. The connection server
13 then stores these in the database 34 and time
14 stamps the stored addresses using the timer 32.
15 The first user operating the first processing unit
16 12 is thus established in the database 34 as an
17 active online party available for communication
18 using the disclosed point-to-point Internet
19 protocol. Similarly, a second user operating the
20 second processing unit 22, upon connection to the
21 Internet 24 through a connection service provider,
22 is processed by the connection server 26 to be
23 established in the database 34 as an active online
24 party."

Page 224

1 "The connection server 26 may use the
2 timestamps to update the status of each processing
3 unit; for example, after two hours, so that the
4 online status information stored in the database is
5 relatively current. Other predetermined time
6 periods, such as default a value of 24 hours, may
7 be configured by a systems operator."
8 And then I'm gonna go on to column 6,
9 line 6. It says, "When a user logs off or goes
10 online" -- "or goes offline from the Internet 24,
11 the connection server 26 updates the status of the
12 user in the database 34. For example, by removing
13 the user's information, or by flagging the user as
14 being offline."
15 And so those -- those teachings
16 inform me as to what this "connected to the
17 computer network" and "online" means, because it
18 basically says here that when the -- when the first
19 user sends its email address and dynamically
20 allocate IP address to the server, this was part of
21 the first section I was reading, it says it's then
22 establishing the database as an active online
23 party.
24 And so, I mean, when we were talking

Page 225

1 about the WINS system, these are identical
2 disclosures; you've got the registration email --
3 sorry, not email, but whatever the protocol is, for
4 sending the email --
5 MR. NEWMAN: I'm going to move to
6 strike this answer as nonresponsive.
7 Q I'm asking for your construction of the
8 term "is."
9 A Well, I'm telling you what informs "is,"
10 because --
11 Q The WINS reference is not part of my
12 question at this point.
13 A Okay. So -- so this only talks about
14 sending the connection server your email address
15 and dynamically allocated IP address, and then
16 registering that in the database as an active
17 online party.
18 And so, you know, again, if someone
19 tripped over the power cord in this short amount of
20 time, it's no longer "is" online, but it's informed
21 that being online constitutes, for example,
22 registering with the server. And that's what this
23 describes. It describes a timeout period where the
24 default value is 24 hours, that's an even longer

Page 226

1 amount of time than the other timeout value we were
2 talking about in WINS, and then it describes the
3 same --
4 Q But the query --
5 A -- user logging off --
6 Q The query is what I'm focusing on. The
7 query is for the online status, right? It's for
8 the current online status in the database.
9 A So, sure. You're querying the database,
10 and the database says, You're online after you
11 receive this email address and dynamically
12 allocated IP address after that's sent to the
13 server and then it's written to the database with a
14 timestamp. And then the spec here basically says
15 that that's when it's established in the database
16 as an active online party.
17 So I think that the meaning of the
18 spec is saying this is why it's supporting -- why
19 it is online now when you query -- make this query,
20 because the database says it's online after you
21 receive this registration.
22 Q So I'm going to give you a hypothetical
23 where, imagine that registering with the database
24 really didn't mean online status. The query is for

Page 227

1 whether that is currently registered, right? It's
2 the -- a current status that the query is looking
3 for.
4 A So which claim element are you -- are you
5 talking about c.1 in claim 11 now?
6 Q That's right.
7 A So when it says "querying the server as
8 to the online status," you know, all this
9 disclosure teaches is that, once it's registered,
10 the server, which has the database --
11 Q Again, I am not asking you about the
12 disclosure --
13 A Yes.
14 Q -- or -- I'm asking about the query, and
15 whether that is for the present or the past status.
16 A It's for the -- the current registration
17 status in the database, which may not actually
18 reflect the status of the machine.
19 Q All right. Thank you.
20 A Because there's no disclosure in here
21 about how you actually know whether the machine
22 itself is actually online at this point -- at this
23 parade point, which is why the proper construction,
24 as I've stated here, would be that online means,

Page 228

1 for example, registered with the server. That's
2 what online means in the context of this patent.
3 Q And registered with the server, in your
4 opinion, means registered with the server, but
5 without a release flag, right?
6 A Well, it discloses here that when the
7 user logs off, there is a status that's updated by
8 removing the user's information or flagging the
9 user as being offline. So certainly at that point
10 I would say that, you know, the user would be
11 offline after, you know, properly informing the
12 database or the connection server of the status,
13 which is what it's -- the patent discloses at
14 column 6, starting around line 6. So it's
15 described as the period of being online.
16 Q There's no question pending.
17 A I was just trying to complete my last
18 answer, which was, you know, it describes the
19 online state as being, you know, when the regis --
20 when the database registers the active online
21 party, establishing the database, to the point
22 where the user logs off and sends the message, and
23 the database removes this -- changes the
24 information by flagging the user as being online,



Page 229

1 end quote.
2 Q Just because a computer was online in the
3 past, doesn't give us any indication as to what the
4 current status is, right?
5 A Well, I don't -- I don't recall finding
6 any other disclosure in here about how to -- how to
7 support that querying the current online -- sorry
8 -- querying the server as to the online status of
9 the first called process, other than these
10 disclosures here, which -- which are identical to
11 what we were talking about earlier with respect to
12 the WINS reference, and with all the attendant
13 issues about the boundary conditions. And so I
14 didn't see any other magic bullet.
15 If they had this ability to query
16 this server about the instant state of something
17 somewhere else, I -- I would have trumpeted that as
18 a huge invention. And, again, there's no way to
19 get around physics.
20 Q What if the status was updated every one
21 second?
22 A Like I said, it was possible in WINS to
23 have a one-second renewal interval. It still
24 has -- it has the same issues, whether it's a

Page 230

1 second or not, depending on -- you know, you can't
2 know the current state. You only know the state --
3 you know, if everything is following the rules, you
4 can know the current state. If you never unplugged
5 it, all the same thing we talked about earlier.
6 But there are these boundary edge
7 conditions where there are times when information
8 is being propagated, because of finite propagation
9 delay of information, that there are -- it doesn't
10 instantly reflect the current status somewhere else
11 in space. It can't.
12 Q Does "is" mean "was," in your opinion?
13 A I think "is" in the context of this
14 patent means -- where is -- which "is" are you
15 saying?
16 Q I'm still at claim 11, c.1.
17 A Yeah, there's no "is" in c.1.
18 Q Oh, I'm sorry. "Is" in claim 1, to
19 whether the second process "is" connected to the
20 computer network. Does "is" mean "was" there?
21 A Can you point me, please, where you're
22 looking? What -- what part of claim 11?
23 Q It's claim 1.
24 A Oh, claim 1.

Page 231

1 Q I'm sorry. I'll read it again. "Program
2 code for transmitting to the server a query as to
3 whether the second process "is" currently connected
4 to the computer network."
5 MR. ERICKSON: Objection, form.
6 Q Does "is" mean "was" there?
7 A I think you have to read it in the light
8 of this -- this -- this -- the context of this spec
9 which teaches about this sending a registration,
10 the database then registering it as online.
11 But prior to the point where it is
12 connected and the point where it's registered, it's
13 actually online, but the database doesn't say so.
14 There's no other disclosure in the patent about how
15 you actually determine at the instant the query
16 is -- is it sent or received? Because actually
17 that makes a difference -- it's transmitting. So
18 that the instant you transmit the query to the
19 server, a query as to whether the second process is
20 connected to the computer network, that's why I
21 think this is the proper construction, because if
22 you read it all in the context of the spec, "is
23 connected to the network," really means is
24 registered with the server. There's no other

Page 232

1 disclosure, otherwise, about -- about -- about it.
2 Q But is registered with the server
3 currently, right?
4 A Well, you added the word "currently."
5 I'm just giving you the overall notion of connected
6 to a server.
7 Q I added the word "currently" because I'm
8 trying to get your understanding of what the word
9 "is" means. Does "is" mean "currently" to you?
10 A "Is" is -- this whole claim element in
11 claim 1 is what the spec teaches. It's not
12 teaching that somehow at the instant the query --
13 at that very instant that it's possible to even
14 know the state of a machine that's physically
15 distinct and separate from it.
16 Again, this is all about physics and
17 information propagation and -- but in the context
18 of this specification, whether it is registered
19 means whether it's online, for example, registered
20 with a server. That's why I think this is the
21 proper construction.
22 Even reading it, you know, in the
23 context of the proper claim construction that would
24 be -- if it's registered with the server, that's --

Page 233

1 that's connected to a computer network. If it's --
2 if it's registered, but offline, then -- then
3 that's I would say not.
4 And this proposed invention and
5 what's disclosed in the spec doesn't get around all
6 those problems we talked about earlier.
7 Q But those problems are persistent in WINS
8 and NetBIOS as well, right?
9 A For the exact same reason. These
10 disclose the exact same three things as in WINS.
11 It discloses this registration, you know, message
12 or way to register with the database; it disclosed
13 the timeout interval, the default of which is far
14 longer than the default that was shown in the WINS
15 reference; and it discloses a graceful close --
16 offline message. And so those are the identical
17 three things.
18 You can't get around physics. This
19 is not -- this is not an invention where you can
20 get around physics. This is -- this is disclosing
21 how you tell if a process is connected to the
22 computer network, but it's not saying at the very
23 moment you send a query. It's just in the context
24 of this registration system.

Page 234

1 And -- and that's what this patent is
2 teaching partly, and that's part of the
3 specification to support the reading of this, how
4 one of ordinary skill in the art would understand
5 this claim element for claim 1.
6 Q This, at least, is trying to determine
7 the online status, right, not just the name,
8 correct?
9 A Sure. And it does that by querying the
10 server. It -- it -- that's written into the claim.
11 Transmitting, to the server, a query as to whether
12 the second process is connected to the computer
13 network.
14 So it's saying, Hey, is the process
15 -- is the second process connected to the computer
16 network? But the answer it gets is, It's
17 registered and the database is online, presumably;
18 that's the only answer it can give. It doesn't --
19 this specification does not disclose any other
20 method by which that current determination is made
21 if someone, for example, tripped over the power
22 cord or -- or cut the network cable.
23 Q You mentioned process here. This is --
24 the computer program itself is registered with the

Page 235

1 server, right? I'll direct you to paragraph 84 of
2 your -- or 85 of your declaration. It's actually a
3 two-page paragraph right before the underlining on
4 the -- page 41, it says, "The dedicated address
5 directory server maintains a compilation or list of
6 entries, each of which contain a process identifier
7 and the corresponding network protocol address
8 forwarded to the server by the process itself."
9 A Are you on page 41 of my declaration? I
10 don't -- I don't see an underlined section.
11 Q Oh, I'm talking about little No. 41 --
12 A Oh. I'm sorry.
13 Q -- of your declaration.
14 A Yeah, that's always confusing.
15 Q Yeah.
16 A Okay. Sorry.
17 (Witness perusing document.)
18 A So, I mean, I understand that this
19 section that I'm looking at here is a description
20 by the patent owner of the invention in the file
21 history, but it doesn't say -- it only -- it says
22 basically what I've been saying, which is there is
23 a -- a registration, a directory server; they call
24 it, "The dedicated address directory server

Page 236

1 maintains a compilation or list of entries each of
2 which contain a process identifier and the
3 corresponding network protocol address forwarded to
4 the server by the process itself."
5 Actually, I don't -- I don't recall
6 seeing, in the specification, what that says. I
7 mean, they -- the patent owner could have said
8 anything, and this -- and this -- and this is
9 describing the patent, but I have to look at the
10 specification in light of the file history. But
11 simply because a patent owner says what -- it
12 claims what an invention is, it doesn't mean that
13 someone of ordinary skill in the art would look at
14 the specification and read all about this stuff.
15 They should have amended the specification with
16 more detail perhaps.
17 But -- but I don't see a process
18 identifier, I don't recall seeing that in the '704
19 patent itself, in the specification. If -- if you
20 can point me to it, I'd be happy to look at it, but
21 I don't recall finding anything about this text
22 supported in the specification itself as -- when it
23 was filed.
24 I -- I -- I did a search on certain



Page 237

1 words that are used here, and I didn't find this
2 stuff, and I read the specification several times.
3 Q The claims use the term "process,"
4 though, right?
5 A The claims were amended during the
6 process, I believe, to go from something like
7 "processing host" to "change all instances of
8 processing host to process." But it didn't -- it
9 didn't mean that it's disclosing what you're saying
10 it discloses in this section from the file history.
11 Q So is -- is your position that it -- that
12 it's not enabled or what -- why does that matter?
13 A Well, I think you were trying to argue
14 that this process identifier was stored in the --
15 in the -- in the database, but the section that I,
16 for example, just read to you didn't say anything
17 about a process identifier. It only talked about
18 an email address and a -- and a -- and a network --
19 is it network protocol address? No, it's -- it
20 transmits its associated email address and its
21 dynamically allocated IP address to the connection
22 serve. So neither of those are a process
23 identifier. I don't know where this description
24 comes from.

Page 238

1 I understand the patent owner wants
2 to say that it is this, but the specification
3 doesn't appear to say any of what that's saying.
4 Q I guess you've -- you're focusing on the
5 wrong portion of what I was trying to ask you
6 about. Let's go to the last part of that sentence.
7 The corresponding network protocol
8 address is forwarded to the server by the process
9 itself. That's a program, right?
10 (Witness perusing document.)
11 A Oh. Oh, I see. I see. "The
12 corresponding network protocol address forwarded to
13 the server by the process itself." That's --
14 you're saying that's what's in the directory
15 server.
16 So, again, I mean, I'm looking at the
17 claims. Certainly, you know -- sorry, what was I
18 gonna say?
19 Q Let me -- let me ask you a question.
20 So at the very top of this page, it
21 says, "The solution utilizes a client/server
22 system. In the disclosed system, a client process
23 contacts a dedicated address directory server."
24 It's the program contacting the

Page 239

1 address server, correct?
2 MR. ERICKSON: Objection, form.
3 A Well, I understand we're talking about an
4 argument being made during the prosecution. Are
5 you saying that exists here in the specification?
6 Because I don't think this -- this -- any of this
7 text here, including the fact that it has to be
8 forwarded to the server by the process itself, I
9 don't recall -- is there a claim that claims that?
10 I don't think it's in any existing claims at issue
11 in this -- in this matter. I don't recall reading
12 anything about that in the specification.
13 And, furthermore, as I've stated, the
14 process -- I was applying what I -- I had seen this
15 -- this construction, this agreed upon
16 construction, I would assume it would apply in this
17 case; but certainly, as I stated earlier, these
18 applications, they're running instances of a
19 computer program, including the libraries that run,
20 and all the other parts of the -- of the program
21 that runs to actually get a network packet out; and
22 certainly, within that program itself, the running
23 program of all the -- all the code necessary to
24 actually send out those packets, something in there

Page 240

1 absolutely knows the IP address. So --
2 Q The meaning of the claims can be informed
3 by the prosecution history, though, right?
4 A It can be, but you can't make up stuff
5 that's not supported into the -- in the
6 specification, just by assertion, and import all
7 those limitations. That's not my understanding of
8 how the process works.
9 This was an argument made during
10 prosecution, but -- but these arguments, again, I
11 did not find any support for them in the
12 specification of the '704.
13 Q But you rely on a portion of this to
14 support your opinion, right?
15 A I did review the file history, portions
16 of it, and -- but one has to take, you know, things
17 that the patent owner says in a reply to an office
18 section -- you -- you -- that -- my understanding
19 is that's not -- it's part of the file history, but
20 it's not absolute in terms of -- of -- of -- of
21 binding for -- for -- for, you know, lots of
22 things.
23 I mean, I understand sometimes -- you
24 know, if this is in the specification, let's look

Page 241

1 at it in the specification, not in the file
2 history.
3 Q I'm just wondering, why did you rely on
4 half of this statement by pros -- by the applicant
5 and not the other half?
6 A Because this -- because the statement
7 about -- you had first -- I had been directed
8 towards that. You said, Oh, I wasn't talking about
9 that; I was talking about something else. Now
10 we're -- now we're talking about that first thing
11 that -- that you said that I was talking about that
12 you said you weren't talking about.
13 Q That got confusing.
14 A All right.
15 Q Let's move -- let's move on.
16 A I mean, this supports my -- the reason I
17 cited this is I believe it supports my construction
18 of -- of -- of, you know, connected, or that
19 phrase, or online status; connected to a computer
20 network, online status, as being that status that's
21 currently registered in the database, which -- and
22 that -- you know, that -- that supports it. And
23 I'm saying that even the patent owner's own
24 arguments support this -- this reading of my claim

Page 242

1 construction, which I believe is correct.
2 Q In paragraph 93 of your declaration,
3 you're discussing the WINS -- the Microsoft NT
4 Server reference, and you mention that, toward the
5 bottom of paragraph 93, "One computer seeking to
6 communicate with another computer sends a name
7 query request. If the requested computer name is
8 in the WINS server database, the requesting
9 computer can establish a session."
10 WINS discloses computer names being
11 registered, right, not computer program names?
12 A The hostname that's registered has all
13 sorts of services running on it. So it's -- it's
14 -- you know, if you knew that it had a particular
15 server, you would -- it wouldn't matter. I mean,
16 those things are implicit many [sic] of the time
17 anyway.
18 Q You couldn't determine whether or not
19 that service was currently running using the WINS
20 server, could you?
21 A Again, if everything was following the
22 right rules, and there are no boundary conditions
23 that had to be activated, you would be pretty close
24 to knowing -- and, further, you -- you would know.

Page 243

1 And, furthermore, under my proposed construction,
2 that certainly is true; if it's registered as --
3 as -- with the WINS server, then it would have been
4 online.
5 Q All of the programs on the computer would
6 have been online?
7 A Well, if they're -- it's not necessary if
8 they're not networked-based programs, right. But
9 if there were network services and whatnot, then --
10 then the host being registered, you know, much like
11 as the patent -- '704 patent discloses, it's just
12 registering an email address, and then that's the
13 address. I don't know what the email address tells
14 you any more than a computer name.
15 And so these are pretty much
16 identical in terms of the disclosure of the '704
17 patent and disclosure in WINS.
18 Q What's the name of the program that
19 actually registers the computer name in the -- in
20 the WINS database?
21 MR. ERICKSON: Objection, form.
22 A Well, it would be probably the networking
23 stack, which is utilized by applications, such as
24 Telnet, when they're running; there are portions of

Page 244

1 the code which would do that. I mean, it's just
2 part of the computer and part of various
3 applications that run when they need to access the
4 network. The networking code is -- is -- is all
5 part of a program, a computer program.
6 Q Can I use the WINS server to determine
7 whether or not Telnet is running? Let me change
8 that question.
9 Is Telnet itself ever registered in
10 the WINS server?
11 A Are you referring to a Telnet client or a
12 Telnet server daemon, or a Telnet daemon.
13 Q Let's take them in order.
14 Is a Telnet daemon registered with a
15 WINS server?
16 A Well, if a Telnet daemon is part of the
17 startup process that occurs, as is the -- as is the
18 WINS registration service, then when -- when that
19 particular host running the Telnet daemon is -- is
20 -- registers, it would -- the Telnet daemon would
21 be online and registered as well, the host is
22 registered.
23 Q In order to be online, though, something
24 -- you say it has to be registered with a -- with a

Page 245

1 server. Is Telnet ever registered with the server
2 itself?
3 MR. ERICKSON: Objection, form.
4 A Again, you know, it registers a hostname.
5 If Telnet were part of the hostname, perhaps, but
6 -- but it's not explicitly saying Telnet in the
7 name, but the fact that the host is running and
8 registered and all these services are offered on a
9 particular host, like Telnet or web server,
10 those -- those servers processes would all have
11 been registered as online.
12 Q They would have all been entered into the
13 database?
14 A No. The fact that the host is running,
15 and it has these services; the host is online,
16 and -- and that's as much as the -- the
17 specification here discloses anyway.
18 Q But the host can be online when Telnet's
19 not online, right?
20 MR. ERICKSON: Objection, form.
21 A Well, if -- if the Telnet daemon had
22 crashed, you know, that's, again, a boundary
23 condition. But if the Telnet daemon is -- and many
24 computers are designed to start up as part of the

Page 246

1 startup -- starting up of all the network services,
2 including, for example, registering -- you know,
3 doing the WINS registration, then I don't see the
4 distinction.
5 Q If I close Telnet, my Telnet daemon, does
6 it update WINS database?
7 A If you forcibly closed it? It depends
8 how you forcibly closed it.
9 Q If my computer remains connected to the
10 network and registered with WINS, and all I do is
11 close my Telnet daemon, is WINS informed of that?
12 A I think it's the same case as -- as in --
13 in '704 patent.
14 Q But that's not what I'm asking. I'm
15 asking if WINS is informed of Telnet going offline.
16 A All it discloses in this -- in the '704,
17 which helps --
18 Q That's not my question.
19 A So --
20 Q My question is to the WINS reference.
21 A -- in these boundary cases where you
22 forcibly close the Telnet daemon, then the host
23 is -- would likely still be registered as actively
24 currently running, but it's no different than what

Page 247

1 the '704 patent discloses.
2 Q When I -- when I close Telnet on a
3 machine that's connected to the network and
4 registered, is there a release signal sent to the
5 WINS server with respect to my Telnet?
6 A If you had to forcibly close it, I
7 consider that a boundary condition. That's not how
8 you'd normally operate a machine with a Telnet
9 daemon. There may be some time -- reasons you
10 would want to do that; but, again, it's a boundary
11 condition.
12 So in that particular case, I don't
13 believe the WINS would be registered, because it's
14 related to the host, just as in column 6 of the
15 '704 patent, it talks about when a user logs off,
16 it goes --
17 Q Again, I'm not talking about the '704.
18 I'm trying to talk about the references now. And
19 I'd like to get us out of here. So if you can work
20 with me and talk about the references when we're
21 talking about the references, that would be
22 helpful.
23 Let's -- let's go into the references
24 themselves for a second.

Page 248

1 A Sure.
2 Q So I think you can put your declaration
3 aside.
4 On the Windows NT Server reference,
5 Exhibit 1012, page 49.
6 A Yes.
7 Q This is the layered model we were
8 discussing, or at least parts of the layered model
9 we were discussing before, right, this picture on
10 page 49?
11 (Witness perusing document.)
12 A I wouldn't -- I wouldn't call it that,
13 no. I think this is slightly -- this is different.
14 Q It involves the physical network layer,
15 the transport layer -- strike that.
16 Do you see at the top of this picture
17 there is a Windows NetBIOS applications and Windows
18 Sockets applications?
19 A Sure, I see that. But it's not at the
20 top; there's something on top of that.
21 Q Oh, thank you.
22 What's on top of that?
23 A There are some SNMP and RPC.
24 Q What do those mean?

Page 249

1 A SNMP I think is the Network Management
2 Protocol, the Simple Network Management Protocol.
3 I always get that confused with SNPP, they sound
4 alike, but this is SNMP, which, I believe, stands
5 for that, Simple Network Management Protocol.
6 RPC, I think generally would mean
7 Remote Procedure Call, or something like that.
8 Q See Windows NetBIOS applications are
9 separate from Windows Sockets applications?
10 A Well, there's two boxes. I would agree
11 that there's two boxes.
12 Q Why -- why are they considered separately
13 there?
14 A You'd have to ask the person that put
15 this document...
16 Q So you don't have an opinion as to why
17 they're separate?
18 A They may be different classes. There may
19 be lots of reasons that they're separate.
20 Q Do you see in the shaded area in the
21 middle of that diagram, to the left, bottom, it
22 says "ARP"?
23 A Yes, I see that.
24 Q Why, in your opinion, is that separate

Page 250

1 from IP?
2 A Well, ARP doesn't really relate to IP. I
3 wouldn't -- the -- part of the reason that I
4 wouldn't consider this part of that seven-layer
5 networking model is that I wouldn't consider ARP to
6 be a network layer protocol. It's just -- it's --
7 I would say it's below that in order to resolve MAC
8 layer addresses on the ethernet, for example.
9 Q Do IP addresses resolve into MAC
10 addresses at all?
11 A I think it depends what you mean by that.
12 But if I have a IP address, and I don't have a MAC
13 address for anything, I still can't -- I don't know
14 how to send the packet, the computer wouldn't know.
15 So it has to send it to another
16 device on the ethernet, assuming we're talking
17 about ethernet here, and it would have to have --
18 it would have to send it to the -- if it's on the
19 Local Area Network, the IP address, it's on the
20 same subnet as -- as -- as -- the source and
21 destination on the same subnet, then you would
22 still need the MAC address of the -- of the machine
23 on the network with that destination IP address.
24 If it's not on the local subnet, you

Page 251

1 need to -- to get the MAC address of the gateway,
2 which -- which you can get.
3 So it depends. Some -- sometimes
4 there's a one-to-one mapping at the moment, but
5 sometimes many IP addresses will get sent to the
6 gateway, in which case there's just one MAC address
7 that all the packets leaving the subnet are
8 being sent to.
9 Q Go to page 61, the fourth bullet point,
10 it says, "The Domain Name System (DNS) provides a
11 way to look up name mappings when connecting a
12 computer to foreign hosts using NetBIOS over TCP/IP
13 or Windows Sockets application such as FTP."
14 NetBIOS over TCP is separate and
15 distinct from Windows Sockets applications such as
16 FTP, correct?
17 A Well, I mean, I think, in this particular
18 sentence, in this -- in this context, they're --
19 they're using it as two -- what I would consider
20 two different things.
21 Q In the second to last paragraph on the
22 page, it discussed -- it discusses HOSTS and
23 LMHOSTS. HOSTS being used by Windows Sockets,
24 right, and LMHOSTS used by NetBIOS, correct?

Page 252

1 A I agree that it talks about that in this
2 particular context.
3 Q If you go to page 62, Exhibit 1012.
4 A Yes.
5 Q I'm sorry, 63. On the top, the first
6 full paragraph, it mentions, NT_PC1 and NT_PC2.
7 Does "PC," in that context, mean "personal
8 computer"?
9 A Sure, but it's actually a program on the
10 computer that wants to communicate. The computers
11 themselves only do what the programs running on
12 them want. So I would generally agree that "PC" --
13 when you say "PC," one of ordinary skill in the art
14 would think "personal computer," or something like
15 that. But this is just a name of a computer they
16 were using.
17 Q What -- what program are you referring
18 to?
19 A Well, there's a program that wants to
20 communicate. So it's the program that wants to
21 communicate. And that would include all the
22 networking, you know, soft code on a machine that
23 actually is able to get from that program wanting
24 to communicate all the way through to the network



Page 253

1 and sending out IP packets, for example.
2 Q Back to page 62, on the bottom, it says,
3 "All computers must be configured to know the
4 address of the WINS server."
5 In your opinion, if a computer is not
6 configured to know the address of the WINS server,
7 can it use the WINS server?
8 A The last paragraph is with respect to
9 this thing called "p-node."
10 Where were you talking about again?
11 Q It's the bottom of page 62.
12 A Yes. But there's this b-node, if you
13 look at the --
14 THE STENOGRAPHER: P, as in Paul?
15 THE WITNESS: Yes. The first was
16 "P," as in Paul.
17 A Above it, they use the letter "B," as
18 in -- as in bravo. So there's this p-node, as in
19 Paul, and b-node, as in bravo. And the b-node goes
20 on to talk about using broadcast to resolve things.
21 And there are many other methods for
22 discovering server addresses. But you're right, in
23 P mode, all computers must be configured -- at
24 least it says here, All computers must be

Page 254

1 configured to know the address of the WINS server.
2 Q And WINS is an implementation of
3 NetBIOS's p-node, right?
4 A I believe it may be able to work in b
5 node as well but I'd have to look at --
6 THE STENOGRAPHER: "P" or "B"?
7 A Sorry. Bravo, b mode, as well as p mode.
8 And then there's -- there's other modes. There are
9 other -- sorry, not mode. This is node. Now we
10 have the N and M problem. Node. Their p-node and
11 b-node mode, so it's even more com -- it does say
12 the "p-node mode," and it does say the "b-node
13 mode," B as in bravo.
14 These are node modes. And there are
15 other modes listed here, like m-node, on the next
16 page, and h-node. And then combinations like, on
17 page 63, b-node, bravo, with LMHOSTS and
18 combinations.
19 So I think this -- you could read
20 this all, but it's teaching lots of different ways
21 to do it because people need flexibility in
22 implementing their systems, and this is what it's
23 teaching.
24 Q Certainly. And one of the flexible

Page 255

1 things you can do is not use WINS, right?
2 A You know, it discusses on page 63 that
3 you try one -- one node mode, and then you might
4 try -- if it doesn't work, you try other modes.
5 So they actually already discuss
6 talking about in combinations, but if you're
7 talking about an individual node mode, like b-node
8 mode...
9 Q Let me see if I can clear this up. Go to
10 page 61, please.
11 A Okay.
12 Q The first bullet point, last sentence, it
13 says, "WINS is a NetBIOS over TCP/IP mode of
14 operation defined in RFC 1001/1002 as p-node."
15 So we don't really need to discuss
16 the other nodes modes when we're discussing WINS,
17 right?
18 (Witness perusing document.)
19 A Sure, I'd agree it says, in that section,
20 it also -- sorry, which section was it again?
21 Sorry, the first bullet point, right?
22 Q On page 61 of Exhibit 1012.
23 A Okay, yes. It does describe, though,
24 that WINS is an implementation of what's described

Page 256

1 in the RFC as p-node. I also want to actually sup
2 -- this is a good citation for something earlier we
3 talked about. The first sentence there says,
4 "Windows NT computers can use WINS if one or more
5 WINS servers are available."
6 So it's saying that you don't have to
7 use this replication mode we were talking about.
8 You know, obviously you could have just used one,
9 but it says it here.
10 Q Oh, one or more, though, right? So it
11 contemplates the replication here but --
12 A Sure. But it also contemplates only one,
13 which you wouldn't -- you wouldn't replicate if
14 there was just one.
15 Q So back to my initial question. At the
16 bottom of page 62, it says, "All computers must be
17 configured to know the address of the WINS server."
18 And my question is: If you're not
19 configured to know the address of the WINS server,
20 you -- you can't use the WINS server, right?
21 A Yes, and there were many methods of
22 getting those addresses out there, but I note that
23 I don't -- I think the same issue is in -- you
24 know, in the inventions of the '704. You'd have to

Page 257

1 know the name of this --
2 Q Again, we're just --
3 A -- directory server.
4 Q We're just talking about the references
5 for now.
6 In your opinion, NT_PC1 and NT_PC2,
7 are those servers or workstations?
8 A I mean, today, the line is really kind of
9 blurred, right, because, you know, there are all
10 sorts of services that personal computers offer,
11 even though you're using it as more of a personal
12 computer or workstation rather than a server.
13 Q But in '95, in this reference, there was
14 a separate workstation and a separate Windows NT
15 Server. So there was a Windows NT Workstation and
16 Windows NT Server. Which -- which type of
17 computers are those?
18 A Well, back then I understand there was a
19 distinction in name between the two, but a lot of
20 the -- the way -- it was really for licensing
21 purposes, to get more money from people who wanted
22 to run it as a server and certain things allowed
23 for more network connections. I recall back then
24 that NT Workstation could only have a limited

Page 258

1 number of network connections active at -- at one
2 time. And the server kind of removed those limits.
3 I know that was one distinction between the two.
4 Other than that, I don't really --
5 you know, there may have been other fine details,
6 but I mean, I -- I can only look at the context of
7 this; it's a personal computer. You could have run
8 a personal computer as a server back then; it could
9 be a workstation; but, you know, it's -- I'm not
10 sure if it makes any difference.
11 Q On page 65 --
12 A Okay.
13 Q -- it's discussing WINS in a routed
14 environment. In your opinion, that doesn't suggest
15 that there is an intervention by a server, right?
16 A As I said, just simply routing, I
17 wouldn't -- you know, you can have a -- in IP, you
18 have point-to-point connections, and all the
19 traffic goes through routers. That's -- that's --
20 that's not what I would call intermediation by a
21 server. We talked about that example. If the
22 phone were -- if I were sending packets to the
23 phone, that would be. But simply being a routed
24 environment where you're sending IP packets to the

Page 259

1 WINS server, and it's sending IP packets back to
2 you using your source address and its -- its
3 address, IP address, then, no, I wouldn't say
4 that's showing any sort of intermediation.
5 MR. NEWMAN: Let's -- let's take a
6 quick break.
7 (Off record.)
8 MR. NEWMAN: All right, back on the
9 record.
10 THE WITNESS: Sounds good.
11 BY MR. NEWMAN:
12 Q Back into the NT Server reference at
13 page 11.
14 A Okay.
15 Q Bullet point 3 starts, "Basic TCP/IP"; do
16 you see that?
17 A Yes.
18 Q It states that, "Basic TCP/IP
19 connectivity utilities, including finger, FTP, LPR,
20 RCP, REXEC, RSH, Telnet, and TFTP." Then it says,
21 "These utilities allow Windows NT users to interact
22 with and use resources on non-Microsoft hosts, such
23 as UNIX workstations," right?
24 A Yes, generally you read that pretty much

Page 260

1 correctly.
2 Q And UNIX workstations would not have the
3 WINS database address configured in them, right?
4 A You mean the address of the WINS
5 server --
6 Q That's right.
7 A -- as we were discussing earlier?
8 I mean, not as by default, without
9 installing more services on the UNIX workstation, I
10 would assume they wouldn't.
11 Q In bullet point 5 -- really should number
12 these things -- "Services and related
13 administrative tools." It mentions "TCP/IP
14 printing for accessing printers connected to a UNIX
15 computer." Do you see that?
16 A Yes.
17 Q The printers connected to a UNIX computer
18 also would not be configured to know the address of
19 the WINS server, right?
20 A Again, in the standard UNIX setup, I
21 actually believe, for Linux, the SAMBA package I
22 talked about, if I recall correctly, it's been a
23 while since I've looked at SAMBA, SAMBA also
24 includes a way of accessing printers through --



Page 261

1 through SAMBA.
2 So if it wasn't SAMBA, I believe
3 there were some other thing that allowed you to
4 access -- allowed one to access a UNIX printer --
5 printer spool through UNIX from a Windows machine.
6 But that was --
7 Q These two bullet points that we're
8 discussing here, those don't contemplate a UNIX
9 machine that has Windows WINS configured, correct?
10 These are for accessing a foreign computer?
11 A Yeah, I would generally agree with that.
12 Q And on page 219 --
13 A Okay.
14 Q -- of Exhibit 1012, this is entitled
15 "Troubleshooting IP Configuration."
16 A Yes.
17 Q The bullet point fifth from the end,
18 starts, "The target host uses NetBIOS." I'm gonna
19 focus on that, but these bullet points are related
20 to a -- the number 3, which is to determine whether
21 you configured IP properly, correct?
22 A Yes, I think that's correct.
23 Q And it goes into a situation in which you
24 can't -- "you can use ping to connect to other

Page 262

1 Windows NT computers on a different subnet, but
2 cannot connect through the File Manager or with net
3 use," right?
4 A (No Response.)
5 Q Is that correct?
6 A It says -- yeah, I mean, I wasn't looking
7 at that when you read it, but it says, "If you can
8 use ping" -- ping is kind of like a network
9 application -- "to connect to other Windows NT
10 computers on a different subnet, but cannot connect
11 through File Manager or with net use
12 \\server\share, check the following."
13 Q Ping's a command, right?
14 A Yes, it's a command. It runs -- it sends
15 ICMP packets over -- over the network.
16 Q And then the fourth -- back to the fourth
17 bullet point under -- under that, it starts, "The
18 target host uses NetBIOS," and it says, "If not,
19 you must use FTP or Telnet to make a connection."
20 A Where are you looking? Sorry.
21 Q You see that?
22 A I saw it at some point, but now I
23 don't -- I don't...
24 Q It's -- it's the --

Page 263

1 A Okay.
2 Q -- fifth bullet point from the bottom.
3 A Okay. Yes. Yes.
4 Q So right here, this contemplates a
5 situation where, if a target host uses NetBIOS,
6 there's one course of action; and if not, you must
7 use FTP or Telnet, right? So FTP and Telnet here
8 are alternatives to NetBIOS, correct?
9 A I think this is a set of troubleshooting
10 steps. And if you were to use NetBIOS, you could
11 check -- you could -- it's saying you could make a
12 connection; but, alternatively, you could also use
13 FTP and Telnet, and this actually teaches that the
14 target host must be configured with the FTP server
15 daemon or Telnet server daemon, and that you must
16 have correct permissions to -- on the target host.
17 So you're connecting from one Windows NT computer
18 to another Windows computer on a different subnet,
19 and it's actually teaching that -- that you should
20 -- in certain cases, in debugging, you should --
21 you should put a net -- you know, some of these
22 machines have FTP servers and Telnet servers in
23 them.
24 Q In the absence of a NetBIOS server,

Page 264

1 right?
2 A It says "if not," but, you know, maybe
3 NetBIOS is easier. It doesn't mean -- I don't read
4 this as to be exclusive. I think -- I think you
5 could use FTP even if you had NetBIOS. You could
6 use Telnet, even if you had NetBIOS. This is a set
7 of troubleshooting steps.
8 Q But they're separate protocols, right?
9 A Sure. They're distinct protocols, but
10 I -- this -- I don't read this as being exclusive
11 one way or the other.
12 Q Can you turn to page 12, please, of
13 Exhibit 1012, which is the Windows NT Server
14 reference.
15 A Okay, I'm on page 12.
16 Q And this is a list of RFCs, right? Do
17 these RFC -- does this RFC list go, from what you
18 understand, in temporal order, like 768 was
19 released before 783, and released before 791; is
20 that correct?
21 A Generally that's how RFC numbers are
22 assigned, I understand that.
23 Q And you see the ARP and Telnet RFCs,
24 which are 826 and 854 respectively, those are well



Page 265

1 before 1001 and 1002 NetBIOS protocols, right?
2 A Yes, they're before, and they would have
3 come earlier in time as well.
4 Q So they can function in the absence of
5 NetBIOS, right?
6 A Sure, and they do.
7 Q Let's take a look at the NetBIOS
8 reference. This is Exhibit 1014, for the record.
9 On page 375 of Exhibit 1014.
10 A Okay.
11 Q The third to last paragraph, it says,
12 "This standard neither constrains nor determines
13 how those services are presented to application
14 programs." Is that true, in your opinion?
15 MR. ERICKSON: Objection, form.
16 (Witness perusing document.)
17 A I mean, I think they're talking about
18 this standard, which, a few paragraphs above that,
19 it says, "This standard defines a set of protocols
20 to support NetBIOS services." That, certainly if
21 you're defining protocols, you don't necessarily --
22 you know, you wouldn't have to specify exactly how
23 the services that use the protocols are presented.
24 And so, I mean, I think I'd have to

Page 266

1 look through the rest of the document to determine
2 the full context. It's quite a large document.
3 But I wouldn't -- I wouldn't dispute that sitting
4 here right now.
5 Q And on page 377, under section 4.7,
6 "Minimize Broadcast Activity," isn't this really
7 one of the important aspects of NetBIOS, is that it
8 reduces broadcast activity by resolving names?
9 (Witness perusing document.)
10 A Sorry, could you repeat the question,
11 please?
12 Q On page 377, under section 4.7, entitled
13 "Minimize Broadcast Activity," isn't minimizing
14 broadcast activities one of the important aspects
15 of NetBIOS, in that it reduces broadcast activity
16 by resolving names?
17 A Those things, to me, don't necessarily
18 follow. I suppose, but, I mean, it's -- this is in
19 a section, section 4, titled "Design Principles,"
20 so I would say that the -- the authors thought that
21 this was one of the design principles. Whether
22 it's an important aspect or not, I mean, you know,
23 any time you use multi -- any time you use
24 broadcast versus unicast, if you're using unicast

Page 267

1 more often, then you would presumably reduce
2 broadcast activity. I think you could say that
3 about any application.
4 You would obviously want to use
5 unicast when you need it, and only limit the use of
6 broadcast, unless you had to. So I don't see why
7 it's any more important than any other distinction
8 between using unicast versus broadcast.
9 Q We were talking about the b-nodes and the
10 p-nodes with respect to the Windows Server
11 reference. And what happens when a name is not
12 found in a p-node is it defaults b mode, right,
13 b-node mode?
14 A I mean, I would want to go back and look
15 at that document, but I think generally the gist
16 sounds -- sounds -- you know, from what I remember,
17 it sounds about right.
18 Q And so you had earlier testified that it
19 would make no sense to resolve a name if that
20 computer was no longer connected to the network,
21 but actually it does make sense to resolve the
22 name, right? Because when you don't resolve the
23 name, you end up broadcasting to everyone in the
24 network, and that is a significant overhead, right?

Page 268

1 A So I don't see how you -- you -- I don't
2 follow your logic necessarily. Because if you
3 resolve the name and it was -- was -- the document
4 that we were looking at, at least that section,
5 didn't say you never reply in that case. I assume
6 you -- you know, and so, you know, you may get a
7 reply. I'd have to look at the document in more
8 detail to probably point this out. But there are
9 probably different forms of reply, one -- one -- I
10 mean, it's not teaching that you never reply and,
11 therefore, it would cause all sorts of bad things
12 to happen. That doesn't make sense either.
13 Q Do you know what the m mode is?
14 A M-node mode?
15 Q M mode node [sic].
16 MR. NEWMAN: For the record, this is
17 -- sounds funnier than it will read.
18 A I think, if you're referring to what we
19 were looking at earlier, m-node mode, I think I'd
20 -- if you point me back to that document, I will
21 take a look, but off the top of my head, I don't
22 recall exactly what that refers to.
23 Q Let's move on to page 386, that's little
24 page 386, of Exhibit 1014.

Page 269

1 A 386 I'm on, yes.
2 Q The very last sentence says, "A single
3 NBS [sic] may be implemented as a distributed
4 entity, such as the Domain Name Service. However,
5 this RFC does not attempt to define the internal
6 communications which would be used."
7 You would agree with that?
8 A Except that you -- it's referring to a
9 single NBNS, Nancy, Bravo, Nancy. I mean, I don't
10 have any reason to dispute that right now, but I
11 think you'd have to consider the whole document. I
12 have to look at more of the document to...
13 Q On the next page, little number 387,
14 right above 11.2, there's a list. Do you see that?
15 A Yes.
16 Q It says, "Among the areas in which the
17 Domain Name Service must be extended before it may
18 be used as an NBNS are:" And the fourth dash down,
19 it says, "Support for entry time-to-live values and
20 ability to accept refresh messages to restart the
21 time-to-live period."
22 In your opinion, does that relate
23 directly to the WINS -- the discussion that we had
24 earlier with respect to refresh values?

Page 270

1 A I believe that there were refresh --
2 there are certain values in there that related to
3 the time of how long to have entries of various
4 state.
5 Q Would "time to live" be the renewal
6 interval?
7 A That could be it. There could be -- it
8 could be time-to-live values for the -- whatever
9 the expired one was. But, I mean, we're in a
10 section that's talking about the Domain Name
11 Service. WINS is not the Domain Name Service.
12 It's just, you know, an implementation of NetBIOS.
13 Q All right. Let's go more into the -- a
14 little deeper into this document.
15 On page 396 there is a
16 section 15.1.1.2, "Name Query (DISCOVERY)."
17 A Sure, I see that.
18 Q It says, "Name query (also known as
19 "resolution" or "discovery") is the procedure by
20 which the IP addresses associated with a NetBIOS
21 name are discovered."
22 Is that the -- is that a query -- is
23 that the same type of query that we were seeing in
24 the WINS system?

Page 271

1 (Witness perusing document.)
2 Q Is my -- is my question confusing?
3 A No, there are lots of parts to a
4 protocol. I'm examining other parts which -- which
5 may be used for the purpose you asked me about.
6 Q I'll -- I'll withdraw my question, and we
7 can focus on section 15.1.3.2 on the top of
8 page 397. And maybe this will help narrow that
9 matter.
10 A Would you repeat that section number,
11 please?
12 Q The top of page 397.
13 A Yes. Okay.
14 Q "Name Lifetime and Refresh."
15 So names held by a NetBIOS Name
16 Server are given a lifetime, right?
17 A That's what it says in this section. I
18 just want to -- I was looking for context of when
19 this particular message or release messages -- this
20 particular section would be applicable.
21 (Witness perusing document.)
22 Q Do you -- do you have reason to believe
23 that names held by an NBNS are not given a
24 lifetime?

Page 272

1 A No. As I stated, protocols can be very
2 complex. I just want to be sure in what context
3 this portion is valid.
4 For example, when you asked me about
5 the name query in 15.1.2, there are actually --
6 there's a different section here, 15.3. --
7 Q Right. Well, I withdrew that --
8 A Yeah, but --
9 Q -- to try to move through this more
10 quickly.
11 A Sure. You know, I'm trying to look; but,
12 again, protocols are very complicated. You really
13 have to understand portions of it in the context of
14 the whole protocol to understand what it applies to
15 and what it doesn't apply to. And I can't give it
16 -- if you want an answer in context of something,
17 then I have to spend time to look at this some
18 more.
19 Q Well, the reference says, Names held by a
20 NetBIOS Name Server are given a lifetime during
21 registration, right?
22 A I agree that's what it says there. But,
23 again, you're talking about a protocol. There are
24 lots of parts of protocol. Maybe many parts are

Page 273

1 very similar. Some may apply in some
2 circumstances. Some may apply in other
3 circumstances. And you really have to look at the
4 whole to understand the context.
5 As I was saying earlier, there are
6 other name query sections later that -- and you
7 have to understand if -- if you're looking at the
8 right section in the context of your question;
9 that's what I'm trying to figure out.
10 Q Is it your understanding that this Name
11 Lifetime and Refresh is analogous to the WINS
12 release and -- I'm sorry -- renewal interval? Let
13 me restate that question.
14 Is it your understanding that this
15 Name Lifetime and Refresh is what is implemented in
16 WINS as WINS' name renewal?
17 A Again, you have to look at a lot of
18 things. I'm looking at section 15.5.1 now on
19 page 413, which also talks about name refresh; it's
20 also talked about in 15.1.3.2. In order to
21 understand which -- you have to really understand
22 all the different parts and when they apply and
23 when they don't. So I'd have to look at -- in more
24 detail if you're asking me about whether a specific

Page 274

1 feature in WINS is some specific section in this.
2 Actually, I think it would take some time to figure
3 out.
4 But, you know, they're gonna be
5 talking about name refresh maybe in more sections.
6 So, you know, you have to look at a protocol, it's
7 very complex. Again, there's -- there were two or
8 three different parts for the name query, beyond
9 what -- what you were pointing me to earlier.
10 There's other parts to this refresh beyond what
11 you're pointing me to here. And I need to look at
12 the whole thing in context.
13 Q In the -- under section 15.1.3.2, Name
14 Lifetime and Refresh, if you look down four
15 paragraphs, paragraph that begins with "The
16 lifetime," it says right there, "In the name
17 registration request, the end-node proposes a
18 lifetime value or requests an infinite lifetime."
19 Do you understand that an end-node
20 can propose a lifetime value of an infinite
21 lifetime in NetBIOS? Is that correct?
22 A I agree that's what it says there, but
23 I'll direct you to page 414, that says that the
24 timeout value returned by the NBNS is the actual

Page 275

1 refresh timeout that the end-node must use.
2 So it may be able to request
3 infinite, you know, but it's teaching that it can
4 be whatever interval. Certainly combined with the
5 WINS re -- WINS -- the reference, Exhibit 1012,
6 which shows that configuration, it doesn't talk
7 about a minimum, has a re -- a refresh interval, I
8 believe it was called, of 40 minutes.
9 But, as I stated earlier, there's
10 nothing that could prevent that from being one
11 second. I don't know how you'd request an infinite
12 one from that interface. It didn't -- it wasn't
13 obvious, but it certainly says here -- I'm not
14 gonna dispute what it -- what it says in that
15 section you were looking at on page 397 of
16 Exhibit 1014.
17 Q And in a situation in which there was an
18 infinite lifetime, then that name to address
19 mapping could persist in the database for -- in
20 perpetuity, right?
21 A That wouldn't make sense. I mean, an
22 administrator probably wouldn't allow that. And so
23 I agree that it says that it can be requested; but
24 as you see later on, on page 414, as I was pointing

Page 276

1 to you later, that the value returned by the NBNS
2 is the one that is used.
3 And it doesn't say -- it doesn't
4 teach one way or the other, because it's saying
5 infinite doesn't mean it's always infinite.
6 Q All right. And you don't always get what
7 you request in a NetBIOS time -- lifetime request,
8 right?
9 A I think you'd have to look at a specific
10 implementation to see, but, you know...
11 Q In fact, if you request a specific
12 lifetime, here, on page 397, it states, "The NBNS
13 is always allowed to respond with an infinite
14 actual period."
15 So even if you've requested just a
16 small lifetime, you could, without knowing it, get
17 an infinite lifetime, right?
18 A You know, protocols are typically defined
19 with a wide variety of options to support a wide
20 variety of -- of use cases. And so I agree that
21 this says that what you say is possible, but it
22 doesn't mean that, you know, rational system
23 administrators would say, Hey, let's try it and run
24 our network with it.

Page 277

1 It's just, you know, people -- people
2 who are -- who know how to do this stuff would
3 choose values that are appropriate for their
4 implementation.
5 Q And, alternatively, if you request an
6 infinite lifetime, sometimes you get a finite
7 lifetime, right, like this paragraph?
8 A You know, it's -- it's just defining a
9 protocol, and it's really the implementation that
10 you would look at, and what makes sense for the
11 implementers. It's saying what's possible with a
12 protocol.
13 You know, you can go in front of the
14 King of England and not follow protocol if you
15 wanted. But this is allowing for a wide range of
16 protocols, protocol options. And it's simply
17 teaching that there's a range of options. It's not
18 teaching that it always must be done this way or
19 always must be done the other way.
20 Q All right. Let's -- thank you. Let's
21 move -- it's getting late.
22 MR. NEWMAN: Counsel, I'm gonna hand
23 him the petition, Samsung petition, it's not marked
24 according to the required markings for an exhibit,

Page 278

1 but because it's a petition, I argue that we
2 wouldn't have to remark it. Do you guys agree with
3 that?
4 MR. ERICKSON: Refer to it in the
5 record as "petition" and the patent number, I
6 guess, will be fine.
7 MR. NEWMAN: So I won't need to
8 re-serve this on you guys?
9 MR. ERICKSON: That's fine.
10 A Thank you.
11 Q So I just handed you a document that is
12 Samsung's Petition for Inter Partes Review of
13 U.S. Patent No. 6,108,704 under 35 U.S.C. sections
14 311-319, and 37 C.F.R. Sections 42.1-80, 42.100
15 et seq.
16 This document is page numbered with a
17 title with page number, table of contents beginning
18 with i.
19 A Um-hm.
20 Q And the page number ending in 56. You
21 see that?
22 A I hate to, but this document has three
23 page is and two page iis, Roman numeral i and ii.
24 I, I, I (indicating).

Page 279

1 Q Oh. Thank you. That's the table.
2 So beginning on lower case i and
3 ending with No. 56.
4 A Sure, if you're not counting the cover
5 page, which doesn't have a number at all.
6 Q Right. Anyway, it's the petition.
7 A Okay. If you say '704 petition, I'll
8 understand that it's this document.
9 Q Thank you.
10 All right. So if you could turn to
11 page 35.
12 A Okay.
13 Q Next to the preamble to claim 1 at the
14 top of this chart, the second paragraph on the
15 right-hand column says, "Ex. 1014 at 378." Are you
16 with me?
17 A Yes.
18 Q "NetBIOS applications employ NetBIOS
19 mechanisms to locate resources."
20 Those resources are computers, right?
21 A I think they'd probably be some sort of
22 program running on a computer, rather than the
23 computer itself.
24 Q In NetBIOS, do -- does the NetBIOS Name

Page 280

1 Server register program names or computer names?
2 MR. ERICKSON: Objection, form.
3 A I believe they'd be more akin to the
4 computer -- the name of the host, the name of the
5 host computer.
6 Q On page 36, it -- you mention here that
7 "NetBIOS discloses that a computer sends a
8 registration request that includes the computer's
9 name and IP address and that the NBNS (WINS) server
10 provides a positive active response to acknowledge
11 registration," right?
12 A That's what it says here.
13 Q Do you agree with that statement?
14 A Yes.
15 Q When exactly does the computer, in this
16 situation, get its IP address?
17 A We're looking at this section that is
18 about the Microsoft Manual in view of NetBIOS; and,
19 you know, the Microsoft Manual talks about -- for
20 example, one method is getting it through a DH --
21 from a DHCP server. And, in that case, it would
22 happen during the -- the network software on the
23 computer being activated due to being brought
24 online either during the boot-up process or when

Page 281

1 networking, that was previously not connected,
2 becomes connected. And then it would get the IP
3 address, and it's the first thing that one needs,
4 to get an IP address, in order to communicate with
5 any other device using that Internet protocol.
6 Q It already has its IP address, right,
7 when it registers with the server, correct?
8 MR. ERICKSON: Objection, form.
9 A Because it's registering an IP address.
10 So it would have had to have an address through one
11 method or another before registering with the
12 NetBIOS or WINS server.
13 Q So it doesn't receive a IP address
14 following registration with a computer network,
15 right?
16 A Not in the standard case. I mean, if you
17 have -- if you had multiple ethernet, you know,
18 cards in a machine, it's possible that one is up
19 and already has gotten -- the computer has already
20 got an IP address for that before the other service
21 starts up on -- other network interface starts up.
22 So, I mean, there are these, again,
23 boundary conditions, but in a normal case where
24 computers, like a desktop, would have just one

Page 282

1 ethernet interface, then the whole network
2 interface would have to be up before getting an
3 IP address, and then, before you can use that IP
4 address, to tell someone else what your IP address
5 is.
6 Q All right. But you -- if -- strike that.
7 Under your construction of online,
8 connected to the network, a computer is not
9 connected to the network until it registers its
10 IP address with the server, correct?
11 MR. ERICKSON: Objection, form.
12 (Witness perusing document.)
13 A So, you know, looking back at the claim
14 construction on my declaration, Exhibit 1004 --
15 oops, wrong page. Sorry, it's page 38 of the
16 Exhibit 1004, which is differently numbered as a
17 document. But it's page 38. And it's online, for
18 example, registered with a server. So registered
19 with a server is only an example of being online.
20 Q In the -- in the situation in which
21 registering with a server is the online event,
22 doesn't the computer need to get its IP address
23 before it does that registration?
24 MR. ERICKSON: Objection, form.

Page 283

1 A Well, that's an example, if it's
2 registered with a server. If requires IP to
3 register with a server, then you would have to get
4 an IP address before registering with a server via
5 IP, but there are other networks layers and, you
6 know, there are lots of methods to be able to
7 register with a server, even if you didn't use IP,
8 for example.
9 Q But you're defining a network protocol
10 address to be a network layer address, right?
11 Well, strike that question. Let's not go down
12 there again.
13 MR. NEWMAN: Let me take a break and
14 see if I can consult with my colleague here and
15 wrap up within the next few minutes.
16 (Off record.)
17 MR. NEWMAN: So I don't have any
18 further questions for you today, Dr. Houh. Thank
19 you for taking the time to speak with us. I guess
20 I do have one more question.
21 BY MR. NEWMAN:
22 Q Have you spoken to your counsel about
23 your testimony today?
24 A No.

Page 284

1 Q Have you spoken to your counsel about any
2 potential redirect today?
3 A No.
4 MR. NEWMAN: Thank you. I'll pass
5 the witness.
6 EXAMINATION
7 BY MR. ERICKSON:
8 Q Dr. Houh, just a couple of questions on
9 this Exhibit, the '704 petition. If you'd turn
10 that to page 35.
11 A Okay.
12 Q See in the cite I believe you were
13 referred to on page 35, it says, "NT_PC1." Do you
14 see that?
15 A Yes.
16 Q What would one of ordinary skill in the
17 art understand "NT" to mean in that name?
18 A I think it would generally refer to the
19 fact that it's a Windows NT machine. If -- if the
20 company were following a good kind of, you know,
21 descriptive naming convention.
22 Q You see in claim 1 there's several
23 references to program code in the claim?
24 A Yes.

Page 285

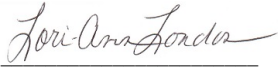
1 Q For purposes of claim 1 -- actually, I'm
2 going to withdraw that.
3 If you flip back a couple pages to
4 page 39.
5 A (Witness complied.)
6 Q There's a discussion of Telnet in the
7 context of claim 11?
8 A I see some discussion of Telnet on 39,
9 yes.
10 MR. ERICKSON: I don't think --
11 counsel, correct me if I'm wrong, but you didn't
12 ask any questions about claim 11, did you?
13 MR. NEWMAN: I didn't, no. I was
14 just getting ready to object.
15 MR. ERICKSON: Yeah. No-no. Yeah,
16 I'm not gonna do that one. Yeah. Okay.
17 (Pause.)
18 MR. NEWMAN: Actually, Brian, I did
19 ask questions about claim 11, just not -- we asked
20 about construction of claim 11.
21 MR. ERICKSON: That's right. We were
22 talking about C.1 for a while.
23 MR. NEWMAN: That's right. But I
24 didn't talk about any of these right here.

Page 286

1 (Pause.)
2 MR. ERICKSON: All right, I don't
3 have any other questions.
4 (Off record at 6:46 p.m.)
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Page 287

C E R T I F I C A T E

1
2 COMMONWEALTH OF MASSACHUSETTS
3 BRISTOL, SS
4 I, Lori-Ann London, Registered
5 Professional Reporter and Notary Public in and for
6 the Commonwealth of Massachusetts, do hereby
7 certify:
8 That, HENRY HOUH, Ph.D., the witness whose
9 deposition is hereinbefore set forth, was duly
10 sworn by me and that such deposition is a true
11 record of the testimony given by the witness to the
12 best of my knowledge, skill, and ability.
13 I further certify that I am neither
14 related to, nor employed by, any of the parties in
15 or counsel to this action, nor am I financially
16 interested in the outcome of this action.
17 IN WITNESS WHEREOF, I have hereunto set my
18 hand and seal of office this 27th day of May 2015.
19
20 
21
22 Lori-Ann London, RPR
23 Notary Public
24 My commission expires: 6/20/2019

Page 288

D E P O S I T I O N E R R A T A S H E E T

1
2
3 File No.: 338242
4 Case Caption: Samsung Electronics Co., Ltd., et al
5 vs. Straight Path IP Group, Inc.
6
7 D E C L A R A T I O N U N D E R P E N A L T Y O F P E R J U R Y
8
9 I declare under penalty of perjury that I have
10 read the entire transcript of my Deposition taken
11 in the captioned matter, or the same has been read
12 to me, and the same is true and accurate, save and
13 except for changes and/or corrections, if any, as
14 indicated by me on the DEPOSITION ERRATA SHEET
15 hereof, with the understanding that I offer these
16 changes as if still under oath.
17 Signed on the ____ day of _____,
18 2015.
19
20
21
22
23
24 HENRY HOUH, Ph.D.



Page 289

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24 HENRY HOUH, Ph.D.

Page 290

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23 SIGNATURE: _____ DATE:_____

24 HENRY HOUH, Ph.D.

