

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

SANDPIPER CDN, LLC,
Patent Owner.

IPR2025-00806
Patent 8,645,517 B2

Record of Oral Hearing
Held: August 6, 2026

Before JEFFREY S. SMITH, SHEILA F. McSHANE, and
MICHAEL T. CYGAN, *Administrative Patent Judges*.

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The above-entitled matter came on for hearing on Thursday, August 6, 2026, commencing at 9:00 a.m.

P R O C E E D I N G S

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JUDGE MCSHANE: Good morning. We're here to conduct a hearing in Google v. Sandpiper CDN, LLC. It's IPR 2025-00806. Can we have appearances, please, for Petitioner?

MS. ARNER: Hello, Your Honors. Erika Arner, Lead Counsel for Google. I'm joined today by backup Counsel, Chris Anderson and Cara Regan. And on the public line representing Google is Marisa Williams.

JUDGE MCSHANE: Thank you very much. And for Patent Owner?

MR. HAARS: Good morning, Your Honor. David Haars representing Patent Owner, Sandpiper. With me today is Lead Counsel, Jason Eisenberg.

JUDGE MCSHANE: Thank you very much. Okay. Very briefly, we have the entire record, including demonstratives. When referring to demonstratives, papers, and I guess you're going to show them over here, please do so clearly and explicitly. Please try to call out the slide numbers. It helps with the record.

And it does not appear that any confidential information will need to be discussed today, but as you're aware, there's some people who are calling in apparently. So, if any confidential issues arise, please let us know and we'll see what we have to do with them. The hearing will be conducted as set forth in the order, the oral hearing order. Each side has been allocated 60 minutes of argument time. Petitioner will go first and may reserve rebuttal time. Patent Owner then presents its opposition or its response and may reserve surrebuttal time.

1 Any questions on anything? Anything administrative? Any
2 housekeeping things to discuss at this moment? No? Okay, very good. So,
3 Petitioner, you may proceed. And Ms. Arner, while you're getting set up, do
4 you wish to reserve rebuttal time?

5 MS. ARNER: Yes. Could I reserve 20 minutes, please?

6 JUDGE MCSHANE: Okay. So, what I'm going to do, because
7 I'm not good with this device here, I'm just going to start this at a full one
8 hour and you watch your own time. It should show up there. Yep.

9 MS. ARNER: Yes, that's fine.

10 JUDGE MCSHANE: So, whenever you're ready.

11 MS. ARNER: Yes, one sec. Good morning. May it please the
12 Board. The '517 patent and the prior art references were all written in the
13 early 2000s when the internet was expanding rapidly. And in order to
14 accommodate that expansion, content providers would use, rather than just
15 one content server, multiple content servers. Often scattered around the
16 world.

17 And in order to figure out which of those content servers to use, a
18 DNS -- Domain Name Service -- server would be employed. And so, a
19 user's request would first go to the DNS server, which would make the
20 determination of which of the content servers was best suited to respond to
21 the user, and then return the IP address of that content server to the user.
22 The user would then use that IP address to get the content they wanted from
23 the proper content server.

24 So, set against that background, the '517 patent talks about setting
25 policies for directing traffic in that type of network and also for a GUI to
26 obtain a policy for directing traffic in that type of network. So, I'll start with

1 a brief overview of the '517 patent and the claims in particular, and then go
2 to the Beaumont Grounds and then the Ben-Shaul Grounds, unless the Board
3 would like me to go in a different order.

4 The '517 patent claims priority on its face to a provisional filed in
5 September 2001, as shown on Slide 2, but Slide 3 collects the chain of
6 applications. And as was briefed prior to institution, the earliest priority date
7 that the claims of the '517 patent are entitled to is October of 2007. And that
8 is because that's the first application that included disclosure of one of the
9 requirements of the '517 claims, which was the mail exchange records.

10 Since institution, when the Board preliminarily found that that was
11 the proper priority date, the 2007 date, nothing further has been proffered by
12 the parties by way of briefing or evidence. And everyone agrees that the
13 references are prior art, at least under 102(e), as having been filed before
14 even the very earliest application and published thereafter. And so, I'm
15 happy to address the issue more if the Board would like, but I think it's been
16 fully briefed and is ready if the Board wants to decide it in the final written
17 decision.

18 JUDGE MCSHANE: I think we're okay.

19 MS. ARNER: Okay, great. So, the disputes in the case, as the
20 Board I'm sure knows, revolve really around the two different combinations
21 of references. The Beaumont and Hasan references together underlie
22 Grounds 1 and 2, and Ben-Shaul alone or in combination with Hasan
23 underlie Ground 3. Only arguments have been made with respect to Claim
24 1. Patent Owner has not made any separate arguments with respect to the
25 other independent claims or any of the dependent claims. So, our plan is to
26 talk about the two different grounds and with respect to Claim 1, which is

1 what the disputed claim is.

2 So, going to an overview of what's recited in Claim 1, Figure 1 in
3 the patent shows a diagram of a system, like I described before, where
4 there's a client shaded in orange that's requesting content over the network
5 and a DNS server, or actually a series of DNS servers, name server, is
6 responding to the user to determine which of the content servers is the best
7 for the content for that client.

8 And as is shown in Figure 1, we have domain name servers or
9 DNS servers distributed around the world -- US, UK, and Japan. And the
10 client is given the IP address by the DNS server for the best content delivery
11 server, which are selected from those server networks up in the left-hand
12 corner in the blue. The patent also talks about having adaptive traffic
13 control policies, and that's where the policy piece comes in, in the claims,
14 that those are used by the domain name server. So, that's Slide 5.

15 Turning to Slide 6, the other part of the claims -- and part of, I
16 think, the complication in these claims -- is that there are two pieces of the
17 claims in dispute, and they are kind of interwoven throughout the claims.
18 One is that policy that we just talked about in the patent, and the policy is
19 discussed in multiple places. We've shaded it in green. And the second
20 disputed element -- and I'm sorry, let me turn off the notifications.
21 Apologies, Your Honors. There we go.

22 So, the policy is the first of the two disputed elements and kind of
23 sprinkled throughout the claims. And then there is the graphical user
24 interface with a decision tree, and the decision tree is also sprinkled kind of
25 throughout the claims. In the patent, the GUI is -- one example of a GUI
26 -- the graphical user interface is depicted in 10B with a decision tree inside

1 of the GUI that allows for changes to policies. And the patent explains that
2 those policies are dynamic down in the excerpt from the patent in column
3 24.

4 The dynamic policies described above allow a subscriber or a
5 server to easily specify changes to existing policies, such as changes to load
6 share, shed fraction policies, and other things, without having to update an
7 entire policy hierarchy. And then it shows on the left, a table that can be
8 used to modify the load share values as one of the examples it talks about,
9 and you can see there are numbers there. And so, this is the GUI that is used
10 in the patent to set at least one policy using a decision tree representing
11 rules.

12 I'll turn to Slide 8 now because this is really where a lot of the
13 dispute around the GUI decision tree comes into play. And this is where
14 -- let me go actually to Slide 9. So, it's the same claim language. So, you
15 can see sort of shaded there, there are multiple things recited in the decision
16 tree, and they kind of go back and forth, and they're a little bit tangled
17 together in the claim language.

18 And so, at the bottom of Slide 9, we have a framework that just
19 reorganizes them slightly to show the claim recitations in maybe a more -- at
20 least for me, more understandable fashion. And so, what the claim says is
21 that there needs to be this decision tree representing rules that's used by the
22 GUI, and the decision tree comprises two things. It comprises branch nodes
23 and resource nodes. And the claim goes on to explain that the branch nodes
24 represent decision criteria and the resource nodes answers to DNS requests.
25 So, it's very specific about especially the resource nodes. And the resource
26 nodes, there's really not a lot of debate once we get to the mappings about

1 whether the references have those answers to DNS requests.

2 But so, the claim goes on to give a little more detail about each of
3 those different types of nodes. For the branch nodes, decision criteria are
4 just decision criteria to be applied. That's all the claim tells us. While the
5 answers, or the resource nodes, are answers to DNS requests, and it gives a
6 universe of the types of things that can be the answers -- IP address,
7 CNAME, MX, et cetera -- then the claim goes on to give us a little more
8 detail about what the GUI has to do. The GUI supports specification of
9 these two things.

10 And so, they're not exactly parallel, and that's one of the reasons I
11 think that this framework is a little bit helpful to understand what the claim
12 really says, especially once we start talking about the mappings in the
13 petition. With respect to the decision criteria, the GUI has to support
14 specification of decision criteria from one of these categories: countries,
15 states, time zones, etc. And then the GUI has to support specifications of
16 answers that are either IP addresses or CNAME address records.

17 So, kind of with that background, let me just go back now to Slide
18 8 to show how those pieces of the decision tree GUI are explained in the
19 patent. We have the decision criteria, again, are the branch nodes, decision
20 criteria to be applied. In the patent, one of the examples is this splitting on a
21 country code. So, the servers in the network are organized by country
22 around the world. And then you see farther down, they're organized by time
23 zone within the U.S. There's the Alaska time zone, the Central time zone.
24 Those are decision criteria, which again have to be -- or which are referred
25 to as the branch nodes in the claims.

26 And then the exemplary resource node or answer, again, it's just an

1 IP address or a CNAME address, but in all the examples we're talking about,
2 it's IP addresses. And so, you can see here in the patent, the example of a
3 resource node or answer is the IP address for the server in London.

4 And again, the framework on Slide 9 just is an attempt to organize
5 the various claim limitations that describe those two pieces of what has to be
6 in the decision tree. So, across both of the grounds, there are three disputed
7 areas. The first is regarding whether or not the references teach the policy as
8 claimed, and the policy is discussed in multiple different parts of the claim.

9 The second disputed limitation relates to the decision tree GUI,
10 what we were just talking about. And that is also spelled out in multiple
11 different parts of the claim, including the multiple wherein clauses that
12 explain that framework that we just talked about. And then finally, Patent
13 Owner's argument that Hasan is not analogous art. And Hasan is brought in,
14 in most, but not all of the Grounds. Hasan is not needed in Ground 3A,
15 which is Ben-Shaul on its own single reference obviousness.

16 So, for each of the Grounds, those are the disputed elements. And
17 I think this kind of shows, if I just go back to 10, one of the things that has
18 made the briefing complicated here is that the references, or the claim
19 limitations are talked about in multiple different elements. Policy here is
20 talked about in multiple different elements, and then GUI on Slide 11,
21 multiple different elements.

22 So, in the petition, as we go through the individual mappings, we
23 discuss policy in multiple different places throughout the petition as we talk
24 about those different claim elements. Likewise, the decision tree GUI is
25 talked about in multiple different places in the petition and in the evidence
26 because that's where they are in the claim. And I think that is maybe one of

1 the sources where there's been some confusion back and forth between the
2 parties. So, I just wanted to flag that. That's just the nature of the claims,
3 and I'm happy to kind of walk you through the petition to make sure you
4 guys are comfortable with the mapping.

5 All right. So, I'll start with the Beaumont-Hasan Grounds. All
6 right. So, starting on Slide 14, I'll talk first about the policy piece of the
7 Beaumont-Hasan mapping and then the decision tree GUI, but I'm happy to
8 jump wherever you guys would like, and welcome questions, of course. So,
9 with respect to the policy and what is mapped in Beaumont-Hasan, the
10 Beaumont reference shows, very similar to the patent, a name server
11 network shown here in the annotated Figure 1 from the reference that has a
12 client, again shaded in orange, who is requesting content from a content
13 provider.

14 The content provider has multiple content delivery servers that are
15 shown as being located in the U.S., in France, and Japan, while the client is
16 located in Japan. And in order to select which of those is the best content
17 delivery server for that specific client, the content provider DNS server
18 makes that determination. The policy for making that is the rules in
19 Beaumont. And so, we have an excerpt from paragraph 31 in the reference,
20 which describes multiple different rules that set the policy for how that best
21 content policy, or content server is selected.

22 The beginning sentence in that paragraph, or in that excerpt, talks
23 about a rule for selecting the best content delivery server based on the
24 shortest estimated distance to the client. And the shortest estimated distance
25 is an example that's used in this Figure 1 that the reference walks through in
26 great detail and explains how at the end of that process of choosing the

1 server, the server in Japan is chosen. The user is in Japan and it has the
2 shortest distance, but other types of rules are also described.

3 Paragraph 31 goes on for almost an entire column and describes
4 multiple alternative rules, which are all policies in the Beaumont reference.
5 And there are two others described here. Other rules such as selecting one,
6 which is again the best content delivery server based on user preferences, or
7 in the example, a preference number that can be assigned to each content
8 delivery server and destination domain, and that's the content delivery server
9 is chosen that has the highest retrieved preference number.

10 This excerpt highlights another place where confusion, I think, has
11 come in, in the briefing. And that is that at least one of Patent Owner's
12 arguments seems to be that the Petitioners have mapped for the policy in
13 Beaumont, the preference number or the preference value. And the
14 reference itself introduces a little bit of confusion there, because what it
15 describes is a preference database table with a number of different kinds of
16 preferences. The preference number or preference value is but one column
17 in that table, one example of a preference, but the reference talks much more
18 broadly about user preference-based traffic direction. Preferences can mean
19 many things beyond that number, and I think that is helpful when we start
20 talking about the preference database table, which is where the preferences,
21 preference numbers, but also all of the other preferences can be stored.

22 JUDGE MCSHANE: Ms. Arner --

23 MS. ARNER: Yes.

24 JUDGE MCSHANE: -- on that, if you could go -- I think it's your
25 Slide 16.

26 MS. ARNER: Sure.

1 JUDGE MCSHANE: Is that right?

2 MS. ARNER: Yes.

3 JUDGE MCSHANE: Speaking of that, right?

4 MS. ARNER: Yeah.

5 JUDGE MCSHANE: So, what you're contending is the -- you're
6 contending that the red, right, that shows us --

7 MS. ARNER: All of those, yes.

8 JUDGE MCSHANE: That all of those --

9 MS. ARNER: Are preferences.

10 JUDGE MCSHANE: Are preferences.

11 MS. ARNER: Yes, according to the reference, and the reference
12 gives one example as the preference number, which is there in column 373.
13 But the preferences can also be based on the number of times that it's being
14 selected every hour. I prefer to have something selected more or less, or the
15 number of connections required. All of those can be user preferences set in
16 the preference database table. Preference numbers are one example for sure.
17 If we go back, I can show you a little bit more about this preference --

18 JUDGE MCSHANE: Yeah, you can go back --

19 MS. ARNER: -- database table.

20 JUDGE MCSHANE: You can go back to your --

21 MS. ARNER: Does that answer your question though? It looks
22 like --

23 JUDGE MCSHANE: Yeah, it does. Go ahead.

24 MS. ARNER: Okay.

25 JUDGE MCSHANE: Yeah, thank you.

26 MS. ARNER: But yes, we're talking about all of those things.

1 And really, it's going throughout column 31 that talks about the different
2 preferences, the user preferences. So, maybe I'll just give you one other
3 example that refers to multiple of those. If you're in paragraph 31 --

4 JUDGE MCSHANE: If it's in the record already, give me an
5 example.

6 MS. ARNER: What's that? Yes, I hope it is. The whole
7 paragraph 31 really is a lot of the rule explanation, and the reference that we
8 cite repeatedly throughout the petition and Dr. Lynn's testimony. But so,
9 throughout paragraph 31, there are several different alternative selection
10 rules, and I'll just point you to one that's -- there's not line numbers, but it's
11 about 20 lines up from the bottom of that column, the right-hand column,
12 that says the last alternative selection rule is to select one -- again, that's the
13 content delivery server based on a function of at least two factors, such as
14 preference, number of lost packets per time -- per unit of time, number of
15 connections, and estimated difference. For example, a weighted sum can be
16 computed using all of those.

17 And so, that's the way the rules talk about the different feature
18 -- the different pieces of this preference database table. All of those
19 different functions, or all of those different data are stored here in this
20 database table, and the user can configure the rules to consider whichever
21 they want, they can assign weights to some of them. All of those are
22 preferences in the rules.

23 JUDGE MCSHANE: Where does it say that the user can
24 configure those?

25 MS. ARNER: So, that is where the combination with Hasan
26 comes in. So, if I can go back, let's see, let's go to my Slide 15, which shows

1 -- so we have a combination for the decision tree GUI, which is how the
2 claim says the user supports the specification of things, right? And so, what
3 we have, the preference number, which is one of the things in the preference
4 database table, is described as being entered manually. So, there's explicit
5 disclosure of a user being able to input the preference number.

6 There's also disclosure in -- we have also here on the slide in
7 Beaumont that that table, the preference database table, can be represented
8 as a tree. And so, the combination comes in there with the tree GUI, which
9 is from Hasan. And so, the specific configurability just in the reference
10 explicitly is the preference number, which gives the motivation to combine
11 that Dr. Lynn talks about, the preference number entry.

12 Now, that does not meet the claim element, though, because then
13 we need to talk about the claim element, what's actually required for the user
14 to configure. So, remember, that's where here the things that the user has to
15 configure are the branch nodes and the resource nodes. There's not really
16 any fight over the resource nodes, the IP addresses. Those are in the first
17 column.

18 The DNS server returns an IP address. That really hasn't been
19 disputed. It's really the decision criteria and whether those are user
20 configurable, and the preference number is user configurable, for sure. The
21 reference says it explicitly, but it is not what the claim says -- in order to
22 meet the claim element, you have to support the specification of a decision
23 criteria that's based on world zone or country or one of those things. And
24 that is where the combination comes in. And that is where the reference of
25 Hasan talks about grouping servers using a tree, which is described in
26 Beaumont, but not shown. And in Hasan, there is a tree for grouping servers

1 by location, by world zone, by country.

2 And so, for the user configuration or supporting the setting of the
3 decision criteria that are specified in the claim, those world zone, et cetera,
4 it's the combination where the combination allows the user to use Hasan to
5 group servers by country, for example, which is one of the things recited in
6 the claim. And then the placement of those, the country, for example, can
7 then be used by the preference table going back to say, okay, the distance
8 between the requester and the server is based on the country that it's in. And
9 so, the example in Beaumont actually goes through that and chooses the
10 server that is in the same country.

11 JUDGE MCSHANE: Yeah. Ms. Arner, on the combination, if
12 you could, and you don't have to do it here, you can do it in your rebuttal.
13 But if you could give me the best cites that in the petition for support of that,
14 and the best cites to Dr. Lynn's declaration for that.

15 MS. ARNER: Sure.

16 JUDGE MCSHANE: But you don't have to disturb your flow right
17 now.

18 MS. ARNER: Oh, give me a sec. I might have it here.

19 JUDGE MCSHANE: It's up to you.

20 MS. ARNER: So, I would walk you through the petition, starting
21 on 19. And then the Lynn cites are cited there, Lynn 79, 80, etc. But so, on
22 petition 19, it talks about the combined Beaumont-Hasan GUI, and the
23 Hasan GUI, it says, has the hierarchical layout, the familiar tree structure,
24 and then Beaumont's network. The high-level branches in the GUI are the
25 decision criteria such as server health, destination domains, et cetera. And
26 so, those are the decision criteria there across the top. And then the sub-

1 branches or resource nodes represent the IP addresses or the answers, and
2 those are in the purple. So, that's how he walks through the mapping of the
3 substance of the branch nodes and the resource nodes.

4 And then as far as the input of that, the specification of the
5 decision criteria is then if you take it -- take you over to the petition at 21,
6 which cites to Lynn 88 and 89, where the criteria include destination
7 domains, illustrated as there's blocks of IP address in one paragraph, and
8 then there's also geographic criteria such as countries, decision, and world
9 zone. And then Hasan's GUI enables adding or removing objects within the
10 branch. So, again, Hasan is the one that has the grouping and adding, or
11 removing things from the server network to group them by, for example,
12 country.

13 When incorporated in Beaumont's network, the combined GUI
14 would thus allow grouping content delivery servers by IP address or
15 geographic zone, supporting the specification of decision criteria for the
16 branch nodes. So, that's again, paragraph -- page 21 into 22. So, it's that
17 combination of using the GUI to set the organization of the -- to assign
18 servers to countries, essentially. And then that allows all the different
19 determinations that are described in the rules in Beaumont, like the distance
20 to it.

21 JUDGE MCSHANE: All right, thank you.

22 MS. ARNER: I think one thing that's confusing a little bit
23 throughout the briefing here is that the preference number is the illustrate
24 -- the thing that's illustrated as being entered manually. And that is part of
25 the motivation to combine because it shows that things in that table can be
26 entered manually, it talks about a tree for that table being a tree, and then

1 that brings in the Hasan tree. But later in the claim, when we need to talk
2 about the supporting the specification of a world zone or a country, that's
3 where we have the combination itself providing it. Part of Hasan with the
4 grouping and then the Beaumont distance or other things that are based on
5 the location. That's how it is.

6 One other thing that adds confusion is that the claim does not say
7 you have to set the rule or define the rule. It says you have to support
8 specification of a decision criteria drawn from those things. And supporting
9 the specification, that's pretty wiggly language. And certainly, by grouping
10 them differently and then regrouping them, removing, and as it says you can
11 do in Hasan, that supports the specification of the decision criteria. The
12 decision criteria being the distance, for example.

13 JUDGE MCSHANE: Right. But it's fair to say that there's not
14 briefing on that issue about the wiggleness, if you will.

15 MS. ARNER: No, I think -- what do you mean? The --

16 JUDGE MCSHANE: Well, no.

17 MS. ARNER: The fact that it says support --

18 JUDGE MCSHANE: Per se. Per se. Right.

19 MS. ARNER: Well, I mean, the claim -- I'm just talking about the
20 claim language.

21 JUDGE MCSHANE: No, I understand. Right.

22 MS. ARNER: I mean, that claim language says, support the
23 specification of it,

24 JUDGE MCSHANE: Right.

25 MS. ARNER: I mean, the Patent Owner would have it -- you
26 believe that the claim says you have to define all of the specific logic in a

1 hierarchy. Things that aren't in the claim at all.

2 JUDGE MCSHANE: Well, yeah, but we don't have any claim
3 construction briefing.

4 MS. ARNER: No, no, no. There's no claim construction --

5 JUDGE MCSHANE: No, no.

6 MS. ARNER: -- issues. That's right.

7 JUDGE MCSHANE: Right, okay.

8 MS. ARNER: Yeah, but that's just the plain language of the claim
9 is supporting the specification of decision criteria --

10 JUDGE MCSHANE: Right.

11 MS. ARNER: -- not defining or something more specific. The
12 other thing --

13 JUDGE CYGAN: I just have a question on the policy limitation.

14 MS. ARNER: Yes. Yeah, I was going to go there.

15 JUDGE CYGAN: For the policy, you're not relying on Hasan,
16 correct?

17 MS. ARNER: For the policy?

18 JUDGE CYGAN: Correct.

19 MS. ARNER: No. Other than the fact that Hasan talks about
20 generally, you can group servers to make application of policy easier. No,
21 the policy is coming from Beaumont.

22 JUDGE CYGAN: And it's coming specifically from Figure 3 of
23 Beaumont, right? The preferences shown in Figure 3 of Beaumont, I think,
24 is how you characterized it.

25 MS. ARNER: No, not quite. And I think that's another -- I'd love
26 a chance to clear up that confusion. So, if I could start you, let's -- if we

1 could just talk about what the petition -- how we talk about policy in the
2 petition. And I think this is -- I think the thing that is challenging here is the
3 fact that policy is discussed in multiple different parts of the claim. So, I'll
4 take you to --

5 JUDGE CYGAN: Well, let's take a look at limitation 1B.

6 MS. ARNER: Well, can we start, though, if you would -- because
7 where we start the ground -- if you could just bear with me for one second.
8 Before we get to the limitations and the specific mappings, we also have the
9 overview of the ground, which explains Beaumont and what the policy is.
10 And so, on page 10, we are talking about the mapping of Figure 1 in general,
11 and it talks about the content provider selecting content servers by
12 identifying servers mapped to the client domain, selecting a particular server
13 using a preference database. And so, it is that preference table database that
14 is being used.

15 The preference database may enable selecting the closest content
16 server -- closest based on the distance, which is the one we talked about -- or
17 through other selection rules, including customizable preference values. So,
18 there we're referring to Beaumont explaining selection rules that include
19 customizable preference values.

20 And then as we go to the motivation to combine, on page 13 into
21 14, we talk again about Beaumont. And this is where Beaumont's teaching
22 of manually entered rule preferences. In view of that, a POSITA would have
23 been motivated to implement Hasan's platform-independent teachings in
24 Beaumont to allow manual entry of policy and rules. So, that's the backdrop
25 before we get to -- and then, Judge, I'm happy to go to whichever of the
26 mappings you'd like to -- when we later on petitions 18 through 22 go

1 through -- again, policy comes back around at the later parts of the claims.

2 And you were saying 1B is the one that you'd like to look at?

3 Because I think there in 1B at the end, I don't know if there was a particular
4 part you were looking at, but sort of the second half of that on page 18.

5 Again, we're talking about the combined GUI for allowing the user to set
6 -- support the setting the policy, allowing the user to set server preferences
7 and rules. Does that get to what you were wondering about or --

8 JUDGE CYGAN: Well, certainly there's -- the petition mentions it
9 supports setting it, right? But the way that it does it is in the sentence before
10 that. It's launching a menu for assigning the preferences shown in Figure 3
11 in Beaumont.

12 MS. ARNER: Um-hum, yes.

13 JUDGE CYGAN: Okay. So, it may support other rules. There
14 certainly may be other rules, and I think you pointed to this disclosure in
15 Beaumont of that.

16 MS. ARNER: Um-hum.

17 JUDGE CYGAN: But the rules have to be set -- have to be shown
18 in the combination --

19 MS. ARNER: Um-hum.

20 JUDGE CYGAN: -- to be something which is part of the decision
21 tree.

22 MS. ARNER: Um-hum.

23 JUDGE CYGAN: The concern is, is that the only thing which is
24 shown to be combined in the decision tree are the preferences shown in
25 Figure 3 of Beaumont.

26 MS. ARNER: Not -- okay, yeah.

1 JUDGE CYGAN: When we look at the -- at least your counterpart
2 on the other side has pointed out -- everything in the table is simply data --

3 MS. ARNER: Um-hum.

4 JUDGE CYGAN: -- and it's not really a policy. So, what is your
5 response to that?

6 MS. ARNER: Right. So, we're really looking at the rules, which
7 all of paragraph 31 describes the rules in Beaumont. And so, the rules are,
8 select the server that is closest, or select the server based on a preference,
9 select the server based on a preference value. If I can go to Figure 4, it
10 provides a little bit more detail about how the rules are implemented. So,
11 there is the preference database table that we've been talking about, that
12 Figure 3. An example of it is shown here in Figure 4, preference database
13 table 453. There's also a mapping database table 452. They are all stored in
14 a disk, 451, which is part of DNS server disks 450.

15 So, these are all -- everything in that Figure 4 is stored in the DNS
16 server. So, the preference database table, the mapping database table, and
17 also the software. And that software, I think, is what they're -- what the
18 Patent Owner is trying to say. The rules are actually the selecting block 414,
19 or they're the software. The rules in Beaumont apply all of it. The software
20 is the instructions to implement choosing the server based on the closest
21 distance, and the closest distance is determined by the data that's in that
22 database. All of that has to be used by the DNS server in order to make the
23 selection of the best content server for the user.

24 JUDGE CYGAN: So, your contention is that by selecting options
25 in Beaumont's table combined into a decision tree, those options in
26 Beaumont's table have now been put in decision tree form by Hasan. By

1 selecting those, they are selecting the rules and the policies behind those?

2 MS. ARNER: So, the decision tree format, so the table -- and I'll
3 point you to a specific -- if we're looking at the table, just the table, does that
4 represent a tree? The reference says it can, that the preference database
5 tables represented in a table, but it could be in a tree. So, on page 19 of the
6 petition, we talk about how that is a tree, how that would be interpreted to be
7 a tree when there are multiple decisions to be made. And so, the middle
8 paragraph on 19 explains Beaumont teaches that its content provider DNS
9 server selects a content delivery server closest to the client using an
10 estimated distance from the mapping for each of the mapped content
11 delivery servers to the domain.

12 And then in the next sentence, which is citing to Lynn at 80, in
13 other words, Beaumont system first identifies working servers sharing the
14 destination domain of the client. So, that's the first step in the tree, the first
15 decision that's made, and then selects a server from within that subset in the
16 second step to handle the distance based on a distance or other preferences.

17 And so, if you look at the actual -- the description in paragraph 31
18 of the reference that walks through step by step how that works using this
19 reference table, it shows that first, you narrow it to the ones that have the
20 same destination domain, which is three of them. And then you look at the
21 estimated distance and you choose the one that has the shortest distance,
22 which is how it gets to the Japan server. It is line by line explaining that
23 process here. So, that is the hierarchy, I think, that we're seeing in the table
24 alone.

25 JUDGE CYGAN: So, are you contending that that middle
26 paragraph on page 19, the two sort of rules about using an estimated distance

1 and selecting the server based on the distance, are those things which in your
2 combination set by the user, or are they not set by the user?

3 MS. ARNER: They make it a tree is what we're talking about.

4 JUDGE CYGAN: Well, there can be a tree structure --

5 MS. ARNER: The user configuration --

6 JUDGE CYGAN: -- but what can the user set in that tree?

7 MS. ARNER: Right.

8 JUDGE CYGAN: The user --

9 MS. ARNER: What the user can do is use Hasan to set the
10 countries for the servers.

11 JUDGE CYGAN: The user can set the countries for the servers --

12 MS. ARNER: Which supports the specification of --

13 JUDGE CYGAN: -- but do they set the rule that the estimated
14 distance, the chosen estimated distance is the smallest one?

15 MS. ARNER: That's not required by the claims.

16 JUDGE CYGAN: Well, then what is the policy then?

17 MS. ARNER: What's that?

18 JUDGE CYGAN: What's the policy that we're looking at here?

19 MS. ARNER: The rule to select the -- in paragraph 31, it has the
20 examples of rules. The policy is the rule to select the server that is closest --

21 JUDGE CYGAN: Okay.

22 MS. ARNER: -- or to select the server that has the lowest value of
23 this weighted sum.

24 JUDGE CYGAN: Okay. So, if those are the policies, in your
25 combination, how are those set by the users?

26 MS. ARNER: So, again, it doesn't say anything about in the claim

1 that the user specifically sets the policy from scratch or sets the hierarchy or
2 anything like that. What the claim says is that there has to be a decision tree
3 representing rules. And all it says about that is that it has to be used to have
4 -- it comprises the two things, the decision criteria and the resource nodes.
5 So, arguably, this decision tree is describing -- you have to have decision
6 criteria and you have to have resource nodes.

7 JUDGE CYGAN: Well, let's go to the language of 1B, and the
8 GUI is used to obtain at least one policy for the direction of network traffic.

9 MS. ARNER: Um-hum.

10 JUDGE CYGAN: So, what's the policy that is obtained through
11 the GUI?

12 MS. ARNER: The policy is the rules -- is represented by the rules,
13 that are set --

14 JUDGE CYGAN: And --

15 MS. ARNER: -- using the decision criteria and the answers.

16 JUDGE CYGAN: And can the user input those policies --

17 MS. ARNER: What the claim requires -- right. What the claim
18 requires is that the GUI supports the specification of it using this decision
19 tree. The claim doesn't require precision in the way that I think the Patent
20 Owner thinks it does.

21 JUDGE CYGAN: Well, can you explain to me how we should
22 interpret that first line of B? Let me make sure I'm looking at the same --

23 JUDGE SMITH: If you could, Ms. Arner, turn to Slide 6 of your --

24 JUDGE CYGAN: Or Slide 10, perhaps.

25 JUDGE SMITH: Or Slide 10.

26 MS. ARNER: Yeah, whichever. Here's 6.

1 JUDGE CYGAN: Can you turn to Slide 10? I think you have the
2 policy limitations on there.

3 MS. ARNER: Yes.

4 JUDGE CYGAN: Okay. So in 1B, it says using said GUI to
5 obtain at least one policy for the direction of network traffic. So, doesn't that
6 say that the GUI is used to obtain the policy?

7 MS. ARNER: But it explains further wherein the GUI supports the
8 setting of the policy using -- that explains how the GUI does that. The GUI
9 supports the setting of the policy using a decision tree representing rules.
10 That's the second half of that claim, and that's where the claim refers to the
11 decision tree, and the decision tree includes those two things -- decision
12 criteria and answers. That is how the claim explains how the GUI is used to
13 obtain the policy. And I think part of it -- go ahead.

14 JUDGE CYGAN: You go ahead.

15 MS. ARNER: No, you're not convinced yet. Can I answer any
16 more -- I mean, I think the challenge again is that the claim says policy in
17 multiple places. It doesn't exactly explain the difference, if there is one,
18 between a policy and rules. What we have is what the claim says generally.
19 Beaumont has multiple rules. I don't think there's any debate that the rules
20 of Beaumont are the policy. It sounds like what you're really concerned
21 about is the user configuration of the policy, that this GUI has to allow
22 configuration of the policy or specification of the policy.

23 JUDGE CYGAN: Right.

24 MS. ARNER: And I think the key is, what B says, which is the
25 wherein, it does that by using a decision tree that represents rules, and that
26 the decision tree has the two things that are used by the rules -- the criteria

1 and the answers.

2 JUDGE SMITH: But isn't there implicit in that wherein clause,
3 isn't there wherein the GUI supports the setting by the user of at least one
4 policy? Isn't that implicit in there?

5 MS. ARNER: The user being involved? Yes.

6 JUDGE SMITH: The user sets the policy, right? I mean --

7 MS. ARNER: That's right. And that's where the combination is.
8 The user is using the Hasan -- in our specific, when they're configuring the
9 specific decision criteria in the claim, they are configuring the policy,
10 because that's what it says in 1B. I'll go back to that slide. It says, using it to
11 obtain the policy wherein the GUI supports the setting of the policy using a
12 decision tree representing rules. And so it is that decision tree that is
13 representing the rules. As the claim says, the decision tree has two things. It
14 has branch nodes and resource nodes, which is how we broke it down here
15 on Slide 9. Those are the two things that are in the decision tree that allow
16 the GUI to help the user set the policy. And so --

17 JUDGE SMITH: Okay.

18 MS. ARNER: Okay? Yeah. I think one of the other points that is
19 important to bear in mind when we're thinking about what the language in
20 the claim means as far as policy rules and setting a policy, supporting
21 specification of a policy, is what the patent says. And so, just going to our
22 Slide 18, we have a bit from the '517 patent on the left that talks about how
23 policies are set. We talked a little bit about this during the overview, but that
24 paragraph in column 24, talking about dynamic policies, a subscriber or
25 server can easily specify changes to existing policies, such as changes to
26 load share, shed fraction policies, et cetera.

1 And the way they do that in the patent is by changing values in the
2 table that's shown in 9A. And that can be done manually, as is described in
3 that second excerpt here. The subscriber may adjust the load share of the
4 servers either by logging in or by logging into the adaptive traffic control
5 manager to change the load share values manually.

6 And so, to the extent we're talking about what the claims, what the
7 patent is talking about to set the policy, all the GUI in the claims has to do is
8 set decision criteria and answers. It does not have to set the entire policy.
9 That's not what the claims say. And changing a policy or setting a policy
10 based on whether it's preference numbers, is the example that's entered
11 manually, or things that are groupings of servers that are used by the other
12 preferences in that table in the combination with Hasan, it lines up with what
13 the patent actually says you can do to support the specification. Again, it
14 does not define the entire rule. It is supporting the specification of these
15 things.

16 JUDGE MCSHANE: Okay, Ms. Arner, one more -- just a
17 question on Beaumont.

18 MS. ARNER: Yes.

19 JUDGE MCSHANE: If you go to Slide 16 again.

20 MS. ARNER: Sure.

21 JUDGE MCSHANE: So, you're indicating that the answers -- I
22 think down here -- the answers to -- what does the claim say?

23 MS. ARNER: To DNS requests? Um-hum.

24 JUDGE MCSHANE: Right. Answers for resource nodes?

25 MS. ARNER: Yes. So, the resource nodes -- and again, I had that
26 sort of framework on Slide 9 that I think breaks it down maybe -- but so,

1 yes, the resource nodes have to be answers to DNS requests.

2 JUDGE MCSHANE: Right.

3 MS. ARNER: And then they give several examples, and then the
4 GUI has to support specification of the answers in the form of IP addresses.

5 JUDGE MCSHANE: Right.

6 MS. ARNER: Yes.

7 JUDGE MCSHANE: So, the answers here on this slide are --

8 MS. ARNER: Are the delivery service addresses, yes.

9 JUDGE MCSHANE: Right.

10 MS. ARNER: And you can see that when you look at the example
11 in paragraph 31 in Beaumont. Those are the specific addresses of the
12 different content servers -- Japan, France, and the U.S.

13 JUDGE SMITH: Right.

14 MS. ARNER: And so, when it goes through the decision process,
15 it looks at the ones that are in the same domain, and then it looks at the
16 shortest distance. It returns the IP address from this column, and that is all
17 described word by word in paragraph 31.

18 JUDGE MCSHANE: Right.

19 MS. ARNER: Those are the answers.

20 JUDGE MCSHANE: Right. But the claim also, again, it's the
21 wiggly language, wherein the GUI supports the specification of the answer.

22 MS. ARNER: Yes.

23 JUDGE MCSHANE: Right? So, what's your contention as to how
24 that's done?

25 MS. ARNER: So, the ultimate answer is decided by the input by
26 the user, using the combination again. The user configures the countries,

1 configures the servers into the countries, which supports the specification of
2 which server is going to be chosen. So, the combined GUI allows them to
3 say this one's in Japan, this one's in the U.S., this one's in France. And that
4 supports the specification of how it gets to the answer because the rule is
5 then applied, check the domains that are closest, or check the domains that
6 are in the same domain, check the distance, and then get to the answer.

7 And so, the grouping to make the countries in the Hasan example
8 or the Hasan GUI, is what sets the decision criteria, its multi-level decision
9 criteria. It's in the domain and then it's shortest distance, and then it comes
10 up with the chosen IP address -- or the chosen server, and returns that IP
11 address. So, supporting the specification is really what's happening there.

12 JUDGE MCSHANE: All right, thank you.

13 MS. ARNER: And I'll note also that the Hasan GUI shows the
14 cities -- or shows the cities are resolved into the IP addresses, and that's very
15 similar to what's shown in the patent, which shows the city is London and
16 the IP address is the London IP address. And there really hasn't been a
17 debate about whether -- generally whether IP addresses are returned. I might
18 turn to the Ben-Shaul Grounds for just a few minutes, if I may, unless I'm
19 happy to answer --

20 JUDGE SMITH: Just real quick before you do. One point that
21 Patent Owner made that I'd like you to address.

22 MS. ARNER: Yep.

23 JUDGE SMITH: On page 39 of Patent Owner's slides, and it's in
24 the briefing too, Patent Owner makes the point that the petition maps the
25 preference values to the policy, to the decision criteria, and to the answer. Is
26 that true? Does the petition map the preference values to three distinct claim

1 limitations?

2 MS. ARNER: Well, first of all, that's allowed. There's not a legal
3 prohibition on that, if they serve different functions, but --

4 JUDGE SMITH: So, is that a yes?

5 MS. ARNER: -- we don't -- no, it is not a yes. We don't represent
6 this preference number really to anything. So, they're trying to say that the
7 preference values in 373 are mapped to all those different things, which is
8 not the case. We looked at the petition in paragraphs 10, paragraphs 13 to
9 14, and then in the elements in paragraph 13. The policy is the rules in
10 Beaumont. The rules use a preference table or database table, which is
11 shown in that Figure 4. And so, what did -- they said three things.

12 JUDGE SMITH: So, the policy you're mapping to the rules in
13 Beaumont --

14 MS. ARNER: Yes.

15 JUDGE SMITH: -- and then the decision criteria in the claim?

16 MS. ARNER: Those are the preferences in the preference
17 database table. They are not the preference value. I think what they're
18 trying to do is say all we point to is the column that says preference.

19 JUDGE SMITH: So, in that figure, it's the things in pink at the
20 top?

21 MS. ARNER: That's right. All of those are --

22 JUDGE SMITH: Those are the decision criteria?

23 MS. ARNER: -- decision criteria. They're all things that are
24 considered by the rules. Yes.

25 JUDGE SMITH: And then the answer?

26 MS. ARNER: The answer is the IP addresses in purple.

1 MS. ARNER: We don't actually map the preference number itself
2 to anything.

3 JUDGE SMITH: So, what's the difference between the rule and
4 the preferences? So, you're saying the policy is mapped to the rule?

5 MS. ARNER: Yes.

6 JUDGE SMITH: And the decision criteria is mapped to --

7 MS. ARNER: The decision criteria are the preferences --

8 JUDGE SMITH: Are the preferences.

9 MS. ARNER: -- in the preference database table in Beaumont.

10 JUDGE SMITH: So, what's the difference between the rule and
11 the preferences?

12 MS. ARNER: The preferences are used by the rule. They're
13 applied in the petition. We refer to them as the selection rules or the rule
14 preferences. When you look at Figure 4 of the reference, it talks about the
15 DNS server applying the rules that are described in paragraph 31 using
16 various data that's stored in the preference database table and the mapping
17 database table and software that is also in the server. And so, the database
18 table is like the decision tree GUI, which is supposed to specify decision
19 criteria and answers, and that's what's in that table.

20 JUDGE SMITH: So, paragraph 31 calls them rules?

21 MS. ARNER: Rules, yes. And so, throughout paragraph 31, there
22 are four or five different examples of rules.

23 JUDGE SMITH: What's an example of rule?

24 MS. ARNER: Okay, let me grab my -- so, on the top of paragraph
25 31 are the rules that we've talked about most, the rule for selecting the best
26 content delivery server according to the shortest estimated distance to the

1 client.

2 JUDGE SMITH: Okay. So, what --

3 MS. ARNER: Or other rules, such as selecting one based on user
4 preferences, or a rule selecting based on a preference number. Later on,
5 there's a selection rule selecting the one with the smallest number of lost
6 packets.

7 JUDGE SMITH: Let me just interrupt you.

8 MS. ARNER: Sure, of course.

9 JUDGE SMITH: What's the difference between what you just
10 read and what's at the top of that Figure 3 of Beaumont?

11 MS. ARNER: What's at the top of Figure 3? Here. Yeah. So,
12 this specific example is described there, but where we're talking about is the
13 rule is to find the server -- find the content server with the shortest distance.
14 And that's done by using the preferences, which include a distance.

15 So, in order to implement that rule, the DNS server in Beaumont
16 uses the software that it has in the DNS server, and it uses data that's stored
17 in the DNS server, including all of the different kinds of preferences here,
18 including the distance. And underlying that, the distance can be influenced
19 by the user in the combination with Hasan, where the user specifies the
20 countries of the different servers.

21 JUDGE SMITH: Okay. Okay. Thank you.

22 MS. ARNER: Of course.

23 JUDGE MCSHANE: Ms. Arner, if you could address Ben-Shaul a
24 little bit, please.

25 MS. ARNER: Yeah, I want to be sure I can do it in my rebuttal.
26 So, if I can just --

1 JUDGE MCSHANE: Thank you.

2 MS. ARNER: -- go to it for a few minutes. Okay. All right, so let
3 me take you to our Slide 24 to explain the mappings to Ben-Shaul. So, like
4 the patent, Ben-Shaul describes a name server network where a user is
5 requesting content from a content provider. The DNS server is called an
6 EdgeDNS server, and it returns an IP address of an edge server, which is
7 shaded there in blue, edge server 30, and the user can then use the IP address
8 of the edge server to gather or to get the content.

9 The policies in Ben-Shaul are described variously as DNS
10 directives or edge server policies. And so, I think that paragraph -- excerpt
11 from paragraph 41 -- helps us to see where this comes in, the policy piece.
12 So, the EdgeDNS is responsible for returning the IP address of the edge
13 server. So, it's performing DNS functions for another server. The control
14 over the resource zones directed to the edge servers is controlled by an edge
15 server policy.

16 So, we have edge server policies that control which edge server is
17 chosen. And then in paragraph 177, the reference says specifically in that
18 second excerpt that the configuration of the EdgeDNS and its coordination
19 with other servers is controlled by DNS directives that originate from policy
20 control server 42. That policy control server 42 is a key thing in the
21 combination of the grounds proposed here, and it helps to explain how the
22 user can configure policies for the DNS server.

23 So, that policy server 42 is also shown, and more detail is given on
24 Figure 6. So, taking you to Slide 25, you have an explanation of what's in
25 that policy control server and how things get into that policy control server.
26 So, it shows in Figure 6 a content delivery manager that is associated with

1 that policy control server. It says there on the right-hand side, the content
2 delivery manager is responsible for specifying content delivery policies that
3 are written in CDML, which is a content delivery markup language.

4 So, that is how policies get into policy control server 42. And you
5 can see here, Figure 6, the policy control server 42 is where the DNS
6 directives are drawn from in the name server network. One of the two
7 graphical user interfaces that we talk about in our mapping in Ben-Shaul is
8 that CDML graphical editor that's shown in blue there within the CD, or the
9 content delivery manager, and that is how users can configure content
10 delivery policies. And so that is one of the two GUIs that we talk about.

11 I'll show you, if you'll just bear with me, on Slide 27. I think we're
12 all clear on that there are three different mappings for the decision tree GUI
13 in the petition. One is Ben-Shaul's front edge tool, which we'll talk about in
14 a minute. The one I'd really like to talk about is the middle one, which is the
15 combination -- single reference obviousness combination -- of that CDML
16 graphical editor we just talked about and the front edge tool GUI, that those
17 two would have been combined, to the extent they're not already the same,
18 in the reference. And that is what provides the decision tree GUI.

19 JUDGE MCSHANE: Yeah. If you could just briefly review
20 -- and I know what's generally in the petition -- briefly review the best
21 argument for the rationale to combine those GUIs.

22 MS. ARNER: Yes, sure. So, I'll take you to -- if I could take you
23 to the Lynn declaration at paragraph 81. Oh, wait, sorry. Let me get that
24 right again. Sorry, I wrote down the wrong number. Give me one second.
25 Maybe it's 181. Oh, here. I'm sorry. Give me one sec.

26 JUDGE MCSHANE: Again, if you want to respond in your

1 rebuttal, that's fine, too.

2 MS. ARNER: Yes, I'm sorry. I had written down the citation, but
3 I want to be sure I get you the right one. So, if I can do that on rebuttal.

4 JUDGE MCSHANE: Yes, that's fine.

5 MS. ARNER: In a few minutes I'll have -- perfect, thank you. But
6 so, the theory of combination is that the reference describes DNS directives
7 coming from the policy database, which is shown here in 42. The way that
8 things get into that policy database is they're written in CDML. So, the DNS
9 directives are one type of policy that is written in CDML, but there are many
10 others that specify content delivery, and that those are used -- those are all
11 written in the CDML graphical editor.

12 And so, if we look at the front edge tool of Ben-Shaul, which
13 allows for the grouping of servers according to -- into groups, logical
14 aggregations of nodes, like by country, and then the servers -- the IP
15 addresses for the servers -- are the answers. The way that that's done allows
16 the user to group them by country, and then the policies that the CD -- the
17 DNS server will apply, are from the CDML editor. So, the specific delivery
18 DNS directives are written in CDML and stored in that policy.

19 And I think maybe the best places in the reference to look at that
20 -- I can point you to a couple places where I think the reference explains that
21 CDML is used for DNS directives, as well. So, the CDML editor is used for
22 policy for the DNS directives. And paragraph 39 gives many examples of
23 what CDML can be used for, including DNS redirection policies, and also
24 describing groups specified by region, language, or interest. So, that
25 grouping by region.

26 And so, using CDML to write policies to group servers by region.

1 And then in the EdgeDNS description, which starts at paragraph 41 about
2 returning the IP address and selecting the edge server -- excuse me,
3 paragraph 44 says specifically that regional and group differentiation, which
4 is done by CDML, allows for differentiated delivery based on the location or
5 organization membership of the edge server. So, there we have the
6 EdgeDNS server delivering according to policies, directives that are written
7 in CDML.

8 The last point I'll make on the Ben-Shaul mapping, unless, of
9 course, I'm happy to have more questions, is to show the mapping again here
10 to the specifics. Remember, in the claims, the decision tree GUI has to have
11 two things. It has to have branch nodes or decision criteria and answers.
12 And so, the front edge tool is setting by allowing the -- as the reference says,
13 you can branch them together. It uses the terms, the edge servers are the
14 leaves in this grouping, and then the internal nodes are the logical
15 aggregations. So, here it's by country location.

16 And so that is the decision criteria, and the GUI allows the user to
17 set those different groupings. And so, that is the user supporting the
18 specification of decision criteria, including a country, which is one of the
19 examples in the claim. And then the answers are returning the IP address for
20 those -- the servers in those specific cities within the country. And that's
21 shown in the leaf nodes in this tree GUI in the front edge tool, and they're
22 written in CDML. So, to the extent the CDML editor writes all of the
23 policies, The DNS directives are drawn from that same policy database to
24 implement this type of control.

25 JUDGE MCSHANE: All right. Thank you, Ms. Arner. We had a
26 lot of questions, so we'll give both sides an extra five minutes for rebuttal

1 and surrebuttal, respectively. Okay?

2 MS. ARNER: Thank you for that. I didn't hit on analogous art,
3 and I appreciate that the burden is the Petitioner's. And so, I believe our
4 analogous art argument is clear in the papers, but I'm happy to address
5 questions on it now or in the rebuttal, if needed, but --

6 JUDGE MCSHANE: Thank you. So, you will have basically 10
7 minutes in rebuttal.

8 MS. ARNER: Okay.

9 JUDGE MCSHANE: Thank you.

10 MS. ARNER: I really appreciate that. Thank you.

11 JUDGE MCSHANE: Counsel, would you like to have -- reserve
12 any, or give us an idea of how much time you're going to take for
13 surrebuttal?

14 MR. HAARS: Yes, Your Honor, I would like 20 minutes for
15 surrebuttal, please.

16 JUDGE MCSHANE: Okay. Very good. Thank you. You may
17 proceed when you're ready.

18 MR. HAARS: All right. Thank you, Your Honor. Again, my
19 name is David Haars, representing Patent Owner, Sandpiper. I want to jump
20 right into the arguments, particularly with respect to the combination of
21 Beaumont and Hasan. And I want to speak about Petitioner's Slide 16. That
22 was the point of some discussion just a bit ago. Petitioner argued that in the
23 combined GUI, users could use that combined GUI to group the different
24 countries and to configure the different countries, which would affect the
25 underlying mapping of the server selection process.

26 That argument is missing from the briefing. Petitioner did not

1 argue anything about configuring the different countries or configuring
2 -- reconfiguring this preference table based on the GUI. The Petitioner
3 argues in its briefing that you can modify the grouping in the user interface,
4 but fail to -- completely fail to argue any sort of connective tissue or link to
5 that preference table that would rearrange the preference table to reconfigure
6 the grouping, which would then affect the server selection process.

7 And this can be shown, for instance, on Petitioner's motivation to
8 combine sections in the petition starting on pages 13 and 14. This
9 discussion is completely devoid of any rationale for reconfiguring that
10 preference table in a manner that affects the server selection process. So, for
11 instance, there is no discussion of selecting which content delivery servers
12 are mapped to which destination domains, selecting which delivery servers
13 are mapped to a particular country, or any other criteria. That is completely
14 missing from the briefing. It is also missing from the references.

15 Beaumont teaches one user input, and that is of the preference
16 values. That is it. Every other parameter or piece of data in that preference
17 table is automatically input. There is no disclosure of any user entry of
18 anything else other than those preference values. And in Hasan, it teaches a
19 GUI that lets users rearrange hierarchies in the GUI, as shown, for instance,
20 in Figure 6A of Hasan. But that rearranging the GUI in Hasan does not
21 affect any underlying policy or affect any underlying data storage or
22 mapping or anything like that, and Petitioner does not argue that it does. So,
23 this teaching is missing from the references. It is missing from the briefing,
24 and Petitioner has not provided any explanation as to why a POSA would do
25 this.

26 Now, turning back to Patent Owner's slides here, I want to discuss

1 Beaumont and Hasan again, and the claimed policy for direction of network
2 traffic. Now, as Petitioner's Counsel agreed, both parties agree that the
3 claimed policy is a rule for directing network traffic. The specification
4 states that the invention solves these problems by providing a means to
5 distribute network traffic according to a configurable set of rules, and that
6 the decision tree is -- or a policy is created by generating a decision tree
7 representing the (INDISCERNIBLE) rules that the user wants to apply.

8 JUDGE MCSHANE: Yeah. Counsel, just a brief point.

9 MR. HAARS: Yes, Your Honor.

10 JUDGE MCSHANE: If you could do callouts, because I can't see
11 --

12 MR. HAARS: Oh.

13 JUDGE MCSHANE: -- that well to --

14 MR. HAARS: Oh.

15 JUDGE MCSHANE: And I can't flip fast enough to find --

16 MR. HAARS: Yes, Your Honor.

17 JUDGE MCSHANE: -- the slide. So, if you could do the callouts
18 on the slide, it would be appreciated because I --

19 MR. HAARS: I --

20 JUDGE MCSHANE: -- can follow you better. Thank you.

21 MR. HAARS: I apologize here.

22 JUDGE MCSHANE: Oh, no, don't worry about that. Just try to
23 remember.

24 MR. HAARS: Yep. And as shown here on Slide 16, Your Honors
25 agreed with that interpretation in your institution decision, as well. But the
26 petition fails to identify this claimed policy as properly construed. The

1 petition solely maps the claimed policy to Beaumont's preference table that
2 is shown on the petition on slide -- petition on page 15. The petition states
3 that the configurable preference table represents policies, in parentheses
4 there, as shown on my Slide 17.

5 And then on petition page 26, the Petitioner argues that
6 Beaumont's policies are stored as a table. In other words, as the preference
7 table itself. The Petitioner argues, and its Counsel argued today, that
8 Petitioner relies on Beaumont's underlying rules of the policies. But this
9 argument is not in the petition. In its briefing, Petitioner pointed to a
10 number of passages that discussed Beaumont's rules, but none of these
11 passages mapped these rules to the policy. They were general discussions in
12 the context of Petitioner's larger argument. There was no explicit mapping
13 of the rule to the policy. The only time that the petition mapped the policy
14 to Beaumont is shown here on Slide 17. Both times, it mapped those
15 policies to the preference table.

16 JUDGE SMITH: Can you tell me -- I'm still a little hazy on the
17 difference between the preferences and the rules. So, in that Figure 3 that
18 you have, from what I understood from Patent Owners is that everything at
19 the top to the left of that, where it says preference, the number of law,
20 number of connections, those things, from what I understand, are
21 preferences. And then column -- I mean, paragraph 31 of Beaumont talks
22 about rules. Can you explain the difference between the preferences shown
23 in Figure 3 and the rules discussed in paragraph 31?

24 MR. HAARS: Yes, Your Honor. So, the preferences shown in the
25 preference table in Figure 3 represent data. They do not represent rules.
26 They are data inputs that can be used by the rules. The preference table

1 provides this data, but it does not provide any instruction for the relevance of
2 this data or how to use this data, or how this data is applied in the server
3 selection process.

4 Now, Beaumont, as you just explained in paragraph 31, does
5 explicitly disclose rules for selecting the best content delivery server. And
6 as Petitioner's Counsel explained earlier, one of those rules, for instance, is
7 to select the server with the highest preference number.

8 Beaumont also explains in paragraph 32 and also, as shown here in
9 Figure 4 on my Slide 18, that those rules that are discussed in paragraph 31
10 are implemented in the name server software 411, shown in purple in this
11 Figure 4 on the slide. And in particular, within the selecting module 414,
12 which is a software-based module that is incorporated within the name
13 server software.

14 As shown here on paragraph 32, Beaumont describes that when the
15 DNS server receives a DNS request, the selecting module retrieves from the
16 preference database a preference number, and then highlighted at the bottom
17 of that passage, the selecting module then selects an address based on the
18 received preference numbers, preferably one with the highest preference
19 number. So, the rules are the software-based logic and rules that govern the
20 process of server selection, those are implemented in the name server
21 software. The preference table and the preference values within that
22 preference table are merely data inputs to that rule. Does that answer your
23 question, Your Honor?

24 JUDGE SMITH: Yeah. Yes. Yeah. So, to your point that you
25 started out with -- the petition didn't map the decision criteria to the rules,
26 that the petition mapped it to the preference values. Is that right?

1 MR. HAARS: Yes, Your Honor, that is right. As shown here on
2 Slide 17, that excerpts the petition, pages 15 and 26, the petition mapped the
3 policy, the claimed policies to Beaumont explicitly two different times. The
4 first time on page 15, it stated that the policies are represented by the
5 configurable preference table. On page 26, it argues that the policies are
6 -- the policies themselves are stored as a table. In other words, as that
7 preference table. Any other discussion of Beaumont's rules in the petition,
8 again, as I explained, they were not made to map the policy to those rules.
9 They were made in the larger context of Petitioner's discussion and its
10 arguments.

11 JUDGE SMITH: And just one last question on this point, from me
12 anyway. If we were to find that the petition did map the decision criteria to
13 the rules, does that satisfy the decision criteria? Would the rules satisfy the
14 decision criteria?

15 MR. HAARS: No, Your Honor. It does not. Even to the extent
16 that the petition does rely on Beaumont's rules as the claimed policy, the
17 combined Beaumont and Hasan GUI still fails to obtain a policy for
18 directional network traffic or support the setting of that policy. The
19 Petitioner argues that changing -- that manually entering the preference
20 values defines a rule for how DNS requests should be resolved, and it argues
21 that changing the preference numbers changes a rule because servers are
22 selected differently because of the user's input.

23 And this is incorrect. As I explained, the preference value is
24 merely a piece of data. It is not any sort of logic. It is not any sort of rule or
25 instruction for server selection. Inputting those preference values or the
26 preferences within the table in general does not change or affect any rule or

1 logic. It is merely data storage. Those data are input into the system and
2 they are stored in the preference table. That is it.

3 As I explained also, subsequently, when a DNS request is received,
4 the rules specified by the name server software simply retrieve that data and
5 use that data as inputs to apply the rules. Those rules in software are fixed.
6 They are not user configurable. There is nothing in Beaumont that teaches
7 any sort of selection or configuration of any logic or any rule. Again,
8 Beaumont discloses one user input for the preference table, and that is those
9 preference values. It is merely an integer that is stored in a preference table.

10 JUDGE CYGAN: Counsel, your counterpart pointed to your
11 patent and specifically, the description of the user being able to change the
12 load share values.

13 MR. HAARS: Yes.

14 JUDGE CYGAN: Changing the load share values is going to
15 affect the redirection of traffic. Is there a way to distinguish that as one type
16 of rule change, whereas the preference values of Beaumont are a different
17 type of change, which is not a rule change, or are neither of those things rule
18 changes?

19 MR. HAARS: Yes, Your Honor. So, the difference here, and
20 Petitioner again pointed to Figure 9A, as shown here on my Slide 21. And
21 Petitioner argues that that interface in the '517 patent enables users to define
22 policies through inputting integers, which is the load share values, which
23 according to Petitioner, is much like what happens in Beaumont.

24 But the difference is that, and as expressly described in the '517
25 patent, those interfaces are used to actually define a policy. Those policies
26 themselves specify the rule or logic that governs server selection, and this is

1 in accordance with the agreed-upon construction that a policy itself is a rule
2 for direction of network traffic.

3 So, the result of the interaction of the GUI, for instance, shown in
4 Figure 9A, is the creation of a policy that governs the process by which
5 servers are selected. The policy also includes the parameters, but the policy
6 itself specifies the logic. For instance, as a load share policy created through
7 the interface in Figure 9A is stored in a database, then the entire policy is
8 provided to the name server, the DNS server, which retrieves that policy and
9 applies the logic specified therein in responding to DNS requests. That
10 server does not implement load share functionality without that policy. The
11 policy specifies the logic. It also specifies the parameters and the load share
12 values.

13 Now, by contrast, Beaumont teaches no mechanism for specifying
14 any type of rule or logic or policy. Again, as I explained in Beaumont, that
15 entry of the integer is merely data storage. It is not used to create any type
16 of policy. Nothing else happens in the system except for that piece of data is
17 stored in the preference table so that it can then be retrieved and used as a
18 variable for the actual fixed rule. And that's --

19 JUDGE CYGAN: But Counselor, I think the thing I'm having
20 difficulty with is in the load share values, the load share rule is not
21 something which is being changed in that table. It's only the values of the
22 weighting of it. Why isn't that analogous to Beaumont, in which the rules
23 are sort of kept behind the interface, and the only thing the person could
24 change is sort of the weighting of things?

25 MR. HAARS: Yeah, so the difference, again, Your Honor, is that
26 the user -- the purpose of this interface is to create or define a new policy,

1 whereas in Beaumont, those policies are set in software. They are
2 established independently from any type of GUI. And again, the policy
3 itself specifies the rule. So, in the '517 patent, these interfaces, and
4 specifically the one shown in Figure 9A, they are used to define the rule, or
5 they are used to define a logic, even though there's no button explicitly
6 saying -- here shown saying implement load share, but that's the purpose of
7 this interface and is to create a load share policy. And that load share policy
8 implements parameters, but it also specifies the rule.

9 And again, I think one of the main differences is that the policy
10 itself provides the instruction to the name server. That policy is subsequent
11 -- after creation, it is subsequently provided to that name server and it tells
12 the name server, perform a load share functionality using these parameters.
13 This is different than Beaumont, which again, there is no creation of any
14 policy. The only thing that happens on the inputting of the integers is the
15 storage in that data table. Again, the rules and the logic are completely fixed
16 independently of the entry of the preference values. Does that answer your
17 question, Your Honor?

18 JUDGE CYGAN: So, the numbers that are inputted in Beaumont's
19 table are not included in the rule that's sent to the name server network? Is
20 that what you're --

21 MR. HAARS: I'm sorry. Can you repeat your question?

22 JUDGE CYGAN: So, the numbers in Beaumont's table, they may
23 be -- if I'm understanding you correctly, they may be acted upon by the
24 rules, by Beaumont's rules, but they don't change Beaumont's rules. And if
25 that's the case, are the numbers which are supplied by the user in Beaumont
26 in the preference table, are those part of what's supplied to the name server

1 network?

2 MR. HAARS: So, yes, Your Honor, as shown here in Figure 4 of
3 Beaumont on my Slide 18, those preference values and the manually input
4 preference numbers, they are provided to the name server network. They are
5 stored in a database in storage, in what is described here as Disk 451, as
6 shown on the bottom right of that figure. They are kept separately, though,
7 from the software. These are in a data structure in a database. The software
8 is kept separately up in highlighted in purple in a separate portion in the
9 operating system 420, and that software again is fixed. And they are
10 separate, and then upon receiving a DNS request, as shown in paragraph 32
11 of Beaumont, the selecting module simply accesses that database, retrieves
12 those values, and then applies its fixed logic using those values as inputs or
13 as variables.

14 JUDGE CYGAN: So, taking a look at limitation 1C, which says
15 providing at least one policy for the name server network, in the patent, the
16 user is entering a value, let's say, for load share. That load share value
17 would become part of the new policy, and then that new policy is sent to the
18 name server network. Is that how it works in the patent?

19 MR. HAARS: Yes, Your Honor, that's correct. So, the policy
20 itself, as I mentioned, specifies the logic. It also specifies the values. That
21 combined policy that specifies both of those components is then provided to
22 the name server network. The name servers -- again, the policies instruct the
23 name server to perform specific functionality. They change the logic that is
24 applied by the name server because the policies themselves, again, are rules
25 for directing network traffic. They specify the logic, and those are -- yep.
26 Yes, Your Honor. Those are provided to the name server and then change

1 the functionality of the name server.

2 JUDGE CYGAN: And in Beaumont, does that work the same way
3 or does it work differently because they're stored in two different places?

4 MR. HAARS: In Beaumont, that works differently, Your Honor,
5 and that is one of our arguments in our briefing, is that the combination of
6 Beaumont and Hasan does not teach providing, set at least one policy to the
7 name server network. Petitioner relies on, again, on inputting Beaumont's
8 custom preferences that are stored in the preference table for this element.
9 They argue that inputting these preferences provides a policy.

10 But as I've mentioned in Beaumont, inputting those preferences
11 merely acts as a data storage. There is no provision of any type of rule or
12 logic through the input of those preferences. It is only the input of data.
13 This is only the input of data inputs that can be used by the logic that is
14 already in the name server network. That logic does not change. It runs in
15 the same manner every single time a DNS request is received regardless of
16 the preference values that are in that table.

17 JUDGE CYGAN: And looking back at limitation 1B, I think I
18 understand you and your counterpart to agree that using the GUI to obtain
19 the policy doesn't mean that the user has to type in a policy in some entry.
20 It's sufficient in your examples, to enter a number which will be
21 incorporated into a specific part of the policy, correct?

22 MR. HAARS: There has to be some form -- some way for that
23 GUI to support the setting of or to obtain a rule or logic. So, for instance, in
24 Figure 9A, as we discussed in the patent, there is a way for the user to
25 specify -- to actually specify that there is a load share policy, the logic,
26 because by the very act of bringing up this interface, the user is saying, I

1 want to create a load share policy, and here are the parameters I want to use
2 within that load share policy. And again, the result of that process is the
3 creation of the rule.

4 JUDGE CYGAN: And one last question.

5 MR. HAARS: Yes, Your Honor.

6 JUDGE CYGAN: Which is the construction of this limitation 1B.
7 If I understood your counterpart correctly, the first part of the clause, the
8 using the GUI to obtain at least one policy for the direction of network
9 traffic, that's really subservient to the wherein clause, and the wherein clause
10 tells you what must be done for that. Do you read the claim the same way?

11 MR. HAARS: No, Your Honor, I do not. That has not been
12 briefed, but that is not Patent Owner's position. There is obtaining a policy
13 -- the GUI is used to obtain a policy. The GUI also must support the setting
14 of the policy. So, supporting the setting specifies functionality of the GUI
15 itself. The using said GUI specifies how the user uses that GUI. The result
16 of the GUI process -- the result of the GUI, of the interaction with that GUI,
17 is to obtain a policy. But the GUI itself must be used in a manner that
18 allows -- that supports the setting of the direction of a policy for the
19 direction of network traffic. Those are not subservient. That is not simply
20 explaining what obtaining means. These are two separate elements that
21 provide -- that have two separate limitations.

22 JUDGE SMITH: I just want to make sure I understand what you
23 said correctly. So, what you're saying is there's a difference between saying,
24 taking a load sharing policy that already exists and modifying it, saying
25 distribute the load share this way, versus saying that right now, there's no
26 load sharing policy that's being implemented. I want to implement the load

1 sharing policy and I want to do it this way. Is that the point that you're
2 making?

3 MR. HAARS: So, that is not quite the point we're making. The
4 point is that, again, in the '517 patent here, as shown on my Slide -- the page
5 number disappeared -- 21, the result of this process, again, is to create or
6 even update a policy, but the result of the interaction is a policy which itself
7 specifies a rule. Now, in Beaumont, inputting those preference values does
8 not change a policy at all. There's no updating of a policy. There's no
9 creation or defining of a policy, again.

10 JUDGE SMITH: Because that policy already exists?

11 MR. HAARS: Because that policy already exists. It is fixed in
12 server software, and that --

13 JUDGE SMITH: And in --

14 MR. HAARS: Go ahead.

15 JUDGE SMITH: And then in your patent, the user starts out with
16 this policy not existing and says, I want this policy to exist?

17 MR. HAARS: Yes, that's correct, Your Honor. So, there is -- the
18 initial interaction is to create a policy. There is a disclosure of being able to
19 update policies, but again, updating those policies -- so for instance, you
20 have a load share policy, you can update it by implementing the load share
21 values, but the process performed in the '517 patent is to actually take a
22 policy and change that policy. Whereas the process performed in Beaumont
23 is simply to input a preference value and to store that preference value in a
24 database. Nothing else happens in the system. There is no updating of a
25 policy. It is simply data storage.

26 JUDGE SMITH: So, getting back to the claim, this is found in

1 limitation 1B, is that right? To obtain the policy, you're saying that that
2 means creating the policy? What's obtained the policy in 1B?

3 MR. HAARS: So, there has to be a manner for the GUI to enable
4 a policy to be either created or itself updated, or just obtained in some
5 manner. Those are two examples. I don't want to limit it to --

6 JUDGE SMITH: Okay.

7 MR. HAARS: -- specifically that. Those are two examples. You
8 can update a policy, but the difference is the policy itself, the thing that you
9 are updating must specify -- must be a policy. It must specify a rule for
10 directing network traffic.

11 JUDGE SMITH: Okay, thank you.

12 JUDGE MCSHANE: Counsel, just a quick question.

13 MR. HAARS: Yes, Your Honor.

14 JUDGE MCSHANE: And I'm going to change it up just a little bit
15 away from policy per se. But, so, Petitioner is -- if you go to your Slide 17.
16 Okay. So, my understanding of what Petitioner was saying was, if you look
17 at the top whole column, which is 310, but for the first -- I'm sorry, it's the
18 first -- it's the row, the 310 row, but for the first column, that all those
19 destination domain, all the way through time to live, that all those are design
20 criteria. And their contention was, as I understood it today, was that -- and
21 they can correct me if I'm wrong -- is that when you look at Beaumont in
22 combination with Hasan, Hasan says, well, all those things can be input via a
23 GUI. What's your response to that argument?

24 MR. HAARS: Yes, Your Honor. So, our response, I mentioned at
25 the very beginning, that is not in their briefing, the ability to reconfigure that
26 table, based on a GUI. And my response, though, is that this still -- there is

1 no discussion. My response is that inputting those values into a GUI, for
2 instance, in the combined GUI shown here on my Slide 23 with the example
3 of Hasan Figure 6A, Petitioner argues that you would be able to group
4 servers in accordance with Beaumont's preference table.

5 So, for instance, at a top level would be a destination domain and
6 then the lower branches would be the content delivery server IP addresses
7 themselves. That is according to Petitioner's combination. Rearranging
8 those servers in the GUI has no effect on the underlying decision criteria.
9 The decision criteria is again fixed in the server software. The server
10 software is what says, I want to retrieve the content delivery servers based
11 on this criteria, based on the destination domain, or based on a country. That
12 is in the server software, just because the server software implements all of
13 the logic. The table itself, and which corresponds to the GUI in the
14 combined system, the table itself is simply data. It does not specify any type
15 of logic for making those criteria.

16 JUDGE MCSHANE: Got you. All right.

17 MR. HAARS: All right, Your Honors. If there are no other
18 questions on Beaumont, I would like to move on to the Ben-Shaul.

19 JUDGE MCSHANE: Thank you.

20 MR. HAARS: All right. So, as Petitioner explained, Petitioner
21 relies on Ben-Shaul and the combination of Ben-Shaul and Hasan for
22 Grounds 3A and 3B, respectively. But neither of these grounds renders the
23 challenge claims obvious. Petitioner fails to identify any GUI used to obtain
24 DNS policies at all and thus fails to show that the Grounds render obvious
25 the GUI using the claimed decision tree that specifies decision criteria to be
26 applied or answers to be provided in response to a DNS request. Petitioner's

1 arguments on this for Ben-Shaul and its grounds -- its Ben-Shaul grounds
2 -- they are premised on just a fundamental misrepresentation of how Ben-
3 Shaul's DNS operates.

4 As shown here on my Slide 43 and taken from the Petitioner's
5 reply at page 22, Petitioner argues that -- or Petitioner maps the claim
6 decision tree to the edge server hierarchy shown in Figure 10, as Petitioner's
7 Counsel explained earlier. As Petitioner explains that this hierarchy -- or
8 argues that this hierarchy is used to obtain location-based policies that are
9 applied by the EdgeDNS when directing network requests, when directing
10 DNS requests.

11 And it argues that these location-based policies can be created
12 using the GUI shown in Figure 10. So, for instance, in the example shown
13 in Figure 10, this is taken from the petition at page 54, Petitioner provides an
14 example that in Figure 10, an IP address for the server Haifa can be returned
15 based on its location in Israel. But Ben-Shaul does not disclose any such
16 location-based policies that are applied in resolving DNS requests.

17 Petitioner fails to identify any policy used to resolve DNS requests
18 at all, let alone one that considers locational groupings or edge servers. All
19 right. And importantly, these misrepresentations affect all three of
20 Petitioner's asserted GUIs. Petitioner argued earlier that it relies on the front
21 edge tool and the Ben-Shaul single GUI, which implements Ben-Shaul's
22 CDML editor, and the GUI resulting from the Ben-Shaul-Hasan
23 combination.

24 Now, Ben-Shaul's DNS functionality is provided by its EdgeDNS
25 server, as Petitioner mentioned earlier. This DNS does not resolve DNS
26 requests by applying location-based policies. Instead, it applies a -- it

1 resolves these through a process called dynamic cache replacement. As
2 shown on my Slide 52 and at Ben-Shaul paragraph 360, this concept of
3 dynamic cache replacement allows external hosts, such as an edge server or
4 another DNS server in the system to instruct the EdgeDNS to modify its
5 cache entries for certain domains to map those cache entries, those domains,
6 from the edge server IP address to the -- or I'm sorry, from the origin server
7 IP address to the edge server IP address.

8 Then when a subsequent DNS request arrives at the DNS server,
9 the DNS server simply checks its cache, sees what IP address is mapped to
10 that cache -- mapped to that domain in its cache entries -- and returns that IP
11 address. There is no implementation of any sort of location-based policy.
12 There is no implementation of any sort of consideration of location or edge
13 server grouping, as alleged by Petitioner.

14 Now, Figure 4 shows an example of how Ben-Shaul implements
15 DNS through this dynamic cache replacement, or as it refers to here,
16 dynamic cache registration, but these are referring to the same, or at least
17 very similar things. Now, in this Figure 4, as shown here, Ben-Shaul's
18 system deploys edge servers shown in green on Slide 53 and corresponding
19 EdgeDNS servers shown in purple, at the edges of the internet closer to end
20 users. The EdgeDNS implements DNS functionality by resolving user
21 requests to that edge server.

22 Users then connect to the edge server, which stores the content and
23 then also delivers the requested content back to the users. To enable this,
24 Ben-Shaul teaches in paragraph 176, that the client regional DNS 22
25 instructs the EdgeDNS to modify its mapping, its cache entries, as I just
26 explained. The example given in paragraph 176 is the domain

1 a.regional.znn.com to modify its mapping so that domain points to the edge
2 server IP address instead of the origin server IP address, which is shown at
3 the top left of Figure 4.

4 Then as I also explained, when a DNS request arrives at the client
5 regional DNS 22 from a client located within that region, the client regional
6 DNS forwards that request to the EdgeDNS, which simply performs a cache
7 lookup and returns the IP address that is mapped to that domain, which in
8 this case is the edge server IP address because it would -- because it was
9 instructed previously to change its cache for that edge server IP address, then
10 the client is able to connect to the edge server for the content delivery itself.

11 This is shown in more detail in listing 14 in Ben-Shaul, paragraph
12 362 on my Slide 55. This listing shows how the EdgeDNS, the DNS server,
13 reacts and responds and performs DNS resolution in response to receiving a
14 DNS request. The first step is to get the cache entries relevant to the domain
15 as shown up top in purple, and then the EdgeDNS -- when the cache entry
16 shows the edge server IP address, it simply returns that IP address. That's
17 shown in blue. In green, if there are no entries found for that domain, it
18 simply issues a normal DNS query to an external server. This is
19 conventional DNS behavior for this last step.

20 Importantly, in Figure 4 and in listing 14, there is no
21 implementation of any type of location-based policy, or there is no
22 consideration of any sort of location of the edge server. It simply receives
23 the cache, checks its cache for that domain, returns the IP address.

24 JUDGE MCSHANE: Counsel, just --

25 MR. HAARS: Yes, Your Honor.

26 JUDGE MCSHANE: -- a quick question. Petitioner referred to

1 -- they referred to it in a briefing, and they also referred to it today, but they
2 refer to Ben-Shaul at paragraph 39. And I believe they cite -- they quote to
3 it that the CDML is used for the specification of DNS and HTTP
4 redirections policy. What do you say about that?

5 MR. HAARS: Yes, Your Honor. So, we have addressed that in
6 our briefing, and our position is that Petitioner argues that here shown on my
7 Slide 46, the petition 48-49, and the reply 20, Petitioner argues that the edge
8 server redirects end-user requests to particular content servers based on these
9 policies. But in reality, Ben-Shaul does not teach this. There's no explicit
10 disclosure of Ben-Shaul teaching these policies that are applied, as being
11 applied by the EdgeDNS.

12 Ben-Shaul mentions these policies only a single time in that
13 paragraph 39, and in that paragraph 39, as shown here on the right-hand side
14 of the screen, it simply explains that these policies are part of the CDML
15 specification. It does not describe their function, it does not describe that
16 they are implemented in resolving DNS requests or that they are
17 implemented in by the EdgeDNS server at all.

18 Patent Owner's expert, Dr. Shenoy, addressed this in his
19 declaration, as well. He explained that the EdgeDNS is a conventional DNS
20 name server that is adapted in certain manners to implement the -- Ben-
21 Shaul's dynamic cache replacement functionality. The EdgeDNS resolves
22 DNS requests through a well-known protocol called Berkeley Internet Name
23 Domain Protocol, or BIND. And that is discussed in Ben-Shaul, paragraphs
24 9 through 14 have a description of BIND.

25 The EdgeDNS does not execute CDML policies. Ben-Shaul
26 describes these policies as policies that are used by the edge server to control

1 the behavior of the edge server. The edge server, again, is the content
2 delivery server. It does not perform DNS. The EdgeDNS is the DNS server
3 that performs DNS. So --

4 JUDGE MCSHANE: So, that reference in paragraph 39, you're
5 basically saying it's just a one-off and it's not described in the
6 implementation of Ben-Shaul?

7 MR. HAARS: Yes. Yes, Your Honor. That's exactly right. It's a
8 one-off. It's not described in the specification any further. Petitioner does
9 not point to anything else in the specification of Ben-Shaul. And also,
10 couple that with Dr. Shenoy's testimony that the EdgeDNS does not execute
11 CDML at all tells you that Petitioner -- that this is not a policy used in
12 resolving DNS requests.

13 And for instance, if you look at Ben-Shaul paragraph 13, it
14 explains how the BIND protocol operates. And the BIND protocol, it says
15 in the, I believe, second sentence in that paragraph, the very last line on page
16 1 of the spec, states that while processing a request, BIND tries to find
17 information in its cache and, if unsuccessful, issues a request to another
18 name server and awaits a response. This is consistent with the disclosure
19 shown in listing 14 that I just explained. The BIND protocol simply checks
20 the cache and returns that IP address or issues an external request if it cannot
21 find that cache entry. There is nothing in BIND that applies CDML. There
22 is nothing in BIND that applies any type of location-based policy. Now --

23 JUDGE CYGAN: So, Counsel --

24 MR. HAARS: Yes. Yes, Your Honor.

25 JUDGE CYGAN: -- how should we deal with that sort of one-off
26 statement in Dr. Shenoy's declaration, which says, it's incorrect?

1 MR. HAARS: Yes, Your Honor. You should deal with that based
2 on the explicit disclosure of Ben-Shaul, is that what Petitioner attributes to
3 those CDML policies is not disclosed by Ben-Shaul. Petitioner points to no
4 evidence that the EdgeDNS servers redirect end-user requests to particular
5 content servers based on these redirection policies. Again, there is no
6 evidence that they are even applied by the EdgeDNS. And I should add, Dr.
7 Shenoy's testimony on this is essentially unrebutted. Petitioner did not
8 present an expert declaration with its reply. It did not depose Dr. Shenoy.
9 There is nothing rebutting Dr. Shenoy's testimony on this point.

10 JUDGE MCSHANE: All right. The Petitioner does make the
11 point that, or their argument is that, hey, you could take this front edge
12 server GUI input, whatever programming, if you will, and then you could
13 take this CDM -- what is it, CDML?

14 MR. HAARS: Yes, Your Honor.

15 JUDGE MCSHANE: CDML. You could just squish them
16 together and combine them. Do you have a response for that?

17 MR. HAARS: I do, Your Honor. Yes. And so, as I explained,
18 consistent with my earlier explanation here, the CDML is not applied by the
19 EdgeDNS server. It is not used for resolving DNS requests. So, even if one
20 was to do that, the result would still not be a decision tree that specifies
21 answers in response to DNS requests.

22 JUDGE MCSHANE: Right. But you don't have, per se, an
23 argument on just the rationale to combine the two?

24 MR. HAARS: We don't have anything on the record in our
25 briefing for arguing against the actual combination, only the result of that
26 combination.

1 JUDGE MCSHANE: Okay.

2 MR. HAARS: All right. And I also want to discuss Petitioner's
3 Counsel, in its briefing, also argued that Ben-Shaul's DNS directives are
4 used by the EdgeDNS to resolve DNS requests. But again, this is a similar
5 case where Ben-Shaul describes these DNS directives in two sentences, as
6 shown on my Slide 45 and in Ben-Shaul paragraphs 176 and 177.

7 And in paragraph 176, it states that the configuration of the
8 EdgeDNS 38 and its coordination with other DNS infrastructure, such as the
9 client regional DNS server 22, the root server 24, and the authoritative
10 server 26 is controlled by DNS directives that originate from one or more
11 policy control servers. And the sentence in paragraph 177 is very similar to
12 that. It's almost verbatim the same. That's all that Ben-Shaul says about
13 these DNS directives. It does not say anywhere that the directives are
14 applied in resolving DNS requests, and as I showed for Figure 4 and listing
15 14, they are not applied in resolving DNS requests because Ben-Shaul
16 incorporates that code, the software, from the BIND protocol adapted to
17 implement the listing 14. There is nothing in Ben-Shaul that states that these
18 DNS directives are used to resolve DNS requests. There is also nothing in
19 Ben-Shaul that states that these DNS directives are created using any type of
20 GUI at all.

21 Again, this is all that Ben-Shaul says about it. Petitioner argues
22 that the DNS directives are editable using the front edge tool because they
23 originate from the policy control servers, which also stores policies that can
24 be edited by the front edge tool or the CDML editor. But storage in a policy
25 control server says nothing about how that policy itself was created, that
26 other policies stored in that server were created using a GUI does not have

1 any bearing on whether the DNS directives themselves were. There is
2 nothing in Ben-Shaul that states that the DNS directives are used to resolve
3 DNS requests or that they are created by any type of GUI, and Petitioner
4 points to no evidence that contradicts this.

5 And I want to discuss one other point, Your Honors, here on Slide
6 48. Petitioner argues that, again, that the EdgeDNS differentiates based on
7 regions and groups, that it applies location-based policies that -- and these
8 policies differentiate based on regions and groups. And that's shown on my
9 Slide 48. The language is taken from Petitioner's reply 22.

10 So, Petitioner points to paragraphs 42 and 44 for this disclosure, or
11 for support for this argument, but these paragraphs are discussing content
12 delivery, not DNS. The content delivery, as I mentioned earlier, is
13 performed by the edge server. The edge server does not implement DNS.
14 These paragraphs do not mention DNS a single time. They do not mention
15 the EdgeDNS. What they do say is that they do discuss edge servers and
16 how the edge servers can give resources or content stored at those edge
17 servers different priorities so that when users connect to the edge servers
18 after the DNS process, those content delivery servers, the edge servers, can
19 then -- they perform the differentiation.

20 So, you perform a DNS request, you are directed to an edge server.
21 That edge server says, okay, this requesting user is located in the United
22 States. I am going to provide him this modified version of a news article or
23 this ad, or this image that is tailored to his location. But again, that is not
24 DNS functionality. That is not performed by the EdgeDNS. And again, Dr.
25 Shenoy confirms this in his declaration at paragraphs 180 and 181. Dr.
26 Shenoy explains that the EdgeDNS -- the DNS server, again, is a

1 conventional DNS server adapted to implement the dynamic cache
2 replacement.

3 It has one fundamental function, that is to resolve a domain, a
4 requested domain, into an IP address so that the user can then connect to the
5 edge server at that IP address. The EdgeDNS is not concerned at all with
6 resources that are stored in the edge server. It has no knowledge of what
7 resources are stored in the edge server. It has no knowledge of what
8 resources are being requested. It only has knowledge of the -- it receives a
9 domain request and it simply resolves that request.

10 So, then back to paragraphs 42 and 44, this is not discussing any
11 -- this is not discussing DNS because it is not discussing any type of
12 resolution from a domain to an IP address. It is discussing edge server
13 content delivery functionality. And very quickly, Your Honors, I think I will
14 wrap up with this slide, unless you have any other questions, but how does
15 this impact the claims, now we have a proper understanding of how Ben-
16 Shaul's dynamic cache replacement process operates.

17 Well, again, Petitioner argued, and its arguments are premised on
18 the ability of Ben-Shaul's EdgeDNS to perform -- to implement location-
19 based policies. There are no such policies in Ben-Shaul. Petitioner points to
20 the hierarchy shown in Figure 10 of Ben-Shaul, as shown on my Slide 61, as
21 the claimed decision tree. This decision tree is not used to implement or to
22 apply or to obtain or support the setting of a DNS policy. It does not use a
23 decision tree that specifies decision criteria to be provided or answers to be
24 provided in response to a DNS request. It is a hierarchy of edge servers, and
25 Ben-Shaul explains this in paragraph 309 and also in paragraph 170 in Table
26 2.

1 And it simply says that profile editors can apply a particular
2 service directive to a collection of edge servers shown in Figure 10. And
3 then Ben-Shaul goes on to explain in paragraph 170 that a service directive
4 is a request for service from one or more edge servers. Again, this is not
5 discussing DNS functionality. It is discussing edge server functionality,
6 which is content delivery functionality. And this applies equally to all three
7 of Petitioner's asserted GUIs. They all rely on this fundamental aspect of
8 Ben-Shaul to apply location-based policies. Ben-Shaul does not apply these
9 policies. Therefore, none of those GUIs teach the claimed decision tree.

10 Any other questions, Your Honor?

11 JUDGE MCSHANE: Okay. Thank you.

12 MR. HAAR: All right.

13 JUDGE MCSHANE: So, we've given you an extra five minutes,
14 too, so that gives you, say, 17 minutes for surrebuttal, if needed. Okay.

15 MS. ARNER: I'd like to make a couple points on Ben-Shaul and
16 then go back to Beaumont, if you guys are okay.

17 JUDGE MCSHANE: Please proceed. Thank you.

18 MS. ARNER: Thank you. So, three points to make on Ben-Shaul.
19 The first is regarding policy. And so, I've gone to our Slide 25. And the
20 Patent Owner, throughout the briefing and certainly throughout the argument
21 today, is trying to draw a sharp line between the EdgeDNS and DNS
22 directives on one side, and then the CDML edge server policies, edge
23 servers, and front edge tool on the other side. But the reference does not
24 support that kind of sharp differentiation, and it is not a one-off sentence that
25 we're relying upon.

26 So, going back to the question that you asked about the paragraph

1 39 explanation. So, the mapping in the petition is that the DNS directives,
2 which are drawn from the policy control server control, as it says multiple
3 times in the reference, the DNS, EdgeDNS. The way that policies get into
4 the policy control server is through the CDML, which encodes various
5 content delivery policies.

6 Turning to the reference then, Paragraph 39 gives those examples,
7 and that certainly is one place where it says CDML is used for -- there's a
8 description of target groups specified by region, and then a few lines later,
9 specification of DNS redirection policies. To be sure, that paragraph does
10 talk about the use of CDML to direct DNS and delivery policies, but there
11 are other places in the reference, as well.

12 Moving just across that same page onto paragraph 44, the edge-
13 level services that are described in the first half of that column. Regional
14 and group differentiation, which CDML can be used to create, enable a user
15 to differentiate delivery, based on the location of the edge server. So, there
16 we have in paragraph 44, a discussion of that location-based delivery.

17 We also have, and I think Patent Owner's Counsel mentioned the
18 description of additional DNS functionality that's described a couple of
19 places in the reference. One of them is DNS cache registration, which they
20 talk about with respect to paragraph 176. Even that paragraph says at the
21 bottom that the DNS directives are drawn from the policy control servers
22 and control the DNS. Likewise, in the next paragraph, while that has these
23 additional cache registration, it also talks about the EdgeDNS is a standard
24 DNS server that needs no special capabilities. So, this is additional
25 functionality. It is not taking away from the underlying work that a DNS
26 does normally.

1 And then perhaps clearest is in the second example that they talked
2 about with respect to cache replacement. Another special service that's
3 added on to a conventional DNS name server. And that's in paragraph 360
4 is what they cited. The preceding paragraph explains that the DNS name
5 server acts as a conventional DNS name server, and then it has this
6 additional functionality. Then if you look about halfway down paragraph
7 360, according to preferred embodiments of the invention, the DNS system
8 is required to supply different responses to a given request or query,
9 depending on the location of the query. So, there we have multiple places
10 where the reference is talking about DNS directives, DNS requests being
11 answered according to location.

12 I'd like to then make the final point, which was moving off of
13 policy onto the GUI. And to go back, Judge McShane, I had the number
14 right, 81, but I was referring to a page number in Lynn, and I should have
15 been referring -- or a paragraph, when I should have been referring to the
16 page. So, the motivation to combine the 2 GUIs in Ben-Shaul, the front
17 edge tool and the CDML graphical editor, which is on -- talked about on
18 Slide 26, that discussion is in paragraphs 164 and 165, which is on Lynn
19 declaration, pages 81, 82.

20 So, sorry about that misdate, but as it talks about in paragraph 164,
21 to the extent the various GUIs described are separate -- and honestly, reading
22 that reference, they might be the same thing -- but to the extent they are
23 separate, the front edge tool and the CDML editor, a skilled artisan would
24 have been motivated to combine them, and this combined GUI would teach
25 the limitation being discussed. For example, and then it goes on. I'm happy
26 to read it, but given the time, I'll leave it for you. But 164 into 165, and the

1 supporting citations in the reference are the motivation to combine the GUIs
2 in that second mapping of the single reference obviousness over Ben-Shaul.

3 JUDGE CYGAN: Counsel, one brief question.

4 MS. ARNER: Yes.

5 JUDGE CYGAN: You started with paragraph 44.

6 MS. ARNER: Yes.

7 JUDGE CYGAN: Can you draw a link from that to the CDML?

8 Is that coming through paragraph 39's mention of DNS redirection policy?

9 Is that how we're getting CDML to specify what's being done in paragraph
10 44?

11 MS. ARNER: So, CDML is used throughout the reference to talk
12 about writing delivery policies. So, that is not the only hook. The CDML is
13 described, and we have some of the description on Slide 25, as being used to
14 encode delivery policies.

15 JUDGE CYGAN: So, would --

16 MS. ARNER: And --

17 JUDGE CYGAN: Sorry. Would you be looking at the "third"
18 instead of the redirections policy? Above that in paragraph 39, it says, third,
19 the delivery policy.

20 MS. ARNER: That's one of the places where CDML is used for
21 delivery policies. Absolutely.

22 JUDGE CYGAN: So, in your petition, were you making your
23 argument only through redirection policies, or was there a broader
24 argument?

25 MS. ARNER: No, we talked about the broader argument of the
26 location-based delivery of messages. The location-based delivery or -- yes,

1 the location-based delivery by the DNS server, the combination of the two.
2 And so, for example, we talked about -- in paragraph 39, it talks about the
3 targeted regions, as well, like as we were just talking about that, that second
4 describing targeted regions. And then later on in 44, talking about the
5 regional and group differentiating -- differentiation, differentiating delivery
6 based on location. And that's within the edge-level services that are
7 described being performed by EdgeDNS, kind of from 41 to 44.

8 JUDGE CYGAN: Thank you, Counsel.

9 MS. ARNER: And then I have just a couple of points to make
10 back on the Beaumont reference. Thank you for the additional time. I
11 appreciate it. First, I'd like to be clear on the record. I think the Judges
12 understand, and your question, Judge McShane, to me earlier, there was no
13 claim construction in the proceeding, claim construction wasn't briefed. And
14 so, to the extent that the Patent Owner's Counsel referred to an agreed-upon
15 construction, Google does not agree to any constructions in this proceeding.
16 That hasn't happened.

17 But with respect to the rule policy debate, I think it's important to
18 remember what the claim says about rules. The word is only used once, and
19 I think we liked Slide 10 to give us the language to look at together as far as
20 the policy and what's said in the claim about the policy. The word rule is
21 only used the one time, and it says that, as you pointed out earlier, Judge
22 Cygan, it says that the policy -- the GUI needs to be used to obtain a policy,
23 at least one policy, for direction of network traffic. And then the wherein
24 clause goes on to say the GUI supports setting the policy using a decision
25 tree representing rules.

26 That's the only place the rules word applies -- or appears in the

1 claim. But what it says, how it says -- how the claim says that is set is using
2 the decision tree, which again has the decision criteria used by the rules and
3 the answers used by the rules. That's what the claim actually says, and I
4 think the Patent Owner is trying to show lots of other things in the patent,
5 that may very well describe software coding, the logic of a rule itself, but
6 that's not what the patent is claiming, and that's what we have to focus on
7 here.

8 And if we could just look, I'll just use the example from their own
9 patent. We have it on Slide 18. We've talked a lot about this table, and it
10 explains that you can change existing policies by changing the load share
11 value. The claims do not require any more than that. They don't even really
12 require changing a policy. They just say supporting the specification of it.

13 And so, with this being the example in the patent, it aligns with the
14 mapping in Beaumont. And to the extent they're trying to say it requires -- I
15 think I heard creating a policy, defining the rules, even changing the policy,
16 somehow writing software code -- none of that's actually in the claims.
17 What the claim says is you allow -- use the GUI to allow the user to set the
18 policy, and you do that by using a decision tree that represents rules, and the
19 decision tree has the criteria that you make the decision on and the answers.

20 JUDGE CYGAN: Counsel, does the claim require the user to set
21 the policy, or does it --

22 MS. ARNER: It doesn't actually say.

23 JUDGE CYGAN: -- require the administrator?

24 MR. ARNER: That --

25 JUDGE CYGAN: I believe in your petition, you'd mentioned it
26 allows the administrator to set the policy.

1 MS. ARNER: Yes, that's right. I did. I'm sorry, I misspoke. I
2 don't mean the client. This is typically -- these systems are used by, like, the
3 administrator or subscriber, the content provider. This isn't the client or the
4 user of the system. That's right.

5 JUDGE MCSHANE: Okay. And one final thought to wrap up?

6 MS. ARNER: Yes, one final thought. The citations in the
7 mappings in the petition to rules. Petition 10 is the overview of the ground,
8 which talks about selection rules being the policy. Petition 14 is the rule
9 preferences for DNS servers implemented through the Hasan tree interface.
10 That's the motivation to combine. Petition 18 says specifically, regarding
11 Element 1B, that the tree structure GUI allows users to set server preferences
12 and rules.

13 Petition 18, likewise, about rule -- Element 1C, the policy is
14 provided using preferences and/or rules stored in the DNS. And then in
15 Petition 14 is the citation that I was looking for with respect to Beaumont-
16 Hasan GUI with the grouping. I think Patent Owner's Counsel said there's
17 nothing in there about using Hasan to group and regroup the servers
18 according to country, and that's described explicitly on Petition 21 into 22
19 with respect to the decision criteria setting by the GUI.

20 JUDGE MCSHANE: Thank you, Counsel.

21 MS. ARNER: Thank you.

22 JUDGE SMITH: Okay. Could I -- I'm sorry.

23 JUDGE MCSHANE: Oh, absolutely.

24 JUDGE SMITH: I'm sorry. Just real quickly in a sentence or two.
25 I'm just looking at Patent Owner's Slide 39. So, he says that -- this is from
26 your papers, your reply. The rule imposed by the preference ordering is the

1 policy, as claimed, and then you cite the petition, pages 16, 19 through 21.
2 Then for the decision criteria, the petition indeed contemplates the
3 preference values as decision criteria.

4 Again, you cite to the petition, page 19, and for the answer, this is
5 from pages 20 and 21 of the petition. The preferences define which server
6 addresses return. The GUI supports specification of one or -- so, just this
7 may be an impossible --

8 MS. ARNER: No, it's fine.

9 JUDGE SMITH: -- task, but just in a sentence or two.

10 MS. ARNER: Um-hum.

11 JUDGE SMITH: How is this not mapping policy decision criteria
12 and answer to the preference value?

13 MS. ARNER: It is, is the short answer.

14 JUDGE SMITH: Okay.

15 MS. ARNER: That's correct --

16 JUDGE SMITH: Okay.

17 MS. ARNER: -- because that's what the claim requires. That's
18 how the claim talks about the policy. It doesn't say that the policy or rules
19 have to include those things. It says the decision tree GUI includes those
20 two things, criteria and answers. And so absolutely, in our petition we
21 mapped, and you've seen it here, the decision criteria are all of those
22 considerations that are the decision criteria to be applied. And the answers
23 are the IP addresses, which are the answers to be applied -- or the answers to
24 the DNS requests. That is what the claim says is in the decision tree GUI,
25 and the preference table that's used, that meets the claim limitation.

26 To the extent that they're trying to say the policy has to be mapped

1 to that, that we're mapping the policy itself or the rule itself, we're not. And
2 that's why you have to look at where those words policy and rule actually
3 appear in the claim. And it really is that sort of preamble-y kind of language
4 where it says, allowing the user to set a policy using a decision tree GUI
5 representing rules. So, it's sort of that long phrase ties those things together,
6 but the detail in the claim requires the decision criteria and the answers to be
7 in a decision tree GUI.

8 JUDGE SMITH: Okay, thank you.

9 MS. ARNER: So, they're right, this is the mapping.

10 JUDGE MCSHANE: Thank you.

11 MS. ARNER: They're just not reading their claim properly.

12 JUDGE SMITH: Okay, thank you.

13 JUDGE MCSHANE: Thank you.

14 MS. ARNER: And thanks for the additional minutes.

15 JUDGE SMITH: Sure.

16 JUDGE MCSHANE: And what we're going to do, you have 17
17 minutes in surrebuttal, but we're also going to add another three minutes
18 because you went over. So, we're very exact in here.

19 MR. HAARS: Yes. Thank you, Your Honor.

20 JUDGE MCSHANE: Okay.

21 JUDGE SMITH: Sorry about that.

22 JUDGE MCSHANE: Oh no. You're going to have to work it
23 -- oh, come on, really?

24 JUDGE SMITH: It's terrible. Yes.

25 JUDGE MCSHANE: All right. Okay, thank you.

26 MR. HAARS: Are we ready?

1 JUDGE MCSHANE: Yep, whenever you're ready.

2 MR. HAARS: All right. Thank you, Your Honor. Yes, I would
3 like to start on surrebuttal with Ben-Shaul, if you don't mind. The Petitioner
4 in its rebuttal spoke a little bit about Ben-Shaul, and the different policies
5 that are disclosed in Ben-Shaul. What Petitioner did not do is point to any
6 policy that is used in resolving a DNS request for the reasons I provided
7 initially. Petitioner, throughout its briefing, has just pointed to these
8 policies. It has never provided a description of how these policies are
9 implemented or how Ben-Shaul actually operates. It describes the dynamic
10 cache replacement as a special service to try to handwave it away. But this
11 is the core functionality that allows Ben-Shaul's DNS to resolve DNS
12 requests to the edge server instead of the IP -- instead of the origin server.
13 And this allows -- gives it its location-based dependent responses.

14 Petitioner, in its rebuttal, pointed to paragraph 360 of Ben-Shaul,
15 and I have that on my Slide 50. In Petitioner's reply, it states that Ben-Shaul
16 further confirms that the EdgeDNS server applies location-based policies
17 when directing requests, explaining that it supplies different responses to a
18 given request or query depending on the location of a query. Now, the
19 second clause of that sentence starting with supplies is taken from paragraph
20 360 in Ben-Shaul. That paragraph does not state that the EdgeDNS applies
21 location-based policies.

22 Rather, it states that the DNS system as a whole supplies these
23 location-dependent responses, and it goes on to explain that these location-
24 dependent responses are implemented because the DNS servers -- at the very
25 bottom, the very last highlighted passage -- because these local DNS servers
26 are modified to allow dynamic cache replacement by edge servers.

1 And as I explained, this is shown, for instance, in Figure 4, where
2 that client regional DNS instructs the -- in Figure 4 on my Slide 53, where
3 that client regional DNS 22 right in the middle left-hand side of the figure
4 instructs the EdgeDNS 38, the DNS server, it instructs that server to modify
5 its cache, and then when subsequent DNS requests are received from areas
6 located in that region that is handled by the EdgeDNS, it is able to simply
7 perform the cache lookup that I explained earlier and return the edge server
8 IP address. There is nothing in Ben-Shaul that discloses any sort of
9 application of location-based policies. There is nothing in Ben-Shaul that
10 teaches any sort of obtaining or supporting the setting by a GUI of any such
11 policies because they don't exist.

12 And if you have no other questions on Ben-Shaul, I would like to
13 move on to Beaumont. Petitioner's Counsel, on its rebuttal, tried to distance
14 itself from the construction of a policy being a rule. But in its briefing, it
15 never argued that a policy was not a rule. And in fact, it agreed that a policy
16 is a rule to direct network traffic.

17 Here on my Slide 16, Patent Owner put forward this construction
18 in its POPR at the very beginning of the case. The institution decision
19 agreed with the construction that its understanding of a policy as a rule is
20 consistent with the disclosure in the '517 patent. In the Petitioner's reply, the
21 Petitioner stated that Patent Owner agrees that a policy is a rule to direct
22 traffic of underlying servers. That says the Patent Owner agrees, but it takes
23 two to agree.

24 But more importantly, Petitioner has never argued that a policy is
25 not a rule. On rebuttal, Petitioner tried to distance itself from that. That is
26 not in the briefing. They have never once argued that. Throughout the

1 proceeding, it has been clear that a policy is a rule. And the claim requires
2 using said GUI to obtain at least one policy for direction of network traffic.
3 That means using said GUI to obtain at least one rule for the direction of
4 network traffic, wherein the GUI supports the setting of set at least one
5 policy using a decision tree representing rules. That means that policy,
6 again, is a rule. So, the GUI is used to obtain a rule. The GUI supports the
7 setting of a rule using a decision tree that also itself represents rules.

8 JUDGE SMITH: I'm sorry. Which limitation are you reading?

9 MR. HAARS: I'm sorry, I'm looking at limitation -- I believe it's
10 1B in the petition.

11 JUDGE SMITH: Okay.

12 MR. HAARS: But it starts with -- in the patent itself, it is element
13 B there on the screen, starts with, using said GUI to obtain at least one
14 policy.

15 JUDGE SMITH: Got it. Thank you.

16 MR. HAARS: And as I explained, Beaumont does not teach this
17 GUI. Hasan does not teach this GUI. The combination of Beaumont and
18 Hasan does not teach a GUI to obtain at least one policy for the direction of
19 network traffic. It is an interface for data storage. That is it.

20 And Petitioner also, in its rebuttal, pointed to disclosure discussing
21 the grouping in Ben-Shaul -- in the combination of Ben-Shaul-Hasan GUI.
22 Petitioner might have -- did discuss grouping in his petition, again, using a
23 GUI to group servers. What I explained in my initial argument is that there
24 is nothing in the petition that provides the connective tissue or the link for
25 using that GUI to reconfigure the actual underlying mappings in the
26 preference table that are used by the server selection process.

1 There is a difference between simply arranging items in a user
2 interface versus arranging items, mapping items in a certain way to
3 implement a certain form of logic. Petitioner never touches or discusses that
4 underlying logic. It simply says that you can use a GUI to group servers in a
5 user interface, and this is all the references teach. Again, Beaumont doesn't
6 teach any such user configuration of this. Beaumont teaches one user input,
7 that is the user preference value. Hasan, although it does teach a GUI that
8 lets users reconfigure a hierarchy, for instance, as shown here in Figure 6A,
9 Hasan does teach that users can take this GUI and reconfigure the hierarchy
10 into --

11 JUDGE SMITH: Which slide is that?

12 MR. HAARS: I'm sorry. This is my slide -- Patent Owner's Slide
13 23 --

14 JUDGE SMITH: Oh.

15 MR. HAARS: -- discussing Hasan Figure 6A and how it fits into
16 the combined GUI. But in Hasan, rearranging these objects in this GUI does
17 not have any effect on any underlying policy or any underlying data
18 structure. It simply is a view that is used by the administrator as a
19 convenient way to view the different objects in this data center. Hasan does
20 not teach any sort of configuration. Again, it is not concerned with DNS at
21 all, and Petitioner does not rely on it for any actual policy or for any DNS-
22 based functionality.

23 So, here we have this -- neither reference teaches this functionality.
24 Petitioner did not explain how this functionality worked or why a POSA
25 would have implemented this functionality. What the petition says is that a
26 user could take a user interface and rearrange objects in that user interface.

1 That is it. And accordingly, and how that applies to the claims here,
2 accordingly, this doesn't configure the preferences in Beaumont.

3 Those preferences are still stored in the underlying preference
4 table, and Petitioner argues that that preference table is left alone. It argues
5 that providing that the -- in the combined GUI, the preference table is still
6 there. That is still the underlying data structure. The interface is merely a
7 mechanism that lets users input the preference values that are stored in that
8 preference table. There is nothing about remapping that configuration table
9 in the petition or in any of the briefing or in the references themselves. And,
10 Your Honors, unless you have any other questions, that is all I have.

11 JUDGE SMITH: Just one --

12 MR. HAARS: Yes.

13 JUDGE SMITH: -- question from me anyway. Go to Slide 39.
14 Patent Owner's, Slide 39. The Petitioner just told us that mapping the
15 preference values to the preference ordering, mapping them to the decision
16 criteria, and mapping them to the answer, that's fine because it's within the
17 scope of the claim.

18 MR. HAARS: Yes, Your Honor. On that point, I'll note that in its
19 initial argument, Petitioner said that that was not their mapping, and then
20 they changed that on rebuttal, but the briefing is clear. The Petitioner does
21 indeed map a policy to the preference values. The Petitioner does indeed
22 map the preference value as a decision criteria, and the Petitioner does
23 indeed map the preference values to the answer.

24 Now, these are three distinct claimed elements. Patent Owner
25 cited in its briefing Becton, Dickinson v. Tyco Healthcare, which is 616 F.3d
26 1249 at page 1254, which states that where a claim lists elements separately,

1 the clear implication of the claim language is that those elements are distinct
2 components of a patented invention. That case goes on to say on 1256 that
3 there can be no literal infringement where a claim requires two separate
4 structures as one such structure, and one such structure is missing from an
5 accused device. Now, this case was talking about infringement, but the
6 same concept applies here to invalidity.

7 Patent Owner has not pointed to -- Patent Owner points -- uses a
8 simple data entry of one integer, a preference table. You enter one integer
9 into a preference table that is stored in a preference table, and Petitioner
10 maps it to three different elements. That preference table, at the very least,
11 is doing a lot of work, and it shows that Petitioner's combination is merely
12 just a simple data entry tool. It is not this claim structure of a GUI with a
13 decision tree, that specifies very specific criteria for obtaining policies or
14 that support the setting of these policies.

15 JUDGE SMITH: From the case that you read to us, there's a
16 presumption that these different claim limitations have different meanings.
17 But what I take from Petitioner's argument is that Petitioner has rebutted that
18 presumption and shown us that the preference values can map to all three.
19 Why should these three different claim limitations be treated as three distinct
20 elements?

21 MR. HAARS: Yes, Your Honor. Well, first of all, Petitioner has
22 not briefed this argument at all. They have not provided any argument in
23 their briefing to this point. I don't think they realized it until I brought it up.
24 They have not rebutted anything. The presumption is that these three
25 elements are separate and distinct claim elements.

26 This is borne out by -- this is confirmed just by the claim itself.

1 And as a matter of claim construction and just pure logic, there is a policy
2 that is obtained through a GUI using a decision tree. The decision tree
3 requires both -- a decision tree requires two separate components. It requires
4 a resource node and it requires a branch node. The specification is very
5 clear that those resource nodes and those branch nodes are separate and that
6 they are also themselves separate from the claimed policy. So, I'm trying to
7 pull this up.

8 Here we go. I'm looking at Slide 30. And this slide depicts '517
9 patent Figure 3 and '517 patent Figure 10B. Both of these figures discuss or
10 depict decision trees. Figure 3 depicts conceptually the hierarchy of this
11 decision tree. The branch nodes are, for instance, where the decision tree
12 splits into different branches. So, at the very top, you have continent based
13 distribution policies, 220. I know that's difficult to see on the screen, but
14 then right below that it branches by continent. To the left it's Asia, down
15 straight, straight down it's North America, to the right it's Europe.

16 And then it also teaches resource nodes, and those resource nodes
17 are the country-based policies that extend, or the leaves of those branches.
18 So, 225A and 225C, for example. The patent is clear that these are separate
19 and distinct elements, and they make up the structure of the claim decision
20 tree. Collapsing these into one element just is completely contrary to the
21 core of what a decision tree is. It must have different resources in order to
22 branch, in order for -- in order resources -- these are used again to specify
23 the decision criteria and also -- sorry, the branch nodes are used to specify
24 the decision criteria, and the resource nodes are used to specify the answers
25 that are provided in response to a DNS request.

26 The structure is baked into the claims, the structure is baked into

1 the specification. It's very clear that these are required to be two different
2 distinct elements, and that's not even getting into the policy itself. The
3 policy itself is distinct, as well, because this decision tree is just used to
4 implement the policy. The result of the interaction with this decision tree
5 shown in Figure 10B, for instance, which is implemented in a GUI, is to
6 create a policy that encompasses this entire thing that is applied by the DNS
7 servers for responding to DNS requests.

8 JUDGE SMITH: Thank you.

9 JUDGE MCSHANE: I don't believe we have any other questions,
10 so with that, thank you, Counsel. So, we're going to end this proceeding.
11 The case is submitted and taken under advisement. We thank the parties for
12 the excellent argument today and referring to an extensive record here. And
13 you did a great job, and it's been very helpful, and we appreciate it.

14 And we're going to go off the record. Two little notes. If the
15 parties wouldn't mind hanging around a little bit and helping the Court
16 Reporter, if she has any questions. And then also, we are reconvening -- or
17 at least some of us may be reconvening at 1:00. Same place. Same place
18 here, and for the '826 hearing. So, with that, thank you again.

19 (Whereupon the above-entitled matter went off the record at 11:22
20 a.m.)

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