

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN TUOZHU TECHNOLOGY CO. LTD.,
Petitioner,

v.

STRATASYS, INC.,
Patent Owner.

IPR2025-00611
Patent 11,886,774 B2

Record of Oral Hearing
Held: July 13, 2026

Before HYUN J. JUNG, CHRISTOPHER L. OGDEN, and
BRIAN D. RANGE, *Administrative Patent Judges*.

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The above-entitled matter came on for hearing on Monday, July 13, 2026, commencing at 12:00 p.m. EDT, at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

P R O C E E D I N G S

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12:00 p.m.

JUDGE JUNG: Please be seated. This is the oral argument for IPR 2025-00611. In this proceeding, Petitioner Shenzhen TuoZhu Technology challenges claims 1 through 10, 12, 13, 19, and 20 of U.S. Patent number 11886774 owned by Stratasys.

I am Judge Jung, and with me is Judge Ogden and Judge Range. Starting with the petitioner's counsel, followed by Patent Owner's counsel, please state your names for the record.

MR. HAWKINS: Good afternoon. This is Michael Hawkins on behalf of Petitioner today. With me is backup counsel, Chris Von Gunten. And also in the room is Josh Griswold as lead counsel, and a fellow summer associate for us, Isabelle Ackley. Thank you.

JUDGE JUNG: Welcome to all of you.

MR. KAPADIA: Hi, Your Honor. It's Aashish Kapadia on behalf of Patent Owner Stratasys, Inc. With me today is Brian Oaks, lead counsel.

JUDGE JUNG: Welcome as well.

JUDGE OGDEN: I'm sorry. I couldn't hear that from this angle, from this side.

MR. KAPADIA: Yeah, sorry about that. Is this better?

JUDGE OGDEN: Yes. Yeah. If you could just come up to the podium, that would be great.

MR. KAPADIA: Okay. Yeah. All right. Let me start over. Thank you, Your Honors. Aashish Kapadia -- excuse me. Aashish Kapadia on behalf of

1 Patent Owner Stratasys, Incorporated. And with me today is Brian Oaks,
2 lead counsel. Thank you.

3 JUDGE JUNG: Thank you.

4 Petitioner will have 75 minutes of total argument time because its
5 LEAP request was granted, and Patent Owner has 60 minutes of total
6 argument time. Each side may reserve time for rebuttal. Please refer to your
7 demonstratives, papers, or exhibits by page or slide number. And lastly, the
8 public can listen to and view this proceeding, so be aware of that.

9 With all that said, Mr. Hawkins, you may proceed when you're ready.

10 MR. HAWKINS: Thank you, Your Honor.

11 We'd like to reserve 20 minutes for rebuttal. May it please the board,
12 I'm Michael Hawkins on behalf of Petitioner in this IPR case. If you'll please
13 turn with me to demonstrative slide 2 for Petitioner, you'll see on the left
14 side, the '774 patent, and on the right side, the grounds that were presented
15 in the IPR petition. Today, I hope to discuss grounds 1A and 1B, and then if
16 time permits, particular ones of the subgrounds also.

17 Starting with ground 1A, if you turn with me to slide 4, you'll see that
18 it's important to understand the relationships between the Douglas reference,
19 which is our primary reference in this ground, and the '774 patent before you
20 can really understand the resulting combination of the Douglas-Mark
21 combination. If you look on the right side of this slide, the upper right-hand
22 corner, you can see Douglas was published in May of 2014. On the right
23 side, the '774 patent filed by the same applicant was filed seven -- a little
24 over seven months later. So after the applicant put the Douglas publication
25 into the public domain, they, seven months later, started a new patent family.
26 On slide 5, you'll see some overlapping relationship. For example, the

1 Douglas reference describes the same printer 100 shown in figure 1 of both
2 documents.

3 The Douglas reference also describes, structurally, the same network
4 200, including the server 208 and the printer 204. All of that is in common
5 between these documents that were filed by the same applicant. One of them
6 filed seven months after the other one was published. They're not completely
7 the same. For example, if you look at slide 6, you'll see in the upper left-
8 hand corner, the '774 patent mentions something called G-code. Now, G-
9 code is not an invention in the '774 patent. In fact, as shown in the upper left
10 of slide 6, the '774 patent admits that it's actually just a commonly used
11 thing.

12 Basically, there's a three-dimensional model such as a SolidWorks or
13 a Fusion 3D model. You can rotate on your screen, and you would run it
14 through a slicer application that is specific to a printer, and they would
15 output something called G-code or tool instructions. That's the layer-by-
16 layer instruction for your 3D printer to build the part. The Douglas reference
17 does not say the word G-code out loud within the four corners of its
18 document. Instead, it uses the word "tool instructions." That's found, for
19 example, at Paragraph 41 of Douglas in case you're interested in seeing
20 where that is.

21 Now, on the left -- lower left side of slide 6, you'll see then, again, it
22 was published seven months before this family was started, and it has
23 structurally the same printer, the same network, and it says that we have tool
24 instructions. So it makes sense that perhaps it might be obvious, say, you
25 know, in 2014, to use a conventional slicer to create conventional G-code for

1 purposes of printing on your 3D printer. That's the resulting combination
2 that's discussed.

3 Here's Paragraph 40 of the Hickner declaration. Paragraph 41 then
4 goes into the motivations to combine, of that declaration. In fact, Paragraph
5 41, ironically in the numbering, cites to Paragraph 41 of Douglas, which
6 mentions that overlap between tool instructions and G-code. So that's the
7 basis for the resulting combination. The dispute isn't necessarily about, for
8 example, element 1.6 and where the G-code comes into play. The dispute is
9 actually related, for example -- in the first example, is in limitations 1.2 and
10 1.3 of claim 1.

11 If you turn with me to slide 8, you'll see the language of elements 1.2
12 and 1.3. The dispute centers upon the patent owner's demand for a narrow
13 construction of claim 1, not for any particular claim term in here, but instead
14 that the order of the method steps must be performed in the exact order. In
15 other words, the determining step must occur always before the determining
16 (sic) step in any possible interpretation of claim 1. Importantly, this is going
17 to come up, so I'm going to address it now. On the right side of slide 8, you'll
18 see an example page from our petition. If you look at petition, for example,
19 in element 1.2 cited to Exhibit 1005, that's the Douglas reference,
20 Paragraphs 32 and Paragraphs 38 to 43, Paragraph 73, and then Paragraph
21 49. This is giving you some context that we're going to get to in a minute
22 about the Douglas reference.

23 Also, you'll see this image is taken directly from our petition. It's an
24 annotation of figure 2. And you'll see in our petition, not in our reply, we
25 stated, "Douglas' printer server 208, selects one of the printers, 204, either
26 automatically or based on a user request." You'll see later that the patent

1 owner asserts that the idea of a user request was raised for the first time in
2 the petitioner's reply. But here, I'm showing you this page preemptively, and
3 I'll get to it in a minute how we get there.

4 So slide 9, please. If you turn there, you'll see the patent owner first
5 raised this issue about the narrow construction of claim 1 in its preliminary
6 response. It said that first, you determine, and then you request and query.
7 The institution decision at the preliminary stage on that preliminary record
8 pointed out two things that I think are worthy of note here and actually still
9 exists today. First, it said that the patent owner appears to be relying upon
10 Paragraph 74 of Douglas in isolation and that there are, in fact, other
11 embodiments in Douglas that show the order of the steps determined and
12 then query in that order.

13 And then the second thing the board did in the institution decision
14 was, it cited to the *Interactive Gift* precedent. And this they cited for the
15 general rule that the method steps are ordinarily not required to be
16 interpreted as being in the exact order they appear in the claim. And it cited
17 that here in the context of claim 1. So that's where I want to take off from
18 here because the patent owner actually raised arguments about this issue.

19 If you turn with me to slide 10, you'll see our citation to the
20 *Interactive Gift* precedent in our slides. The left side of this slide show the
21 language from the Federal Circuit. The right side shows the claim that the
22 Federal Circuit actually analyzed. The Federal Circuit was quite clear that
23 step 1 is providing of information. That does not need to occur before the
24 step 4 is receiving step. In other words, these steps do not need to be
25 appearing in order. Two things worthy of note here. The first is that the
26 Federal Circuit turned to the specification to see, are there examples here

1 that show a way to achieve this method where the method steps are a little
2 bit out of order?

3 And the second thing is, that receiving step used the word "the" a few
4 times. There's no requirement that antecedent basis alone dictates that, for
5 example, this fourth step must occur after the third step, and that the
6 antecedent basis in the third step must occur then after the second step.
7 Antecedent basis doesn't dictate this rule.

8 Next, if you turn to slide 11, you'll see the *Altiris* precedent.

9 JUDGE OGDEN: Mr. Hawkins, I'm a little bit less interested in the
10 comparison with the case law that you made as I am with the specific claim
11 language here, which includes, you know, the phrase, "Determining a target
12 printer." And it seems to suggest that, you know, at least at some point, you
13 are identifying something as a target printer. And so I think there's two -- a
14 couple of ways you can interpret that. Either you are determining a printer
15 that is at some point recognized as a target printer, or you are determining
16 that it is a target printer.

17 So I wonder if you could speak to the distinction there and how do we
18 know that it's one or the other based on just the claim language itself? And if
19 we can't determine that based on the claim language, you know, how do we
20 know that there isn't just an unclaimed embodiment in the specification?

21 MR. HAWKINS: That's a great question, Your Honor. So let me turn
22 to that now then. I'm going to skip forward a few slides. I'll get back to the
23 precedent if you have further questions. So first, to answer your question, I
24 believe that it says, "Determine a target printer," and then you query that
25 target printer. It's antecedent basis. It's a and the. I understand the word
26 "target," but that doesn't relate necessarily to the determination, because if --

1 it relates more to -- in the context of column 19 here shown on slide 13,
2 you'll see that the specification itself refers to something as the target printer
3 after you've done the querying.

4 So in other words, to the extent you're going to interpret claim 1
5 consistent with the specification, you would understand that target doesn't
6 require some sort of prerequisite or part of the determination, but rather it's
7 just -- it's eventually recognized as this is the one that I'm going to query,
8 and I'm going to get the dictionary from. And so here, we have on the left
9 side of this slide -- this is column 19. And it says, "As shown in step 306."
10 Now, 306 is part of figure 3A. The patent owner is telling you, this is the
11 support for our claim 1, okay?

12 In the middle of this paragraph, it says, "In one aspect of step 306,"
13 not in an alternative embodiment. In one aspect, the way to accomplish step
14 306, you run numerous queries sent to numerous printers, for example, for
15 use in selecting one or more of the printers as the target printer. That is using
16 the word "the target printer." That's fully consistent with the specification
17 that you could query, and then you will determine which one is the target
18 printer. And so consistent with specification, that then makes sense in the
19 context of claim 1. And to be quite honest, it makes sense in the context of
20 the *Interactive Gift* precedent and the *Altiris* precedent, that you should look
21 to the specification. Does it give examples where it's using the same exact
22 terminology in a way that is consistent with, yeah, these method steps might
23 be performed in flipping the order of a couple of steps?

24 Now, you can actually go one step further than this. It's beyond
25 column 19. If you look, for example, on our slide 14, the patent -- because
26 the -- you know, the board addressed this in the institution decision. They

1 cited to this part of column 19. The patent owner gives a very pithy reply. It
2 says, you know what, that sentence relates to multiple printers, and so we
3 hereby, in 2026, disclaim that. That disclaimer does not appear in the
4 prosecution history. That disclaimer does not appear in the specification. As
5 a matter of fact, I just showed you column 19 where the specification says
6 the opposite.

7 But if you look, there is two issues with this argument. First, it's
8 asking the board to violate the *Oatey* precedent, which we cited in our reply
9 as shown here in the lower left of slide 14. Second, and I think perhaps even
10 more clear, if you turn to slide 15, take a look at column 18, this is the
11 paragraph immediately before column 19 where I showed you. Now, here
12 it's talking about step 304, "Determining a target printer." Again, this is from
13 figure 3A. Patent Owner is telling you this is how we find support for our
14 claim 1. Look at the last sentence of this paragraph. One aspect of step 304,
15 the patent owner is telling you, oh, if it's multiple printers, it's disclaimed. In
16 one aspect, one way to accomplish step 304, not an alternative embodiment,
17 one aspect of it, the target printer may include more than one printer. So not
18 only is their argument inconsistent with the law, it's inconsistent with their
19 own specification.

20 And one important thing I want to point out here, I just showed you
21 columns 18 and 19. If you look in the lower right side of slide 35, this is
22 column 35. This is the last paragraph of the specification. This is the last
23 thing you read before you read the method steps of claim 1. This highlighted
24 part tells you the opposite of a disclaimer. The order of the method steps that
25 are shown there in figure 3A, they don't need to be in that order. That's okay.
26 So the specification is fully consistent with the board's initial finding under

1 the *Interactive Gift* precedent that, in fact, no, we should follow the general
2 rules here, there is no exception, there is no mandate.

3 For example, if we go back up a couple of slides, slide 11, we cited
4 the *Altiris* precedent. Here, the Federal Circuit is telling with this,
5 grammatically or neurologically, that rule they keep citing to, right? This is
6 important, right? The Federal Circuit, on the left side of the slide, says,
7 "When you look at claim 1 here, claim 1 neither grammatically nor logically
8 indicates that the setting step must occur in a particular order compared to
9 the other steps."

10 Now, if you look at that setting step, it says, "Setting boot selection
11 flag." It doesn't say setting a boot selection flag. But the Federal Circuit is
12 telling you that step can occur before a boot selection flag is announced in
13 claim. The mere recitation --

14 JUDGE RANGE: This is Judge Range. I've got a question that's -- it
15 may actually be the same question Judge Ogden asked in different words.
16 And so you've kind of addressed it already, but to kind of frame it a little bit
17 different way, again, looking at recitation 1.2 where it says, "Determining a
18 targeted printer to fabricate the object," one question I have in that in my
19 mind is whether or not that requires determining a target printer that will
20 actually do the printing and end up printing the object, or is it just
21 determining a target printer for consideration for fabricating the object?

22 MR. HAWKINS: I understand your question. I do think it's perhaps
23 the same thing. So again, I would go to -- the claim language alone is at best
24 ambiguous. I think it's just a mere antecedent basis issue, but it's at best
25 ambiguous for the patent owner's side. And in that case, the law tells us,
26 *Interactive Gift* and *Altiris* tell us, turn to the specification. And the

1 specification uses the word "target printer" in the exact same way we are
2 telling you today. It can be performed. We would query first, and then
3 among the queries, you decide which one will be the target printer. It uses
4 the word "target printer" in that way. We're asking for nothing more than
5 consistency with the specification.

6 JUDGE RANGE: Yeah. I guess what I'm thinking is that even if order
7 didn't strictly matter, 1.2 could theoretically be narrow in the sense that it
8 would have to be choosing the printer that actually does the printing?

9 MR. HAWKINS: Correct. And, again, that occurs then in both -- so
10 we cited two different parts of Douglas, and Douglas does both. So I think
11 you're right. You could query first and determine which was a target printer.
12 And you're right, that is the one that eventually prints. And that appears both
13 in what I'm going to call the full context of Douglas, let's say everything up
14 through Paragraph 73. And it also occurs in Paragraph 74 of Douglas, which
15 is what the patent owner wants to kind of myopically focus on only in
16 isolation. So it does occur in both instances. Let me get there. I'll show that
17 to you here.

18 JUDGE RANGE: Okay. That makes sense.

19 MR. HAWKINS: So I will note they cite to the *TALtech* precedent.
20 And I think this answers a little bit of the question of Judge Ogden before.
21 Now, if you look to the patent owner slides, there's two things they're not
22 going to show you. The first is in over 100 slides, they never once will show
23 you column 19 or column 18 that I just did. In fact, they won't show you the
24 specification of the '774 patent at all, not in a single slide. They won't cite to
25 it or quote to it once.

1 The second thing is, when you look at the *TALtech*, they show you
2 claim 1, right? They'll show you parts of claim 1. This case is about claim
3 18. It's a dependent claim. And dependent claim cites wherein step B is
4 performed, "prior to step C." That is how you claim something
5 grammatically to require an order of steps. This is an example of the claim
6 amendment they could have made in this IPR proceeding. And they elected,
7 no, thank you, we would like a broader claim scope. And so that's all we ask
8 is -- if they would've wanted to announce, yes, you know what, determining
9 has to be prior to, here's a claim amendment. They could have. Nothing
10 would've stopped them from doing that. Figure 3A supports that, right? They
11 could have disclaimed what they say they're disclaiming. They did not do it,
12 and that's the key.

13 So I will also add, by the way, *TALtech*, not precedential. And the part
14 they cite to is dicta. If you look at what's cited here on the left side, it says,
15 "By the way, claim 18, already invalid based upon best mode requirement."
16 But even if the district court did some things in patent order -- look at the
17 lower left of slide 12, Patent Owner. You didn't even challenge this on
18 appeal. This wasn't even a debated issue in the *TALtech* case before the
19 Federal Circuit.

20 And so the -- just so you know, the district court in this case, they
21 were looking at step -- at claim 18. And then E has to come before C. And
22 the question is, what do you do with step D? That was what the district court
23 was wrestling with. The patent owner didn't even challenge it on appeal. So
24 not only is it dicta, it wasn't even a debated argued issue before the Federal
25 Circuit. This is not the case that should be used to essentially violate
26 *Interactive Gift* in the *Altiris* precedent.

1 Now, I want to show you what I meant about the Douglas reference in
2 both ways. So this is slide 16. Here on the left side, column 19, we talked
3 about that. On the right side, this is Douglas Paragraph 74. Patent Owner's
4 entire case is based upon this. In fact, if you know, we cite all those
5 paragraphs I mentioned, and they say, no, please look at Paragraph 74 only.
6 Put on your blinders. Read this. And here, both parties agree. There is, in
7 fact, a determining step of a target printer, and there is, in fact, a querying
8 step. The only disagreement is the order, right?

9 So Paragraph 74, if you follow the law, *Interactive Gift* and *Altiris*,
10 both parties agree this is enough. This hits 1.2 and 1.3. But that's not all we
11 cited to. Turn with me to paragraph -- to slide 17. Again, we cited Paragraph
12 30 and 38 through 43 and 73. This is an important understanding of Douglas.
13 And I think it's kind of ironic that we're talking about what Douglas teaches
14 here, and they're saying Douglas doesn't teach something, because a little bit
15 later today, these same parties are going to be before the board talking about
16 a patent that resulted from this Douglas family. And I have a feeling they
17 might be talking about everything Douglas does teach.

18 So this is important. In Paragraph 30, if you look, it's talking about
19 that this client device 206 is basically a thin client. The server is doing all
20 the work. It's the engine. It's providing the user interface. All you need on
21 the client 206 is a display and a keyboard, and you're ready to go. And now
22 that -- so let -- let's give that some legs. Paragraph 40, for example, the print
23 server maintains print queues for all these printers. The next paragraph that's
24 not shown here, Paragraph 41, says those print queues, they're saved in a
25 database at your print server 208. That's the engine, right?

1 And the print queue has a Lexicographic dictionary definition in
2 Paragraph 41. It includes the, "tool instructions," the G-code at your server
3 in the database. So the server is doing this work, okay? Keep that in mind as
4 we go -- oh, by the way, the middle of Paragraph 40 there, that's highlighted
5 because when you do this, it actually has an advantage. It avoids this point-
6 to-point communication, direct client to printer. No, this is better. Now
7 they're telling you Paragraph 73 is this. Douglas is telling you it's not or that
8 it's the direct point to point. Douglas is telling you it's not, because --

9 Turn to slide 18. Again, Paragraph 30 is on the left side. We talked
10 about that. The middle, Paragraph 43, not only is it a thin client, 206,
11 Paragraph 43 says, "We can do more at our server than even give you a user
12 interface. We can give you a whole virtual workspace." You can create a
13 brand-new 3D model, a whole new SolidWorks or Fusion thing that you can
14 rotate around and make multiple parts and assemble them together. You can
15 do all that with -- on the engine of our server. All you need to do is log in
16 with your thin client, okay? And look at the very bottom of Paragraph 43.
17 And when you do that, that's how you can go, yeah, go ahead and print on
18 printer A. User can select the printer. And when you do that, sure, the server
19 gets the request, and it says, ah, I see in your request, you have identified
20 printer A. That is now, hereby, my determined printer.

21 And then go to Paragraph 73. I'm going to go and query that printer.
22 So it does have the steps in order. Paragraph 74 tells you there's an
23 alternative order. But in the end, even if you follow their narrow
24 construction, Douglas teaches that. And that was the first part of the board's
25 preliminary institution decision. That's what I mentioned before. So unless
26 the board has any other questions, I will say -- by the way, when we -- for

1 Paragraph 73, I should add this. On slide 19, the patent owner makes one
2 astounding argument against Paragraph 73. It says, "Well, this doesn't make
3 sense because if the user requests the printer, then there's no need to
4 determine the printer." But if you look again at column 18, that's the very
5 first example of what determine a target printer is. The user selects a printer.
6 And so their argument, again, inconsistent with their own specification.

7 And then they ask the court at the end of -- on the bottom of slide 19,
8 bottom left, "By the way, please read Paragraph 73 in isolation alone." It
9 never says the word "server 208," so therefore it must disappear. The server
10 208 must not appear. That's not how you read Douglas. That's not the *Intel v.*
11 *PACT* precedent that we mentioned at the bottom of the slide. You read
12 Douglas for all that it teaches. And I know by the time I get to Paragraph 73,
13 I've read Paragraph 43, I've read Paragraph 41, I've read Paragraph 30. I
14 know it's a thin client. I know the server is doing the work.

15 Unless the board has any other questions, I'd like to turn to element
16 1.4, which is a dictionary of configuration information. Here, we have the
17 claim language in element 1.4 shown on slide 21. It says, "A dictionary of
18 configuration information and the claim element recites a limitation." That
19 dictionary has to contain one or more properties of the target printer. What's
20 important to note is what is not recited in this claim language. The word
21 "collection" does not appear in this limitation. The word "organization," or
22 "format," or "transmission organization format" doesn't appear in this
23 limitation. The patent owner demands that it does. Specification tells you it
24 doesn't.

25 Let's turn to slide 22, please. I'm going to show you columns 21 and
26 22 of the specification, which Patent Owner will not show you in their

1 slides. Here, columns 21 and 22 are an exercise from a patent drafter and
2 how to beg an interpreter to please interpret the phrase "a dictionary of
3 configuration information" as broadly as possible. That's what this is. That's
4 what this exercise is. The dictionary, it can be a list of properties. Could be,
5 but it's not limited to that. It could be a collection of properties. Could be,
6 but it's not limited to that. It can be literally anything that's configured to
7 otherwise organize these properties, and here's the key for readability and
8 use by the server.

9 From that point, everything else that it says in columns 21 and 22
10 makes sense. For example, at the bottom of this paragraph, the lower left of
11 slide 22, the '774 patent will even tell you, this isn't even an innovation in
12 this application. This is something any ordinary artisan can program and
13 code. Slide 22 on the right side, column 22, it says, "It can be in any format."
14 They keep asking, what's the format, what's the format? The '774 patent
15 won't even tell you which format it's in. It can be in any desired granularity.

16 The upper right-hand corner of slide 22, it's literally a black box in the
17 figures. There's no example of, like, here's what it -- here's what a dictionary
18 looks like, here's our list. That doesn't appear. It's -- it can be anything. By
19 the way, column 22, I have quoted a part here. If you look right above that
20 part on column 22, it says it can be just like a flag, like a binary yes or no, a
21 bit. That's good. That's a dictionary so long as it can be read and used by the
22 server. That's all they want.

23 So what does Douglas say about this? Here on slide 23, you'll see,
24 Douglas -- Paragraph 63, Douglas has a spool of, let's say, PLA material,
25 and it's got this data tag 304. And when I attach that spool to the printer, it
26 automatically detects that RFID tag, RFID sensor. Clearly, it's a readable,

1 sensible data format. And that data includes a laundry list of properties,
2 especially build material properties, extruder temperature requirements.
3 That's in the center of slide 23. And it tells us, by the way, that all that data
4 is going to be received by the sensor, and it's going to be transferred to the
5 server.

6 Paragraph 72 tells us that there is -- with this information, you are
7 going to make a determination of one or more parameters. So the -- one or
8 more properties becomes, eventually through some processing, the one or
9 more parameters that you've determined, right? Where does that occur?
10 Paragraph 72, that can occur at the other remote sources such as the server
11 208. Makes a lot of sense if you're doing a virtual workspace with a thin
12 client. Then at the bottom right of slide 23, it tells us that, in fact, this data,
13 these properties that are from this printer brought up to the server, you know
14 what the server does with them? It reads them and it uses them. And recall
15 Paragraph 20 -- or column 21 that I just showed you in the previous slide. It
16 tells us that these remote sources, this server 208 is configured for the
17 determination of the operational parameters. I receive those properties, I
18 read them, and I use them to determine the operational parameters. That
19 alone is enough to teach element 1.4.

20 One last slide here, slide 24. I do want to note one thing. It kind of
21 highlights the patent owner keeps bringing up this question of, how is it
22 transmitted, what's the organization of it, right? They're using this how
23 synonymously with format. They won't say it out loud in their papers, but
24 it -- this is an example of -- again, because the specification tells us any
25 format. And so which format is -- you're demanding more of the prior art
26 than you even gave in your own specification, and so the patent owner's

1 response here on the upper right of slide 24, "We don't know how this data is
2 provided." And they cite to Exhibit 2015. They quote, "The deposition of
3 our expert, Dr. Hickner," and they say, look, even he says he doesn't know
4 how it's provided.

5 Well, I'm showing you the full snippet of that question here on the
6 lower left of slide 24. And Dr. Hickner is saying, what do you keep saying,
7 how? Can you please clarify? What do you mean by how? What's the
8 question? Does Douglas describe the format in which the information is
9 received? That's the question he answered. Oh, you want to know the
10 format? No. It tells you any suitable format. Same thing as '774. Anybody
11 can code this. Same thing that '774 tells you.

12 If the board has no further questions on this, I'd like to turn to element
13 1.5.

14 JUDGE OGDEN: Mr. Hawkins?

15 MR. HAWKINS: Yeah.

16 JUDGE OGDEN: I've got a question, just so I can understand your
17 position. Limitation 1.4 says that the dictionary contains one more properties
18 from the target printer that affects fabrication capabilities of the target
19 printer. And some of the properties that you're pointing to in Douglas seem
20 to be properties of the material used to make the -- to fabricate the object. Is
21 it your position that these properties can be -- they don't necessarily need to
22 be properties of the target printer? They can be properties, you know,
23 associated with what the target printer is going to build, but not necessarily
24 the printer itself?

25 MR. HAWKINS: I think the answer to your question is yes, but I
26 want to clarify one point. So the '774 patent and the Douglas reference,

1 again, same applicants, are both calling these printer properties. Among
2 them are the build material properties. And so it's not necessarily what the
3 end part is going to be made of. It is, this printer now has attached to it a
4 certain type of material, PLA, ABS. That now becomes a property of that
5 printer.

6 Also, by the way, it does give a laundry list of other things. But there's
7 no dispute between these parties that the build material property attached to
8 the spool of that printer, that now that that's on that printer, that's what it can
9 print. No one argues, oh, that's not a property of the printer. So that -- that's
10 the specification both of Douglas and the '774 patent characterize the build
11 material property as a property of the printer. Hopefully that answers your
12 question.

13 JUDGE OGDEN: Yes. Thank you.

14 MR. HAWKINS: Yeah. So element 1.5, creating a fabrication profile.
15 This is shown on slide 26. We kind of have the same issue here that we have
16 with 1.4. There's this term fabrication profile. The specification uses it in a
17 very vague way. What's a little different here is we presented three layers of
18 arguments or, you know, three alternative arguments in our petition. The
19 first is Douglas discloses it, and I'll get to that in a minute. The second is,
20 well, to the extent fabrication profile is going to have some narrow meaning
21 that we don't know about the petition stage because, you know, it's used
22 ambiguously in the spec, so we don't quite know what the patent is going to
23 say about it. It certainly would've been obvious to arrange these as a
24 fabrication profile. And there's two benefits to do so. And the third argument
25 is, by the way, in the resulting combination, remember, we have a
26 conventional slicer at the server as suggested by Mark. And so it makes a lot

1 of sense. Why not use the example fabrication profile for that slicer? So
2 there's three layers there, right?

3 If you turn with me to slide 27, you're going to see the first layer was
4 picked up on -- upon in the institution decision. This is in the lower right-
5 hand side. Now, let me explain that because it's important to note the patent
6 owner doesn't dispute this. So on the left side, this is this '774 patent
7 specification, column 23, above the middle of this highlighting part. Here's
8 what we know about the fabrication profile. It may be the basis for the
9 generation of the machine-ready representation. So the basis for the
10 generation, that's the key. I'm going to take your properties and they're going
11 to go in a dictionary and they're going to go to your server. And from that,
12 the server is going to read and use them, and I'm going to have a fabrication
13 profile. And the key to that fabrication profile, it has to be the basis for
14 whatever I'm going to use to generate my 3D part.

15 So when you look in Douglas, here we're showing you on slide 27,
16 Paragraph 74, it's telling us those operational parameters that the server now
17 has determined, right? I received the properties from my printer. I've
18 determined my operational parameters. I'm actually going to combine them
19 with the print job information. There's going to be this combined set of
20 information. I think this is Paragraph 74. I think Paragraph 75 actually calls
21 it a set, right? And that's our point, is that is then used as the basis for
22 fabricating your 3D part.

23 So at that point in time, we have a fabrication profile. The institution
24 decision, I think very astutely at the preliminary stage, of course, picked up
25 on this. And it said, you know, two things. The fabrication profile seems to
26 be very vaguely used in the specification. And now point number 2, by the

1 way, Douglas' operational parameters seem to count because they're the
2 basis for the generation, right?

3 The patent owner's response, if I don't have it on a slide here, but if
4 you turn to the -- it's the very last line of Page 20 and the very first line of
5 Page 21. It just says their whole response to this is, oh, well, they present an
6 alternative argument. And so that's a tacit admission that Douglas doesn't
7 disclose it. Full stop. Let's move on to argument number 2. Just the mere fact
8 that we present an alternative argument is not an admission that Douglas
9 fails to disclose it, but that's their position. So that being said, this alone,
10 we're done with that 1.5, but I want to show you where then they go south
11 for the remaining part here.

12 So if you turn with me to slide 28, you'll see, like I said, we have on
13 the left side, this is Paragraph 56 of the Hickner declaration. This paragraph
14 actually starts off to the extent that Douglas doesn't expressly disclose it. It
15 would've been obvious to arrange these combined parameters in a profile.
16 There's two benefits to doing so. Now, their whole argument here isn't, no,
17 those benefits wouldn't occur. It's not, in fact, there are disadvantages to
18 arranging their profile. It is, those benefits do not appear within the four
19 corners of Douglas. Therefore, you cannot use them.

20 Now, that is wildly contrary to the post-KSR law, but that's here on
21 the upper right-hand side of slide 28. There's none of the disclosures, not --
22 none of, you know, Douglas or Mark says this advantage out loud. It's not
23 within those four corners. Petitioner fails to provide a source for this
24 rationale. Well, our source is an expert saying, in 2014, what a person of
25 skill in the art would've understood. Every slicer practically in the world at
26 that time used a fabrication profile. So it seems to make a lot of sense to

1 arrange this combined information in Douglas as a fabrication profile
2 because it gives you these benefits. That's their argument to what I'll call the
3 second layer of this element 1.5.

4 Let's go to the third layer. This is on slide 29. Here we say, again, you
5 know, we're already at the point of Douglas and Mark. It makes sense to use
6 a slicer at the server because then you can have all these benefits about
7 different printers can be customized for their slicers and the printer can
8 still -- I'm sorry, the network printer server can still have all these benefits of
9 network connection.

10 And we say, you know, since you're using a slicer, it would make
11 sense to perhaps use an example. Mark provides a specific literal picture
12 example of a fabrication profile. That's an example of a conventional one
13 that makes a lot of sense. There's even some benefits to doing so. Their
14 argument is, well, Douglas, if you read a certain paragraph of Douglas, it
15 says the operational parameters, again, that thing you determined at the
16 server, that gets sent back to the printer. And so because of that fact alone,
17 you would never use a slicer. You would never also use a fabrication profile
18 of the server.

19 Now again, back up to what I told you. This server receives the
20 properties. It combines -- it determines -- it reads and uses them, determines
21 the fabrication profile by combining that. And in Paragraph 41, that print
22 server manages the print queue, saved in a database. That print queue has the
23 tool instructions, the G-code, the end result of slicing, all at the server. I --
24 and so what's key is in Douglas, of course, sure, you can send the
25 operational parameters back to the printer. Sure. Here's your temperature.
26 Here's, you know, how far you move your Z-axis between each layer. Go

1 ahead and send that. It doesn't mean you don't also send those tool
2 instructions. And so one doesn't forbid the other. That's the point.

3 I think the board picked up on this. They're trying to mandate a bodily
4 incorporation argument. And what they're saying here is just contrary to the
5 allied erecting precedent that we cited in the reply at Page 11. And even
6 then, this argument applies only to our third layer of argument. They never
7 even touched the first one.

8 Unless the board has any other questions, I think it's important for me
9 to turn to ground 2, and the issue that the patent owner spent a lot of time on
10 are Evans and KISSlicer prior art.

11 JUDGE OGDEN: Mr. Hawkins, I might have missed it at the
12 beginning. Did you did you tell us what your -- the petitioner, Mr. Von
13 Gunten, was going to be arguing?

14 MR. HAWKINS: Yes. He's going to be arguing the substance of
15 ground 2A against the elements of claim 1.

16 JUDGE OGDEN: Okay. Thank you.

17 MR. HAWKINS: So I'm just addressing the prior issue. Yes.

18 JUDGE OGDEN: Okay. Thank you.

19 MR. HAWKINS: So before I dive into where we're at and the actual
20 kind of specifics of this dispute, I think it's important to understand a couple
21 of facts that are kind of not really in dispute, not really fight the fight here
22 between the parties.

23 So the first is prior to institution, the petition provided notice and
24 evidence of what the publication dates were. So if you look, for example, it
25 takes a couple slides to get here, but on slide 33, the left side is Page 2 of the
26 petition. And it tells you the key fact, the key issue. Is this prior art? Yes.

1 Evans published in 2012. Yes. KISSlicer published in 2012. The petition
2 cited to some evidence. It cites to Exhibit 1011. That's the Evans book.
3 That's a well -- book from a well-known publisher. And then it cites to the
4 KISSlicer Quick Guide. This then includes a cite right in there to
5 thearchive.org.

6 You can actually just -- if people are familiar with the Wayback
7 Machine, you can tell this is from 2012. Or if you want to go through the
8 heavy lifting of pressing a right-click on a mouse, that's an active link. You
9 could click that and it would go right to December of 2012. That's the work
10 it takes to see an indicia of publication date.

11 The petition also included two declarations filed with it. The Dummer
12 Declaration, which is a personal knowledge fact witness. It's short. It's about
13 two pages long. That is -- relates to the KISSlicer reference. And the
14 Mumford Declaration, which talks about how not only was a well-
15 published -- a book from a well-known publisher, but in fact, it was actually
16 existing in a library.

17 So let me show you first the Dummer Declaration. The upper right-
18 hand side of slide 34, cited in the petition, talking about well-known before
19 the critical date. There was a publicly available KISSlicer. See this short
20 little two-page declaration that talks about his personal knowledge. You can
21 actually just see the reference itself, too.

22 And so this is in the petition. Patent Owner's fight here is they're upset
23 that we cited at Page 59 of the petition and not also at Page 2. That we didn't
24 say on Page 2 somewhere, see also Exhibit 1015. Period. Those three words
25 on Page 2. Instead, it's on Page 59. And that is the issue for this.

1 Turn to the left side of this slide. You'll see in the petition we said,
2 this Evans book, it's a well-known book. In fact, we are going to snippet a
3 cover of this book. It's literally a book from a well-known publisher. Now,
4 nobody disputes it's a book from a well-known publisher. Nobody disputes
5 that. It takes maybe five to 30 seconds to either turn to the front cover or the
6 back cover to look at the copyright page, which has ISBN information. It has
7 the name of the publisher, all the indicia of publication. In fact, nobody in
8 this entire proceeding has doubted that this publisher was in fact accurate.

9 So this is in the petition. But again, prior institution, if you turn with
10 me to slide 35, you'll see the patent owner had noticed, surely, it's POPR
11 cited to not only KISSlicer and Evans, it's cited to Exhibit 1016 and 1015.
12 Now, to be fair, they cited to Exhibit 1016 to complain it wasn't actually
13 cited in the petition itself.

14 Now, our view on this is, again, it's a book from a well-known
15 publisher. That date is already as legitimate as, for example, a publication
16 from the U.S. Patent Office, which is also a well-known publisher. But the
17 *Hulu* precedent shown in the lower left of this slide says that to the extent
18 they want to challenge a date from, let's say, a book from a well-known
19 publisher, we could submit a librarian declaration with a reply or via the
20 supplemental information process. We're allowed to do that. We
21 preemptively provided this declaration to them. To the extent they want to
22 challenge it, here's the evidence you're going to face. Go ahead and depose
23 Ms. Mumford if you'd like to. The fact that we put that in the petition
24 shouldn't penalize us for something that we could have waited for the
25 supplemental information process for. By the way --

1 JUDGE OGDEN: Mr. Hawkins, I was wondering if you could maybe
2 articulate your position on what your burden of production here is with
3 respect to showing that Evans and KISSlicer, in particular to KISSlicer, our
4 prior art. What is your burden in the petition that you needed to admit?

5 MR. HAWKINS: Sure. I think the *Hulu* precedent spells this out, by
6 the way, but also the *Vidstream* precedent that we cite to. So the burden of
7 the petition is to provide sufficient notice of the publication date. And, you
8 know, a classic example would be our Douglas reference. That is published
9 by the U.S. Patent Office. I didn't say, see Exhibit 1005, upper right-hand
10 corner of Page 1. People know when you have a well-known publisher,
11 you -- in the patent world, you look to the upper right-hand corner of the
12 document. And people know for the Evans book, you look to the copyright
13 page.

14 Now, for the KISSlicer document, that's from the internet. Fair
15 enough. We should probably provide a declaration and cite to it, which did
16 occur. So that's the position of what needs to be provided at the petition
17 stage. Importantly, that's not where we are.

18 And so if you turn with me to the next thing that's not really disputed
19 among the parties. The *Vidstream* precedent, we cited this in our reply, and
20 the surreply, Patent Owner never said it's not applicable. Never said that
21 somehow there's -- should be distinguished. And 316E, I think everybody
22 here would agree we are now under the auspices of 316E. We have
23 completed our PTAB trial that the PTAB -- that the board invited. And now
24 we have to accomplish what 316E requires. That then is our burden of
25 preponderance of evidence, right? That's what has to happen.

1 So *Vidstream*, what happened? Well, they filed a petition and it
2 included something called the Bradford book. A lot like our Evans book. It
3 had a 2011 copyright page. Had ISBN information after institution. The
4 patent owner did two things that did not occur here. First, the patent owner
5 said, we have a doubt. We think perhaps that that copyright page is not
6 accurate. That did not occur here, but they raised it.

7 So in reply, Petitioner says, hey, here's an expert librarian declaration
8 to help sort out that discrepancy that you think you have. In fact, no, it's
9 2011. That copyright page was accurate. Patent Owner then did the second
10 thing that did not happen here. Patent Owner in that case filed a motion to
11 exclude. They wanted some piece of evidence to not be considered among
12 the totality of the evidence. Did not occur in this case. Next, just so it's
13 worthwhile to note, they also complained that, oh, that a librarian declaration
14 was filed too late. It's not fair. You should -- you know, you should exclude
15 it.

16 So what did the *Vidstream* precedent hold? There's two points here
17 that I think are worth noting. The first relates especially to the Evans book
18 here. When there's an established publisher, there is a presumption of public
19 accessibility as of the publication date. And then the Federal Circuit goes on
20 to cite *Kyocera* and the other precedent to explain this point. We think that
21 alone is helpful enough for the Evans book.

22 But importantly, I think the other point is just as clear to your
23 question, Judge Ogden. What do we do now? The PTAB is invited to PTAB
24 trial. We now have a record. What do we do? The Federal Circuit affirmed,
25 it's important to consider the question as a whole -- the evidence as a whole.
26 And this makes sense in light of *In Re Magnum Oil*, the precedent we all

1 know. What is the board supposed to do at 316E? Well, the board has an
2 obligation to assess the question anew based on the totality of the record, not
3 based on a part of the record, not based on something that may or may not
4 have been, you know, cited at Page 2 of the petition. What's the record as it
5 stands today at the conclusion of a PTAB trial, and how do we get to the
6 right answer? Was Evans published in 2012? Yes or no?

7 So after the PTAB invited trial, slide 37, this is quite important, Patent
8 Owner simply took the text from the POPR and pasted it in the POR. It did
9 not raise one argument for the Evans book, for example, related to
10 incorporation by reference, which the board invited. Not for Evans, not a
11 contest. Did he even ask, was there a corporation by reference? And I will
12 say no party here contends that some text out of the Dummer Declaration
13 should have been copied and put into a block quote into our petition, or
14 some text from the Mumford Declaration should have been put into a block
15 quote. This isn't a case where we say there are three motivations to combine.
16 See 20 paragraphs of an expert declaration and then move on. We said it was
17 published in 2012 and a fact witness also said that, but we don't need to copy
18 and paste the fact witness testimony. It was published in 2012.

19 So for the sake of time, where are we at? Slide 39 shows you, for the
20 evidence reference, there's no dispute. This was published in 2012 and no
21 one has ever argued otherwise. If you want to look at the totality of the
22 record, it's one-sided. Same with KISSlicer. It's one-sided. Slide 40. Slide
23 41. We, in fact, at the petitioner's reply stage, we followed the *Vidstream*
24 precedent. We said, well, fine. He's further stuff. Here's a record from the
25 copyright office. Here's some posts from those still in the art saying, yes,

1 KISSlicer was around in 2012. We followed the precedent and now the
2 record is overwhelmingly one-sided.

3 So unless the board has any other questions here, I would like to turn
4 this over to my esteemed co-counsel and LEAP practitioner who knows
5 more about this case than me, probably knows more about this case than the
6 inside, maybe, submarine from his time as being a submarine officer.

7 So Chris, after you.

8 By the way, Your Honors, I will say that he will go into our time and
9 use his 15 minutes. So thank you.

10 MR. VON GUNTEN: All right. Good afternoon, Your Honors. And
11 may it please the board. I'm Chris Von Gunten for Practitioner Bambu, and
12 I'm here to discuss issues for the second Hamilton evidence ground. Most of
13 these issues are similar to what my colleague, Michael Hawkins, just
14 discussed for the Douglas-Mark ground, but we'd like to take some time to
15 discuss some issues specific to the Hamilton ground.

16 So I'll begin with limitation 1.1 on slide 43. This limitation recites
17 receiving a request to fabricate an object from a three-dimensional model.
18 The dispute here is confined to simply Hamilton's use of the word design
19 and whether that includes the claim model. A portion of -- from this
20 argument from the POR is reproduced on the bottom of slide 44. The
21 petition had explained that a POSITA would've found it obvious that
22 Hamilton's design would've been designs of a three-dimensional object.

23 As an initial matter, the use of design in the Hamilton is consistent
24 with the '774 patent, which describes the three-dimensional model may
25 include a three-dimensional design. As I'll show you in a bit, there's
26 agreement between the experts that you typically begin the 3D printing

1 process with a three-dimensional model. The petition simply interpreted the
2 '774 patent -- interpreted the word model the same way as is interpreted by
3 Hamilton in the '774 patent.

4 It also makes sense that a POSITA would interpret design to include a
5 model when reading Hamilton. On the left side of the slide in Paragraph 20,
6 Hamilton tells you what its designs consist of, including separately
7 numbered individual parts. Think about a CAD assembly with multiple
8 parts. This understanding makes sense when you consider the paragraphs
9 around Paragraph 20. For example, in Paragraph 24, it talks about replacing
10 a part that's been damaged instead of reprinting the entire design.

11 When you consider this context, it makes sense that Hamilton in
12 Paragraph 20 is talking about how its design includes a collection of
13 computer-aided design parts. Thus, reading Hamilton from the perspective
14 of POSITA and not an automaton, and considering the proper context, it
15 follows that these designs include a model. And that's all limitation 1.1
16 requires. The object has to be from a 3D model.

17 Patent Owner will have you put on blinders and narrowly redesign,
18 discarding this context, and such that it only includes the alleged machine
19 ready code. It's wrong to read Hamilton in the way the patent owner is
20 asking. It's overly narrow and fails to consider the proper 3D printing
21 context that Hamilton is using the word design.

22 Turning to slide 45, you'll see deposition testimony from Dr. Hickner
23 on this issue. As an initial matter with respect to limitation 1.5, which I'll
24 cover briefly later, Patent Owner makes an argument that Hamilton's
25 instructions include only the machine-ready code. It's a very similar
26 argument to what was presented in the Douglas-Mark first ground. In Patent

1 Owner's use, since Hamilton says instructions, it must only be machine-
2 ready code. Patent Owner assumes that Hamilton has this universal machine-
3 ready code that could be provided to any printer on request. The
4 requirements don't matter.

5 Dr. Hickner pushed back on this and noted that G-code is typically
6 printer-specific. It's generated for the specific printer. A POSITA would've
7 known that these instructions don't begin as machine-ready code. They're
8 generated for a specific printer. There's no machine -- no universal machine-
9 ready code. You begin with a model, you don't begin with a code.

10 Turning to slide 46, you'll see that there's agreement between the
11 experts on this point. When asked about this general understanding of the art
12 around the time of the critical date, Dr. Cormier testified that printing
13 something assumes that you start with a CAD computer-aided design model.
14 Dr. Cormier continues and says that the model is then sliced with software
15 compatible with that printer. Again, this corroborates Dr. Hickner's own
16 testimony that the generation of machine-specific G-code is specific to that
17 printer. And in fact, as shown in slides 45 through 48, there's considerable
18 overlap between the two experts' testimony. As shown on the right of slide
19 48, as Dr. Hickner -- Dr. Hickner testified, just like Dr. Cormier, that 3D
20 printing, you typically begin with a design in the form of a 3D model. That's
21 how 3D printers work. You see a nearly identical statement from Dr.
22 Cormier on the left.

23 Here you have not one person with the perspective of a POSITA, but
24 two, telling you that it was known, you typically begin the 3D printing
25 process with a model. A POSITA reading Hamilton would've had the same
26 understanding as Dr. Hickner's and Cormier. The design is from a model

1 that's consistent with both the '774 patent and a POSITA's general
2 understanding. Patent Owner's narrow interpretation of Hamilton discards
3 this common-sense understanding.

4 And before I move on to the remaining limitations, I'll pause briefly
5 here for any questions.

6 All right. Hearing none, I'll turn to the rest of the limitations. So
7 briefly, I'd like to start out with just 1.2 and 1.3, which begins on slide 49.
8 First, I want to note that Patent Owner has to prevail on their narrow claim
9 interpretation that the target printer has to be selected before it's queried to
10 prevail on this argument here.

11 You've heard previously that that goes against both the precedent and
12 the disclosure of the '774 patent itself. If they fail on this argument, their
13 arguments are here in the second ground also collapse. And that's much of
14 the same for the remaining limitations for the Hamilton-Evans ground. But
15 for the sake of completeness, let's assume we have to read the claims that
16 way. The dispute here involves when the user's printer in Hamilton becomes
17 a target printer. You can see on slide 50, that Patent Owner argues that the
18 user's printer cannot be a target printer because the user does not know the
19 requirements of the object to be fabricated. In their view, it only becomes a
20 target printer when the design's requirements are determined to be
21 compatible with the printer.

22 As an initial matter, this isn't anywhere in claim language. This is a
23 new requirement. Reading the claims as written, there is no prerequisite for
24 determining the target printer. I just have to determine that one exists. Take a
25 look at limitation 1.2, determining a target printer to fabricate the object.
26 There's no restriction there. No requirement that the printer has to be verified

1 and no requirement that the user has to have personal knowledge of the
2 design. The requirement is just simply invented now, in the second ground,
3 by the patent owner because Hamilton-Evans happens to satisfy their
4 preferred order.

5 Turning briefly to slide 51, which shows Hamilton's operations on the
6 server side, Patent Owner would have you believe that the user's printer can't
7 become a target printer until step 350 where the printer is verified.

8 Conveniently, that occurs after the printer is queried in 320. But take a look
9 at step 310, which occurs immediately prior to 320. The system receives a
10 request from the user. Now, as the petitioner and Dr. Hickner discussed, the
11 user has a printer already connected in Hamilton. Patent Owner will tell you
12 that that's not sufficient, but they can't run away from their own patent.

13 Slide 52 includes the same excerpt from the '774 patent that was
14 discussed in the first round shown here on the right of the slide. The request
15 can include the target printer. Moreover, the user can select the target
16 printer. In view of that, Hamilton is completely consistent with how the '774
17 patent envisions the printing process occurring. It even follows the order
18 Patent Owner says the claimants must be read in. This is why you now see
19 this argument from Patent Owner in the second ground because they know
20 that even if they prevail in their ordering argument, Hamilton-Evans still
21 discloses the preferred order. And there's no support for this made-up
22 requirement in the spec of the '774 patent. The user's printer in the -- is in the
23 target printer in the initial request, at least because the '774 patent says it can
24 be. And there isn't anything else that says otherwise. And I'll --

25 JUDGE OGDEN: Counsel?

26 MR. VON GUNTEN: Yes.

1 JUDGE OGDEN: So is -- do you -- is it your position that the step of
2 determining a target printer could involve simply determining the only
3 printer that -- that's there? I mean, does there have to be a multiple -- does
4 there have to be options of printers that you can choose from? Or can it be
5 just kind of a foregone conclusion that one particular printer is going to be
6 the one that -- where the object is fabricated on?

7 MR. VON GUNTEN: Yes. Thank you, Your Honor. Yes. So certainly
8 the use of target printer in the '774 patent is broad. And I think, as you've
9 noted, there's some difference between the Douglas-Mark grounds and
10 where you possibly have, you know, many printers that you're querying, and
11 composed to the -- compared to the Hamilton evidence ground where you
12 just simply have the user's printer that's connected. So I would say that it's
13 not limited to -- the use of the target printer is not limited to the scenario
14 where you only have maybe one printer connected. I think that would satisfy
15 it because as you can see, there's some pretty significant overlap between
16 how Hamilton system works and how that one example in the '774 patent
17 where the user includes their target printer in their request.

18 And so in Hamilton, you have this instance where the user has
19 connected their printer to the system and has requested a design. And in that
20 sense, the target printer is the user's printer because it's the -- it's, you know,
21 it's the only one. So I would say it's not limited to that. There are plenty of
22 examples in the '774 patent where that's not the case, as my colleague talked
23 about. But I would say in the '774 patent -- or sorry, in the Hamilton ground,
24 you know, in that instance you talked about where the -- there's only one
25 printer and it's a foregone conclusion, that's -- would be consistent.

1 And then I'd also like to note that in Hamilton, there's also nothing
2 against the user having multiple printers. So perhaps in -- even if there was a
3 requirement that there had to be a selection of a target printer from amongst
4 multiple different types of printers, the user is still selecting the specific
5 printer that they want to use to complete that print shop.

6 JUDGE OGDEN: Is there anything specifically that in Hamilton you
7 can point to where it suggests that there could be multiple printers that the
8 user selects from?

9 MR. VON GUNTEN: Let's pull up Hamilton. Okay. So turning to
10 Paragraph 20, so this is the perspective of the user in this process. So the
11 user first requests a process or the user first requests a design and then waits
12 for a response for the user to ensure that their printer is attached and ready.
13 So that paragraph, you know, implies strongly that the user is selecting a
14 printer and then attaching that printer to the system. So as you've seen from
15 the other prior references, you know, certainly there could be, you know,
16 multiple printers with multiple different capabilities. And this is, you know,
17 evidence within Hamilton that the user is selecting one and attaching it.

18 JUDGE OGDEN: So can in the process described in claim 1, can the
19 user take part in that process or does this need to be something that's only
20 done by mechanically? Can -- in other words, can the rest of the method be
21 performed by the hardware that the user is the one that steps in for limitation
22 1.2?

23 MR. VON GUNTEN: So I'd say for the determination about target
24 printer, Your Honor, the '774 patent is clear there that the user can select the
25 target printer. As for the rest of the claim, you know, it's our understanding
26 that that occurs -- you know, that occurs in an automated process.

1 Specifically for 1.2, I'd say that the user can be involved in that selection
2 because the '774 patent says they can be. As for the rest of the limitations,
3 it's our understanding that that's more automated.

4 And specifically, I'll note that the system also weighs that the server
5 receives an indication that the user's printer is attached and ready. So even if
6 there was a requirement that it had to be automated in some sense, you
7 know, there is a verification at the server that the user's printer is ready and
8 suitable.

9 JUDGE OGDEN: Thank you.

10 MR. VON GUNTEN: Thank you. And seeing where we're all on -- or
11 we are on time, I'm just going to briefly discuss the remaining limitations.
12 So in limitation 1.4, it's really much of the same with what you just heard
13 my colleague, Michael Hawkins, talk about. The dictionary can be provided
14 in any suitable format. You see that in Hamilton. It has material properties,
15 which the '774 patent gives us. It's an explicit example. It's consistent there.

16 You see this other argument about, well, the parameters in Evans are
17 manually entered. That really doesn't say anything about the combination. In
18 the combination, you still have an automatically queried printer system in
19 Hamilton and you're combining Evans' additional information. But, you
20 know, even if it may have been manually entered at the start, it's still being
21 automatically queried in the combination.

22 And for one -- limitations 1.5 and 1.6, I'll just conclude that this is
23 also more of the same as what you've seen in both limitation 1.1, which we
24 just discussed. And then also in the Douglas-Mark ground. There's this
25 argument that Hamilton doesn't need a slicer because it says that it includes
26 instructions and Patent Owner assumes that they must be machine ready

1 code. And that's just at odds with what you've seen with both experts. You
2 know, it's typical of the PC's typical understanding would've been that you
3 would've used a slicer to generate machine ready code. We've seen both
4 experts say that. And then additionally, that doesn't acknowledge the
5 additional benefits someone would see if using a slicer, even if you were to
6 assume that Hamilton -- we're in this made up world where Hamilton doesn't
7 need one.

8 So seeing I'm over on time, I'll conclude there, unless Your Honors
9 have any other questions. Okay. Thank you.

10 JUDGE JUNG: Thank you. We have about 18 minutes left on
11 rebuttal.

12 MR. KAPADIA: I apologize. It looks like the system is in standby.

13 JUDGE JUNG: Do you need help to mark that, Mr. Kapadia?

14 MR. KAPADIA: I think we're good now.

15 JUDGE JUNG: Okay.

16 MR. KAPADIA: Yes, we're okay.

17 JUDGE JUNG: Mr. Kapadia, how much time would you like to
18 reserve for rebuttal?

19 MR. KAPADIA: Let's do ten minutes.

20 JUDGE JUNG: Ten minutes.

21 MR. KAPADIA: If I run into it a little bit, that's fine.

22 JUDGE JUNG: All right. You may proceed when you're ready.

23 MR. KAPADIA: Thank you, Your Honor.

24 Your Honors, it's Aashish Kapadia for Patent Owner. I'm going to
25 start with the first ground and then talk about the claim construction issue.
26 Jump right into claim. So the claim has two elements here that we're

1 discussing, 1.2 and 1.3, determining a target printer to fabricate the object
2 and then querying the target printer. And there's a little bit more language
3 after that. The -- this issue, I think, has perhaps been framed as -- by
4 Petitioner as just antecedent antecedent basis. I don't think that's the case and
5 I'm going to walk through where that -- that's the case.

6 This is on slide 13. There are actually three different parts to this.
7 Antecedent basis is one of them. The other one is really the context of what's
8 going on, because we talked about how the case law looks at both logic and
9 grammar. And so the context here is that you are querying the target printer.
10 And then the question is: Okay, well, what are you querying it for? You're
11 querying it for configuration information of the target printer. So it's specific
12 to the target printer. And then the next question is: Well, okay. Well, what
13 sort of information -- why do you need this? Well, the claim tells you that as
14 well. Relevant to the creation of a printable model for fabrication of the
15 object on the target printer. So that last piece on slide 13, this is highlighted
16 in blue, fabrication of the object on the target printer directly ties back to the
17 determination step of determining a target printer to fabricate the object.
18 That is the first step, determining. And then the second step is querying the
19 target printer.

20 That is what the claim language requires. It is true that the
21 specification describes other ways of approaching querying the target
22 printer, but there is no case law that says you can ignore the claim language
23 and simply rely on the specification to rewrite the claim. I think the way that
24 Petitioner is interpreting the claim, the word target doesn't have a meaning.
25 Querying a printer and then later on figuring out whether that printer is a
26 target printer or not, that rewrites the claim language. And we have plenty of

1 cases, in re Power Group Integrations is one of them, that you cannot, you
2 know, render a claim limitation or particular claim language meaningless,
3 which is effectively what they want to do with target printer here.

4 It has to be the target -- and I'm going to go back to the claim here so
5 it's clear, because this affects different discussions we've had. It is the target
6 printer, for what? To fabricate the object. That is the determination step. And
7 that's why that step goes first and the querying step follows from there.

8 There's also been some discussion about querying of other target
9 printers. This isn't a disclaimer issue or anything like that. It's simply that the
10 claim requires querying the target printer and that you could, in the
11 specification, go query other target printers or not other target printers, but
12 other printers and that could be what's performed, but that's not what the
13 claim requires. So again, it doesn't change the claim language, which is
14 querying the target printer after you determine the target printer for
15 fabrication of a particular object.

16 JUDGE OGDEN: Mr. Kapadia, it doesn't seem completely cut and
17 dry to me that we have to interpret the claim the way that you're suggesting.
18 I can certainly see that that's one of the ways that we can interpret it, but it
19 seems like there -- there's an alternate way of reading it, that you're
20 determining a target printer at some point -- at some point you're
21 determining that there is a target printer that fabricates the object, but then
22 later in the claim, maybe the term target printer is just the label for that
23 printer. You know, whether you have identified it yet or not, you know,
24 you're still talking about the same printer. Maybe you could communicate
25 with that printer beforehand and then make some final determination that,

1 yeah, that's the printer that I'm going to use to fabricate the object. So
2 what -- why is that not a reasonable way to interpret the claim?

3 MR. KAPADIA: I think the key is: What does it mean to determine
4 the target printer? If it's simply identifying a printer and then later on
5 determining that you have a target printer, I think that that might be okay.
6 The -- but the question is: What is the determination? The claim tells you
7 determining a target printer to fabricate the object. So the determination is
8 specific to the fabrication of an object. That fabrication of the object also
9 appears in the querying step. That tells you what the configuration
10 information is relevant to.

11 So that order between determining the target printer specifically for
12 fabricating the object and then querying the target printer where you get
13 you're querying for configuration information and that has to, again, be
14 specific to the fabrication, that then requires that you have some
15 correspondence between those two. That's why the logic is different than
16 just -- if the claim had just said determining a target printer, and that's it,
17 querying the target printer, and that's it, then I would agree with you that the
18 claim is ambiguous and that the order could be different.

19 In fact, I think a lot of the cases that we've -- the parties have been
20 arguing over tend to have claims more like that example I gave you, where
21 there isn't language that ties the two together in a way where you understand
22 one happens before the other. So I don't think it would be appropriate to just
23 simply determine a printer for printing an object and then later on figure out
24 that is my target printer. I think the determination step needs to happen the
25 way the claim recites it.

1 JUDGE OGDEN: Okay. So in some sense of -- regardless of how you
2 do that, how you perform the method in claim 1, the fact that you have
3 identified a particular printer as the target printer to fabricate the object, it
4 doesn't necessarily mean that you are -- you will for sure fabricate the object
5 on that printer, right? Because there could be -- you know, maybe the
6 printer -- maybe somebody turns off the printer. You know, there are various
7 reasons why that may fail eventually, right? So --

8 MR. KAPADIA: Yeah. I mean, you could have a power outage. There
9 could be, you know, all sorts of ways for -- I think, for one to believe, you
10 know -- I want -- I don't want to use the word speculate, but a scenario in
11 which you don't ultimately print it, I think the key thing here is that
12 everything in the claim is tied to the target printer. The last step, if you will.
13 Generating a machine-ready representation of the three-dimensional model
14 executable by the target printer. So again, that's telling you you need that
15 machine-ready representation executable, not just anywhere, but on the
16 target printer or by the target printer, to be specific. And again, it's to
17 fabricate the object. So that ties it back to the object that we've been
18 discussing.

19 It could very well be the case that the printer can't print the object,
20 maybe because of some sort of error. I think in that case, it wouldn't be able
21 to do the print. But again, the print, I will note that the claim doesn't actually
22 require the print itself or the fabrication itself.

23 JUDGE OGDEN: Right. So I would think that the term target would
24 be -- would have more significance than fabricate the object. I mean, it's
25 really -- it's the target -- it's the target -- it -- it's the printer that you are
26 focusing on at the time that you would intend to fabricate the object, right?

1 MR. KAPADIA: Yes.

2 JUDGE OGDEN: So the key, I think, is that you're focusing -- that
3 you've targeted that printer at some point?

4 MR. KAPADIA: Yes, you have to --

5 JUDGE OGDEN: And you're suggesting that you have to you have to
6 make the determination that that is the target printer before doing any
7 querying of that printer, right, or receiving a dictionary of configuration
8 information or various other steps, you have to determine that that's the
9 target printer before doing any of that?

10 MR. KAPADIA: That -- that's correct. For example, the claim doesn't
11 say determine a candidate printer, query the printer for configuration
12 information, and then revisit whether it's going to be your target printer.
13 That's not what the claim's covering. The claim is covering --

14 JUDGE OGDEN: But that's kind of -- that's kind of my point.
15 Because even if you determine that something is a target printer, you know,
16 it -- it's not necessarily the case that you will for sure fabricate an object on
17 that printer. You know, why couldn't you have multiple target printers? You
18 know, printers that you are focusing on that could be the ones that you
19 fabricate the object on? And then you know, you do some querying and then
20 at some point you determine, well, I'll select, you know, the particular one
21 that has the capabilities that I need to print this particular object.

22 MR. KAPADIA: I think in that scenario, that then determine -- maybe
23 you're saying that determining happens multiple times and that it could
24 happen once and happen again. I think the question then is: Are you
25 determining a target printer or are you just identifying a candidate for
26 printing of the object? And I -- again, it has to be for fabrication of the

1 object, not just, I have a printer. I don't know anything about it. It has to be
2 determining a target printer to fabricate the object.

3 I think also in that scenario, if you change your printer -- I will note
4 that the last limitation I talked about earlier, generating the machine-ready
5 representation, that has to be executable by the target printer. So if you're
6 saying at the end of the day, what you generate your machine-ready
7 representation of is executable by a different printer, then you wouldn't meet
8 that claim limitation either. So I think the claim is pretty clear, that's all
9 about the targeted printer from the determination of it through the generating
10 step.

11 I think we talked quite a bit about the different claim language. And I
12 will point out, we have this on our slide 17, that Dr. Hickner provides some
13 testimony on this. I think a fair reading of his testimony is that you don't
14 actually have to query the ultimate target printer. I think that very clearly
15 rewrites the claim and just says query any printer. Again, that's not what the
16 claim says. Under the particular elements of claims 1 and 2 for the Douglas-
17 Mark combo, this is on slide 21, I think Petitioner had covered Paragraph 74
18 of Douglas. That makes it clear in that paragraph that you have an input to
19 the process. And so that's an input to the process to decide which printer
20 you're going to allocate for printing.

21 I will note that one thing you didn't see on Petitioner's slides, and I
22 think I know why, is that when you look at their petition and you read it,
23 they repeatedly talk about the print server, print server 208. Print server 208
24 is the actor. It does the determination and querying according to the petition.
25 They did cite to parts of Douglas and they -- you saw them put -- try to
26 string together different parts of Douglas. You don't find that in the petition.

1 That's not the theory that they presented in their petition. What they
2 presented is that the print server automatically selects the printer. That the
3 print center -- print server does the determination. They said it's a thin client.
4 The server does everything. So that's what they presented in their petition.

5 The print server -- this is at the bottom of slide 22 for claim element
6 1.3. The print server requests the printer to transmit tag information. That's
7 querying the printer. That's what they said. So now they're presenting -- and
8 I'm going to go to slide 24 here. They're presenting an analysis of the remote
9 client device. That's a different device than what they presented in their
10 petition. Their petition never mentions the remote client device determines.
11 The remote client device performs the query.

12 And they try to link it all together, saying their remote client device is
13 somehow related to the, I think, virtual workspace, which I'll talk about it
14 probably on the next slide. On slide 25, this is what the -- again, has in it.
15 There's no remote client device mentioned here. And again, the figures show
16 separate devices here. The virtual workspace -- this is on slide 26. The
17 virtual workspace in Douglas is a user on the print server. That's what it's
18 describing. It's a print server that provides a virtual workspace. It does not
19 say it is a client device performing the selection.

20 I think this represents two different ways of approaching, say,
21 selection or determination they presented in their petition. Again, I'll go back
22 to slide 25, for instance. The print server does the selection. And now they're
23 telling you, well, it's the print server, but it's the client device. That's not
24 what they presented. The client device is a physical device: it's a laptop, a
25 desktop, computer. It's separate from the print server. It's in the figure as a

1 separate device, that's shown here or described here in Paragraph 30 of
2 Douglas as a separate device.

3 There's also one thing that they didn't mention. I do want to address
4 this on slide 29 of Patent Owner slides. Douglas -- petitioner says Douglas
5 could select a printer based on other criteria that don't depend on tag data. So
6 they are examples of printer proximity, printer capabilities, printer queue,
7 printer fees. These are all pieces of information from the printer. The
8 geographical proximity, for instance, is dependent on where is the printer
9 located. The printing capability is dependent on what printer you have and
10 how you've configured it. The print queue, it's based on the printer
11 configuration, what jobs the printer, for instance, is currently running.
12 Paragraph 40 of Douglas discusses that. And then fees. The printer's
13 provider, Paragraph 35 of Douglas, tells you that the printer fees are set by --
14 the provider of the printer sets those fees.

15 So again, these are all things that you have to query in order to receive
16 them. So even though they don't depend on tag data, they do depend on a
17 query prior to the determination step.

18 So if there are no more questions on limitations 1.2 and 1.3, I'll turn to
19 limitation 1.4. And this issue, I think, is similar between the two grounds, in
20 that the claim recites a dictionary -- receiving a dictionary of configuration
21 information. And I think there may be some misunderstanding here, because
22 Petitioner is saying Patent Owner is requiring a collection of configuration
23 information. What I read is that when you look at the petition, the petitioner
24 is saying, the way I interpret dictionary is something akin to a collection of
25 information -- of configuration information. And they follow a specification
26 of the '774 patent to make that assertion. And so then the question is: Okay,

1 if you take that on its face, then do you have a dictionary that's taught by the
2 combination? They never explained why the data is a collection of
3 information. They just said, there's data out there; it's a collection. That
4 doesn't tell you why.

5 They said you don't need any organization whatsoever. At least that's
6 how I take their argument. Well, if you don't need any organization, how can
7 it be a collection? Because to me, a collection is an organization -- some
8 organization of data. And they say that the way that the data is provided or
9 received is somehow not relevant. Well, I'll go back to the claim, because I
10 think it's instructive, it says receiving from the target printer a dictionary of
11 configuration information. So the way in which the data is configured or
12 organized is certainly relevant in terms of what is received. Receipt is what's
13 in the claim.

14 And Dr. Hickner said, you know, that Douglas is silent. He didn't say
15 Douglas, as I think Petitioner had suggested -- I -- he didn't say that Douglas
16 says that you can use any format. Douglas doesn't say anything about the
17 format. So then the question is: Can Petitioner rely on its expert to supply
18 that this data is organized in a way that's consistent with it being a
19 dictionary? Is it common sense, for instance? I will point out, IPR is limited
20 to patents and printed publications. Expert testimony can't replace a
21 reference as disclosure, nor can it be a wholesale substitute. And so their
22 theory comes down to, essentially, you have a collection because it's read
23 and transmitted this way.

24 Now --

25 JUDGE OGDEN: Counsel, this seems to be -- to some -- in some
26 respects, a claim construction issue about what it means to have a -- you

1 know, what a dictionary of configuration information means. And Counsel
2 for Petitioner pointed to instances in the specification that seem to describe a
3 dictionary in very broad terms. And so isn't it -- you know, in a situation like
4 that, you know, if you agree that it is described in broad terms, can Petitioner
5 rely on that and merely have the burden of showing that Douglas discloses
6 something that would fit within those broad terms disclosed in the patent
7 itself?

8 MR. KAPADIA: So if Petitioner is arguing that the term in the claim
9 dictionary of configuration information has a broad meaning when you look
10 at the '774 patent, and then Douglas matches that broad meaning and
11 explains why, then I think we have a situation where Petitioner is trying to
12 match up, say, the disclosure in a reference to an embodiment of the patent,
13 if you will. I don't take their petition to do that here. I think their petition
14 says we have a collection. They don't explain why it's a collection.

15 And I will point out that even if it's a broad term -- so I'll go back to
16 the claim here. Even if a dictionary of configuration is a broad term, case
17 law tells us that we can't -- at the same time, we can't just read out, say, the
18 word -- the phrase, a dictionary of from the claim. That's not what claims
19 construction does. So you can construe it broadly if that's what the
20 specification tells you it means, but it still has some meaning and you have --
21 and it's Petitioner's burden to show why the prior art teaches that meaning.
22 Here, I don't think --

23 JUDGE OGDEN: Do you have a position on what that meaning is, of
24 dictionary, and how we should construe that?

25 MR. KAPADIA: I don't have a construction for you, Your Honor. I
26 think what we what -- we did, is we took what they had proposed at face

1 value and showed why even under that proposal, the collection of
2 information that I mentioned earlier, or some organization, that that even
3 under that interpretation, they have failed to meet their burden.

4 JUDGE OGDEN: Okay.

5 JUDGE JUNG: Mr. Kapadia, I need you to directly address
6 Petitioner's citation to the specification of the '774 patent. In column 21,
7 Lines 24 to 39, there is this sentence that says, "The dictionary may be a list
8 or collection of properties that ultimately offer readability and use by the --
9 by a print server." So doesn't that give -- doesn't that part -- that one sentence
10 in the specification, give dictionary a broad meaning?

11 MR. KAPADIA: It certainly informs the meaning. I don't think it's
12 definitional, though. I mean, to --

13 JUDGE JUNG: But you agree that it provides the panel a scope of the
14 meaning of dictionary?

15 MR. KAPADIA: It provides some -- I guess, one possible meaning of
16 what the term means. So it may be a list or a collection of configurations
17 for --

18 JUDGE JUNG: Okay. And then in column 22 of the '774 patent, it
19 also says, "The dictionary may be provided in any suitable format." That
20 also, you know, informs the panel that there's no particular format that the
21 dictionary has to be in.

22 MR. KAPADIA: I think the phrase, any suitable format, then is -- has
23 to be interpreted. Is it -- does it mean I don't care how it's provided or it
24 doesn't have to have any format?

1 JUDGE JUNG: I think it means that one of ordinary skill reading in
2 the art -- one ordinary skill in the art reading the specification will figure out
3 what a suitable format is and apply that to the dictionary here.

4 MR. KAPADIA: So even --

5 JUDGE JUNG: (Inaudible)?

6 MR. KAPADIA: -- under that interpretation, I -- petitioner is not --
7 hasn't asserted in the petition that I have configuration information and that
8 someone of skill would know how to organize this and do it. They're saying,
9 we don't need any organization. We don't need anything. We just have the
10 configuration information.

11 JUDGE JUNG: Is your position that the '774 patent doesn't need to
12 describe it because one of ordinary skill in the art already knows how to do it
13 or that there is a special way to do it that's described elsewhere in the '774
14 patent?

15 MR. KAPADIA: I don't know of another portion other than the
16 columns 21, 22, that describe the dictionary specifically. My point earlier
17 though, was specific to what Petitioner is asserting in the petition here.

18 JUDGE JUNG: All right. Just to clarify, you agree that Petitioner is
19 asserting that the meaning of dictionary is very broad based on these
20 citations in columns 22 and 21?

21 MR. KAPADIA: I would agree, that's -- that that's their assertion, yes.

22 JUDGE JUNG: And it's not meaningless because they point to
23 specific parts of columns 21 and 22. They're not reading out the term
24 dictionary in that claim, correct?

25 MR. KAPADIA: Not as I understand when they were talking about
26 the claim in isolation. But when they turn to applying the prior art to the

1 claim, right, the combination, that's where there's a departure from even that
2 broad meaning that they asserted that specification carries.

3 JUDGE JUNG: Okay. I understand.

4 MR. KAPADIA: Let me turn quickly to the last limitation that I
5 applied to discuss for claim 1 under ground 1A, claim element 1.5. That is
6 creating a fabrication profile based on one or more properties. And I think
7 there -- there's a dispute here over, you know, does Douglas alone, without
8 any sort of input from Mark or POSITA, I suppose, does it create a
9 fabrication profile? I don't see their petition as saying that's a distinct theory.
10 I see those theories as intertwined because they're arguing that the
11 operational parameters of Douglas get round -- get rounded up into the tool
12 paths. And I think that's where the parties have a dispute, is, you know, they
13 provided three reasons. Parameters -- using parameters for tool path
14 generation, better storage, easier rendering.

15 And on slide 40, for instance, we had addressed in our patent owner
16 response why these theories don't hold up. We went and we looked at the
17 references. It didn't say anything, for instance, about better transmission,
18 storage efficiency. We asked Dr. Hickner about it. He said, I didn't look at it.
19 I didn't analyze it. And then I think still on their slides, they didn't belabor
20 the point, but they do refer to Dr. Hickner's declaration. Well, if his
21 declaration is saying that this provides better transmission, and then we ask
22 him -- that's the whole point of cross-examination.

23 We ask him, tell us about this.

24 And he says, well, I didn't analyze it.

25 Well, if that's the case, then there isn't a rationale for better
26 transmission. There can't be.

1 And then there's the question about the fabrication profile. So you
2 know, did you look at, you know, what sort of structure it would be?

3 No, I didn't look at it at all. That's -- his view is that it can be
4 anything, I suppose.

5 There -- there's the combination then between Douglas and Mark. And
6 Petitioner's theory is, look, you look to Mark because you need the tool
7 instructions. But I'm going to be very clear about what Douglas is showing.
8 It sends operational parameters to the printer. That's in the paragraph that
9 they cited, Paragraph 73. And it doesn't say I'm going to use it in a slicer.

10 That -- so the issue here is then there's no reason to then take
11 Douglas's operational parameters and organize them into a profile. That's the
12 theory they're putting forth. It doesn't make sense, because Douglas is
13 saying, send these to the printer. Even the example -- and I'm going to come
14 back to Mark in a second, because I want to explain why it's different. But
15 even in the stuff they cited to in their reply brief, that's Paragraph 74 and 75
16 of Douglas, Douglas is talking about doing -- let me break it down.

17 Paragraph 74 says, you can use a remote source to determine
18 operational parameters. So if a printer receives a print job, the printer sends
19 tag data to a remote source. The remote source transmits the determined
20 operational parameter back to the printer. The printer combines the received
21 operational parameter with the print job information.

22 Paragraph 75 says that, well, either the printer or the remote source or
23 both could determine operational parameters.

24 I don't understand why they're saying that -- they're talking about
25 intermediate parameters here. I don't see any discussion of that. Perhaps
26 maybe they could clarify that. But as far as I could tell, what we're talking

1 about here for the parts of Douglas that they've cited to is that you are
2 having a parameter sent to the printer.

3 Now, their point is, well, why couldn't you just combine the
4 parameters with the tool instructions? Mark has tool instructions. Well, the
5 parts of Douglas that they're relying on are telling someone of skill, the
6 printer decides what to do with these. The printer is making that decision. So
7 what they're saying is, don't talk -- don't listen to Douglas, ignore it, do
8 something else instead. And that -- maybe there's a rationale for doing that,
9 but they never presented that rationale in the petition of Douglas says this,
10 I'll tell you why you don't want to do that. There are reasons not to do that,
11 maybe.

12 They didn't present the combination that way. They simply said,
13 Douglas has tool instructions. Douglas has operational parameters. I'm going
14 to ignore the part where the operational parameters are sent to the printer and
15 let me present the combination to you. I think that's a very clear situation
16 where the first reference teaches away from the combination and they didn't
17 respond. They didn't address that in their petition.

18 JUDGE JUNG: All right. Mr. Kapadia, did you -- do you agree with
19 the petitioner that the patent owner did not dispute our preliminary finding
20 from the institution decision that Douglas, by itself, not combined with
21 Mark, discloses limitation 1.5. Is that a correct statement?

22 MR. KAPADIA: I don't believe so because I think we addressed
23 Douglas by itself in the patent owner response. I think their position is that
24 Douglas without -- I guess it -- without an understanding from a person of
25 skill discloses something. But the way I see the petition and the institution
26 decision is that, the disclosure of Douglas and then how they present

1 someone of skill in the art, that this would, in their view, be obvious, those
2 are intertwined. Those two things are intertwined and presented as part of
3 their ground.

4 JUDGE JUNG: So does Patent Owner agree that Petitioner presented
5 three alternative theories, one based on the disclosure of Douglas by itself,
6 another one based on Douglas combined with Mark, and then a third theory?
7 Do you -- did you see three distinct theories in the petition?

8 MR. KAPADIA: I saw two distinct theories, one based on Douglas
9 alone, and that's Douglas's disclosure and what somewhat of skill, according
10 to their expert, would understand. The second one is Douglas and Mark.

11 JUDGE JUNG: Okay.

12 MR. KAPADIA: I want to turn briefly to ground 2. And before I get
13 into, I think, the particulars of ground 2, I want to start with the two
14 references. This is on slide 68 of Patent Owner's demonstratives.

15 What we have -- petitioner had this as well on -- I think on one of
16 their slides. This is what the petition presents as far as these dates for these
17 references. There's no other argument. Nothing. There's a reference to, I
18 think, for KISSlicer to the -- to a declaration, but there's no argument about
19 why it's a printed publication.

20 JUDGE JUNG: Why exactly is that insufficient?

21 MR. KAPADIA: Well, all of the rules and cases that we've discussed,
22 I don't know of a single case where a petitioner -- maybe they can identify
23 one, because even the Federal Circuit case they cite, the petitioner in those
24 cases would not just say, I think, for instance, that I have a reference that
25 was a printed publication by 2012. They would provide argument to explain
26 why they believe that to be the case. And the argument is the key. A lot of

1 the rules say, you can present additional declarations and other evidence and
2 develop a full record. What none of those say is that you can add arguments.
3 The petition still matters here. So you look at the petition, you say, what is
4 the argument in the petition? Here you go. This is --

5 JUDGE JUNG: Should Petitioner have done the same thing for
6 Douglas, a printed patent publication?

7 MR. KAPADIA: So I think, with respect to patents, the patents are
8 published by the Patent and Trademark Office on the date that's on the face
9 of them. And so I think, for those, it is clear from the face of it what the date
10 is. Now, I believe what they're effectively doing here is telling you -- the
11 face of the patent tells you, the publication date tells you the priority date.
12 That's, I think, standard information in every patent. Not only is it standard
13 information, but you know exactly where that information is.

14 I don't think that when you look at something like a book for evidence
15 or a quick start guide for KISSlicer, that it falls into the same format as the
16 USPTO's publications for patents that are, you know, widely accepted that
17 there are, you know, rules and regulations around that define what those
18 look like.

19 JUDGE JUNG: So Mr. Kapadia, did Patent Owner present any
20 argument or evidence for us, the panel, to doubt that Evans was actually
21 available on 2012 or testimony it was not available in January 2012?

22 MR. KAPADIA: I -- I'm not aware of evidence specific to that, but
23 the --

24 JUDGE JUNG: Is there any indication that puts any doubt in Patent
25 Owner's mind about those dates?

1 MR. KAPADIA: Well, I do want to talk about public accessibility
2 because the argument that Patent Owner made, and this was in their reply
3 brief, was two things. I believe it's first that all books are printed -- are
4 disseminated or available publicly. I don't know of a case that says all books
5 are done. So today they said it's by reputable --

6 JUDGE JUNG: Do you have any reason to doubt that Evans -- that
7 this book in front of us was distributed?

8 MR. KAPADIA: I don't know of an evidentiary basis to supply -- to
9 say that -- for instance, that Evans is or isn't a -- published by a reputable
10 publisher. I also know, though, that there's no evidence in the record that it is
11 a reputable publisher. I know that Patent Owner just made an attorney
12 argument in their reply on it. And that's all. That's all we have here. I know
13 that for KISSlicer, they said --

14 JUDGE JUNG: What about their declarations from Ms. Munson?

15 MR. KAPADIA: With the declaration -- with respect to the
16 declarations from -- well --

17 JUDGE JUNG: Ms. Mumford?

18 MR. KAPADIA: From Ms. Mumford, yes. So that, I believe, turns
19 to -- so let me go to a slide on that, because I think her declaration talks
20 about -- this is an excerpt from, I believe, a reply brief. So their assertion is
21 that a Ms. Mumford, a librarian, detailed that Evans was cataloged. But that
22 doesn't tell us whether it's, again, publicly accessible. That -- and that's what
23 they have. That's their burden to show.

24 JUDGE JUNG: But do you agree there's no evidence in the record
25 now that disputes what Ms. Mumford said in her declaration? You didn't

1 depose her, you didn't put any other evidence that -- what disputes that
2 Evans was available in 2012; is that correct?

3 MR. KAPADIA: I disagree with that because Ms. Mumford's
4 declaration was just about the date in the library, it doesn't talk about public
5 accessibility. Her declaration doesn't go to that issue. Their argument is
6 that -- for public accessibility, is that all books are publicly accessible. That's
7 what they asserted in their reply brief. And I would say, on that basis, Ms.
8 Evans -- or sorry, Ms. Mumford did not provide any testimony that all books
9 are accessible to the public. And that -- that's right here --

10 JUDGE OGDEN: Mr. Kapadia, I want -- I'd like to get to the issue of
11 the burdens, the burden of production and persuasion. In some of -- in some
12 context of cases that come before us, like under 102E Art, under *Dynamic*
13 *Drinkware*, in those cases the petitioner has a pretty minimal initial burden
14 of showing that references prior art. And then, you know, for example, they
15 may, in some cases, only need to assert that it's prior art. And then it's up to
16 the patent owner to come back and challenge that with some sort of evidence
17 to, you know, bring into question that it's prior art. And then the burden
18 shifts back to the petitioner to show by a preponderance of the evidence that
19 it is prior art.

20 Is that a different situation here? Does Petitioner need a higher burden
21 of persuasion in the petition to show that Evans and KISSlicer are prior art
22 before you have a requirement to come forward with some evidence to
23 challenge that?

24 MR. KAPADIA: I think with respect to these two particular
25 references, their petition doesn't meet the bar. Even if it's a low bar, the bar
26 can't be, I'm going to give you a date, I'm not going to give you any

1 argument, I'm not going to tie that evidence to the argument for the -- in the
2 case of Evans. And then Patent Owner, the burden is all on you to figure it
3 out.

4 I don't see how that is consistent with allowing the petitioner to bring
5 in evidence to support their existing arguments, because their existing
6 argument for evidence is just a bare conclusion. That's all they have. They
7 don't have any argument, for instance, on accessibility or actual
8 dissemination. Their point is that they don't have to show any of this. Not
9 only in the petition, but as I read their reply brief, they don't even have to
10 show it at all.

11 And I don't think that's the case, especially in the case of Evans. But I
12 don't think that Petitioner can just simply say, I have stuff. Patent Owner, it's
13 your responsibility. The burden in IPR is always on the petitioner. And
14 shifting that burden to Patent Owner, which is effectively what that would
15 do, just turns the tables around on IPR.

16 JUDGE JUNG: Mr. Kapadia, did you make an objection to these two
17 references, Evans and KISSlicer?

18 MR. KAPADIA: Not to the particular references. But if the issue here
19 is that they didn't present arguments for it and they're not allowed to add
20 arguments after the fact, they are allowed to bring in evidence, then they
21 have a fundamental problem here. All of the cases they cite to, even
22 *Vidstream*, the Federal Circuit case, that case involved having lots of
23 arguments to the petition about copyright date, particular ISBN numbers,
24 why they're tied together. There was a whole page of argument in the
25 *Vidstream* case in the petition. What we have here is four characters for
26 Evans, 2012, and that is it.

1 JUDGE JUNG: Do you agree, Mr. Kapadia, that generally, if a
2 petitioner has a problem with this evidence, Patent Owner should identify it
3 and then we should give Petitioner a chance to cure it?

4 MR. KAPADIA: With respect to evidence, yes. But the same thing
5 does not apply to arguments.

6 JUDGE JUNG: What about talking about these references? It should
7 have been -- in my mind, ideally, you should have pointed out that there's a
8 problem with these references. And then there should have been a chance for
9 the petitioner to cure those problems, make an attempt to cure those
10 problems.

11 MR. KAPADIA: With -- so let's say there was an issue with the
12 declaration where the declaration wasn't sworn. It wasn't a sworn
13 declaration. Then I would agree that that notary should point that out, give
14 the petitioner an opportunity to correct it. If the issue with the declaration is
15 that Petitioner never provided any argument as to why this declaration even
16 matters, I don't think that's an evidentiary issue at that point. That's an issue
17 that starts and ends with the petition. I think even the Supreme Court's case
18 in SAS Institute makes it clear that the centerpiece of the IPR is both before
19 and after institution is the petition. And here we have a petition that didn't do
20 its job.

21 JUDGE RANGE: This is Judge Range. And one issue I'm thinking
22 about related to this is, I guess, what level of abstraction is argument is
23 required at? Because, really, what we care about is whether or not Evans
24 qualified as prior art. And they arguably made an argument that it is prior art
25 by saying there's a date. And your complaint seems to be that they didn't
26 further make an argument as to why that date is correct. But you could go -

1 you could run that indefinitely, right? Even if they made argument as to it is
2 correct, you could say, well, they didn't make argument as to when the
3 argument is correct. So it has to end somewhere as to - in terms of what their
4 burden is in the petition.

5 MR. KAPADIA: So I think if -- I think the right way to look at it is
6 that the petition -- in the petition, the petitioner has a burden to present their
7 argument as to why it's prior art. So I'll take KISSlicer as an example. So if
8 Petitioner, in the petition, said, we believe that KISSlicer's prior art, as of a
9 certain date, because it was available here, we know that interested persons
10 were going here or we have evidence of that. Here's how you would get to
11 the particular reference when you get to the website, for instance.

12 There -- you know, you don't necessarily have to have a roadmap, but
13 some understanding of how it -- it's either disseminated or publicly
14 accessible. Then the parties can argue over, do -- and this is, I think, kind of,
15 like the *Vidstream* case where there's more development. Is this copyright
16 date really correct for what you're presenting or was it something else, for
17 instance? Then the parties can develop it from there. But you have to present
18 that initial information, and not really information, but argument in the
19 petition. And then develop it from there.

20 If you just start with it's prior art and here's a date, that doesn't give
21 you enough of a starting point to know where to go from there. And I think
22 that's the issue here, is that -- and I think Petitioner admits that they had
23 space in their petition to do it. So I don't know why they didn't present it in
24 there and provide their arguments. But very clearly, they should have done
25 so, so that the parties could have both arguments as to whether they've met
26 their burden. Is there a gap, perhaps, in the evidence tied to their argument?

1 Maybe then Patent Owner would be better situated to make objections to the
2 evidence because it doesn't do something that Petitioner asserts that it does
3 in their argument.

4 What we have here is nothing for Patent Owner to go off of other than
5 they have asserted a date. And that's not enough to show that something is a
6 printed publication when you're dealing with a non-patent publication.

7 JUDGE JUNG: Mr. Kapadia, the way the arguments have developed
8 regarding Evans and KISSlicer, it could be said that Patent Owner has tried
9 real hard to not give Petitioner a chance to cure its evidentiary problems.
10 What's your response to that? There was no objection made. No motion to
11 exclude. No -- I don't know. There's several different ways you could have
12 attacked this problem, but you didn't seem to take on any of those.

13 MR. KAPADIA: I think Patent Owner made it very clear from the get
14 go from the Patent Owner Preliminary Response, that they have a
15 fundamental issue with the arguments that they present to the petition. I
16 think the institution decision gave them the benefit of the doubt by looking
17 at the evidence without the benefit of how Patent Owner or Petitioner is
18 viewing the evidence and what their arguments are. But what we're left with
19 at the end of the day is no argument as to these -- as to these dates. And we
20 have no basis in the petition to then develop the record. If the problem is that
21 Patent Owner didn't complain that Petitioner didn't meet their burden, we did
22 so through our briefing.

23 JUDGE JUNG: Okay. Thank you.

24 MR. KAPADIA: So I see I have five minutes remaining. So I'm going
25 to talk about probably two of the elements for ground 2A. The first one is
26 claim element 1.1. Hamilton is different than, I think, how someone of skill

1 outside the scope of Hamilton would do something from scratch. I think
2 someone of skill would start with the model, slice that model. That's a term
3 for converting the model into tool instructions, effectively. And then tell the
4 printer, go print with these instructions.

5 Hamilton is different. Hamilton sets up a system where a user can
6 basically purchase an existing set of tool instructions. And Hamilton tells us
7 what the design consists of. This is not Patent Owner making it up, this is
8 Hamilton. "The designs for the printer will consist of," and then it has a list.
9 Part of that list are instructions for the 3D printer.

10 That's a problem for Petitioner, because one of their theories in the
11 petition -- this is -- I'm reading off of slide 85 of Patent Owner's slides. The
12 instructions for the 3D printer, Petitioner said in the petition, we need to
13 combine Hamilton with someone. Why? Hamilton doesn't give us the details
14 of how the printer does things. That's not true at all. Hamilton does. It tells
15 you, you're going to get a design and that design has the instructions for the
16 3D printer. Not only that, but Hamilton makes it clear that your design may
17 have separately numbered individual parts and you get instructions for those.
18 And then later on, the user, not the printer, but the user may have to
19 assemble those individual parts to make the product.

20 So it gives you all of the details you need to understand what that
21 design includes. What are you getting when you pay money in Hamilton for
22 something? You're getting that design. So if Hamilton doesn't start with the
23 model, it starts with the instructions. That's what the user receives. And so
24 the claim element is receiving a request to fabricate an object from a three-
25 dimensional model. The request in Hamilton, in what it's teaching, is a

1 request to fabricate an object from a design. And that design already
2 includes the tool instructions. That's what Hamilton is teaching.

3 They tried to argue -- they didn't address this in their slides directly by
4 putting an excerpt, but they tried to argue, I think in the reply, that Dr.
5 Cormier's testimony applies to Hamilton. Dr. Cormier was just talking about
6 what someone of skill would do in general, not specific to what Hamilton is
7 teaching. And so that's claim element 1.1.

8 Claim elements 1.2 and 1.3, these basically follow what we discussed
9 earlier in terms of the claim ordering of steps between determining and
10 querying. The steps are shown here in the process flow for Hamilton. I
11 believe Petitioner also addressed those. I do want to briefly talk about the
12 attached printer. The attached printer that they talk about is the printer. So
13 the user is saying, my printer is attached and ready. But when the user says
14 that, all the user knows is the product. That's what Hamilton is telling us.
15 That's -- this is not Patent Owner saying, this is Hamilton. Paragraph 20,
16 right here, the user first requests the product. That's 210. That's what they're
17 talking about here.

18 So the -- when they request the product, they don't actually know what
19 object is going to be fabricated. They don't know that. And that's because of,
20 again, the way Hamilton is set up. So Paragraphs 19 and 20 of Hamilton, this
21 is on slide 91, tell us what we're talking about here.

22 Element -- claim element 1.5. This is -- 1.4 for ground 2, this is very
23 similar to the last ground in terms of a -- an organization or some sort of
24 understanding. I do want to talk about the combination of Hamilton-Evans. I
25 think a lot of times Petitioner likes to say that Patent Owner is requiring
26 bodily incorporation. I think this is the -- a very clear example of why we're

1 not doing that. We're addressing the references, the combination, the
2 references individually. Do you have a motivation to do something that
3 they're asserting?

4 One of the things they asserted is that you would take Hamilton, add
5 additional information to its accuracy and material capabilities. And they
6 pointed to specific things: nozzle size, filament, diameter, et cetera. The
7 problem is when you go look at those things in Evans. Evans shows you --
8 here's an excerpt from Evans on slide 98. Evans shows you, you measure it
9 manually.

10 And critically, Evans doesn't say you type it in the printer after you
11 measure it. It says you go type it in to the slicing software, which is on the
12 client's side. It's not on the printer. So this notion that you take user input
13 from Evans and then send it over to -- from the printer to something else
14 doesn't make any sense. Evans already says the user manually types it in. So
15 I think that rationale conflicts with what Evans is saying. Now, maybe they
16 have some other rationale that they didn't present in their petition, but when
17 you read what the petition has, what their expert explains, it doesn't cover
18 exactly why you would take Evans and adapt it in this way. I will point out
19 that that particular issue, they didn't dispute that in the reply. There's nothing
20 in the reply that directly disputes that.

21 They don't talk about how these are manually input or, for example,
22 how you could take a measurement and automate it. That doesn't make any
23 sense to me unless you're adding some sort of automated measurement
24 equipment, which, by the way, they didn't discuss and is not in the
25 references.

1 Again, Petitioner's expert, I don't think he necessarily disagrees with
2 Patent Owner. He says Evans doesn't describe settings being set by the
3 printer. It's a manual operation.

4 I think the last arguments specific to claim element 1.5 and 1.6, these
5 are about the designs that we talked about earlier. So this is slide 104, for
6 instance. These designs already include the instructions. And so the notion
7 that you're going to create a fabrication profile when you already have the
8 machine-ready instructions, the tool instructions in Hamilton, doesn't make
9 sense logically, because you've already hit your end result.

10 Now, it could be they do make this point that, look, not all tool
11 instructions work for all printers.

12 Okay. But if you look at Hamilton, what happens is the user says, I'm
13 ready to get this designed. They pay for it. They get the design. As part of
14 that process, there is a determination of whether this printer is ready to go
15 for that particular design. And if they're not, they never get the design.

16 So this is -- by the time you get the design, you have the tool
17 instructions in Hamilton, you are already at the point where you're not
18 creating a fabrication profile. And that's irrespective of whether Hamilton is
19 thought of by itself or even if you combine it with Mark, you still have your
20 tool instructions already.

21 With -- if there are no further questions on this particular element, I'll
22 reserve my time for rebuttal.

23 JUDGE JUNG: I think you have seven minutes left for rebuttal.

24 MR. HAWKINS: If you don't mind, I'm just going to refer to slide
25 numbers and not display them.

26 JUDGE JUNG: All right. When you're ready.

1 MR. HAWKINS: Thank you. So I think I'll try to take them in the
2 order that Patent Owner went through them rather than reverse order today.
3 And that, I think, starts with element 1.2 and 1.3. And the Douglas-Mark
4 grounds, ground 1A.

5 First thing I'd like to point out is, I spent a lot of time on columns 18
6 and 19 of the '774 specification. And never once did they say, oh yeah,
7 here's how we construe this consistent with our specification. Not once.
8 Didn't bring it up. There's a paragraph in column 19 that says, you can query
9 a set of printers and then you determine. And it doesn't say you determine a
10 printer, a certain printer, you determine the target printer. And that's okay.
11 That's fully consistent with specification. That's the way target printer -- that
12 two-word phrase, target printer, is used in the specification itself. And if you
13 didn't believe me, again, you can go look at column 35. And the patent
14 literally says, you don't need to do these in order. That's the last thing you
15 read before you read claim 1.

16 Now, I would like to briefly refer to the precedent they mentioned.
17 This is important. If you're taking a look at slides, our slide 11 has the *Altiris*
18 precedent. Two things worth noting. They talk about logic and grammar and
19 the word "a target printer." Now, we've talked about grammar. And in the
20 context of said boot selection flag that's shown in this slide and antecedent
21 basis isn't what they mean by grammar, but logic.

22 They said, oh, well, logic, if you follow this.

23 If you look at the right -- lower right side of slide 11, you'll see the
24 claim 1 from *Altiris*. The last element says, "Booting normally, if said
25 testing," which is a previously recited step, "automatically indicates

1 something," right? And in fact, that "if said testing," I think even appears
2 elsewhere. Yeah. It's in the performing step immediately above it.

3 The *Altiris* precedent, now I didn't quote it here on the left side of the
4 slide, it talks about that. It says, that is an example. That's an example of
5 logic. The claim itself recites, oh, yeah. If said determining step shows the
6 printer is, you know, within the same state as you, then query. Oh, now there
7 is logic built into the claim language itself. Simply saying the three-word
8 phrase, "a target printer," is not the logic that this Federal Circuit case is
9 talking about.

10 Next, I'll talk about the issue of grammar. If you turn to slide 12, I
11 briefly mentioned this, but I'll touch upon it one more time. In patent owner's
12 non-precedential case, its own case it cites, it tells us exactly what grammar
13 means. Grammar means claim 18, the lower right side of our slide 12. It
14 literally says, quote, "Prior to step C," end quote. That is an example of
15 grammar. So when they keep saying logic and grammar, the cases tell us
16 exactly what it is and the claim language here tells us exactly what it's not.

17 Next, they kept saying that the petitioner is rewriting claim 1. We're
18 not rewriting claim 1. Not at all. All we're asking for is that you interpret
19 those two steps consistent with the specification. Do not exclude a written
20 aspect of step 306. That is all. Nothing more, nothing less. And so we're not
21 rewriting the claim at all. They keep saying that if you query a set of printers
22 and then you determine the target printer second, well, technically you must
23 have done some quasi-determination beforehand. I don't know. Possible?
24 Sure. Maybe there's unwritten recitation somewhere in the claim 1. The
25 point is, in the end, you have determined a target printer. You have. In fact,
26 it is the printer that eventually you're going to fabricate from.

1 That occurs in column 19 -- in the middle of column 19 that we
2 highlighted. It's on our slide 13. That has occurred. It has occurred. And just
3 because the querying step occurs before the determining step, it doesn't
4 mean that somehow we're saying the determining step occurs after step 1.6.
5 We're just talking about 1.2 and 1.3. We're not saying anything about
6 whether 1.4 has to occur before or after. Nothing. It very well could be that
7 you mandate the order of 1.4, 1.5, 1.6. Very well could be. But for those two
8 steps, the order is not mandated because the specification tells us it's not.
9 Now, I'll also point out they have this -- they seem to imply that, you know,
10 that there's this -- it's to fabricate the object at the end of element 1.1 and that
11 it's mandating this forced eventuality.

12 Now, let -- think about that for a second. At the point of
13 determination, I haven't even queried yet. I haven't even received the
14 dictionary information yet. If it's already, like, I've reached this final
15 conclusion, this is the final printer, why in the world would I query that
16 printer? So if you really want to go down their logic route, the capability of
17 (inaudible) to fabricate a printer, it doesn't mandate something about the
18 determination. It's just, like, an eventuality of, yes, eventually this is the
19 printer I'm going to get the dictionary from -- information from because
20 that's the one that when I query it, it seems to make sense that I should
21 probably get some information from it. That's okay. And then eventually, I'll
22 probably send some instructions for it to print. But if not, if it doesn't work
23 out, well, then I guess I haven't performed the method and I'll determine a
24 different printer.

25 But that -- that's the whole point here, that we're not rewriting the
26 claim, just consistency with the '774 spec. Nothing more, nothing less. That's

1 all we're asking. Finally, there is one other note. If you turn to -- I'm sorry.
2 I'm going to switch slide groups on you. Patent Owner's slide 27 briefly.
3 This is kind of interesting to me because we relied a lot on Paragraph 30 of
4 their own specification. And if you recall, that's the Paragraph I showed you
5 on two slides of ours. It talks about it being a thin client. If you look at their
6 slide 27, they've cut out part of slide -- of Paragraph 30. It's quite interesting
7 to me. They cut out the exact part that talks about it being a thin client. Now,
8 this is their slide 27. They cut the paragraph in half. And my point is, read
9 the full paragraph.

10 And I asked the patent owner, read all of Paragraph 30. Tell us why
11 when it's not a thin client and the server is doing all the work. That's what
12 our petition said. We weren't changing positions. We're not trying to say, oh,
13 now the client 206 is doing all the work. We're simply saying, in the context,
14 when you understand when they say a user selecting a printer, the server's
15 getting that request. Now, whether it's just in a thin client user interface
16 context, whether it's in the bigger virtual workspace context, the server is
17 getting that request. And it receives the request, it identifies which printer
18 you want, and it says, that is now my determined printer. I'm going to go out
19 and query you. Steps performed in order.

20 Next, on element 1.4, the patent owner has this pattern. This comes up
21 actually a lot and especially when you get through the dependent claim
22 arguments and in quite a few of these other petitions and IPRs we're dealing
23 with. They focus on a word or a phrase or a sentence. They quote it. They
24 then move that over and build a straw man out of it, say there's this big
25 problem, and then they beat up the straw man. And we're always left with
26 two things. What about the thing that we actually proposed? Nobody's

1 addressing that. Why can't we address what we propose? And number 2,
2 that's not the law. We're not doing bodily incorporation. We're not saying
3 these things. So they keep saying, the petition said it's collection and we're
4 only going to start from there.

5 We're not going to consider what does our specification say. We're
6 only going to consider the word collection. The petition, go ahead and turn,
7 please, to petition Page 14. We don't use the word collection. If you want to
8 know the exact phrase, we say accumulated data tag data. Now, is that an
9 organization that's for readability and use by the server? Absolutely it is. But
10 they're fixating on a word, accumulated, as if somehow then the board and
11 petitioner are constrained forever to think about is there another way to say
12 the word organized or list or collection? And that's an absurd straw man. So
13 no, we're not demanding it's a collection and that's the only thing Patent
14 Owner can consider and try to fight against. The patent owner could, in fact,
15 say, nope, here's why Douglas is different than our specification. They won't
16 because they're authored by the same exact applicants only seven months
17 apart.

18 Then I will note then for element 1.5, there's actually quite a few
19 things here. I'll try to get to them if I can. The first is, and I think it was in
20 response to Judge Jung's question, they said, I don't think that -- was, I think,
21 the words -- that the petition argues Douglas alone. If you'll please turn with
22 me to petition Page 16. It actually starts on Page 15 where we're arguing
23 Douglas alone. We're arguing the paragraphs I talked about. We're saying,
24 look, it is -- it's combining your operational parameters and this print data.
25 It's doing all this stuff. And it sure sounds a lot like what the '774
26 specification is saying. Then, bottom of Page 16 (inaudible) would have also

1 recognized. Also, there's another argument coming here, everybody. There's
2 a second argument. And, in fact, if you flow onto Page 17 -- actually, that --
3 this argument goes on for two pages.

4 I think you have to flow to Page -- is it 18 or -- it's on 17.
5 Additionally -- there it is. The bottom of Page 17, last paragraph.
6 Additionally, there's this third argument. Douglas (inaudible) Mark. Our
7 petition did present three arguments. They, in one sentence -- this is
8 important. Take a look at Patent Owner's response. It's very simple. It's the
9 very last line of Page 20 and the very top of Page 21. That's the entirety of
10 their response to our first layer of argument there. Tacit admission that it
11 doesn't disclose it. Full stop. Period. Let's dive into the second argument
12 about whether or not you would modify it based upon the benefits that are
13 discussed by Dr. Hickner. That's it. That's their full argument to our -- that's
14 their full response. So I just think it's wholly inaccurate for them to say, oh,
15 there's only two arguments in this petition and we only address two. That's
16 just not true.

17 Then they -- in this context, if you -- I'm sorry to bounce around
18 again. If you turn to their patent owner slide 42, this is quite interesting. This
19 is the first time I've ever seen this testimony cited in this IPR proceeding.
20 Page 22 of Exhibit 2015 has never been cited before. Now, I will tell you
21 that Page 21 was. That's what we showed you when they were asking about
22 the format. Again, and if you actually look at -- what -- on Page 22, I'm
23 assuming. I haven't read this context. This is the first time I'm responding to
24 it on the fly, unfortunately, because they never relied upon this in their
25 papers, that I believe he's still answering the questions about the format.
26 Again, this claim element does not require a format.

1 So then they get to -- that was -- and I think that's in relation, by the
2 way, they were arguing for the second layer of our argument about Hickner
3 saying there's two benefits to just take these two combined operational
4 parameters and organize them as a fabrication profile. And they cite to this.
5 This is new to us. I will say, for the third argument then, they say, our
6 position is, quote, "Don't listen to Douglas. Ignore it." End quote. That is not
7 our argument. That -- again, this pattern. This pattern of myopically focus on
8 a quote from some reference or something. In this case, it is that Douglas
9 teaches move the operational parameters back to the printer. Focus on that.
10 Then move it over here, build up a big problem, and beat up that straw man.
11 And our point was the petition does not care. It -- you can keep sending
12 those operational parameters to the printer.

13 It's okay to send both the G-code to the printer and us operational
14 parameters to say, by the way, go ahead and set your extruder temperature at
15 185 degrees. You know, go ahead and have these other parameters in place,
16 too. Go ahead. Send that information. One does not exclude the other. Their
17 point is, oh, because you do that, I'm going to build up this problem and
18 therefore it makes no sense and the whole thing falls down. And we never
19 said you have to do that. Douglas doesn't say you have to do that, as a matter
20 of fact. This is important. If you turn to Douglas, it's Exhibit 1005,
21 Paragraph 41. Let's start there.

22 So actually, Paragraph 40 is helpful. We did cite this in our slide, but
23 since we're in Exhibit 1005, let's look at Paragraph 40. First sentence, "The
24 print server 208, not the client 206, may maintain print queues for the
25 participating three-dimensional printers." That's great. That's interesting.
26 What's a print queue? Well, let's go to Paragraph 41. You have to actually

1 scroll to the next page. It's on Page 5 of Douglas. It's the middle of
2 Paragraph 41. One, two, three, four, five lines down. Actually, three lines
3 down. "The print queue may be stored, for example, in the database 209 of
4 the print server." Same print server we're talking about, okay? What's the
5 next sentence? "As used here, the term print queue" -- and what does that
6 mean? Keep going. It says, "For example, the three-dimensional model or
7 tool instructions."

8 The server, before I've sent anything to the printer, has the G-code
9 added. It has the G-code. And then by the way, this is Paragraph 41. If you
10 keep reading down to Paragraph 74 and 75, it's going to tell you it's received
11 those properties. It has converted them and determined that its operational
12 parameters, it's combined with the print job information. So I have a
13 fabrication profile. And now I have, at the server, the tool instructions. Well,
14 what do you think happened in between? I sliced it. That's all the
15 combination is. Use a conventional slicer. And to the extent you need to say
16 the word G-code out loud, okay, Mark says the word G-code. And that --
17 that's the point. They keep saying, oh, Douglas is saying you send the
18 operational parameters, so there must be no slicing at the server. There must
19 be no tool instructions at the server. That's just not what Douglas says.
20 We've never taken that position. They build up the straw man about
21 something we've never argued and then spent a lot of time beating it up. And
22 we -- here we are with the whole hearing saying, we wonder what they think
23 of our proposed combination. I still don't know.

24 I'll turn next to ground 2A. I'm going to start with element 1.1 because
25 they said something quite interesting there. First, our slide 44. Let's start
26 with what they didn't say. Slide 44, we say, for element 1.1 of Hamilton, the

1 key part is all we're really asking is if the '774 patent is allowed to use the
2 word design in the context of three-dimensional printing in a manner that
3 means from a 3D model, we see no reason why Hamilton is not allowed to
4 use the word design in the same exact consistent way. That's it. Why in the
5 world would Hamilton be using the word design differently? Our expert
6 testimony says, I think they're using it the same. And that's the key. They are
7 telling you, well, yeah, everybody uses the word design to mean from a
8 three-dimensional model. Not Hamilton. They have this great invention. It is
9 this pre-stored, predefined G-code that is universal to every printer
10 Hamilton's users might throw at us.

11 And so when you say, send me the design and here's my fee, we just
12 send you this universal G-code. I don't even have to know what your printer
13 is. I just have it pre-saved. Now, I will tell you, if Hamilton invented that, it
14 would be one of the greatest in patents that I've known in the 3D world
15 because that G-code does not exist. Slicers are dedicated to particular
16 corresponding printers or printer groups. And so you have to know what
17 your printer is to generate the G-code. And that is what both experts were
18 saying. Of course, you don't start from a G-code. You start from the model.
19 And that is the language of the claim.

20 JUDGE OGDEN: Counsel, what do you make of counsel for Patent
21 Owner's argument that Paragraph 19 of Hamilton says that designs for the
22 printer will consist of, and then it gives a list of things?

23 MR. HAWKINS: Yep.

24 JUDGE OGDEN: The fact that that consists of seems to be a closed-
25 ended list, what's your response to that?

1 MR. HAWKINS: Two points. And this comes alive, by the way, if
2 you turn to their slide 85. So again, sorry for bouncing around. Sorry. It's a
3 rebuttal here. They present this text, so their slide, and they highlight some
4 very convenient things. I would like you to consider what is not highlighted
5 by patent owner. The designs will consist of, and it lists off a lot of things
6 and they say, including the instructions. What's the thing right after it?
7 Separately numbered individual parts. Well, I don't know if you were
8 familiar with, let's say, SolidWorks or Fusion and how sub-assemblies and
9 solid models work. When you have a nut and a bolt and they're screwed
10 together, I can rotate them around on my screen. And you know what those
11 are? Those are separately numbered parts. In fact, I can select part number A
12 and it highlights this one in red and this one's in green, right?

13 That's what they're talking about. And if you don't believe me, this is
14 Paragraph 19. You could scroll to Hamilton, it's Paragraph 24, and it uses
15 the word design again. And it says, hey, there might be a user, months from
16 now, their nut is broken in half. Their bolt is perfectly good. Now, what I
17 don't want to do is send them this whole mandatory predefined universal G-
18 code that apparently exists. You know what I'm going to do? I'm going to
19 get -- grab the individually numbered part. I'm going to send them that solid
20 model. Or I'm going to slice it for them and send them that. And so the point
21 is, yes, it does include a solid model. Now, are the instructions for a 3D
22 printer, are those necessary -- necessarily final G-code? Maybe. Or it could
23 be. You know what? Let's go ahead and set that extruder to 185. Go ahead
24 and have your Z axis be this.

25 Certain instructions that need to be done and I'm going to send you the
26 model. And, you know, but the point is, because we don't know, it makes a

1 lot of sense, hey, there's even a better option. And again, this gets back to
2 our pattern. The resulting combination is, you know what would make
3 Hamilton even better? If you sliced at the server. Because that way, I can
4 have lots of users with lots of different printers and I just have a solid model.
5 And when you say, oh, I have printer A, you know what I'm going to do? I'm
6 going to find slicer A that works for you. And then when you say you have
7 printer B, I'm going to say, hey, I have a slicer that works for you. And I can
8 serve so many more users because I'm slicing at the server and sending them
9 those individual parts.

10 And so again, they're fixating on one quote in Hamilton. They build
11 up a straw man, create this problem, and we're still left with, what about the
12 resulting combination? Isn't it a great idea? Isn't it beneficial?

13 I see I'm out of time, so I'd like to thank Your Honors for your time
14 today. And if you have no further questions, I'll rest.

15 JUDGE JUNG: Thank you, Mr. Hawkins.

16 All right. Mr. Kapadia, Mr. Hawkins went over a little bit, so you
17 have eight minutes for rebuttal.

18 MR. KAPADIA: Thank you, Your Honor. Here we go. Yep. There we
19 go.

20 Okay. I want to start with the first argument that -- I'll go in order --
21 that Petitioner had raised about the ordering of the claim elements. If you
22 look at Patent Owner's -- I don't have it up here in the room, but if you look
23 at Patent Owner's slide 11 -- it's okay. (inaudible). If you look at Patent
24 Owner's slide 11, this is the *TALtech* case. And I think the facts here are
25 instructive on logic and grammar of the claim. That's why we cited to it. I
26 think we have the claim language here. It is true that claim 18 is a dependent

1 claim. It adds more limitations from claim 1. Petitioner makes this big deal
2 about claim 18 tells you the logic and grammar. Well, claim 18, the
3 additional elements that it provided, were specific to step C.

4 Step C wasn't what the Federal Circuit addressed. It wasn't what the
5 district court addressed with respect to claim 18. It was about steps D and E.
6 And the district court found that steps D and E had to be performed before
7 step B because of logic and grammar. And the Federal Circuit agreed and
8 provided -- this is an excerpt from the case. They provided those elements
9 and said, yes, we agree. And you could see, placing a bonding element,
10 folding a (inaudible) component over the bonding element, et cetera. It --
11 there's a -- there is a logical component to this. It is not simply when a patent
12 owner says in a claim, do this before that. There -- there's no magic word
13 like that that they had suggested from the, you know, another federal circuit
14 case. That's one thing. Another thing I wanted to point out on slide 9 is the
15 claim language.

16 Petitioner said, we don't -- you know, why would I query the printer
17 after determining it? Let's look at the language on slide 9 -- Patent Owner
18 slide 9 after the subsequent limitations. Well, you query the target printer,
19 you receive the dictionary configuration information. What do you do with
20 it? Well, that dictionary has one or more properties. You create a fabrication
21 profile based on one of those properties. So what this is doing in this claim,
22 it's not claiming that you improve the way you determine a target printer.
23 What it's claiming is that you create a fabrication profile and that you are
24 able to then create a machine ready representation executable by the target
25 printer. And that takes into account this -- the -- it has the creating of the

1 fabrication profile, et cetera. So my point here is that the claim tells you why
2 would you query the printer after determining? It's not a mystery.

3 With respect to the virtual workspace issue with the printer server
4 determining what target printer there is, the virtual workspace is, again,
5 provided by the server. It isn't the client device. Their argument today about
6 a thin client, I will note that it's not -- you won't find anywhere in the
7 briefing. What they pointed to was the server. Their petition is abundantly
8 clear. The server is what does the determination. And I think that applies
9 even if the user makes a request. If you look at that figure they have in their
10 petition, user makes a request. They don't say what the user is requesting in
11 the petition. They don't tell you. What they do say is that the server is going
12 to automatically determine the target printer.

13 The next step is on the petition, Page 14. I think that shows
14 petitioner's position on a dictionary. It talks about a collection of information
15 and how that -- they believe that maps to the reference. I think the parties
16 may disagree about the ultimate conclusion there, but I think we're on the
17 same page about what their position is as far as the meaning of the claim. I
18 want to turn briefly to, I think, patent owner's slide 42 about the dictionary
19 and petitioner's expert. This is -- this isn't about us requiring a specific
20 format. It's that you have to have some format that -- that's taught by the
21 combination of references. And here, Dr. Hickner is acknowledging it
22 doesn't specify a format. The next --

23 JUDGE OGDEN: So is it correct -- counsel for petitioner said that this
24 part of the testimony hasn't been cited before; is that right?

25 MR. KAPADIA: I have not had a chance to go back and double check
26 if this -- if there was an error in the citation here between what's on this

1 slide, slide 42, I believe, and what was cited in the briefing. If there is a
2 distinction -- difference, then I would have to double check and get back to
3 you.

4 JUDGE RANGE: And this is Judge Range. Why isn't it that the --
5 like, how could a collection of information not have some format? Like,
6 wouldn't it be inherent in it? It would just have some format.

7 MR. KAPADIA: So what -- I think petitioner had used the term
8 accumulate. So Douglas just says you read a bunch of data and that you send
9 it internally to the printer. And they said that's enough. Douglas doesn't say
10 how you're sending the data. It doesn't say how it organizes it in any way. It
11 just says, I have data. So the question is is Douglas sending this data, for
12 instance, I have a piece of information, here you go? Or is it send -- is it
13 organizing it in some way and then sending it for the -- we talked about
14 readability and other stuff.

15 JUDGE RANGE: Okay. So you -- so you're saying there would have
16 to be an in-between step where the data is put in some sort of order. It has to
17 be formatted in some way as opposed to just the way it happened to be?

18 MR. KAPADIA: Exactly. And so Douglas -- and Douglas doesn't
19 even tell you how it happened to be. It doesn't tell you how it sends and
20 receives it.

21 JUDGE RANGE: Right.

22 MR. KAPADIA: And their expert didn't say why it should be a certain
23 way or not. I think --

24 JUDGE RANGE: I mean, I guess --

25 MR. KAPADIA: I think it's just the conclusion.

1 JUDGE RANGE: I guess what I was hung up on is just the way it
2 happened to be, even if that was random or whatever, it might be said to be a
3 format of sorts.

4 MR. KAPADIA: I think it depends on what the -- you know, the
5 patent talks about readability and whether it can be consumed appropriately.
6 So that's the question.

7 JUDGE RANGE: Okay. Thank you.

8 MR. KAPADIA: But one -- I think I have about two minutes
9 remaining. Talking about Paragraphs 40 and 41 of Douglas about sending
10 operational parameters and slicing, can you do both at the same time? I just
11 point Your Honors back to the portions of Douglas that I discussed earlier,
12 where you have Douglas sending the operational parameters. And even
13 when those operational parameters are combined with a print file, at least the
14 part that they cite to, just to say, this is where you combine them together
15 and you still do the printing, that's done at the printer. The printer is the one
16 that in those embodiments at Douglas that they cite to that is making the
17 decision here. And they're saying, well, why could you -- why can't you just
18 change it? Well, maybe there's a rationale for that, but they didn't present
19 one as saying, I'm going to take the control away from the printer and give it
20 to someone else, and here's the reason for doing so. That wasn't presented.
21 There -- the petition basically, again, ignored the fact that the printer is
22 making these decisions. I'm going to use these operational parameters to
23 print an object.

24 With respect to the second ground, ground 2A, what is a design in
25 Hamilton? I think Hamilton, again, tells us what you get with the design.
26 The example that they came up with with printing one part as part of the

1 overall design, you could assemble something -- there are assembly
2 instructions for the user. So you get tool instructions to print the design and
3 that might include different parts. And then Hamilton says, I can also give
4 you tool instructions just for a particular part if you need -- if it breaks or
5 something. So again, Hamilton is not saying, I'm going to start from a model
6 and slice it. All of those are available already in Hamilton.

7 Thank you, Your Honors.

8 JUDGE JUNG: Thank you, gentlemen, for your presentation. They
9 were very helpful. The case is submitted and we are adjourned. We will see
10 some of you again at 2:00 p.m.

11 (Whereupon, the above-entitled matter went off the record at 2:21
12 p.m.)

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