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IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF GEORGIA  
ATLANTA DIVISION

DONNA CURLING, ET AL., :  
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 :  
 PLAINTIFFS, :  
 :  
 vs. : DOCKET NUMBER  
 : 1:17-CV-2989-AT  
 BRAD RAFFENSPERGER, ET AL., :  
 :  
 :  
 DEFENDANTS. :

**TRANSCRIPT OF TELEPHONE CONFERENCE PROCEEDINGS**  
**BEFORE THE HONORABLE AMY TOTENBERG**  
**UNITED STATES DISTRICT JUDGE**

**JUNE 28, 2019**

**2:06 P.M.**

***MECHANICAL STENOGRAPHY OF PROCEEDINGS AND COMPUTER-AIDED***

***TRANSCRIPT PRODUCED BY:***

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A P P E A R A N C E S O F C O U N S E L

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**P R O C E E D I N G S**

**(Atlanta, Fulton County, Georgia; June 28, 2019.)**

COURTROOM DEPUTY CLERK: Good afternoon, everyone. We're here for the teleconference in the case of Curling, et al. vs. Raffensperger, et al., Civil Action Number 17-CV-2989.

Beginning with the Curling plaintiffs, would counsel please introduce yourselves for the record.

**(Unintelligible.)**

MR. SPARKS: This is Adams Sparks with Krevolin & Horst also for the Curling plaintiffs.

COURTROOM DEPUTY CLERK: Okay. We are not able to hear. Are we on cell phones?

MS. CHAPPLE: We are not -- we are on -- is that a little better? I'm leaning over the phone.

COURTROOM DEPUTY CLERK: That's actually a whole lot better. If you would please make your appearance again.

MS. CHAPPLE: This is Catherine Chapple with Morrison Foerster. David Cross is also on the line from Morrison Foerster. I have with me in the room Dr. Alex Halderman. And on the line is also Adams Sparks with Krevolin & Horst. We're all on the line for --

MR. KNAPP: Halsey Knapp is here as well.

THE COURT: So Halsey was clear. When Catherine was speaking -- this is Judge Totenberg -- it was a -- excuse me for using your first name. But it is the easiest at the moment

1 on a Friday afternoon. It was -- there was a whole side  
2 buzzing.

3 MS. CHAPPLE: Was there? Okay. I'm sorry, Your  
4 Honor. I will try to call back in using another -- another  
5 phone.

6 THE COURT: Okay. Thank you.

7 MS. CHAPPLE: Okay. Just one second.

8 **(There was a brief pause in the proceedings.)**

9 COURTROOM DEPUTY CLERK: I'm sorry. Who is speaking?  
10 Hello?

11 MS. BURWELL: Hello. This is Cheryl Ringer and Kaye  
12 Burwell from Fulton County. All of a sudden, our phone kind of  
13 went silent.

14 COURTROOM DEPUTY CLERK: No, ma'am. We were just  
15 waiting on Ms. Chapple to come back on.

16 MS. BURWELL: Thank you.

17 COURTROOM DEPUTY CLERK: Who do we have on the line  
18 for the Coalition?

19 MR. BROWN: Hello. This is Bruce Brown. And also on  
20 the line is Matt Bernhard, our expert, and my client, Marilyn  
21 Marks.

22 COURTROOM DEPUTY CLERK: Okay. Thank you, Mr. Brown.  
23 State of Georgia?

24 MR. RUSSO: This is Vincent Russo. I have here with  
25 me Josh Belinfante. We also have on the line Bryan Tyson,

1 Bryan Jacoutot, and Carey Miller. And we also have in here  
2 with us from the Secretary of State's office Merritt Beaver,  
3 the CIO of the Secretary of State's office, and Kevin Rayburn.

4 COURTROOM DEPUTY CLERK: Okay. Thank you, Mr. Russo.  
5 And we have Ms. Ringer and Ms. Burwell on for Fulton  
6 County.

7 MS. BURWELL: Yes.

8 MS. CHAPPLE: Hello, this is Catherine Chapple and  
9 Dr. Halderman. We just called in from my office.

10 COURTROOM DEPUTY CLERK: Sounds much better. Thank  
11 you, ma'am.

12 MS. CHAPPLE: Perfect. Thank you very much.

13 MR. CROSS: This is David Cross. I'm on for the  
14 Curling plaintiffs as well.

15 THE COURT: All right. This is Judge Totenberg.  
16 Good afternoon. I'm going to deal with the issue -- the  
17 substantive issues before you get to the protective order.  
18 Though I understand that there is a strong connection between  
19 the two. And arguably some of the issues might be resolved if  
20 you had resolved the protective order issue.

21 But let me at least get a sense of the issues at play  
22 with the -- on the merits of the request for production. I  
23 don't -- let me just ask the first question. Why is it that  
24 the plaintiffs need the entire state GEMS database?

25 MR. BROWN: Your Honor, this is Bruce Brown for the

1 Coalition plaintiffs. The GEMS database is an application  
2 system that the Secretary of State sends to each of the  
3 counties after building the ballots at the Secretary of State's  
4 office. And it is the GEMS database that contains fields and  
5 tables. And it is the mechanism by which the GEMS system  
6 accesses the information from a voter when a voter votes.

7 So the GEMS database -- it is by no means the entire  
8 state system. It is just one piece of it. It is the low  
9 hanging fruit in a way in that it gives a good overview of the  
10 application, and it is very easy to produce -- physically easy  
11 to produce. It is simply a CD for each county.

12 And our experts understand that it is the best first  
13 thing to review when trying to look for defective programming.  
14 And the GEMS database is a -- there is no source code. There  
15 is no proprietary IP involved. It is a public record in other  
16 states, though not in Georgia. Examples of GEMS databases are  
17 on the internet. And a GEMS database for the State of Georgia  
18 was one of the files that Logan Lamb had access to when he had  
19 access to the web server at KSU in 2016.

20 And so it seems to be a good place to start on the  
21 discovery. We sent this discovery out in March actually even  
22 before the discovery period began. And one of the reasons why  
23 we sent it out was to get a start on lining up the forensic  
24 work that would be necessary. There's many steps that follow.  
25 But this was a good first step.

1 MS. CHAPPLE: Your Honor --

2 THE COURT: Just one second.

3 Mr. Brown, let me ask you an additional just  
4 follow-up question, which was: Why would you need it for the  
5 entire state as opposed to the CDs of the database for a  
6 selective -- a representative number of cities and counties  
7 associated also with those that are having elections?

8 MR. BROWN: I will give -- I will give you one  
9 advantage. We have seen aberrant vote totals in many  
10 counties --

11 THE COURT: You had seen -- I'm sorry. You had seen  
12 what?

13 MR. BROWN: Aberrant vote totals that appear in some  
14 counties that do not appear in others. And so one of the ways  
15 of trying to detect a defect in the programming, innocent or  
16 not, would be to compare the database that was sent to County  
17 A, for example, with the database that was sent to County B.

18 And it is also -- on just the burdensome issue, Your  
19 Honor, we're just talking about CDs. It is not -- it is not a  
20 very taxing production effort to produce the databases for the  
21 different counties. It is just (unintelligible) or any sort of  
22 forensic type of work involved in the production.

23 THE COURT: Keep close to the mic on your phone  
24 because you're coming in and out. I understand you. But the  
25 court reporter cannot get it with enough consistency to be able

1 to --

2 MR. BROWN: Thank you, Judge. I apologize. We're in  
3 Athens. We just took a deposition in this case, and so I'm  
4 speaking on a cell phone. I apologize.

5 THE COURT: Okay. Well, Ms. Chapple, was that you  
6 trying to speak?

7 MS. CHAPPLE: Yes, Your Honor. Thank you. This is  
8 Catherine Chapple. I wanted to add two things to what  
9 Mr. Brown was saying.

10 First is that the GEMS system is the ideal -- is an  
11 ideal infection point. And so it is also a place that we would  
12 like to look for malware on the machine -- within the system.

13 And then, second, that the Curling plaintiffs would  
14 like more than just the CDs that Mr. Brown is referencing. We  
15 would like -- I'm actually looking at Dr. Halderman because I  
16 think he is in a better position to explain exactly what we are  
17 looking for if -- but -- and then he typed out a hard disc  
18 image of the server is what the Curling plaintiffs would like.

19 THE COURT: And is that what you have actually  
20 requested as well? I know you would like it, but has that been  
21 the subject of an actual request?

22 MS. CHAPPLE: I believe so, Your Honor. But I would  
23 need to look for the number of the request.

24 THE COURT: All right. So just to save time --

25 MR. CROSS: Your Honor, this is David Cross.



1 THE COURT: Yes.

2 MR. CROSS: I can help. It is Request Number 15. It  
3 is the one that we referenced in the notice that we sent in to  
4 join the call. It seeks all the underlying data on the GEMS  
5 server and in other respects. So the GEMS server is the only  
6 focus today. And we received an amended response from the  
7 state defendant this morning. The request indicating that they  
8 are not going to produce the GEMS database itself or any of the  
9 underlying data or image is how I read their response.

10 THE COURT: All right. So does Dr. Halderman wish to  
11 explain the need for this from your perspective or his  
12 perspective?

13 DR. HALDERMAN: Yes, Your Honor. So the GEMS  
14 database or the GEMS server -- excuse me -- is essentially the  
15 nexus of the whole election system. This is a place from which  
16 ballot programming is being produced and distributed down  
17 through the counties to the voting machines throughout the  
18 state.

19 So that positioning makes it an ideal point for an  
20 attacker to begin an infection that they would try to spread to  
21 voting machines in the field. We would like to be able to  
22 perform forensics on the GEMS server to see if there is  
23 evidence that such an infection did occur.

24 THE COURT: All right. So the state indicates it has  
25 made other alternative suggestions in place of these requests.

1 I don't know what those are. But I'm trying to, first of all,  
2 just determine: Did you actually sit down and discuss any of  
3 those? Did you have any of your experts talk with the chief  
4 technology officer for the Secretary of State's office, Merritt  
5 Beaver, or what did you do?

6 MR. BROWN: Your Honor, this is Bruce Brown. We did  
7 discuss the options. And the options -- there were a couple of  
8 things discussed with the state. The first was we made  
9 repeated requests to the state to identify the fields and the  
10 tables in the database that they contended contain sensitive  
11 information but they did not want to disclose.

12 And the state refused to identify the fields taking  
13 the position it said that it was the entire architecture of the  
14 database that was proprietary. The next thing that we  
15 discussed was their offer to produce certain printed reports  
16 that would be generated by the GEMS database pursuant to the  
17 GEMS database report function. Just like most applications, in  
18 addition to all the computing functionality they have, they  
19 also have a piece that will let you select data and report it  
20 anyway you want to.

21 Our experts are on record as saying that that  
22 production of reports generated by the GEMS database may be  
23 interesting and it may also be subject to discovery but it is  
24 many orders of magnitude removed from any kind of effort to  
25 determine if there's defective underlying programming. You

1 would have to take a PDF of a report.

2 So those were the two areas that we discussed. And,  
3 frankly, I think it is fair to both sides -- to both sides that  
4 we are at a pretty fundamental disagreement over the discovery  
5 of the GEMS database. We have advanced it to a point where it  
6 is appropriate to seek Your Honor's guidance.

7 THE COURT: Well, does anyone on the plaintiffs' side  
8 want to explain why their offer of the report would -- while  
9 not the full monty would be still not -- and I understand it is  
10 not. But why wouldn't it be sufficient from your perspective?  
11 Is that Dr. Halderman who is going to be --

12 DR. HALDERMAN: Yes, Your Honor. I can explain.  
13 What a report from GEMS covers is -- it is essentially a  
14 summary of some of the kinds of data in the system. But it  
15 does not tell us about the -- about the underlying programming  
16 essentially that is going to be affecting the way -- the way  
17 votes are counted. Nor does it tell us about potential  
18 corruption to the database itself that could be used as a means  
19 of infecting or altering the behavior of the system.

20 I would also like to add that our request for the  
21 hard disc image for this server I had said was to allow us to  
22 identify whether infection had occurred. I should have added  
23 that it will also allow us to evaluate vulnerabilities in the  
24 system that could provide a way to infect the system and  
25 manipulate elections using the GEMS server as an infection

1 point.

2 THE COURT: I understand some of this. But the  
3 plaintiffs provided me with a copy of the 2007 decision from  
4 Arizona -- from an administrative judge in Arizona. And, of  
5 course, that was pursuant to an Open Records Act request. But  
6 in that case, which was -- I'm sorry. It was in front of the  
7 superior court judge. But it was *Democratic Party of Pima*  
8 *County vs. Pima County Board of Supervisors*. And I guess there  
9 was an administrative judge involved also who was writing the  
10 initial decision.

11 The judge found that the database should be made  
12 available but not the programming because of the concerns about  
13 security and security of the election-related functions. And  
14 so it seems like the Coalition is willing to forgo having --  
15 obtaining that, the programming information, and just wants the  
16 database and the Curling plaintiffs want both.

17 Is that a correct summary?

18 MR. BROWN: Your Honor, that's a correct summary as  
19 of this moment. This is Bruce Brown for the Coalition. I'm  
20 sorry. But this was our first very limited narrow request, and  
21 we would eventually also seek the disc image of the servers --  
22 there is more than one -- and pursue what Dr. Halderman  
23 suggested.

24 So we teed up the dispute resolution process over  
25 this very narrow limited request that we made first. And

1 Curling came in with a broader -- broader request. So we have  
2 technically joined their request as well. But in terms of the  
3 dispute resolution process, we are here before you on the GEMS  
4 database. And so that is what our request today concerns.

5 MS. CHAPPLE: Your Honor, this is Catherine Chapple  
6 for the Curling plaintiffs. Yes. Yes, that is what we're  
7 asking for. And we feel that a protective order should be  
8 sufficient to protect and allay the concerns of the defendants.

9 We also asked them when we met a couple of weeks ago  
10 at the Rule 26(f) conference to identify what issues would be  
11 inherent in our request, what they were willing to give us and  
12 what they could not give us. And we still have that offer  
13 open. But we have not heard from them as to specifics that  
14 would allow us to tailor our request any further.

15 THE COURT: Well, the way I understood it from the  
16 state's statement of its position was they felt that you were  
17 not interested, you weren't going to consider any alternatives,  
18 which might be so. I don't know. But you saw that as well?

19 MS. CHAPPLE: Yes, Your Honor. Our position was that  
20 we don't have the access to the information about the system to  
21 know what is involved and what they could give us that they  
22 might be comfortable with that would be sufficient for us to be  
23 able to respond without more information from them.

24 So it is not -- it is not that we aren't interested.  
25 It is that we don't have enough information to know whether we

1 would have an interest.

2 THE COURT: Well, what have you-all done to have  
3 Dr. Halderman talk with Mr. Beaver or somebody else designated  
4 by the state so that you could explore that very question?

5 MS. CHAPPLE: Your Honor, that is a good suggestion,  
6 and we would be open to a conversation like that.

7 MR. CROSS: Your Honor, this is Davis Cross. I guess  
8 the one thing that I would offer is we don't have a lot of  
9 time.

10 THE COURT: No. I know that.

11 MR. CROSS: We want to be efficient. My concern is  
12 what we have heard from them so far and what they have offered  
13 up in terms of these reports, which we have talked through with  
14 Dr. Halderman, obviously are inadequate. If there is a way to  
15 work this out to where we get the data and we get it quickly,  
16 certainly we're willing to explore that.

17 But we have not heard anything from them that would  
18 suggest that they are looking to give us anything other than  
19 what sounds like are just one-off reports or snapshots of data  
20 as Dr. Halderman explained won't do the job.

21 As Bruce pointed out, there are two things in the  
22 database itself. There is the forensic image. If we can get  
23 the database, that is a start. But I will add the reason why  
24 we put them together is because, as Dr. Halderman has explained  
25 to me, there is not a substantive difference. But if they give

1 us the database, there is nothing else sitting on there that a  
2 forensic image has any greater sensitivity to.

3 So our view is let's just do it in the most efficient  
4 way, which is take a forensic image of the server -- multiple  
5 servers as it may be. We get the substantive data. But we  
6 also get the additional forensic -- the whole comprehensive  
7 image that allows the expert to do the forensic analysis, which  
8 is really at the core of this case, rather than doing it  
9 piecemeal.

10 Because at the end of the day, again, the forensic  
11 image is going to contain the same substantive data as the  
12 database itself. But we'll take it in whatever steps we can  
13 get it.

14 I just haven't heard anything in the number of  
15 conversations we've had with Mr. Russo's team that they are  
16 willing to give us anything remotely close to what our experts  
17 need. So I'm just not convinced that further conversations are  
18 going to get us there. But we'll explore that obviously if the  
19 Court wants.

20 THE COURT: Who is going to speak on behalf of the  
21 state?

22 MR. TYSON: I will, Your Honor. This is Bryan Tyson.  
23 We have had some conversations. I think it is important to  
24 note that we have not had a situation where Dr. Halderman has  
25 been able to speak to Mr. Beaver -- something we suggested --

1 about how to accomplish this.

2 I think the plaintiff has correctly identified that  
3 this is the nexus to the election system. It is the most  
4 critical infrastructure we have in terms of our election  
5 system, which is why we are so careful with releasing it and  
6 don't want to release it to someone who could -- or I think the  
7 reality is when you take the database itself -- I'll start with  
8 that and then go to the rest of the server.

9 If someone had the database, they could see the  
10 relationships between the various data inside the database.  
11 And if someone was trying to design malware, they would need  
12 that information to do that. Georgia has a slightly different  
13 version of a GEMS database than other states. And as a result,  
14 an attacker without the knowledge of the structure of the  
15 database can't -- is going to have a harder time designing  
16 something.

17 In addition, there are other non- -- other  
18 confidential information like the particular numbers assigned  
19 to candidates. And if you're going to try to manipulate votes,  
20 you have got to know the candidate numbers and the placements  
21 to be able to do that. That would also be revealed in the  
22 database.

23 So from our perspective, the plaintiffs' desire to  
24 look for malware can be addressed through several other means  
25 that we have been working towards. The first obviously was the



1 reports. So look for anomalies there. We understand the  
2 plaintiffs don't like that option. We have a software called  
3 GEMS Verify that checks the executable files of the GEMS server  
4 against a trusted version of the GEMS -- of the GEMS executable  
5 files that we can run on the database and ensure that the  
6 executable files have not been altered in any way and share  
7 those results with the plaintiff.

8 We also have from our understanding from our computer  
9 science folks and others an Access database, which is what the  
10 database is that the plaintiffs are seeking. The only malware  
11 that could reside in the Access database -- so, you know, the  
12 executables of the server files are one thing. Check those  
13 with GEMS Verify.

14 The database can only have malware through a macro  
15 inside the database. And we would be more than happy to  
16 provide the plaintiff with all of the macros if we find any  
17 that are currently in the GEMS database.

18 We think that addresses their concerns. It lets them  
19 look at the -- see that server files have not been altered and  
20 also see that the database does not have macros in it without  
21 having to reveal the structure and the relationship of the  
22 database and all that is inside there.

23 THE COURT: Well, I guess --

24 MR. BROWN: Your Honor, if I may, this is Bruce  
25 Brown.

1           THE COURT: Let me just stop y'all for a second. I  
2 have a general idea of what you are speaking about. But it  
3 obviously would have been better if Mr. Halderman --  
4 Dr. Halderman had -- and Mr. Beaver or his representative had  
5 spoken before this conversation so that we're not just playing  
6 it out in kind of rigid lawyer form now rather than their  
7 having really talked and seeing if there is anything else.

8           I understand that what the plaintiffs want is what  
9 they think is ultimately necessary. And I'm not dismissing  
10 that. But at the same time, there is some concern about  
11 proportionality that I have particularly in that we're going --  
12 the state is moving to a different data system.

13           I realize that it all may fall apart. But,  
14 nevertheless, that is not the expectation, and I can't operate  
15 on that expectation. So I'm looking at the amount -- the  
16 number of elections we have, the nature of the elections. And  
17 I'm saying I have some proportionality concerns and what -- are  
18 there any work-arounds at all at this juncture, even though the  
19 ideal might be from Dr. Halderman's perspective and the  
20 plaintiffs' perspective something else?

21           Is there anyway I could persuade you-all to put the  
22 two of them on the phone for 15 or 20 minutes to talk? And we  
23 would -- I mean, I'm not saying that you-all can't be present.  
24 But that they are actually talking. I mean, I would have hoped  
25 that that would have happened. But it hasn't happened.

1           Is that -- is that feasible?

2           MR. TYSON: For the state, Your Honor, we would be  
3 more than happy to make Mr. Beaver available.

4           MR. CROSS: I thought Mr. Beaver was with you guys.  
5 Can we do that now?

6           MR. TYSON: Yeah. And we're fine to have the  
7 discussion now or with Dr. Halderman directly. We're very open  
8 to that.

9           MR. BROWN: We are -- Your Honor, this is Bruce  
10 Brown. Our expert would like to participate as well.

11          THE COURT: Yes. I'm sorry. I missed what the name  
12 of your expert was.

13          MR. BROWN: It is Matt Bernhard.

14          THE COURT: Right. I remember the affidavit now.

15          All right. Well, why don't I get off the phone and  
16 you-all -- I can go even on mute if you want to. But that is  
17 an extra -- which is -- which is fine. But you could also  
18 arrange it differently and call each other. But I don't know  
19 who has a line there, and then you-all have to get connected  
20 again.

21          But why don't I just go on mute. Then when you are  
22 ready to -- you can -- you can always then have them talk  
23 separately or whatever you want to do. You can make the  
24 arrangements. And then when you are ready to actually talk,  
25 you can email Mr. Martin as soon as you are ready to talk and

1 he will be looking every few minutes at the -- at his email to  
2 see that you are ready.

3 MS. CHAPPLE: Thank you, Your Honor.

4 THE COURT: All right. Very good. Thanks. All  
5 right. I'm going on mute now. But you are still connected.

6 **(A brief break was taken at 2:38 P.M.)**

7 THE COURT: Hello. This is Judge Totenberg again.

8 MR. CROSS: Hi, Judge.

9 MS. CHAPPLE: Hi, Judge.

10 THE COURT: So did you make any progress?

11 MR. CROSS: I'm not sure we made much progress, Your  
12 Honor. We had a lot of discussion. Where we ended up was  
13 Mr. Brown on behalf of plaintiffs proposed a compromise in  
14 limiting the data down to 25 of 159 counties. We would choose  
15 those counties. So it would be a much smaller sample, which I  
16 think was one of the things Your Honor had suggested.

17 We also agreed that we would adhere to similar  
18 security protocols that the state has in place for each of the  
19 159 counties, which also have a copy of this system and run  
20 that system to address their security concerns. And we offered  
21 any other security protocols that they would offer.

22 The end result was they would not offer, as I  
23 understood it, anything more than they had originally offered.  
24 Although they proposed something additional concerning macros.

25 But where we seem to be divided on really is the

1 issue of security. Their position seems to be that they won't  
2 produce the GEMS database, either the database itself for a  
3 forensic image or what are called MGB files under any  
4 circumstances because it sounds like they just don't trust our  
5 experts to keep that secure, even though we have offered again  
6 to abide by the same or similar protocols as the 159 counties.

7 I'm not sure where we get at the end of the day. The  
8 other challenge was Dr. Halderman asked Mr. Beaver whether --  
9 if he wanted to conduct the same sort of analysis that we are  
10 trying to do that our experts have described to look for  
11 malware in the system, to identify vulnerabilities with respect  
12 to the system, is there an alternative approach, is there  
13 something less that he would look at beyond what we have  
14 requested. And Mr. Russo would not allow him to answer that  
15 question.

16 So we seem to be at an impasse. I wish I had a  
17 better answer.

18 THE COURT: Let me just -- go ahead. Who is that?

19 MR. TYSON: On behalf of the state, Your Honor, I  
20 just wanted to give a little bit different view. I'm not  
21 surprised we disagree on this. But the scenario really comes  
22 down to Dr. Halderman and the plaintiffs, even if they are  
23 narrowing the number of counties, they are still insisting on  
24 the actual raw Access database file. And those are the ones  
25 that show the structure and reveal the structure on everything.

1 So that doesn't meet our main concern.

2 The other challenge where the databases are located  
3 in other places, the counties don't have the same kinds of  
4 tools that they would be using and other things that are  
5 happening.

6 And to Mr. Cross' characterization that Mr. Beaver  
7 was refusing to answer or we wouldn't allow him to answer, the  
8 questions were turning into a cross-examination and a  
9 deposition of whether Mr. Beaver would concede certain points.  
10 That is why we decided to come back to you to just go ahead and  
11 address this. I want to be clear about where we were.

12 THE COURT: Okay. So --

13 MR. CROSS: Your Honor, the question was posed by  
14 Dr. Halderman. If we could get an answer to that question on  
15 this call, I think that would help us go a long way. It was  
16 not a cross-examination.

17 THE COURT: Well, I guess the question --

18 MR. CROSS: It was a conversation between the  
19 parties.

20 THE COURT: All right. I'll get to that in a second.

21 All right. I'll just myself ask if there is any  
22 alternatives. But I guess just -- I wanted to ask about the  
23 database itself. I'm not clear why as the database itself the  
24 defendant is not willing to provide that on a CD as Mr. Russo,  
25 I believe, you conceded to Adele Grubbs in the Superior Court

1 of Cobb County, I guess it is, that the database itself was  
2 public record. It was the programming that was not -- that you  
3 maintained.

4 MR. RUSSO: Your Honor, I mean -- this is Vincent  
5 Russo. Our concern with the database has always been that it  
6 is a roadmap to being able to -- for anybody who wants to  
7 conduct -- try to put any malicious -- for putting malware on  
8 the system, the database is the roadmap. And I think the  
9 plaintiffs have said so much.

10 What we have offered is the macros. That, you know,  
11 if there was -- if there was some -- there was some malware in  
12 that -- might have been in that database, it is our  
13 understanding that is where it would exist. In addition to on  
14 the servers, which are the additional reports that we offered  
15 to run, it is a test. It is called the GEMS Verify test that  
16 would check the servers to see if there were any files that had  
17 been changed.

18 So those two together provide them with the  
19 information that is proportional and without necessarily  
20 providing the roadmap that someone would need to write -- write  
21 malicious -- you know, malicious software.

22 MR. CROSS: Your Honor, David Cross, if I may.

23 **(Unintelligible crosstalk.)**

24 THE COURT: One person. I know you can't all see  
25 each other. But wait until Mr. Russo is really complete.

1 MR. RUSSO: So it sounds like my co-counsel, Bryan  
2 Tyson, was going to add something to that.

3 THE COURT: Okay.

4 MR. TYSON: Yes, Your Honor. I'm sorry. Just very  
5 briefly. Bryan Tyson. I just wanted to also make the point  
6 that in front of Judge Grubbs the plaintiffs made the same  
7 argument that they are making here. And Judge Grubbs -- the  
8 state took a consistent position. Judge Grubbs did not allow  
9 them to have the database files after a similar argument and  
10 believed that the reports that were offered, which was our  
11 first offer to the plaintiffs here, were sufficient.

12 I know the plaintiffs disagree about that. But it  
13 was the same argument, and the state took the same position  
14 that we can't give you the actual database.

15 THE COURT: All right.

16 MR. CROSS: Your Honor, this is David Cross, if I  
17 may. Mr. Russo's argument really highlights and I would say  
18 implicitly concedes the point, which is he says the database is  
19 the roadmap if someone wanted to hack the system. Well, that  
20 is our point, Your Honor.

21 The only way to evaluate the infection points as  
22 Dr. Halderman describes them and to identify the  
23 vulnerabilities is to see that roadmap, what a hacker would  
24 would want to see. The hacker -- the way that they would  
25 navigate that roadmap to get into the system.



1           What they are offering, as I understand it, is a  
2 small subset of data. Dr. Halderman has explained in detail  
3 why it is not sufficient. But one of the things that Mr. Russo  
4 said, as I understand it, that might let us see if there is  
5 existing malware in a small portion of the database. Again,  
6 that doesn't get us where we need to go, which is assessing  
7 whether there is malware in other portions of the database but  
8 also to the broader point of what the vulnerabilities are  
9 because the focus of our case is not just that there's already  
10 malware there but that the vulnerabilities themselves are so  
11 severe as to vitiate the right to vote in the State of Georgia.

12           And I would say Mr. Russo seems to be conceding the  
13 point. Although he doesn't obviously intend to. The roadmap  
14 is what we need to see.

15           The last point of this, Your Honor, on this issue of  
16 security, which really seems to be their only objection here,  
17 we have not heard anything from Mr. Beaver or from them that  
18 the analysis that needs to get done here can be done on less  
19 than what we have requested, which again has been narrowed  
20 quite significantly.

21           The last point is Dr. Halderman deals with some of  
22 the most sensitive data all the time. He is one of the leading  
23 experts in this field. He deals with cryptographic protocols  
24 affecting tens of millions of websites. This is what he does.  
25 They have specific facilities at the University of Michigan to

1 deal with highly sensitive data.

2 Mr. Bernhard actually is also at the University of  
3 Michigan. So they would have access to similar facilities. I  
4 will offer as a last resort -- Dr. Halderman may kick me for  
5 saying this -- if we had to actually go to Georgia in some  
6 facility they set up, it would be difficult. It is not ideal.  
7 It would, I gather, hinder the analysis. But we could explore  
8 that, if it is necessary.

9 But the bottom line is their objection is one of  
10 confidentiality. And that is dealt with with the protective  
11 order, and we're talking about experts that deal with equally  
12 similar, if not more, sensitive data in the regular course of  
13 their work.

14 THE COURT: Let me ask this. The GEMS database  
15 itself -- I just want to confirm -- is going to still be the  
16 foundation to draw on when you -- when the state moves on into  
17 the next -- the ballot marking device system or not?

18 MR. RUSSO: That is correct, Your Honor. When the  
19 state moves to the new system, they will not be using the GEMS  
20 database.

21 THE COURT: All right. And what will be used -- it  
22 will not be using it you are saying?

23 MR. RUSSO: That is correct.

24 THE COURT: All right. And how will the data be  
25 transferred? I don't obviously mean all the nitty-gritty

1 details. But is there anticipated a transfer of all of the  
2 voter data?

3 MR. RUSSO: I mean, I guess I can say we don't -- we  
4 don't have a system yet. So I don't know which system they  
5 will be using in lieu of the equivalent to a GEMS database.  
6 But, you know, there will be -- there will be something. I'm  
7 just not sure what it is. And they don't know either.

8 THE COURT: All right.

9 MR. RUSSO: Until they know the vendor, they won't  
10 know what that will look like.

11 THE COURT: What again is the date by which the  
12 vendor is going to be selected?

13 MR. TYSON: I believe that was supposed to be  
14 mid-July. But I don't know what the current timeline is. I  
15 think they are still on track on that. I'm not certain, Your  
16 Honor.

17 MR. RUSSO: I was just confirming. They are still on  
18 target for the original timeline.

19 THE COURT: Okay. So I think that the question  
20 was -- and I don't see it just as a rhetorical question. But I  
21 understand why counsel for the state prefers not to be -- have  
22 their -- Mr. Beaver directly questioned. And I don't want to  
23 be in that position of examining him either.

24 But if there is -- why -- I would like to understand  
25 why -- given what you've projected, why do you think -- why

1 Mr. Beaver or the state believes that those are adequate  
2 alternatives, knowing what the purpose is in this case? It is  
3 not just -- of the analysis.

4 MR. RUSSO: Just so we understand your question,  
5 you're asking why the macros and the GEMS Verify report are a  
6 sufficient alternative versus the entire -- producing the  
7 entire database?

8 THE COURT: Well, the database for 25 localities,  
9 which I thought they had agreed on alternatively.

10 MR. TYSON: Yes, Your Honor. This is Bryan Tyson. I  
11 think the important piece is we don't see a distinction between  
12 25 and the entire database because our concern is not the  
13 amount. Our concern is the structure. And if you produce even  
14 one database, you are showing the structure. So on that point,  
15 that is there.

16 I think for us the GEMS Verify looks at the  
17 executable files that are in use on the server. The macro test  
18 within Access will show any code that can run. And so it  
19 covers that basis. I think the plaintiffs' view is that there  
20 could be something lurking deep inside the database. But that  
21 is our view in terms of the security risks that are associated  
22 with it verifying that the executables have not changed,  
23 verifying there is not anything else on the server that is  
24 obviously there. And verifying that there is nothing  
25 executable within the database covers the concerns about

1 malware.

2 I understand the plaintiffs disagree. But that is  
3 our view of why that is a sufficient resolution short of  
4 exposing the relationships and the structure in the database.

5 THE COURT: So, Mr. Brown and Mr. Cross and I guess  
6 to your experts as well, while it is obviously not what you  
7 think in full that you need -- and it is your burden of  
8 proof -- why wouldn't this at least begin to be helpful at all  
9 to you and your experts in proceeding so that at least it is a  
10 major first step or first and second step?

11 MR. CROSS: Your Honor, I would suggest that  
12 Dr. Halderman handle that, if you don't mind. I think he can  
13 better articulate rather than hearing from the lawyers. And,  
14 frankly, I would suggest it is probably better that both sides'  
15 experts speak to you directly.

16 Dr. Halderman, do you want to take that?

17 DR. HALDERMAN: Yes. So the alternatives that are  
18 being proposed about looking for macros or using this hash  
19 verifier, they cover entirely different parts of the data than  
20 what we are talking about. What we're talking about is looking  
21 for -- looking for kinds of corruption or manipulation that  
22 could spread malicious code, which just wouldn't be revealed if  
23 they are there by these other tests in which I think are  
24 entirely plausible means for malicious software to spread from  
25 this nexus of the system to wide areas of Georgia.

1                   And does that answer your question, Your Honor?

2                   THE COURT: Well, sort of. But the original request  
3 at least from the Coalition was just give us the -- basically  
4 give us CDs of the voter -- of the GEMS database. And as I  
5 understand the conversation is that the state's concern is that  
6 would identify the structure and information that goes to the  
7 sort of secure operation of the system and that you're hoping  
8 that it will though you don't think it is necessary but not  
9 sufficient from your perspective; is that right?

10                  DR. HALDERMAN: That is right. But if I may say, I  
11 think it can be argued that almost any information about the  
12 operation of the system could potentially aid an attacker. And  
13 that is why we're proposing to protect the data in the same way  
14 that we would protect -- that the counties already protect the  
15 data and even to take steps beyond that we routinely take to  
16 protect arguably even more dangerous data, if released,  
17 including that what we have taken in the past to protect actual  
18 flaws in the software running on people's voting machines.

19                  THE COURT: Well, why -- let me just segue for a  
20 moment on to the conflict over that protective order. Why is  
21 it that the plaintiffs' counsel cannot agree to the terms  
22 proposed by the defendants?

23                  I looked at it. And I understand that there is this  
24 disagreement about somehow a printout of the -- of the  
25 ballot -- the ballot results in some way on an individual

1 ballot basis. But there also seemed -- because that was  
2 allegedly already a public record -- had been yielded -- had  
3 been -- but I wasn't -- there seemed to be other concerns on  
4 the part of the plaintiffs that I didn't -- I really couldn't  
5 fully understand.

6 MR. BROWN: Your Honor, this is Bruce Brown for the  
7 Coalition plaintiffs. And I think David -- the plaintiffs are  
8 speaking with one voice on these issues. And I note that the  
9 disagreement here is primarily with Fulton County. I believe  
10 the Secretary of State and the plaintiffs are largely in  
11 agreement on these terms. I could be mistaken.

12 But one -- one issue is whether the protective order  
13 should have retroactive effect, meaning that it could cover  
14 documents that have already been produced without a  
15 confidentiality agreement and produced without a  
16 confidentiality stamp.

17 THE COURT: And this is the one that we got a sample  
18 of; is that right? Or are there others like that?

19 MR. BROWN: There are many others. There are --  
20 there are scores of ballot image reports that we have that have  
21 been produced as open records. And there's simply no way that  
22 we can -- I can let my client agree to a court order that binds  
23 us to keep confidential an unspecified universe of documents  
24 that the state may later determine are confidential.

25 And, frankly, in my experience you really never do

1 that. A protective order covers documents that are produced in  
2 discovery. It is a narrow set. It doesn't cover information  
3 sort of out in the world.

4 THE COURT: And that has mostly been produced by  
5 Fulton County?

6 MR. BROWN: No. Other counties -- today, we got a  
7 whole trove of the same documents from Bartow County. They are  
8 public. There is nothing secret about them, Your Honor. And  
9 so the counties are producing them as they should.

10 THE COURT: All right. Is it only Fulton or the  
11 state also that is asking for this provision?

12 MR. BROWN: I do not believe -- well, I'll let the  
13 state speak for itself. But I don't think the state was  
14 insisting on retroactive application of the protective order.

15 MR. RUSSO: Your Honor, this is Vincent Russo. Our  
16 issue is we want to be able to -- if there is something  
17 produced in this case by a county, we don't have the ability to  
18 control the counties and what they are necessarily producing.  
19 In fact, Bartow County produced something today, and we didn't  
20 even know about it.

21 And so we want to be able to mark that confidential  
22 when we do find out about it, if it actually needs to be  
23 confidential. And by allowing us to mark it confidential and  
24 if the plaintiffs then disagree, we can go through the dispute  
25 resolution process set out in the protective order.



1           But to just deem something that has been -- that has  
2           been produced now as deemed a public record and it is no  
3           longer -- we can no longer try to maintain the confidentiality  
4           over is our concern. And we think that the protective order  
5           has a process in it that if the plaintiffs disagree over  
6           confidentiality designation we can go through the dispute  
7           process in the protective order.

8           MR. CROSS: Your Honor, I want to make --

9                               **(Unintelligible crosstalk.)**

10           MR. BROWN: I want to make sure the issues are clear  
11           because we are bleeding several issues together. The first  
12           issue is whether or not the protective order ought to have  
13           retroactive effect and to be able to cover a universe of  
14           information regardless of when or even whether it was produced  
15           by a party. And I think no protective order does that. And  
16           that it ought to be explicit that this one does not. That is  
17           the first issue.

18                           The second issue is whether or not it is explicit on  
19           the first page of the protective order that we have all agreed  
20           to that if a third party wants to designate something as  
21           confidential they may do something under the protective order.  
22           They may do it.

23                           What the state wants to be able to do is to sort of  
24           reach across the table and intercept documents that other third  
25           parties are quite willing to share with the public or with the

1 plaintiffs and to capture those sort of in mid-discovery and  
2 stamp them confidential.

3 And I have never heard of that happening and don't  
4 know mechanically how that could ever happen. So we would  
5 strenuously object to that in that if somebody is releasing  
6 something that the Secretary of State doesn't want them to that  
7 is between the Secretary of State and whoever that third party  
8 is. They don't get to sort of intercept discovery like that.  
9 Then the third -- so those are the first two.

10 The third has to do with the attorney's eyes only  
11 provision, which the Coalition plaintiffs don't want at all.  
12 It is not appropriate for this kind of information. There  
13 should be one singular confidential designation and that --

14 THE COURT: Well, let me just say I have never heard  
15 of an attorney's eyes only that was not attorney's eyes only or  
16 with their expert on the other side of it. I mean, you have --  
17 with the greatest of respect to your clients, the fact is that  
18 they are committed activists in this area. And they have a --  
19 hats off to them for their activities and their concerns.

20 But they don't have the same obligations on them in  
21 terms of confidential information that you might or somebody  
22 who is a direct agent like an expert who works in a very secure  
23 field.

24 MR. BROWN: Your Honor, let me explain sort of the  
25 background of that provision. We took the draft protective

1 order from the protective order that was entered in the Common  
2 Cause case. That was our template. And that had a similar  
3 provision that had two Common Cause activists on it.

4 Like I said, we don't like the attorney's eyes only  
5 designation at all but figured, well, if we can get our client  
6 on there we didn't -- it wasn't as big a deal. So I'm just --  
7 we're not going to fight over something that has no material  
8 impact. But that is certainly the source of the -- that  
9 agreement and the terms.

10 We would much prefer not having an attorney's eyes  
11 only provision because an attorney's eyes only provision in my  
12 experience relates to trade secrets when the disclosure to the  
13 client itself causes damage. And confidentiality provisions  
14 are designed for information which damage does not happen when  
15 you disclose it to the other party. It happens when that party  
16 discloses it to the world.

17 So it just sort of conceptually does not belong in a  
18 case other than trade secrets where you have got competitors  
19 suing each other. That is our background on the attorney's  
20 eyes only provision.

21 THE COURT: Mr. Russo or Mr. Tyson, what is the  
22 concern about disclosing information to the plaintiffs' experts  
23 who work with secure data systems and secured data all the time  
24 and are very well aware of their obligations in this area and  
25 their own professional standing depends on maintaining those

1 obligations?

2 MR. RUSSO: Your Honor, this is Vincent Russo. I  
3 don't think with respect to the attorney's eyes only provision  
4 that we had a concern particularly with the experts. I'll  
5 defer to Fulton County on some of this issue.

6 THE COURT: Well, let me just say -- let me just  
7 finish the data system. I mean, if you were to show the  
8 information to the -- the data system and the database that we  
9 were talking about, one or -- both or one like -- let's just  
10 start off with the GEMS database.

11 Is there -- what is the reason you would believe that  
12 the plaintiffs' experts would expose you to hacking or would do  
13 something that would compromise themselves the system or create  
14 trouble?

15 MR. RUSSO: Yes, Your Honor. I think our concern, of  
16 course, is that the information gets put on their server at the  
17 University or wherever they are working and someone else --  
18 grad students end up taking that information and using it or  
19 leaves it exposed. And so then that information is out in the  
20 public sphere, you know, especially when we get into the GEMS  
21 database.

22 Yes. We have talked about this -- it is the roadmap.  
23 And, you know, the whole point of keeping that information out  
24 of the public realm is so that nobody has the roadmap so they  
25 easily write or more easily write malware that could infect the

1 system.

2 DR. HALDERMAN: May I -- this is Dr. Halderman. May  
3 I suggest respectfully that we could address those concerns, I  
4 believe, by analyzing the data on an air-gapped system in an  
5 independently secured room where others not related to the case  
6 wouldn't have physical access to it and where it would be  
7 electronically safeguarded against any kind of intrusion.

8 MR. RUSSO: Can you repeat that proposal?

9 DR. HALDERMAN: I think we can largely mitigate these  
10 concerns, at least reduce them below the threshold that the  
11 danger already exists in existing GEMS servers maintained by  
12 the state if we apply -- if we apply both a physically  
13 separated facility and a completely disconnected system.

14 MR. TYSON: So essentially -- this is Bryan Tyson.  
15 So essentially duplicate our current setup in terms of how we  
16 protect the information? Card key access? I think Michael  
17 Barnes testified yesterday it is only five people. But I think  
18 that is consistent with our current setup.

19 DR. HALDERMAN: Let's propose -- let's propose  
20 either a card key or an independently locked door on a separate  
21 security key from the rest of the building with a video camera  
22 on the work station and a disconnected work station.

23 Would that be roughly equivalent or greater than the  
24 normal security that is applied?

25 MR. TYSON: Merritt -- Mr. Beaver, do you want to

1 answer that in terms of what our current security is? I think  
2 that's less than we currently do. But it is close.

3 THE COURT: Mr. Beaver, are you going to respond or  
4 are you going to talk to your counsel and at least respond via  
5 that way?

6 MR. RUSSO: Yes, ma'am. Sorry about that. Go ahead,  
7 Merritt.

8 MR. BEAVER: I think anything more than looking at it  
9 within our environment means it is out of our environment. No  
10 matter what people say, they have got to control -- we don't  
11 know what their controls are. But we can't -- I can't sit in  
12 front of a judge and say -- answer the question how could it  
13 have gotten out. If I said, well, I did release it, and they  
14 said it was safe but now I can't explain how it got out there.

15 So anything less or anything more than looking at it  
16 in our environment would still leave us exposed.

17 THE COURT: Are you able to make it available to the  
18 experts in your environment if they come -- I mean, do you have  
19 actual -- a capacity to do that?

20 MR. RUSSO: Well, Your Honor, I think some of that  
21 would depend on are they looking to run software on the system  
22 or what kind of protocol would be around that process. Just  
23 look and our folks are there -- I think one of Judge Grubbs --  
24 her points in the case before her, if we were going to let them  
25 look at stuff, our folks had to be the ones touching it. Their

1 folks couldn't touch it. At least the Coalition had agreed to  
2 that in that case also.

3 But I think we would need to have some protocol  
4 around what they would be doing or whether our folks would be  
5 the only ones touching the system and they are just there to  
6 watch.

7 THE COURT: Let me just say there are different  
8 focuses of this lawsuit versus a challenge in an election and  
9 also the time frame that she had to deal with. So I respect  
10 she did everything she could that she thought was proper in  
11 that time frame.

12 But you don't -- I mean, let's say you made a copy of  
13 whatever you had as if you had another computer doing this so  
14 that it wouldn't in any way interfere with your functioning and  
15 your system. Could they do it basically in your quarters so it  
16 would be basically the same conditions? And maybe that is too  
17 much of a layperson's question. But I think you get the drift  
18 of what I'm saying probably.

19 MR. RUSSO: So I'm trying to make sure I understand  
20 exactly what we're talking about here. So they would come --  
21 they would be copying our system. I think we would have a  
22 concern with the copying. We would be copying.

23 THE COURT: You would be copying.

24 DR. HALDERMAN: It would create --

25 **(Unintelligible crosstalk.)**

1 MR. RUSSO: We would create a separate duplicate  
2 system.

3 DR. HALDERMAN: A mirror of the system -- the GEMS  
4 system. Hold on a second.

5 MR. RUSSO: Your Honor, obviously our folks -- we're  
6 concerned we're expanding even farther where we were before  
7 because previously we were just talking about the GEMS  
8 database. Now we're talking about copying the system.

9 THE COURT: I'm just -- let me just say I'm not  
10 trying to do any one thing. I'm trying to throw out some other  
11 ideas that could be massaged by people who understand the  
12 issues probably better than me and how to do this in a way that  
13 would satisfy some of your concerns but also actually deal with  
14 the gravamen of also what the plaintiffs' claims are.

15 DR. HALDERMAN: Well, Your Honor, I gather that what  
16 you are suggesting -- I think it is potentially a reasonable  
17 proposal -- is to have a separate work station in a facility of  
18 the State of Georgia's under Georgia's control where we  
19 could -- the state could copy the data that we're asking for on  
20 to a separate system or machine and we could go in and perform  
21 the analysis ourselves on this independent computer there.

22 And that way there is no -- then it would be  
23 protected to the same extent that it is in Georgia's existing  
24 system. Is that -- is that what you were suggesting?

25 THE COURT: Yes.



1 DR. HALDERMAN: And I think we could perform the  
2 analysis under those conditions. Although I think we could, in  
3 fact, protect the data as well or better at our own laboratory  
4 facilities where we routinely do deal with extremely serious  
5 vulnerabilities in some of the internet's most -- most  
6 dangerous malicious software.

7 But if the state insists, I think it would be  
8 possible to perform the analysis on an independently setup  
9 computer in their facility.

10 MS. CHAPPLE: Your Honor, this is Catherine Chapple.  
11 I think we would also want to have assurance that they would  
12 give Dr. Halderman and Mr. Bernhard the access and time that  
13 they needed to do the analysis that they need to do. That it  
14 wouldn't be an instance where our experts were told that they  
15 only had a certain amount of time.

16 THE COURT: These are details that we'll put off for  
17 now. All right. I mean, I understand that, the whole purpose  
18 of this, especially if he doesn't have the computer to work on.  
19 Yes. But let's just --

20 MS. CHAPPLE: Sorry, Your Honor.

21 THE COURT: That is all right. I don't mean to jump  
22 on you about it. But I'm just trying to get any -- any sense  
23 of what could be done here.

24 MR. RUSSO: Your Honor, I think we would want to get  
25 a better understanding of what they mean by perform the

1 analysis on the machine and what tools they expect to be  
2 introducing or -- I mean, we would be concerned about someone  
3 introducing anything into the machines.

4 MR. BEAVER: It would have to be done based on what  
5 is in the environment. As soon as you introduce other tools,  
6 you, of course, bring the opportunity to bring something  
7 foreign into that environment.

8 DR. HALDERMAN: Perhaps the state misunderstands the  
9 proposal. We're talking about having a work station available  
10 on which we can perform forensics and other tests on files  
11 provided to us by the state.

12 MR. CROSS: And the key point just to add -- this is  
13 David Cross -- is this is a stand-alone work station. So it is  
14 not connected to the actual GEMS server. It would be whatever  
15 room the state sets up as a stand-alone distinct machine that  
16 is a mirror image of the GEMS server so that it wouldn't matter  
17 what tools Dr. Halderman or Mr. Bernhard bring in because they  
18 can only affect what is sitting on that stand-alone machine.  
19 It is not connected to the internet. You can't infect  
20 anything.

21 THE COURT: Well, it sounds like that is a  
22 potentially reasonable alternative I have to say, and I'm not  
23 expecting everyone to make a decision on the spot on a Friday  
24 afternoon. But I am expecting you to think about it seriously  
25 and -- but I do want to address -- I guess that was

1 Mr. Beavers' comment. But it might have been Mr. Russo's  
2 comment.

3 Are we talking about when he asked -- one of you  
4 asked, at least, were you talking about the GEMS database or  
5 were you talking about the actual other operational -- the  
6 server functioning? Is that what I understood you were asking,  
7 one of you at least?

8 MR. RUSSO: Yes, ma'am. That is what we were trying  
9 to get an understanding of.

10 THE COURT: All right. So knowing that -- I know  
11 that the plaintiffs would like the whole deal. But,  
12 Dr. Halderman and Mr. Bernhard, would it still be of value to  
13 you, first of all, to do it just simply with the GEMS database  
14 or not?

15 DR. HALDERMAN: This is Dr. Halderman. The GEMS  
16 database would be of value to us. We would also like to  
17 examine the rest of the server configuration and the data on  
18 the GEMS server because the GEMS database is one in separate  
19 places where malware could reside if the state says it is sort  
20 of the nexus or the roadmap or the nerve center of the system.  
21 So that might be the first place that would be fruitful to  
22 examine.

23 THE COURT: What if you were allowed to do -- look at  
24 the database and then they gave you whatever -- I mean, I  
25 realize it is not what -- all the things you want, not quite

1 understanding what the macros are, but as a supplement to that.

2 DR. HALDERMAN: The macros are actually not a  
3 substantial utility to us. I presume that that is a standard  
4 check that the state runs in the normal course of business and  
5 that it has already shown that there is not an infection there.

6 MR. CROSS: If I understand Your Honor's question  
7 right, if the question is is the database itself a valuable  
8 starting point, the answer is definitely yes.

9 THE COURT: If you were to do it under those  
10 protected circumstances?

11 MR. CROSS: Yes. I mean the short answer is yes. I  
12 guess I would want to explain though that, again, if we're  
13 going to go to the trouble of looking even just at the database  
14 on a stand-alone computer under the conditions we have  
15 described, I would ask, Your Honor, we should just go ahead and  
16 take the mirror image of the server because those conditions  
17 are so secure that there is no reason to break it up. And it  
18 is just going to create inefficiency and more work if we first  
19 look at the database in that situation and then later have to  
20 come back and create a whole new station that has the full  
21 configuration of the server.

22 I mean, if we're going to go to those extreme  
23 conditions, I would respectfully ask that we just do it all at  
24 once and be done with it. If we're just getting the database,  
25 then I would submit we don't need to do the level of

1 protections that they are talking about.

2 MR. BROWN: Your Honor, this is Bruce Brown. I have  
3 to concur with what Dave said to this extent. The GEMS  
4 database is set up in 159 counties. It is a public record in  
5 other states. It is not the kind of data that needs the  
6 protection anything close to what Dr. Halderman is describing.

7 Now, in terms of it is an order of magnitude and that  
8 is why we chose it initially as the first thing that we wanted  
9 discovery on because we didn't want to fight this thing on a  
10 big forensic battle that, frankly, we had just gone through  
11 with them in the lieutenant governor's case. We thought let's  
12 just ask for the low hanging fruit, which is the GEMS database.  
13 That will be a good start to try to get an overview of the  
14 system and maybe spot some vulnerabilities or some  
15 configuration errors.

16 And so it remains a good starting place. And we can  
17 get those by CD. We don't need to have a safe room or anything  
18 else. And we can evaluate them. And then that would probably  
19 speed up what substantive review that could be entertained or a  
20 concurrent review, even better, of the actual GEMS server.

21 But I think the difficulty that we had in our  
22 discussion with the experts is that it is almost in a situation  
23 where if what we are seeking discovery of is likely to reveal  
24 malware or a vulnerability then the state is going to take the  
25 position that it is beyond discovery every time, not just for

1 the GEMS database. But you will see that in discovery in this  
2 case, I think, over and over again.

3 And so that is not a position that we feel  
4 comfortable arguing because it just can't be so or else as  
5 Justice Nahmias said in our oral argument in the other case it  
6 is just this black box that the state gets to know how the  
7 votes are counted and no one else does.

8 And so I think our discovery is limited. We have cut  
9 it back to 25. If they have particular fields, like personal  
10 information, that can be redacted. And we will treat them just  
11 as carefully as they require the counties to treat them. And  
12 whether that is done concurrently or in advance of making a  
13 full image of the GEMS database -- you know, Mr. Cross has got  
14 a good point. We'll take the GEMS database separately now.

15 Thank you.

16 THE COURT: Well, let me ask you this. We're talking  
17 about the actual functioning of the GEMS server and the way it  
18 operates. How further, Dr. Halderman, are you suggesting -- if  
19 you were to happen to be in their shoes, what would you want,  
20 in fact, to be able to protect -- when you have responsibility  
21 for protecting the system, what would you want under these  
22 circumstances?

23 They still have to run an election. Of course, it is  
24 always possible as the plaintiffs have pointed out that things  
25 won't be ready by the point of the primary or -- so it becomes

1 all the more important. So I may have unfairly put the shoe on  
2 your foot about it.

3 DR. HALDERMAN: Yes. No. I think that is a fair  
4 question. And I think that although the -- the information --  
5 the most sensitive risk is that information on the real GEMS  
6 servers will be changed, more so than information on the GEMS  
7 servers will leak.

8 I think information on the GEMS servers needs to be  
9 protected. And I think that the protective order is a good  
10 place to work out the logistics of that. But the logistics to  
11 me, the most important things, are to ensure that the data is  
12 transferred in an encrypted way. Wherever it will be analyzed,  
13 that it is analyzed on a system that is physically secured and  
14 that physically secured system is disconnected from the  
15 internet, in addition to the controls that the protective order  
16 places on who would have access to that -- to that machine.

17 But that seems like -- that is a fairly standard  
18 protocol for handling other kinds of dangerous or sensitive  
19 software that, if released, could cause harm.

20 That is what we do to protect against -- to protect  
21 actual virus samples. That is what we do sometimes to protect  
22 the most severe vulnerabilities we discover is just make sure  
23 that they are stored in encrypted form, that they are kept on  
24 systems that are not connected to the internet, and to make  
25 sure that those systems are physically secured.

1           THE COURT: All right. Let me just -- we were on the  
2 protective order. And I had gotten everyone's position a  
3 little more fully on the retroactivity issue and the state  
4 wanting to assert an interest also to protect itself from the  
5 disclosure of a third party.

6           I'm looking to see if there is anything else. I  
7 would like the state to think about this alternative that we've  
8 been discussing about the -- having this done in a state  
9 facility on a mirrored machine computer. And obviously there  
10 are two levels of this. And I hear what the plaintiffs are  
11 saying. And I'm not -- I haven't necessarily heard anything  
12 further from plaintiffs as to any sort of heightened obligation  
13 of security relative to the experts who are using -- might be  
14 doing this if they were actually looking at the server relative  
15 to your desire to include your clients in the loop about  
16 whatever they are doing.

17           And I think that I would be -- it is really no  
18 disrespect to the clients. But I just -- I think under the  
19 circumstances I couldn't probably authorize that. I don't see  
20 any need to. I mean, the experts are going to do what they are  
21 going to do and be looking at it.

22           But all of the details of all of that, as they are  
23 running it, doesn't seem to be essential to be sharing with  
24 clients until we -- obviously they will come to an opinion.  
25 And that is something else when we get to the point that I have



1 an expert opinion.

2 MR. CROSS: Your Honor, this is David Cross for the  
3 Curling plaintiffs. We have no objection. We certainly  
4 understand and appreciate that. Our clients are fine with  
5 that.

6 MR. BROWN: Your Honor --

7 **(Unintelligible crosstalk.)**

8 MR. BROWN: Your Honor, our client has no need or  
9 desire to be a party to the examination of the server. If  
10 we -- if you -- if I could explain better what the GEMS  
11 database does, it is an Access database that is very much a  
12 user-oriented application involving elections and how elections  
13 are constructed.

14 And the knowledge of my client in terms of that field  
15 of information is necessary for us to be able to review the  
16 GEMS database itself. And that is why we would need to have my  
17 client, Ms. Marks, included with any circle of people who were  
18 reviewing the GEMS database. It is also simply a matter of  
19 resources that we have to get this work done, quite frankly.

20 THE COURT: Are you saying she would need to be in  
21 the room while they are looking at the database and they are  
22 running the tests on the database?

23 MR. BROWN: She would not need to have --

24 THE COURT: So what are you saying? I mean, because  
25 it wasn't like you wanted a printout of the database.

1 MR. BROWN: I may not -- we may have to put something  
2 in writing to make sure it is clear. Because this is sort of  
3 overtaken a little bit of my own understanding of how you could  
4 view one and not the other.

5 But what we would want Ms. Marks to have access to  
6 would be the functionality of the GEMS database, which is the  
7 same thing that a county clerk in Georgia would have access to.  
8 And we want to see the same thing that someone in an elections  
9 office in Morgan County would have access to. And they, of  
10 course, don't have access to the kinds of things that  
11 Dr. Halderman is talking about. So that would be sort of a  
12 rough way of explaining it. We would need it to be able to get  
13 our work done with our resources and would appreciate that.

14 THE COURT: When it is made available in Morgan  
15 County -- and the state may be -- I assume can answer that  
16 question whether directly Mr. Beaver or his giving the  
17 information to counsel.

18 What does that mean? Are they -- when the county  
19 elections officer is looking at it, is he or she looking at it  
20 on a computer and able to do all the things that Mr. -- that  
21 the plaintiffs want to do or are they looking at it -- pulling  
22 it up in some other less informative mode but that you can run  
23 it?

24 MR. TYSON: Yes, Your Honor. This is Bryan Tyson.  
25 We had an extensive discussion of this in Mr. Barnes'

1 deposition yesterday. And the county election officials have  
2 separate GEMS computers that house the Access database. But an  
3 important distinction is that the county computers do not have  
4 Microsoft Access installed on them. So the county officials  
5 cannot open the database in Microsoft Access.

6 They use the GEMS system that then provides the  
7 interaction to the Access database. But they do not and cannot  
8 open it because those computers are not connected to anything  
9 and Microsoft Access is not installed on those computers.

10 THE COURT: Okay. So back to you, Mr. Brown. I  
11 mean, is that -- if you want to see it the way that the Morgan  
12 County elections is, then you would be looking at it and your  
13 client would be looking at it --

14 MR. BROWN: Well, I think --

15 THE COURT: -- in a separate way without access --  
16 without the --

17 MR. BROWN: What we would want is -- what we have  
18 asked for is to have it saved as a Microsoft Access database.  
19 Then we simply open it in Microsoft Access and be able to  
20 analyze it like that.

21 THE COURT: Well, I just don't understand why your  
22 client has to be part of that, frankly. I mean, you originally  
23 say you want it just like the Morgan County head of elections  
24 is. But then you actually wanted something else, which is what  
25 basically I'm saying, well, I can understand why the experts

1 might need it but I'm not sure why that makes -- why your  
2 client has to be part of that process.

3 All right. Well, you can all think about that. And  
4 the state should think what -- what we have been discussing.  
5 And I would like to know by 11:00 on Monday what your  
6 respective positions are.

7 MR. BROWN: Thank you, Your Honor. We will brief the  
8 issue of who should have access and why to the GEMS database  
9 and also provide a little bit more information on the GEMS  
10 database and how it is helpful and should be disclosed. But  
11 thank you very much for your time.

12 THE COURT: And if the state would indicate -- null  
13 over what we have been discussing and indicate its -- its  
14 position as well by 11:00.

15 MR. RUSSO: Yes, ma'am. We will do that. This is  
16 Vincent Russo. We will do that and follow up by 11:00.

17 Should we just email your clerk, or would you --

18 THE COURT: You can file it under seal. I mean, it  
19 is just the simplest thing at this point given the subject  
20 matter. Everyone can file it under seal, and then we'll --  
21 once I see it, then I'll decide whether all of it needs to be  
22 under seal.

23 MR. RUSSO: Yes, Your Honor.

24 THE COURT: And if there is something that is  
25 relevant from the deposition, I guess you'll need to file the

1 deposition.

2 MR. RUSSO: Just so we fully understand here, you're  
3 referring to Michael Barnes' deposition?

4 THE COURT: That is what I understood from the state  
5 was that there was a deposition that dealt with these issues.

6 MR. RUSSO: Correct.

7 THE COURT: Okay. I'm just looking at the protective  
8 order statement so I can see if there was anything else I  
9 needed to ask you about.

10 All right. I think I have -- if there is anything  
11 else that arose today that you have further information about  
12 or a modified position on, please provide that for me. And if  
13 either of the experts have anything -- further clarification  
14 that they want to provide, they should -- you should attach an  
15 affidavit or from Mr. Beaver.

16 All right. Thank you very much. Have a good  
17 weekend.

18 MS. CHAPPLE: Thank, Your Honor.

19 MR. BROWN: Thank, Your Honor.

20 **(The proceedings were thereby concluded at 4:25**  
21 **P.M.)**

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C E R T I F I C A T E

UNITED STATES OF AMERICA  
NORTHERN DISTRICT OF GEORGIA

I, SHANNON R. WELCH, RMR, CRR, Official Court Reporter of the United States District Court, for the Northern District of Georgia, Atlanta Division, do hereby certify that the foregoing 53 pages constitute a true transcript of proceedings had before the said Court, held in the City of Atlanta, Georgia, in the matter therein stated.

In testimony whereof, I hereunto set my hand on this, the 29th day of June, 2019.

*Shannon R. Welch*

\_\_\_\_\_  
SHANNON R. WELCH, RMR, CRR  
OFFICIAL COURT REPORTER  
UNITED STATES DISTRICT COURT