

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
HONORABLE DAVID O. CARTER, JUDGE PRESIDING

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ECHOSTAR SATELLITE)	
CORPORATION, et al.,)	
)	
Plaintiffs,)	
)	
vs.)	No. SACV 03-0950-DOC
)	
NDS GROUP PLC, et al.,)	
)	Day 5, Volume IV
Defendants.)	
_____)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Jury Trial

Santa Ana, California

Wednesday, April 16, 2008

Jane C.S. Rule, CSR 9316
Federal Official Court Reporter
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08-04-16 EchoStarD5V4

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I N D E X

EXAMINATION

Witness Name	Direct	Cross	Redirect	Recross
RUBIN, AVIEL				
By Mr. Hagan			4	
By Mr. Stone				14
NORRIS, JOHN				
By Mr. Noll	21			

EXHIBITS

Exhibit	Identification	Evidence
Defendants' No. 1186		17
Plaintiffs' No. 74		28

1 SANTA ANA, CALIFORNIA, WEDNESDAY, APRIL 16, 2008

2 DAY 5 - VOLUME IV

3 (Live reporter switch with Debbie Gale.)

4 AVIEL RUBIN, PLAINTIFFS' WITNESS (Continued.)

5 REDIRECT EXAMINATION (Continued.)

6 BY MR. HAGAN:

7 Q Now, could the pirates have gotten around this software
8 patch with glitching?

9 A Yes.

10 Q Can you please explain what "glitching" is.

11 A Sure. Remember when I was talking about sending a
12 message, and you put on a checksum? That's because it might
13 have gone corrupted in transit. Glitching is the process of
14 intentionally corrupting something so as to cause some of
15 the bits to change, and glitching has become very
16 sophisticated, and not everything is checksummed and then
17 checked. And so if you know how to glitch very well, you
18 can actually cause certain parts of the code not to run.
19 For example, the patch that prevents a hack could be
20 glitched out, so to speak.

21 THE COURT: Just a moment.

22 Debbie, before you leave, check the real time,
23 will you?

24 Just one moment.

25 (Interruption in the proceedings.)

1 THE COURT: Okay. Thank you.

2 BY MR. HAGAN:

3 Q Dr. Rubin, you were also present during the two days
4 when Mr. Mordinson testified; is that correct?

5 A That's right.

6 Q And you had an opportunity to listen to all of his
7 testimony; is that correct?

8 A That's right, I did.

9 Q Did you find any part of his testimony to be unusual?

10 A Yes.

11 Q Can you explain that?

12 A There were two things that he said that really
13 surprised me and didn't make any sense, actually. The first
14 was he was asked what the index variable was, and he said he
15 didn't know, and he actually named it in his report "the
16 index variable," and the entire attack depends on it very
17 heavily. I don't know if it's a language issue or what. He
18 just didn't know what it was, and it was a key part of his
19 report.

20 But the thing that probably surprised me even more than
21 that was his comment about his reaction to the Nipper
22 posting. You see, we hacked the iPhone. For us, that was a
23 really big deal, but it was only a few weeks. And then
24 subsequently, later on, other people hacked the iPhone too,
25 and you should have seen my guys running to figure out what

1 it was those other people did. Did we miss anything? Were
2 they more clever than us, less clever than us? What did
3 they do? I mean, anytime anything happened with the iPhone,
4 everybody scrambled to compare it to what we did.

5 Now, here is a guy who spent six months of his life
6 developing this complicated hack, disassembling all this
7 code; reverse engineering everything, building a hack;
8 flying to the U.S., going to Canada; testing it all out, and
9 yet, when somebody posts something on the internet that's a
10 hack that supposedly has nothing to do with them, he didn't
11 even know about it, didn't care about it, and when he was
12 told about it, he testified that he spent 15 minutes looking
13 at it. That doesn't make any sense to me.

14 Q And you were here when he testified that after a review
15 of the Nipper hack for 15 minutes, it was his belief that it
16 was different than the hack that the defendants developed
17 for EchoStar's security system; is that correct?

18 A That's right.

19 Q And do you agree with that position?

20 A Well, I honestly think that no matter how much you
21 immerse yourself in this stuff, it's zeros and ones or it's
22 hex, and you can't look at it and do the index variable
23 calculation in your head to figure out that they are putting
24 the shell code on the stack. You don't have the outcodes
25 memorized to know what that shell code does. I don't see

1 how anybody in less than several days of analysis could make
2 that determination, much less in 15 minutes.

3 Q In fact, it is -- wasn't it your testimony at
4 deposition, as well as the defendants' expert, that without
5 the Haifa report, it would have been almost impossible to
6 figure out what was going on in the Nipper hack?

7 MR. STONE: I think he is summarizing the
8 deposition. Objection.

9 THE COURT: Overruled.

10 You can answer the question.

11 THE WITNESS: Just repeat it. I got distracted.

12 BY MR. HAGAN:

13 Q In fact, haven't you testified at deposition, as well
14 as the defendants' expert, that without the Haifa report, it
15 would be significantly hard, almost impossible within a
16 matter of days to figure out what was going on with the
17 Nipper hack?

18 A Yeah, it took me quite a bit of time, even with the
19 Haifa report, and the Haifa report is an excellent
20 description. It's got all the bits and bytes and all of the
21 details, as well as high-level design descriptions, and even
22 with that, it was a substantial effort to figure all this
23 out and understand what it did. Without the Haifa report,
24 it would have been hopeless. If I was handed this message
25 with zeros and ones, I wouldn't know where to draw the

1 lines, I wouldn't know what it does. I just don't think I
2 could have figured it out.

3 Q Now, Dr. Rubin, Mr. Stone also tried to make a point
4 that the aisle buffer overflow method of attack is very
5 common. Can you explain to us what makes the Haifa hack and
6 the Nipper hack so unique?

7 A Sure. The -- and it gets back to the Rube Goldberg
8 comment. These -- this hack is, you know, not like most
9 hacks. You know, on the iPhone, we basically look for one
10 buffer overflow. We found it. We did what we did. This is
11 kind of convoluted, and the thing that really stands out in
12 my mind is how it -- the things that they utilize in common
13 are things that were not known. The -- the memory aliasing,
14 where you wrap around the index variable, they're strange
15 things, and they're not known, so how could it be that
16 something else was posted with exactly the same properties
17 that were outlined so well in this report unless they came
18 from it?

19 Q Now, it's not your testimony that all reverse
20 engineering is bad or improper; is that right?

21 A No.

22 Q In fact, as long -- according to your testimony, as
23 long as you do ethical reverse engineering, and then you
24 engage in responsible disclosure, it can help better society
25 and better consumer products; isn't that right?

1 A Yeah. I mean, it depends on a case-by-case basis.
2 There are laws you have to worry about, and once you find
3 the proper project, though, then I agree with that.

4 Q And Mr. Stone -- excuse me. Mr. Stone spent a
5 significant amount of time talking about the way that you
6 handled the -- or your company handled the reverse engineer
7 of the Apple iPhone; do you recall that testimony?

8 A I do.

9 Q But you would agree that there are significant
10 differences in what ISE did for the Apple iPhone and what
11 the defendants did for EchoStar Security System?

12 A Yeah. I mean, I don't think you can compare them.

13 Q In fact, when your company reverse-engineered the Apple
14 iPhone, when you got finished, you notified Apple about it,
15 their management, correct?

16 A Correct.

17 Q And you were here last week when David Mordinson
18 testified that he was instructed by the defendants to
19 conceal his efforts from EchoStar and NagraStar and
20 NagraVision, right?

21 A That's right.

22 Q Your motivation and your company's motivation for
23 reverse engineering the Apple iPhone was to help Apple make
24 their product better?

25 A That's part of it, yes.

1 Q You haven't heard any testimony from the defendants
2 that their motivation in hacking EchoStar's security system
3 was to try to help EchoStar's product; is that correct?

4 A No, they didn't help them.

5 Q ISE is an independent evaluation company. You are not
6 a competitor of apple; is that right?

7 A That's right.

8 Q You heard testimony from Mr. Mordinson that NDS is the
9 direct competitor for Nagra; is that correct?

10 A That's right.

11 Q Now, ISE engaged in the reverse engineering of the
12 Apple iPhone in a controlled university environment,
13 correct?

14 A We are not in the university. We are near them, but we
15 set up a similar lab.

16 Q A controlled laboratory environment?

17 A Right.

18 Q An official establishment?

19 A Right.

20 Q You didn't go to another country, to someone's house
21 that you didn't know and go into their basement, correct?

22 A I did not.

23 Q And you heard Mr. Mordinson testify that that's what
24 the defendants did?

25 A Right.

1 Q Now, when you prepared, or when your company prepared
2 this report on the Apple iPhone, you gave it to Apple
3 management --

4 A That's right.

5 Q -- isn't that right?

6 You didn't hear any testimony from the defendants that
7 they gave this information to EchoStar?

8 A No. Well, that's not all we gave them. We gave them
9 all the code that we wrote for the exploit and the patch
10 that we wrote.

11 Q And we'll get to the patch in a second, but once you
12 had that report and once you had the results, your company
13 published that information at a security conference attended
14 by, among other people, Apple iPhone representatives?

15 A I don't know about that. They were Apple employees.

16 Q Apple employees.

17 You didn't post it on a pirate website?

18 A No.

19 Q Now, when you did present that paper, was it your
20 testimony that you redacted out specific codes, instructions
21 and commands that allowed the hack to occur?

22 A So just a clarification, you know, it was Charlie
23 Miller who made the presentation, and at that point, I
24 believe that the patch had already been released, and I
25 don't know remember us redacting anything from that at that

1 point.

2 Q And let's talk about that just for a second.

3 Once you conducted the reverse engineering, ISE, and
4 I'm saying you, but ISE created a patch, a fix, a way to
5 correct that vulnerability, and then you gave that to Apple;
6 is that correct?

7 A That's right.

8 Q You didn't ask Apple for any compensation for that, did
9 you?

10 A No.

11 Q In fact, didn't Apple offer you compensation and you
12 declined?

13 A Yeah, they offered to -- to hire us to help them find
14 other vulnerabilities, but we have a policy -- I mentioned
15 that we plan these things out, and so a long time ago we
16 decided that whenever we went after a product to try to
17 break it, that we wouldn't work for that company that made
18 that product to -- to keep things clean, so we wouldn't get
19 any money from them.

20 Q In other words, that's part of your protocol for
21 ethical reverse engineering and responsible disclosure?

22 A That's right. You know, Texas Instruments tried to
23 hire us as well after the Exxon Mobil Speed Pass, and we
24 turned them down.

25 Q Now, finally, Dr. Rubin, does anything that was brought

1 out or discussed in your testimony with Mr. Stone in
2 cross-examination, does that in any way change your
3 conclusions that the Nipper hack could not have been done
4 without access to the information in the Haifa report?

5 A No. I mean, that -- there was nothing that changed my
6 opinion at all.

7 Q And does anything that came out in your questioning
8 impact your opinion in any way that the Nipper hack and the
9 Haifa hack are identical in all the fundamental respects?

10 A Yes. They are not identical in their code, but they
11 are identical in the fundamental way that the hack is built.

12 Q The four key elements that you talked about earlier.

13 A Exactly, yes.

14 Q Now, does -- did anything in your cross-examination or
15 in any of the other documents that you looked at in your
16 testimony change in any way your conclusion that whoever
17 wrote the Nipper hack, published it on that pirate website,
18 either was the same person that worked on the Haifa project
19 or someone that got the information from the defendants'
20 Haifa project?

21 A No, I still believe that -- that that is -- is either
22 the same person or someone that had access to the
23 information from that person.

24 Q Thank you very much, Dr. Rubin.

25 Pass the witness, your Honor.

1 THE COURT: Recross by Mr. Stone on behalf of NDS.

2 MR. STONE: Thank you, your Honor.

3 RECROSS EXAMINATION

4 BY MR. STONE:

5 Q Dr. Rubin, when you did your hacking of the iPhone, I
6 take it you didn't get any equipment from Satan's Playhouse
7 either?

8 A I don't know where Satan's Playhouse is, and we did
9 not; you're right.

10 Q And would it have been better or worse for EchoStar if
11 the patch had been deployed prior to the posting?

12 A I imagine it would have been better. It would have
13 been better.

14 Q And you heard Mr. Mordinson testify about the various
15 differences between his report and the posting, correct?

16 A Yes.

17 Q Did you disagree with any of those differences?

18 A Can you remind me what they were?

19 Q Well, it's the ones we've covered. You were here
20 testifying --

21 A Right. I just --

22 THE COURT: Is this from his expert report?

23 MR. STONE: No. This is from sitting in the
24 courtroom, apparently.

25 THE COURT: Oh, I see.

1 THE WITNESS: You're talking about Mr. Mordinson
2 testified that there were differences between his report and
3 the Nipper posting, and I'm just trying -- I'd like you to
4 refresh my memory as to those before I tell you whether I
5 agree with them or not.

6 BY MR. STONE:

7 Q Well, you just testified when other counsel was asking
8 you questions about that same testimony. You don't recall
9 the other part of that testimony?

10 A Those particular things that I testified about were
11 things I was really struck with at the time that I listened
12 to him, and the thing that you are saying now must not have
13 had the same impact on me.

14 Q Now, is it your testimony that the patch you developed
15 for Apple would have closed their vulnerability?

16 A It would have. We tested it.

17 Q But it's your testimony that the Nagra patch would not
18 close the vulnerability here?

19 A I did not say that.

20 Q Is it your testimony that it would?

21 A I didn't say that either. I think that the -- the -- a
22 patch, if you can get it working without ruining the card,
23 would prevent future cards that weren't protected by a
24 blocker from having that vulnerability.

25 Q Now, you just testified that you hadn't seen any

1 evidence that the blockers were not effective or useful in
2 preventing the patch from taking?

3 A I didn't test the blockers, and I don't know how
4 effective they were.

5 Q Let me show you Exhibit 1186 and see if this is
6 evidence you considered.

7 1186 is an e-mail from Joel Conus dated March 2nd,
8 2001.

9 A I had not seen this before today.

10 Q And so you hadn't seen that Mr. Conus wrote on
11 March 2nd, 2001, that "The hacking is stalling, it seems.
12 The number of hackers who still have non-updated cards is
13 very limited, and therefore, the blocker code that has been
14 published cannot be widely used."

15 Do you see that?

16 A I don't see it.

17 Q It's right in the middle of the large paragraph in the
18 first --

19 A I see it.

20 Q You weren't aware of that before testifying, correct?

21 A I hadn't seen this before.

22 Q And what is the status of the ROM 3 as of March 2nd,
23 2001, according to Mr. Conus?

24 A Where?

25 Q Under "devices status."

1 A He says, "Secured VIP rights and some cards, cards and
2 blockers, not affected by the update."

3 MR. STONE: Your Honor, I would move Exhibit 1186.

4 THE COURT: Any objection?

5 MR. HAGAN: No objection, your Honor.

6 THE COURT: Received.

7 (Defendants' Exhibit No. 1186 is received in
8 evidence.)

9 BY MR. STONE:

10 Q Now, didn't you testify that the author of the ROM 3
11 code deliberately chose to locate the communications buffer
12 at an absolute address, which was at the end of memory?

13 A That is correct.

14 Q And in all of the programs you've written, you have
15 never placed a buffer in an absolute address; isn't that
16 correct?

17 A When you write assembly language programming, you can
18 decide where to put your buffers. When you write in C and
19 other program languages that I write in usually, you don't
20 have control over where the buffers go, so I have never
21 deliberately placed a buffer anywhere.

22 Q And have you ever seen anyone deliberately not check a
23 communications buffer like occurred here --

24 A For -- for the balance?

25 Q Yes.

1 A I have seen that many times, yes.

2 Q And didn't you testify that dumping the EEPROM of the
3 ROM 3 card using a buffer overflow method was easier if the
4 buffer was located at the end of memory?

5 A I said that, but after the deposition, I thought about
6 it some more, and I changed my mind.

7 Q You've changed your mind a lot in this case, haven't
8 you, sir?

9 A As I get more information, I, you know, am flexible
10 with -- with my opinions on them.

11 Q Now, Nipper used library calls and Mordinson used his
12 own routine, correct?

13 A That's right.

14 Q And Haifa stored the show code and the communications
15 buffer while Nipper's stored in the stack, correct?

16 A That's correct.

17 Q And the programming styles were different as well,
18 correct?

19 A That's correct.

20 Q And Haifa did not have the 7381 jump or the passing of
21 parameters, correct?

22 A That's correct.

23 Q And you saw no evidence that Haifa even knew about
24 those, correct?

25 A I didn't see any of the evidence.

1 Q And Mr. Mordinson's code just hangs at the end of it,
2 correct?

3 A That's right.

4 Q Thank you.

5 Nothing further.

6 THE COURT: All right.

7 Sir, I'm going to ask you to remain available.

8 I assume he'll be here during the testimony of the
9 opposing expert as well?

10 MR. HAGAN: Yes, sir, your Honor.

11 THE COURT: Okay. Then you will be here or around
12 or back --

13 THE WITNESS: Yeah, back and forth.

14 THE COURT: -- back and forth, okay. Obviously
15 you are on call. I'll give you the same admonition, and
16 that is -- you are in the United States, though?

17 THE WITNESS: Yeah, Baltimore.

18 THE COURT: Okay. It's close. That's the United
19 States.

20 (Laughter.)

21 THE COURT: Within 48 hours, remain on call, would
22 you?

23 THE WITNESS: Sure.

24 THE COURT: Thank you very much, sir.

25 THE WITNESS: Thank you.

1 THE COURT: Counsel, I know that we were trying to
2 fly down a witness that was available. I assume he's here,
3 Mr. Orban?

4 MR. NOLL: John Norris, your Honor.

5 THE COURT: John Norris?

6 MR. NOLL: Yes.

7 All right. Call Mr. Norris.

8 MR. NOLL: Okay. The plaintiffs call John Norris,
9 head of NDS security NDS Americas.

10 THE COURT: Thank you.

11 Thank you, sir. If you'd be kind enough to raise
12 your right hand, please, and the clerk will administer the
13 oath to you.

14 MR. NOLL: Where is he?

15 THE COURT: There is Mr. Norris.

16 Mr. Norris, if you you'd come forward.

17 Thank you. My apologies. I had the wrong person.

18 Sir, if you'd raise your right hand, please.

19 JOHN NORRIS, PLAINTIFFS' WITNESS, SWORN

20 THE WITNESS: I do.

21 THE COURT: Thank you, sir.

22 If you'd please be kind enough to be seated in the
23 witness box to my left.

24 Now, sir, if you'd be kind enough to state your
25 full name for the jury.

1 THE WITNESS: John Carter Norris.

2 THE COURT: Can you spell your last name, please.

3 THE WITNESS: Norris, N-o-r-r-i-s.

4 THE COURT: And this is direct examination by --

5 MR. NOLL: Mr. Noll for the plaintiffs.

6 THE COURT: Mr. Noll on behalf of EchoStar and
7 NagraStar.

8 DIRECT EXAMINATION

9 BY MR. NOLL:

10 Q Good afternoon, Mr. Norris.

11 A Good afternoon.

12 Q We've met before, sir; is that correct?

13 A That's correct.

14 Q In fact, we've met a couple of times at depositions
15 you've given in this case; is that right?

16 A That's correct.

17 Q You work for NDS Americas; is that correct, Mr. Norris?

18 A Yes.

19 Q In fact, you are the head of NDS's conditional access
20 security in the United States, right?

21 A Yes. Yes, it is.

22 Q And DirecTV is a client of NDS?

23 A Yes.

24 Q NDS protects DirecTV's television signals by way of
25 providing software that goes into a Smart Card, correct?

1 A Essentially.

2 Q And focusing back to the 1997 time frame, DirecTV's
3 conditional access system was hacked, correct?

4 A Correct.

5 Q And you understood that DirecTV was considering
6 changing its conditional access provider from NDS, correct?

7 A I've -- I've heard that, but I don't recall hearing
8 that in 1997.

9 Q You did come to understand that in the late '90s,
10 DirecTV was considering changing its conditional access
11 provider, right, sir?

12 A It's possible.

13 Q I mean, possibly --

14 A I -- I don't recall the date, I'm sorry.

15 Q But the fact is you heard that, right?

16 A I've heard that, yeah.

17 Q And you understood that the conditional access provider
18 DirecTV was considering changing to was a company called
19 Kudelski, right?

20 A There were rumors.

21 Q And Kudelski is a company that owns the Nagra
22 conditional access technology, correct?

23 A Correct.

24 Q And you understand, sir, that EchoStar uses Nagra
25 conditional access technology, right?

1 A Yes.

2 Q Now, in the 1997 time frame, you also understand that
3 NDS hired an individual named Christopher Tarnovsky,
4 correct?

5 A Yes.

6 Q At the time NDS hired Mr. Tarnovsky, you knew
7 Mr. Tarnovsky was a very talented hacker, correct?

8 A Yes.

9 Q And to use your words, "Mr. Tarnovsky had substantial
10 skills when it came to hacking," correct?

11 A Yes.

12 Q And NDS decided in 1997 to hire Mr. Tarnovsky so that
13 you could learn from him, correct?

14 A That's fair, yeah.

15 Q And NDS also wanted to remove Mr. Tarnovsky from the
16 hacker community, correct?

17 A Yes.

18 Q In fact, NDS wanted to control Mr. Tarnovsky, correct?

19 A Yes.

20 Q You didn't want Mr. Tarnovsky hacking your systems
21 anymore; is that right?

22 A That's correct.

23 Q And you will agree with me, sir, that when NDS hired
24 Mr. Tarnovsky, you knew that Mr. Tarnovsky's work on DirecTV
25 Smart Cards was illegal, correct?

1 A He injured our -- our technology, yes.

2 Q But you would agree with me, sir, that his work was
3 illegal as it relates to what he was doing to DirecTV's
4 conditional access system.

5 A Yeah, that's true.

6 Q 1998, DirecTV's conditional access system was still
7 hacked, correct?

8 A Correct.

9 Q 1999, DirecTV's conditional access system was hacked,
10 correct?

11 A I believe so, yes.

12 Q 2000, DirecTV was hacked?

13 A I believe so.

14 Q 2001, DirecTV was hacked?

15 A Yeah.

16 Q 2002, DirecTV was hacked?

17 A I don't know if that's when we introduced our current
18 generation Smart Card that's not hacked. I -- I don't
19 recall the date.

20 Q Okay. Sometime DirecTV became secure, 2002, 2003 time
21 frame?

22 A When they introduced the P4. I don't recall the date.

23 Q Okay. But your testimony here today would be that
24 DirecTV became secure at some point in time, right?

25 A Yes.

1 Q And that was probably around the 2002, 2003 time frame?

2 A I don't recall the date.

3 Q Well, was it after that time frame?

4 A I'm sorry, I don't recall the date.

5 Q Okay. And you recall that News Corporation purchased a
6 controlling interest in DirectTV, correct?

7 A Yes.

8 Q And after News Corporation --

9 THE COURT: Counsel, we don't have the year.
10 That's eventually going to cause some confusion.

11 MR. NOLL: All right.

12 BY MR. NOLL:

13 Q What's your best testimony, Mr. Norris, here under oath
14 in front of this jury as to when DirectTV became secure?

15 MR. KLEIN: Objection, your Honor.

16 THE COURT: Well, I am going to sustain the
17 objection. I am going to put a stop to that for either
18 party. He knows he is under oath. All of the witnesses
19 know that they are under oath. I have ways of taking care
20 of that, Counsel. No witness needs a reminder, believe me.

21 MR. NOLL: Thank you, your Honor.

22 THE COURT: I am very effective with that.

23 MR. NOLL: Okay.

24 BY MR. NOLL:

25 Q Mr. Norris, can you tell us what your best estimate of

1 when DirecTV became secure is?

2 MR. KLEIN: Objection. Asked and answered, your
3 Honor. Calls for speculation.

4 THE COURT: Overruled.

5 THE WITNESS: When we introduced the fourth
6 generation Smart Card, I don't recall the date, sir.

7 BY MR. NOLL:

8 Q Okay. And you are aware that News Corporation
9 purchased a controlling share in DirecTV?

10 A Yes, sir.

11 Q And after that time, were you also aware that DirecTV
12 was secure as it relates to piracy of its system?

13 A Yes.

14 Q Now, changing gears and focusing back on Nagra and
15 EchoStar, before 1998, you understood that Nagra's
16 conditional access system was not hacked in the United
17 States, correct?

18 A Before 1998? I guess that's probably correct.

19 Q You don't have any reason to dispute --

20 THE COURT: Now, wait just a moment.

21 Do you know or not?

22 THE WITNESS: I don't know, sir.

23 BY MR. NOLL:

24 Q Let me ask you one more time.

25 A Sure.

1 Q Before 1998, did you ever have an understanding that
2 NagraStar's conditional access system was not hacked?

3 A I understood it wasn't hacked. I heard that.

4 Q Okay. You first learned that Nagra was hacked in the
5 late 1990s or early 2000, right?

6 A Yes.

7 Q And you came to understand that there was Nagra code or
8 data posted on an internet website called www.dr7.com?

9 A Correct.

10 Q And DR7 is a nickname for an individual named Allen
11 Menard, right?

12 A Yes.

13 Q And Mr. Menard, to your knowledge, ran the DR7 website?

14 A Yes.

15 Q And at a later point in time, Mr. Menard would enter
16 into a consulting relationship with NDS, correct?

17 A That's correct.

18 Q In fact, Mr. Menard entered that relationship with NDS
19 in 2003, correct?

20 A I don't recall the date.

21 Q Okay. We'll discuss it later, and I'll show you the
22 agreement.

23 A Sure.

24 Q Maybe that will refresh your recollection?

25 A Thank you.

1 Q I am going to ask you to turn to Exhibit 74.

2 Can you provide him with that, Christine, please?

3 A Thank you.

4 Q Can you identify Exhibit 74, Mr. Norris?

5 A It's a summary of -- of the Kudelski-NagraVision piracy
6 situation in approximately 2000.

7 Q And Exhibit 74 is an NDS document; is that correct?

8 A That's correct.

9 Q In fact, it's an operational security group document,
10 correct?

11 A That's correct.

12 Q And you were the head of operational security for NDS
13 Americas; correct?

14 A For Americas, yes.

15 Q Okay. You don't have reason to believe that Exhibit 74
16 is somehow not a true and correct copy?

17 A No reason.

18 Q Okay.

19 Plaintiffs offer Exhibit 74, your Honor.

20 THE COURT: It will be received.

21 (Plaintiffs' Exhibit No. 74 is received in
22 evidence.)

23 MR. NOLL: Can you pull it up, please.

24 BY MR. NOLL:

25 Q See at the top, there, it says "NDS Operational

1 Security Group."

2 A Correct.

3 Q That's the group we just talked about that you head up
4 for the U.S.

5 A No. That's the operational security group for the
6 global operation. I work for NDS Americas, which is part of
7 that global group.

8 Q Okay. Thank you for the clarification.

9 Now, if you focus your attention in the center, it says
10 "Nagra piracy situation, May 2000."

11 A Yes, sir.

12 Q Now, I want to direct your attention down to the middle
13 of the first page here on Exhibit 74, and I'll read it for
14 you. It says, "Chronicle of the Nagra hack"; do you see
15 that, sir?

16 A Yes, I do.

17 Q And I'll read for you, it says, "Chronicle on the Nagra
18 hack. In September of 1998, a well-known and respectable
19 hacking website known as DR7, <http://www.dr7.com>, created an
20 EchoStar section which provided a discussion forum as well
21 as a tools section for hackers." Did I read that correctly,
22 sir?

23 THE COURT: No, you didn't. It said for "other
24 hackers."

25 MR. NOLL: I'm sorry, "for other hackers." Thank

1 you, your Honor.

2 THE WITNESS: Yes.

3 BY MR. NOLL:

4 Q Did NDS believe that Mr. Menard's DR7 website was a
5 respectable hacker website?

6 A Yes. In this context, the respectable quote is
7 respected among the pirate community.

8 Q You respected Mr. Menard enough to hire him later on in
9 2003, right?

10 A We found his skills of value to us.

11 Q And you would agree, sir, that Mr. Menard was an
12 individual who was a member of the so-called "Old Boys"
13 group, correct?

14 MR. KLEIN: Objection. Vague and ambiguous, your
15 Honor.

16 THE COURT: Well, if you are familiar with that
17 phrase, in the pirate community. "Old Boys" group can be --

18 THE WITNESS: I haven't heard of that before, sir.

19 THE COURT: Okay. Sustained.

20 BY MR. NOLL:

21 Q I'm sorry?

22 A I don't know that I've heard "Old Boys" group before.

23 THE COURT: In relation to the pirate community,
24 Counsel.

25

1 BY MR. NOLL:

2 Q Do you know what the "Old Boys" group is, sir?

3 A I don't know that I've heard the "Old Boys" group
4 before.

5 Q As it relates to the pirate community?

6 A No.

7 Q You don't know?

8 THE COURT: Counsel, it's been asked and answered.
9 He does not know.

10 MR. NOLL: Well, your Honor --

11 Christine, if you could hand the Court page 318 of
12 Mr. Norris' exhibit, line 22 through 25.

13 THE COURT: Is this his deposition? Counsel, is
14 this his deposition?

15 MR. NOLL: Yes, your Honor.

16 THE COURT: Okay. Is there a contra answer in the
17 deposition of some kind?

18 What page, Counsel?

19 MR. NOLL: It's page 318, lines 22 through 25.

20 THE COURT: Well, Counsel, I'm not certain. I
21 think the fairest thing to do is let the witness refresh his
22 recollection. I don't know if that's impeaching at all. It
23 was a leading question, frankly, that you asked. He simply
24 agreed.

25 So why don't you take a look at that for a moment,

1 sir.

2 THE WITNESS: Thank you, sir.

3 THE COURT: Take a look at the bottom four lines,
4 and Counsel had asked you a question about the "Old Boys"
5 group, and then you stated "I agree."

6 MR. NOLL: Okay.

7 THE WITNESS: I did say "I agree." I never used
8 the "Old Boys" group --

9 THE COURT: You must be away from it.

10 Just read the question and --

11 MR. NOLL: I would like to refresh his
12 recollection.

13 If you would, Christine, hand him page 317, lines
14 22 through 25.

15 THE COURT: Pages I haven't seen yet. It's before
16 this page. Thank you.

17 Thank you very much, Counsel.

18 MR. NOLL: Okay.

19 THE COURT: You should have given me that page
20 first.

21 MR. NOLL: My apologies, your Honor.

22 BY MR. NOLL:

23 Q Mr. Norris --

24 Well, I'd like to direct his attention to it. Maybe it
25 will refresh his recollection. If not, maybe we need to

1 play the video.

2 THE WITNESS: Thank you, sir.

3 THE COURT: Right in the middle of the page.

4 And now, Counsel, you can read that in if you'd
5 like to.

6 MR. NOLL: Okay.

7 BY MR. NOLL:

8 Q Have you had a chance to refresh your recollection,
9 Mr. Norris?

10 A I have.

11 Q Okay. I am going to ask you again. Do you understand
12 the "Old Boys" group to be a group of Canadian residents
13 that modified and distributed hacked Smart Cards?

14 A I never heard of -- this was my expression at the time.
15 I never heard it as a published comment that this is an "Old
16 Boys" group. This is a statement that I made, it was an
17 "Old Boys" group. It was the "old guard."

18 Q Okay. But do you disagree that Mr. Menard was a part
19 of this, quote-unquote, "Old Boys" group as it was used in
20 your deposition --

21 A No.

22 Q -- that distributed hacked, modified Smart Cards?

23 A (No audible response.)

24 Q You don't disagree that Mr. Menard was a part of this
25 group --

1 THE COURT: Excuse me, Counsel. I think this is
2 taking too much time. Under 403, Counsel, this is duly
3 consumptive of time. Just read the question and answer.

4 Ladies and gentlemen, I caution you that
5 probably -- I don't know if there is an "Old Boys" group or
6 club running around. Maybe it was made in a vernacular,
7 like Mr. Menard's an oldtimer, that he's been around a long
8 time in the buisness of piracy and satellite insemination.

9 We are wasting a lot of time, Counsel.

10 MR. NOLL: That's fine.

11 THE COURT: Read it and do it now or move on.

12 MR. NOLL: All right. I think I can expedite
13 this.

14 THE COURT: Move on.

15 BY MR. NOLL:

16 Q You knew that Mr. Menard was a satellite pirate and
17 hacker, correct?

18 A I knew he ran a website.

19 Q Did you know he was a hacker and a pirate?

20 A We were never able to buy anything from him, so to say
21 he was a hacker and a pirate, we were never able to purchase
22 anything from him. He ran a website.

23 THE COURT: Just read the section. I am allowing
24 you to do that.

25 MR. NOLL: Okay. I'll read the section.

1 BY MR. NOLL:

2 Q Page 317:

3 "So there were a group of Canadian residents, correct?"

4 Answer: "Correct."

5 "That distributed modified or hacked Smart Cards,
6 correct?"

7 Answer: "Correct."

8 And I said, "You would agree with me, sir, that
9 Mr. Menard was one of the individuals of this 'Old Boys'
10 group?"

11 Answer: "I would agree."

12 THE COURT: Now, ladies and gentlemen, you can
13 decide whether there is an "Old Boys" group -- I'm just
14 joking with you -- or if that's a vernacular. Thank you.

15 Counsel, your next question.

16 MR. NOLL: Okay.

17 BY MR. NOLL:

18 Q Sir, I want to shift gears, Mr. Norris, and I want to
19 talk to you about Christopher Tarnovsky. And you've
20 testified that NDS hired Christopher Tarnovsky, correct?

21 A Correct.

22 Q He was a W-2 employees of NDS?

23 A Correct.

24 Q In other words, he wasn't a contractor or a 1099
25 employee, right?

1 A He was an employee.

2 Q You removed him from the pirate community?

3 A (No audible response.)

4 Q Yes?

5 A Yes.

6 Q You wanted to control him?

7 A Yes.

8 Q In fact, once Mr. Tarnovsky was removed from the pirate
9 community, you instructed him to develop a circumvention
10 device relating to DirecTV's conditional access system,
11 correct?

12 A That's correct.

13 Q And you knew that Mr. Tarnovsky was meeting with
14 satellite pirates in Canada about hacking DirecTV's
15 conditional access system, correct?

16 A Correct.

17 Q And you instructed Mr. Tarnovsky to give this
18 circumvention device to a satellite pirate, correct?

19 A I believe we gave him software. I don't recall that we
20 gave him a device.

21 Q Software to use in satellite piracy?

22 A Correct.

23 Q And you knew that by doing this, this satellite pirate
24 would be able to reprogram DirecTV Smart Cards, right?

25 A Correct.

1 Q And then you later knew that Mr. Tarnovsky received
2 cash payments stashed in electronic devices at his mailbox
3 in Manassass, Virginia, for these acts of piracy, correct?

4 A That's correct.

5 Q In fact, Mr. Tarnovsky would inform you when shipments
6 of cash would arrive to his mailbox; is that correct?

7 A That's correct.

8 Q You understood that the payments were for present and
9 future pirate acts he may commit against DirecTV's
10 conditional access system, correct?

11 A I believe it was for past support or pirated activities
12 and for what they intended to be future pirate activities.

13 Q And at this time Rubin Hasak was your direct superior,
14 correct?

15 A Correct.

16 Q And Mr. Hasak is the head of the global security group
17 for NDS, correct?

18 A Correct.

19 Q He is still your boss today?

20 A Yes.

21 Q And you reported to Mr. Hasak that Mr. Tarnovsky had
22 received approximately \$20,000 in cash at his Manassass,
23 Virginia, mailbox, correct?

24 A I don't recall that.

25 Q Did you speak to Mr. Hasak about Mr. Tarnovsky

1 receiving the cash?

2 A Yes, at the beginning, correct.

3 Q Isn't that the same thing as reporting it to Mr. Hasak?

4 A I understand he received it over a year or two-year
5 period, and I didn't report every time. I wasn't told every
6 time, as my memory serves me.

7 Q And to your knowledge, sir, Mr. Hasak had no problem
8 with that; isn't that right?

9 A Correct.

10 Q And in fact, concerning the cash, you instructed
11 Mr. Tarnovsky to keep the money, right?

12 A I instructed him to put it into an escrow account.

13 Q You didn't tell him to return it to the satellite
14 pirate, correct?

15 A I told him we would get it back at some point and
16 hopefully use it against the pirates.

17 Q But you never did get it back and use it against the
18 pirates, right, sir?

19 A Right, correct.

20 Q In fact, as of today, NDS has never gotten that cash
21 back from Mr. Tarnovsky; isn't that true?

22 A I believe that's correct.

23 Q You said Mr. Tarnovsky escrowed the money; did you say
24 that?

25 A He put it into an account like an escrow account.

1 Q You never had access to that escrow, did you?

2 A No.

3 Q And isn't it true, sir, that it's doubtful according to
4 you that you ever told DirecTV about the cash Mr. Tarnovsky
5 was receiving in the 1999 to 2000 time frame, correct?

6 A That's correct.

7 Q In fact, you never notified any government official or
8 any government agency that Mr. Tarnovsky was in possession
9 of this \$20,000 cash, correct?

10 A I don't recall notifying anybody.

11 Q Let's focus on what you did when you hired
12 Mr. Tarnovsky.

13 You didn't train Mr. Tarnovsky; isn't that correct,
14 sir?

15 A I didn't train Mr. Tarnovsky?

16 Q Yeah. You didn't give him any -- NDS didn't do
17 anything to train Mr. Tarnovsky for his job duties as an NDS
18 employee, correct?

19 A We supervised him.

20 Q You didn't give him any formal training, did you?

21 A Not that I can think of.

22 Q And you knew that Mr. Tarnovsky was analyzing codes
23 that were posted on the internet relating to piracy,
24 correct?

25 A Yes, he was analyzing DirecTV code.

1 Q And you also knew that some of the codes that he was
2 analyzing related to EchoStar's conditional access system,
3 correct?

4 A Later on, that's correct.

5 Q And sir, you are aware that EchoStar claims that
6 Mr. Tarnovsky posted his conditional access codes on the
7 internet; is that correct?

8 A I'm sorry, could you repeat that?

9 Q You were aware that EchoStar claims that Mr. Tarnovsky
10 posted EchoStar's conditional access codes on the internet.

11 A I'm aware of EchoStar's claims, yes.

12 Q Okay. Focus your attention on Exhibit 103, please.

13 THE COURT: Do you want to start there tomorrow;
14 would that be convenient?

15 MR. NOLL: That would be great, your Honor.

16 THE COURT: Okay. I think that's a logical
17 breaking point this evening.

18 You are admonished not to discuss this matter
19 amongst yourselves, nor form or express any opinion
20 concerning the case. We will see you at 8:00 tomorrow
21 morning. Please drive safely.

22 (The following proceedings is taken outside
23 the presence of the jury.)

24 THE COURT: Thank you, sir. You may step down.

25 THE WITNESS: Thank you.

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THE COURT: Now, if Mr. Saggiori is here, we can
commence now or start him at 5:30.

MR. HAGAN: I believe he is here, your Honor.

THE COURT: Okay. Why don't you get him.

(Live reporter switch with Sharon Seffens.)

(Volume V of the proceedings reported by
Sharon Seffens.)

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2 CERTIFICATE

3
4 I hereby certify that pursuant to Section 753,
5 Title 28, United States Code, the foregoing is a true and
6 correct transcript of the stenographically reported
7 proceedings held in the above-entitled matter and that the
8 transcript page format is in conformance with the
9 regulations of the Judicial Conference of the United States.

10
11 Date: April 17, 2008

12
13
14 _____
15 JANE C.S. RULE, U.S. COURT REPORTER

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