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

Day 16, Volume III

Defendants.

)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Jury Trial

Santa Ana, California

Tuesday, May 6, 2008

Jane C.S. Rule, CSR 9316

Federal Official Court Reporter

United States District Court

411 West 4th Street, Room 1-053

Santa Ana, California 92701

(714) 558-7755

08-05-06 EchoStarD16V3

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1		I	N D E X				
2							
3							
4	EXAMINATION						
5							
6	Witness Name	Direct	Cross	Redirect	Recross		
7	PELED, ABRAHAM						
	By Mr. Welch	4					
8	By Mr. Snyder		24				
9							
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1
              SANTA ANA, CALIFORNIA, TUESDAY, MAY 6, 2008
 2
                          DAY 16 - VOLUME III
 3
                               (1:05 p.m.)
 4
               (The following proceedings is taken in the
 5
          presence of the jury.)
 6
               THE COURT: All right. The jury is present.
                                                              All
 7
     counsel are still present, the parties, Dr. Peled.
 8
               Have a seat, sir.
 9
            DR. ABRAHAM PELED, PLAINTIFFS' WITNESS, RESUMED
10
               THE COURT: This Mr. Welch's continued
11
     cross-examination -- strike that -- direct examination, my
12
     apologies.
13
                    DIRECT EXAMINATION (Continued.)
14
    BY MR. WELCH:
15
          Okay, Dr. Peled. I just want to hit a couple of
16
    highlights with you, okay?
17
          (No audible response.)
18
          One of the areas we skipped over was a conversation
19
    about Al Menard. Do you know a man by the name of Al
20
    Menard?
21
          I don't know him, I know of him.
22
          You know that Mr. Menard is a distributor of pirate
23
    devices, correct?
24
          I know that he was the owner of the dr7 website.
25
          And that's the same website that the Canal+ code was
```

1 posted on, correct? 2 Correct. 3 And that Canal+ code that was posted, you were told by 4 Mr. Kommerling that that was posted by Chris Tarnovsky, 5 correct? Correct. 7 Okay. And I just want to make something clear while we 8 are talking about Mr. Tarnovsky and his hacking activities 9 and his posting. If we go back to this September 2001 10 dinner meeting at Trader Vic's in London, Mr. Kommerling 11 told you, or he repeated his allegation that Chris Tarnovsky 12 was involved in Nagra piracy. He's flat-out told you that; 13 yes or no? 14 He did not repeat it. This is the first time he 15 alleged that Chris Tarnovsky was involved in posting of the 16 EchoStar code. 17 MR. WELCH: Chad, could you -- or Mr. Ferguson, 18 could you show him page 119, lines 18 to 23. 19 THE COURT: Just a moment. 20 Counsel. 21 BY MR. WELCH: 22 I'm going to read the question to you, and you read the 23 answer that you gave me under oath on Wednesday. 24 My question was, "Tell me about the conversations as it 25 relates to satellite piracy."

```
1
          If you could slowly read your answer.
2
          Well, Mr. Tarnovsky again repeated his allegations that
 3
     Chris Tarnovsky was involved, and he also, at that point,
 4
     said he believes he was also involved in Nagra piracy.
5
          And then he also told you that Mr. Tarnovsky posted the
    EchoStar code, correct?
          That's what he said, yes.
8
          Now, so we know in 2001 that you're told that
9
    Mr. Tarnovsky's involved in Canal+ hacking and posting, and
10
    Mr. Tarnovsky is involved in Nagra or EchoStar hacking and
11
    posting of the EchoStar code. Did you -- after
12
     September 2001 when you learned that information, did you
13
     ever inform the plaintiffs of that information that you were
14
     told?
15
         No, I did not believe him at that point.
16
          Thank you.
17
          Now, did you tell anybody to go investigate
18
    Mr. Tarnovsky's hacking of the EchoStar system and the
19
    posting of the EchoStar code on the internet?
20
          I talked to Reuven right after that conversation, after
21
     that dinner conversation, and informed him about the new
22
     allegation that Oliver made, and he told me that he had
23
     investigated Mr. Tarnovsky --
24
         Now, this new allegation --
25
               THE COURT: Excuse me.
```

```
1
               And Oliver is Oliver --
2
               THE WITNESS: Oliver Kommerling. Sorry, your
 3
     Honor.
 4
    BY MR. WELCH:
 5
          So the first allegation that you had to investigate was
    Mr. Tarnovsky receiving the cash, correct?
          That investigation was in 2001, yes.
8
          And then you had to investigate him for posting the
9
     Canal+ code and posting the EchoStar code, correct?
10
          He was investigated about the Canal+ posting.
11
          Okay. And at no time did you fire him between -- okay,
12
     you learned about it in 2001. You've already investigated
13
    him about the cash. You know about these additional
14
     allegations, or the statements that -- where he admitted
15
     involvement in piracy and posting. You didn't fire him
16
     until 2007, approximately three or four days before his
17
     deposition, correct -- correct?
18
          Which is -- to which are you referring is correct?
19
          That you -- you knew about those things, but you didn't
20
     fire Mr. Tarnovsky until three days before his deposition?
21
          We had no reason to believe that Mr. Tarnovsky did any
     wrong -- anything wrong at that point.
23
          Why did you fire him?
24
          When certain evidence was produced to us in 2007 in
25
     connection with this trial, it raised the question about his
```

- 1 trustworthiness at that point, at which point Reuven
- informed me of a decision to fire him immediately.
- 3 Q Is Mr. Hasak a very good investigator?
- 4 A I believe so.
- 5 Q And did you task Mr. Hasak to investigate
- 6 Mr. Tarnovsky?
- 7 A Yes, Mr. Hasak was investigating that whole episode
- 8 over the time.
- 9 Q How did Mr. Hasak, if he is such a good security
- 10 investigator, miss the Hays County narcotics report that has
- all this information that links Mr. Tarnovsky to the cash?
- 12 A He did not have it.
- 13 Q So he just didn't follow up on that, huh?
- 14 A I can't comment on how he would have gotten it or -- I
- know that the moment it was brought to our attention, he was
- 16 fired.
- Q Okay. We know in the tax return, Mr. Tarnovsky's tax
- 18 return, which is Exhibit 782, there is an entry on there for
- 19 approximately \$7,500 that he received from Mr. Menard in
- 20 2000, cash. Were you aware that Mr. Tarnovsky in the year
- 21 | 2000 received this \$7,500?
- 22 A No.
- 23 Q You would have wanted to know that, correct?
- 24 A Well, obviously, now I would have wanted to know that
- 25 if it has anything to do with this allegation.

- 1 Q Would you have wanted somebody to tell you that from
- 2 NDS Americas?
- 3 A I relied on Reuven to conduct the operation of security
- 4 activities 100 percent, since Reuven was a man of impeccable
- 5 integrity and a very good professional.
- 6 Q Okay. You knew that Mr. Tarnovsky and Mr. Kommerling
- 7 were friends or acquaintances, correct?
- 8 A No, they met each other for the first time at this
- 9 event in Israel where they had a big crowd.
- 10 Q And when was that?
- 11 A I think it was in -- sometime in the Summer of 2001.
- 12 Q Okay. Now, I want to talk to you about you first
- 13 | learned of EchoStar's claims in September of 2002, correct?
- 14 A Yes.
- 15 Q In September 2002, you knew that EchoStar believed that
- NDS was behind the hacking of its system, correct?
- 17 A Yes.
- 18 Q Okay. And at the time that EchoStar moved to intervene
- 19 in the Canal+ litigation, EchoStar had made a bid for
- 20 DirecTV, correct?
- 21 A Yes.
- Q Okay. And that bid was unsuccessful, that transaction
- was not able to close, correct?
- 24 A Well, I think it was opposed by the government.
- 25 Q Do you know if Mr. Murdoch -- if you can -- you can

- 1 look at your notes, which are 2059.
- 2 A What is 2059?
- 3 Q 2059 is your relevant time line prepared by you and
- 4 your attorneys.
- 5 A Yes.
- 6 Q Go to the last page. Do you see the October 2002?
- 7 A Yes.
- 8 Q Does that refresh your recollection that Mr. Murdoch
- 9 lobbied the FCC to block EchoStar's purchase of DirecTV?
- 10 A Well, I believe it was known that News Corp opposed
- 11 that merger.
- 12 Q And News Corp actually lobbied FCC against that merger,
- 13 | didn't it?
- 14 A As many other organizations did.
- 15 Q Is the answer "yes"?
- 16 A The answer was "yes."
- Q Okay. So News Corporation ends up getting the
- 18 | successful bid in April 2003, correct?
- 19 A News Corp made a bid in 2003, yes.
- 20 Q So would you agree with me that there is no way -- if
- 21 EchoStar filed its claims in September of 2002, there is no
- 22 | way that this lawsuit or these claims could be in any way
- retaliation for Murdoch and News Corporation obtaining
- 24 DirecTV?
- 25 A No.

```
1
          Is my statement correct that it's not retaliation?
2
          No, I said I don't agree with your statement.
 3
          You think that if they filed a lawsuit six months
 4
    before you get to -- the winning bid, that that's somehow
5
     retaliation for you getting the winning bid?
          This lawsuit was filed in June, six days before
7
    EchoStar lodged an objection to the FCC for the acquisition
8
     of -- by News Corp of DirecTV, and this lawsuit was cited as
9
     one of the reasons why the FCC should not approve DirecTV
10
    being bought by News Corp, shares of DirecTV being bought by
11
    News Corp.
12
          But these very same allegations were lodged in
13
     San Francisco nine months earlier, weren't they?
14
         Correct.
15
          I want to go back and talk about NDS's marketing, okay?
16
               THE COURT: And you mean -- by "the same
17
    allegations," you are referring to Canal+?
18
               MR. WELCH: The allegations that were --
19
               THE COURT: This has to be unclear to the jury.
20
               MR. WELCH: Okay.
21
    BY MR. WELCH:
22
          EchoStar moved to intervene in the Canal+ litigation,
23
     correct, in September of 2002?
24
          That was -- that was in September 2002.
25
         And EchoStar's claims as part of that motion to
```

- intervene were that NDS was involved in the hacking and the posting of the EchoStar code, correct?

 A Correct.
- Q And that was of EchoStar's code, correct?
- 5 A That was the EchoStar claim.
- Q Okay. Going back to NDS's marketing efforts. I just
 want to be clear on this. One of the things that your
 marketing people do when they are talking to incumbent
 customers or potential customers is they tell these
- 10 customers that your competitors' systems are hacked,
 11 correct; yes or no?
- A As I pointed out earlier, our marketing people provide information to the sales or account management people, and they are the ones that deal with the subject, and if, indeed, the subject of piracy comes up, they provide information on piracy from -- available from public
- MR. WELCH: Mr. Ferguson, could you show him page 150, lines 11 through 15.
- THE COURT: All right, Counsel.
- 21 BY MR. WELCH:

information.

17

22 Q I am going to read the question, if you could read -23 THE COURT: Counsel, there is no -- there's no
24 reason to read it. He doesn't differ with his answer. So
25 reask the question if you think there is a difference.

1 BY MR. WELCH:

- Q Do your marketing people tell potential customers that your competitors' systems are hacked if they are hacked?
- ⁴ A They provide that information.
- 5 Q Thank you.

Now, I want to go to this document issue. You are not aware of any evidence that any of the plaintiffs -- the documents that I'm talking about are the Ray Adams hard drive documents, okay? You are not aware of anything that EchoStar or NagraStar did with these documents outside of this litigation, are you, sir?

12 A No.

7

8

9

10

11

17

18

19

20

21

22

23

- Q And you cannot tell the jury one dollar's worth of

 damage -- I am talking about quantifying damages here. You

 cannot quantify any damages that NDS has suffered related to

 this hard drive and the documents on it, can you?
 - A Well, the information that has been disclosed can cause potential significant harm to NDS. It had a lot of information that had nothing to do with this litigation. It was very detailed technical information about the P3, about P4, which could in -- to the wrong people provide a shortcut for technology that we spend a couple of years developing at the cost of 15 to \$20 million.
- Q I am not talking about potentials here. Can you tell
 me any damages that you have quantified that somebody has

- 1 | put pen to paper related to the Ray Adams documents; there
- 2 is none, is there?
- A As I said, if the information was provided to people
- 4 that can use it to have a shortcut, then it provides a lot
- of information that cost us money, as I said, on the order
- of 15 to \$20 million to develop that technology, that
- 7 know-how and those insights.
- 8 Q Did you ever task anybody to go out and perform an
- 9 investigation into who Nipper was; you never did that, did
- 10 you?
- 11 A I did not.
- 12 Q You understand that's kind of the central point of this
- 13 litigation, correct?
- 14 A Well, obviously, it's part of that litigation.
- 15 Q Okay.
- 16 A We spent a lot of money to find out who Nipper was.
- 17 Q And it's your view you don't know who Nipper is,
- 18 correct?
- 19 A I believe that our lawyers will identify who Nipper
- 20 was.
- 21 Q You don't have any clue who Nipper is, do you?
- 22 A I obviously have not done personally any investigation.
- Q And nobody within NDS has told you who Nipper is,
- you're just relying on these lawyers, correct?
- 25 A Yes, I'm relying on the lawyers and their investigators

- and -- and a lot of effort expended on identifying who was
- behind the two postings, and I believe that one was clearly
- 3 | identified as having nothing to do with NDS.
- 4 O Now --
- 5 A The other one, I believe, was being identified as well.
- 6 Q I want to talk to you about the successful steps in
- 7 piracy, okay?
- 8 A Successful?
- 9 Q In other words, to be -- to have a successful pirate
- operation, you have to go through certain steps, correct?
- 11 | A I don't know. I've never been involved in anything
- 12 like that.
- 13 (Laughter.)
- 14 BY MR. WELCH:
- 15 Q Would -- would you agree with me that the steps in
- successful piracy are, number one, you have to reverse
- engineer the product; number two, you have to extract the
- 18 keys; number three, you then design pirate tools; and number
- 19 four, you distribute the pirate tools? Would you agree with
- 20 me those are the keys to a successful hack and a successful
- 21 pirate job?
- 22 A I don't know. I think it depends on the particular
- 23 card and on the particular system.
- \mathbb{Q} Would you agree with me that if somebody did those four
- 25 steps, that would be a successful hack?

- 1 A As I said, I don't know.
- 2 Q Have you ever given a presentation related to the
- 3 | hacking of proprietary information?
- 4 A No.
- 5 O You never have?
- 6 A A presentation --
- 7 Q Of any type of proprietary information?
- 8 A I'm sorry.
- 9 Q Of proprietary information, you've never given a
- 10 presentation about the hacking of proprietary information or
- 11 intellectual property?
- 12 A I'm not sure what you are talking about.
- 13 Q Mr. Ferguson, could you give him Exhibit 2063.
- This is a presentation prepared by NDS, correct?
- 15 A This is a presentation prepared by me, actually.
- Okay. And if you could go to -- I'll find it --
- 17 page 6, 2063-6.
- And this is a page entitled "Attack template," correct?
- 19 A Correct.
- 20 Q And this relates to intellectual property in the
- 21 hacking of consumer electronic devices that contain
- 22 intellectual property, correct?
- 23 A This was a keynote presentation at the international
- broadcasting convention in which I talked about the dangers
- 25 that new technologies like ubiquitous broadband and other

- 1 | new consumer electronics present to content, which is why
- the title, "Can Content Remain King?"
- 3 Q And you are in the -- News Corp is in the content
- 4 business, correct?
- 5 A Among others, yes.
- 6 Q If you could go to this -- the first section on the
- bottom, it's got various things, and it has a "stage zero";
- 8 do you see that?
- 9 A Yes.
- 10 Q And the first thing is "hacking," correct?
- 11 A Yes.
- 12 Q And the first step is "reverse engineer," correct?
- 13 A Yes.
- 14 Q The next thing in "hacking" is "extract keys," correct?
- 15 A Correct.
- 16 Q And you have different types of keys in conditional
- access. You have box keys, and you have card keys, correct?
- 18 A It depends on the -- on the individual conditional
- 19 access system.
- 20 Q And the EchoStar system had box keys and conditional
- 21 access keys, correct?
- 22 A This particular presentation actually was focusing on a
- more general consumer electronic, I believe it's software as
- well as hardware, and so on.
- Q Okay. The next thing in a successful hack is "design

- 1 pirate tools," correct?
- 2 A Correct.
- Q And a pirate tool would be a reprogrammer in
- 4 conditional access?
- 5 A In this particular case, actually, I was -- I was
- 6 talking about the DVBs, which was as you -- if you look at
- 7 | the continuing presentation, was presented as the biggest
- 8 | source of piracy for movies, and so on.
- 9 Q But a hack is a hack, correct? There are steps to a
- 10 hack. Whether it's consumer electronics or it's conditional
- 11 access, you go through the same methodology, don't you?
- 12 A Well, there are certain elements that are similar,
- obviously.
- 14 Q Okay. And so far we've gone through reverse engineer,
- extract the keys and design pirate tools, correct?
- 16 A Correct.
- 17 Q And the pirate tools would be a reprogrammer, correct?
- 18 A A reprogrammer could be a pirate --
- 19 Q Are you aware that Christopher Tarnovsky built a
- 20 reprogrammer for NDS called the Stinger?
- 21 A The Stinger, as far as I know, was a tool that we built
- 22 to assist law enforcement agencies in prosecuting pirates.
- 23 Q It was a reprogramming device that could be used to
- 24 reprogram cards, correct?
- 25 A I believe it was built to assist law enforcement

- agencies and our intelligence operations to identify
- 2 | illegitimately or illegally programmed cards.
- Q And the next step is to distribute those pirate tools
- 4 to the pirate community, correct?
- 5 A Correct.
- 6 Q And the conditional access area, that would be a
- 7 | successful hack, wouldn't it, if you could reverse engineer
- 8 it, extract the keys, build a device, and have that device
- 9 distributed throughout a pirate distribution network such as
- 10 Al Menard's, correct?
- 11 A Well, it depends on the nature of the hack to what
- 12 extent it would sustain any electronic countermeasures or if
- 13 it was --
- 14 Q Let's talk about just a hack in the first place before
- we even get to electronic countermeasures.
- 16 A Uh-huh.
- 17 Q That would be a successful hack, wouldn't it?
- 18 A That would be a successful compromise, yes.
- 19 Q Thank you.
- Now, I want to talk about DirecTV, and then I think I'm
- going to be done.
- In the Summer of '98, if we go from the Summer of '98
- to the Summer of '99, when you had the one-year extension,
- you were able to increase your card sales by 41 percent,
- 25 | correct? We can look at the IPO if you need to.

```
1
          Well, it's quite possible this was a period when Sky
2
     Digital just launched. We launched a number of other
 3
    platforms, so I don't remember exactly what it was
 4
     attributable to.
5
          Okay. Now, I want to focus on '99, okay. In August
     '99, we have the four-year deal.
7
          Are you aware of PrimeStar?
8
         Yes.
9
          Okay. Could you tell the jury what PrimeStar is?
10
          PrimeStar was a medium power satellite platform set up
11
    by the cable companies in the United States, or a joint
12
    venture to offer satellite paid TV to areas that were not
13
     covered by cable, and therefore, was a competitor to both
14
    DirecTV and EchoStar at the time.
15
         Okay. If we go to the August '99 time period, you have
16
    what would be normal subscriber growth, okay? Let's take
17
     DirecTV, and it's just going to go through normal growth;
18
    are you with me?
19
          Yes.
20
          Okay. In 1999 after you entered into the contract,
21
    DirecTV didn't just experience normal growth, it experienced
     exponential growth, because it obtained the PrimeStar
23
    subscribers, correct?
24
         Well, as a --
```

25

We can look at --

```
1
          It's not exponential. It obviously was increased
 2
     growth. PrimeStar had 2 million subscribers, which over
 3
     time were replaced by DirecTV subscriptions.
 4
          Could you turn to page 55, your IPO, which is
 5
    Exhibit 2060.
    Α
         Page?
 7
         Page 55.
 8
          Do you see where it talks about PrimeStar?
 9
          Yes.
10
          And I'm going to read it to you. It says, "As of
11
     June 10th, '99" --
12
          Do you find that, Clint?
13
               THE WITNESS: Yes.
14
    BY MR. WELCH:
15
         "As of June 10th" --
16
               THE COURT: Well, just a moment, Counsel.
17
    jury can't follow. Where are you?
18
               MR. WELCH: I don't have the exact in front of me.
19
               THE COURT: Well, walk over to the gentleman over
20
     there and blow it up for the jury.
21
    BY MR. WELCH:
          The first -- the first paragraph under "DirecTV
23
     operations."
24
               THE COURT: Well, walk over there and find it.
25
               MR. WELCH: Did you find it, Clint?
```

```
1
    BY MR. WELCH:
 2
          It says "As of June 10th, 1999, DirecTV" --
 3
               THE COURT: No, Counsel, I'm not going to have
 4
     this take place. The jury can either follow it or they
 5
     can't.
 6
               MR. WELCH: I'll read it for --
 7
               THE COURT: If they can't follow it, get it off
 8
     the screen.
 9
               MR. WELCH: I'll read it from his screen.
10
               THE COURT: No. You are going to blow it up.
11
               MR. WELCH: Can you blow it up, Clint.
12
               THE COURT: If it's important enough to put up on
13
     the board, you are going to blow it up and find it.
14
               MR. WELCH: It says "As of June 10th" -- I'll tell
15
     you what, can you just read it to us.
16
               THE WITNESS: Can I read this?
17
               THE COURT: That's not the point. Apparently, I'm
18
     not communicating. I want the jury to be able to see these
19
     diagrams if they go up on the board. Otherwise, they are
20
     not going up. Blow that up.
21
               MR. WELCH: Can you blow that up any better,
22
     Clint.
23
               That's the biggest we can get it, your Honor,
24
    without it bleeding over.
25
               THE COURT: Now that's blown up.
```

```
(Laughter.)
2
               MR. WELCH: May I go ahead and read it, your
3
     Honor?
 4
               THE COURT: Go ahead.
5
    BY MR. WELCH:
          "As of June 10th, 1999, DirecTV U.S. subscribers were
     using approximately 6.8 million Smart Cards that we have
8
     supplied. With its recent PrimeStar acquisition, DirecTV
9
    has added approximately 2 million subscribers. Over the
10
    next 18 months, DirecTV will offer to migrate all of
11
    PrimeStar's subscribers to DirecTV's high-power satellite
12
     service, which uses our conditional access system."
13
          Do you see that, sir?
14
    Α
          Yes.
15
          Do you agree with me that the August 1999 four-year
16
    extension made that possible for you to obtain the PrimeStar
17
     subscribers and have them utilize the NDS system through
18
    DirecTV?
19
        Of course.
20
               MR. WELCH: I have no further questions, your
21
    Honor.
22
               (Interruption in the proceedings.)
23
               THE COURT: All right. Counsel, this is
24
    cross-examination by Mr. Snyder.
25
               MR. SNYDER: On behalf of NDS, yes. Thank you,
```

```
1
     your Honor.
2
               THE COURT: On behalf of NDS.
 3
                           CROSS-EXAMINATION
 4
    BY MR. SNYDER:
5
          Good afternoon, Dr. Peled.
        Good afternoon.
          Doctor Peled, do you have a Ph.D?
8
          Yes, I do.
9
          Could you briefly describe for the jury your
10
     educational background?
11
          Well, I have a BSc and -- a bachelor in science and
12
    master's in science degree from the Technical Institute of
13
     Technology, and I have a master's and a Ph.D from Princeton
14
    University, all in electrical engineering. The Ph.D was in
15
     a specialty called digital signal processing.
16
          Do you have any noteworthy publications, Dr. Peled?
17
          Well, I've written the first textbook on digital signal
18
    processing, and it was quoted with my professor at
19
     Princeton. It was published by John Wiley in 1976, and I
20
    have authored numerous scientific papers.
21
          Dr. Peled, do you hold any professional honors or
22
     designations?
23
          I am a fellow of the Institute of Electrical and
24
    Electronic Engineers.
25
          Okay.
```

- 1 A I was a member of the Computer Science and
- 2 Telecommunications Board of the National Academy of Sciences
- for about 40 years.
- 4 Q Approximately what percent of engineers are awarded
- 5 | the -- the distinction "fellow" of the IEEE?
- 6 A I believe it's approximately 1 percent.
- 7 Q Dr. Peled, before you joined NDS, could you briefly
- 8 describe for the jury your professional experience?
- 9 A Well, I joined the IBM research in the Watson Research
- 10 Center in New York as a research scientist in 1974 after
- finishing Princeton. And until 1980, I worked in various
- 12 research capacities in the area of digital signal
- processing, including spending two years in Israel with the
- 14 | IBM Science Center in Israel.
- And in 1980, I moved into research management, and my
- last position with IBM was from 1985 to 1993 as vice
- 17 president of IBM's global research division, was
- 18 responsibility for all research activities and software
- 19 systems, communications, essentially everything that was not
- 20 hardware, which included five labs, three outside of the
- 21 United States.
- 22 Q Dr. Peled, while you were at IBM, did you become
- familiar with their reverse engineering activities?
- 24 A Only peripherally. IBM did have a separate facility
- 25 for reverse engineering of competitive products.

- Q Okay. And what was the purpose of IBM's reverse
- 2 engineering of competitive products?
- 3 A Well, it's a common practice in the industry to
- 4 understand the competitive makeup of products, and is done
- 5 in every industry, I believe, not just high tech.
- 6 Q And Dr. Peled, you joined NDS in 1995?
- 7 A Correct.
- 8 Q How did you come to join NDS?
- 9 A I was recruited by Greg Clark, who was, at that time,
- 10 the chief technology officer of News Corp.
- 11 Q And did you join NDS as its CEO?
- 12 A I joined NDS as the CEO. There were a number of
- transformations in the companies that eventually became NDS.
- Q Dr. Peled, when you joined NDS, what was the
- relationship between NDS and News Corp?
- 16 A NDS was a wholly owned subsidiary of News Corp.
- Q Okay. And at the time that you joined, what -- can you
- describe for the jury the relationship between -- the
- 19 operational relationship between NDS and News Corp.
- 20 A Well, it was a separate stand-alone company, and
- 21 clearly, News Corp had an interest in its success.
- 22 Q Okay. Does -- what role does News Corp play in making
- 23 decisions for NDS?
- 24 A We do have an annual review of our budget and our plan
- 25 | for the year, and that review -- the accomplishments of the

- 1 previous year are reviewed, and the budget and plan for the
- 2 next year is reviewed and approved, typically.
- 3 Q Okay.
- 4 A That's the typical operational engagement we have.
- 5 Q And other than that annual review, is -- does News Corp
- 6 have any other involvement in the operations of NDS?
- 7 A News Corp gets, of course, monthly reports from the
- financial side of the business, but operationally, no, we
- ⁹ are very independent.
- 10 Q Now, you -- earlier this morning, there was some
- discussion about the NDS board of directors. Does
- 12 Mr. Murdoch sit on the NDS board of directors?
- 13 A No.
- 14 Q Has Mr. Murdoch ever sat on the board of NDS?
- 15 A No.
- 16 Q Does Mr. Murdoch have any role in the operational
- decisions at NDS?
- 18 A No.
- 19 Q Has that always been true?
- 20 A Yes.
- 21 Q Now, this morning you mentioned a loan that -- a
- 22 | \$200 million loan that News Corp had granted to NDS; do you
- 23 recall that?
- 24 A Yes, as part of our restructuring prior to the IPO, we
- 25 did have a -- when we went public, we did have a loan of

- 1 \$200 million to News Corp.
- 2 Q And was that loan created in the process of making the
- 3 | company ready to go public?
- 4 A Yes, there were various assets that were neither part
- of News Corp that were all consolidated under NDS Group, PLC
- 6 in order to go public.
- 7 Q So that loan was a necessary part of getting all of the
- 8 approvals, et cetera, for it to go public?
- 9 A It was part of the process of going public.
- 10 Q And when was that loan repaid?
- 11 A That loan was repaid over the next few years. I don't
- remember exactly, but we had the repayment schedule. It was
- 13 all fully repaid.
- 14 Q Okay. Does NDS sometimes use News Corp services?
- 15 A Yes, NDS has a management services -- management
- services contract with News Corp, and we use a number of
- 17 News Corp services as appropriate.
- 18 Q Does -- can you give the jury a couple of examples of
- 19 those kinds of News Corp services that it would use?
- 20 A Well, for example, internal audit is used. We use
- 21 internal audit. We get support on litigation from News Corp
- 22 lawyers. We often get payroll services. We get pension
- 23 services from different entities of News Corp.
- Q And does NDS pay for those services?
- 25 A Of course. They are all reimbursed cross-charges

- 1 across the companies.
- Q Now, as a -- does the relationship between NDS and News
- 3 | Corp have any impact on NDS's sales?
- 4 A Well, News Corp is obviously quite active in the area
- of paid TV, and it's -- to some extent, we compete for
- 6 business where News Corp is the owner. Sometimes they are a
- 7 | majority owner, sometimes they are a minority owner. All of
- 8 | those are done arms' lengths. And approvals for such, since
- 9 we've been public, obviously go to our audit committee, and
- if the other company is also a News Corp-related entity, it
- goes to their audit committee as well --
- 12 Q Does NDS --
- 13 A -- for approval.
- 14 Q Does NDS sell to competitors of News Corp?
- 15 A Yes.
- 16 Q Did you ever discuss with anyone at News Corp NDS's
- ability to sell to News Corp competitors?
- 18 A When I was first recruited to run NDS, I pointed out
- 19 that in my view, the ability of NDS to compete in the open
- 20 marketplace is essential to us being a competitive
- 21 technology company, and I received the reassurance that NDS
- 22 | would be allowed to sell, not only to News Corp related
- companies or companies that News Corp has no business with,
- 24 but also to News Corp competitors.
- Q Has anyone at News Corp ever attempted to interfere

- with NDS's ability to sell to competitors?
- 2 A Never.
- Q Has anyone at News Corp ever suggested to you that it
- 4 would be good if NDS's competitors were hacked?
- 5 A No, definitely not.
- 6 Q Has anyone from News Corp ever suggested to you that it
- 7 | would be good if some competitor of a News Corp company were
- 8 hacked or pirated?
- 9 A No, the same answer, definitely not.
- 10 Q Has anyone from News Corp ever suggested that NDS
- should participate in the piracy of any system whatsoever?
- 12 A Never.
- 13 Q Now, Dr. Peled, when you joined NDS, did you adopt a
- particular strategy for the future of the company?
- 15 A Well, of course. I joined NDS. I saw it as a major
- 16 challenge. I thought that it was the dawn of digital
- 17 | television. I learned about our technology, about the state
- of the market, the issues that customers have, and the
- 19 result, I adopted the business strategy and the technology
- 20 strategy.
- In the technology area, it was clear to me that our
- 22 Achilles' heel was the chip used in the Smart Card. Given
- 23 my prior experience, broad experience in research with IBM,
- I believe that we could do a much better job in there. I
- was very unsatisfied with the performance of the company to

that point, and I proceeded to invest considerable amounts of money, hundreds of millions of dollars in research and development on a three-pronged approach specifically on the security side.

One is to upgrade our technological capabilities through the design of unique silicone chips that would be difficult to compromise certainly raise the bar considerably; second, to set up an operation of intelligence activity to understand the threat and be able to combat it, and so the corporation with law enforcement agencies to combat piracy in the market.

Q Now, you said that you were dissatisfied with the state of NDS's technology when you arrived. What do you mean by that?

A Well, I mean, it was quite clear that the chips that we were using, which were typically off the shelf, were not secure enough and were compromised quickly. And while it may have been the case that the original concept was that operators will change cards on a periodic basis, when it came to it, they clearly did not like it, and I felt that we could do a much better job. I embarked on a strategy of zero piracy, and I'm proud to say that we have achieved that within a few years.

Q Okay. How has improving NDS's technology improved NDS's competitive position?

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1
          Well, I -- I'm a big believer -- coming, obviously,
     Α
2
     from research, I'm a big believer in the -- in the fact that
 3
     if you spend a lot of money on research and development
 4
     effectively, you are going to benefit from it, and so we
 5
     immediately -- I actually doubled the research and
 6
     development team. I hired people with experience in
 7
     silicone design. We also decided to try and find people
8
     that understand the methods of attack, and we got some
9
    brilliant people that were ex-hackers involved, because it
10
     was clear to me that these people think out of the box, and
11
     that our engineers had to understand that in order to be
12
     able to design chips that will withstand such attacks.
13
          How much -- just to give the jury some sense, how much
14
     did NDS spend on R and D last year?
15
          Last year our revenues were 700 and a little bit
16
    million, and we spent on the order of 25 percent, so that
17
    will be 170 million, give or take.
18
          How does that compare to NDS's competitors?
19
          Well, I think that in the -- I started with that right
20
     away, and in the early days, I was always asked when we
21
     first went public by analysts that covered some of our
22
     competitors, why is NDS spending three times as much on
23
     research and development as our competitors. So I believe
24
     that we early on started outspending our competitors,
25
    because we believe that we will open a technological gap,
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- 1 which indeed we did.
- 2 Q And is part of that money spent on designing custom
- chips, as opposed to using off-the-shelf chips?
- 4 A In the security arena, that was obviously the key
- 5 | focus, was to design custom chips. And not only that, but
- 6 to have different unique chips from different manufacturers
- 7 for different customers so that if there is a compromise of
- 8 one of them, it doesn't -- it's not like a -- affecting
- 9 other customers, and that has turned out to be very
- 10 successful.
- 11 Q Is NDS unique in providing custom chips to each
- 12 customer?
- 13 A And as far as I know, among our Smart Card competitors,
- definitely. I don't know exactly what Motorola and
- 15 Scientific Atlanta do.
- 16 Q Is it more expensive to design a custom chip for each
- 17 customer?
- 18 A Well, clearly. Designing a custom chip is typically an
- 19 investment of anywhere from 10 to \$20 million, depending on
- 20 the complexity of the chip, including special, non-recurring
- 21 engineering that we pay to the semiconductor facility. So
- 22 that, yes, obviously cost us money, but it was money I
- 23 believe well spent.
- Q Now, there was some testimony this morning, Dr. Peled,
- about the P4 chip. What is the P4 chip?

- A The P4 chip is the chip that we developed for DirecTV starting after August '99 as part of the new conditional access supply agreement.
- Q And approximately how much did NDS spend develop -- in R and D developing the P4 chip?
- A I can't be precise, but I said it was a more complex

 chip, so I would say on the order of 15 to \$20 million.

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- Q All right. Now, one of the things that you mentioned,
 Dr. Peled, as part of increasing the technological effort,
 was hiring former hackers?
- 11 Yes, we did hire two people that were considered quite 12 brilliant, and I think they indeed were -- as I said, these 13 are people that are self-educated. They don't think like 14 educated engineers that would never think of putting --15 applying a 30-volt signal to something that's supposed to 16 get 3 volts and see what happens, or just put a marker over 17 a pin, and I thought that that thinking was absolutely 18 essential in order to develop chips that would withstand 19 attacks. I might add that in the security arena, this is 20 quite common, because -- and I know that in the banking 21 arena, people have been used that had, you know, prior were 22 penetrating security, and so on. So I thought that it is a 23 necessary element of our upgrading the technology.
 - Q Now, Dr. Peled, the jury has heard a fair amount of testimony about the Haifa research center. Whose decision

- 1 | was it to create the Haifa research center?
- 2 A It was my decision.
- 3 Q Why did you make that decision?
- 4 A Well, as I said, one of the critical elements was to
- 5 understand the methods of attack, be able to attack our own
- 6 chips during the design in a kind of arm's length
- 7 | relationship, which is why we set it up separate from our
- 8 normal research and development facilities so that we limit
- the exchange of information, and indeed, have a tension
- 10 between the two.
- 11 Q And what do you mean by "a tension between the two"?
- 12 A Well, obviously, there can't be exchange of
- 13 information, and they were, you know, trying to penetrate
- 14 the chips that were developed by our engineers in Jerusalem.
- 15 On the other hand, we had to be able to capture the know-how
- 16 that arrive from both reverse engineering our own chips, as
- well as competitor chips, and translate these into what we
- 18 | call the cookbook. The cookbook specifies the design
- 19 methods, the pitfalls that engineers should look for when
- 20 designing securer chips.
- 21 Q Dr. Peled, you mentioned reverse engineering of
- 22 competitor chips. Whose decision was it to reverse engineer
- competitor chips at the Haifa research center?
- 24 A I instructed, when we set up the lab, the charter that
- we gave them in order to really understand mistakes that

- 1 people make. I said we should also reverse competitive
- 2 chips.
- Q Did you ever identify any specific chips that should be
- 4 reversed engineered?
- 5 A No. As I said, I was not involved in the daily
- 6 operation of the -- of the facility.
- Q Did you ever -- have you ever received any reports of
- 8 | the specific work done at the Haifa research center?
- 9 A No.
- 10 Q Have you ever discussed with them which specific chips
- or projects they would do at the Haifa research center?
- 12 A No. It was managed locally.
- 13 Q Now, Dr. Peled, you mentioned that you had a three-part
- 14 strategy. What was the second part of your strategy?
- 15 A The second part was to set up an intelligence gathering
- operation, both field, as well as internet research, so that
- 17 | we know the enemy and understand the threat and try and
- 18 identify it.
- 19 Q How much attention was NDS paying to intelligence or
- operational security when you joined the company?
- 21 A Well, there was some. It was subcontracted out to an
- 22 outside investigative firm, and I thought was quite weak.
- Q And -- and how did you change that emphasis?
- 24 A I hired Mr. Hasak, who had an outstanding background in
- 25 intelligence in the Israeli Secret Service where he was

1 deputy head. Another factor in Mr. Hasak, that he was a 2 person of impeccable integrity whose integrity was tested in 3 the most difficult of circumstances where he was a 4 well-known figure in Israel, where he was not prepared to 5 participate in a cover-up, gave up his career, which a next 6 step would have been the head of the Secret Service, and 7 actually cause the government to fall as a result of that --8 his unwillingness to participate in a cover-up of an illegal 9 act inside the Secret Service. 10 And did Mr. Hasak's background give you confidence in 11 his integrity? 12 Definitely. 13 Do you still have confidence in Mr. Hasak's integrity? 14 Yes, Mr. Hasak is a person of outstanding integrity. 15 Now, I'd like to spend a moment talking about some of 16 the specific things that you did to improve, or that NDS did 17 to improve its operational security. 18 Did -- was NDS the first conditional access company to 19 have an anti-piracy program? 20 I can only refer to Smart Card-based companies. 21 believe the general instrument, which is now Motorola, had 22 the secure -- had an equivalent of an operational security 23 team, as I believe that Scientific Atlanta in the United 24 States. I don't believe that any of our competitors at that

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time had such activity.

- 1 Q Was NDS the first Smart Card company to recruit
- 2 professional security and intelligence people?
- 3 A I believe so.
- 4 Q Was NDS the first Smart Card company to take an active
- 5 | role in anti-piracy organizations?
- 6 A I believe so.
- Q Was NDS the first Smart Card company to lobby for
- 8 anti-piracy legislation?
- 9 A Yes, we were very active in this area, and still are.
- 10 Q As part of the upgrade in intelligence and operational
- 11 security, did NDS work with pirates and former pirates?
- 12 A Yes.
- 13 Q Why?
- 14 A Well, I mean, I think that in order to penetrate pirate
- networks, you can't particularly waltz in with a Ph.D and
- say, "I'm a pirate." I think he would be found out.
- 17 Q Has -- has NDS's increase or increased focus on
- 18 intelligence and operational security had benefits?
- 19 A Yes, I believe that both our customers appreciate the
- 20 support we give them, and it has resulted in a fair number
- of successful prosecutions, and I think we contributed to it
- being a deterrent in the industry.
- 23 Q Now, what was the third part of your three-pronged
- business strategy for NDS?
- 25 A Cooperation with law enforcement agencies.

- 1 Q Yes --
- 2 A This is all. I should just clarify on the security
- 3 | side, because obviously we had -- conditional access and
- 4 security were roughly half of our business.
- 5 Q Has NDS increased its cooperation with law enforcement?
- A Yes.
- 7 Q Okay. Has that improved NDS's competitiveness?
- 8 A Yes, I believe that our customers view very favorably
- 9 our willingness to support them. You know, satellite piracy
- or cable piracy is not exactly a high priority. Typically,
- 11 it was law enforcement agencies, and therefore, we felt not
- only did we have to educate them, which we did proactively
- in the United States and other countries, but also, to
- 14 prepare the case sufficiently so that they can prosecute it
- without spending too many resources, and we spend a fair
- amount of money on that.
- 17 Q Have those efforts helped other participants in the
- 18 | Smart Card business?
- 19 A Yes, we have often -- well, at least in two cases I
- 20 know we have prosecuted the pirates that pirated systems
- 21 | supplied by our competitors and even not -- involving a
- 22 customer of ours. We've also cooperated with a competitor
- to, again, put the pirates out of business.
- Q Now, Dr. Peled, this morning when you were being asked
- some questions by the plaintiffs' attorney, you mentioned

1 that after reviewing other systems when you came on board at 2 NDS, that you concluded that NDS's system was superior; do 3 you recall that? 4 Yes. 5 Could you explain to the jury what you meant by that? Well, the conditional access is really a system which 7 involves the ability to send out encrypted signals, and then 8 in the Smart Card, to decide whether or not you're 9 authorized to view that. The system approach of NDS is 10 quite unique versus every other Smart Card competitor, 11 because instead of -- every other competitor uses what is 12 called "key base distribution," so the key to the crypt, the 13 content, is itself encrypted and sent out to the set-top 14 box. NDS had a unique patented system in which we do not 15 send out a key, but we send out -- there is an algorithm 16 that locally in the set-top box generates that key. 17 sounds a bit like magic, because it's called a zero proof 18 algorithm, so there is zero information that they send, but 19 the -- the set-top box knows how to generate the key 20 locally. 21 Now, that has several benefits. The two principal ones 22 are, first, that the entitlements, that is -- you know, you 23 have to send every Smart Card. You have to tell it whether 24 or not it can decode HBO or Showtime or whatever. These

entitlements take bandwidths, and in the NDS system, that

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bandwidth is fixed and is actually quite small. It's much less than half of a standard definition television channel, whereas in the other systems, that bandwidth is proportional to the number of set-top boxes out there that you're trying to entitle and obviously grows. So if you have a lot of -- millions of boxes you are giving up, you may be giving up two or three television channels.

The second one had to do with the way that you can recover should the card be compromised from piracy, because now, if all you can do is distribute keys, then if the card is compromised, then you have to send a new key, but that key can be intercepted. And you already know the new key before you put it into effect, whereas in the algorithm-based approach, you actually send out a new little algorithm, and now, the pirate has to extract that code again and figure out what is the new algorithm. That's why we typically gave customers — in our contract, we would promise that a pirate device could not see television more than half of the time because, you know, half of the time it would take to recover from the previous electronic countermeasure. So these were two very clear functional advantages.

Q Dr. Peled, focusing on -- on your last point, the jury has heard a lot of testimony about hacked systems versus unhacked system. If a system is hacked, does that mean that

1 any pirate can watch television anytime? 2 Well, no, because obviously there are electronic 3 countermeasures that are being done. And as I said, you 4 know, the NDS system architecture or concept enables it to 5 recover much more gracefully from piracy by indeed being 6 able to, half of the time, if you were running electronic 7 countermeasures, not be able to watch television, which 8 minimizes, obviously, the piracy. 9 Dr. Peled, when you said that you concluded that the 10 NDS system was superior, did you also conclude that its 11 cards were superior? 12 No, clearly not. I mean, I thought that we did a very 13 poor job on the Smart Card itself, as I said, and I felt 14 that we have to spend a fair amount of money to improve our 15 capabilities in that area by being able to design custom 16 chips that will not be compromised, and I am -- you know, 17 I'm pretty proud to say that every chip we have designed 18 after '99 has never been compromised at this point, and we 19 are on 86 million boxes out there, and none of our cards 20 currently is compromised in 50 systems around the world. 21 Dr. Peled, I'd like to switch gears a little bit and 22 ask you about a few transactions in particular. 23 Do you recall a proposed transaction involving a 24 satellite service for News Corp called A Sky B and the 25 proposed merger with EchoStar?

- 1 A Yes.
- Q Okay. What was A Sky B?
- 3 A News Corp decided to launch a satellite platform in the
- 4 United States. It was actually in cooperation with MCI, who
- 5 at the time was a partner in launching the satellite, and
- 6 supposedly to launch the service.
- 7 Q And what was the proposed transaction between A Sky B
- 8 and EchoStar?
- 9 A At the time, there was concern that, obviously, having
- 10 too many satellite platforms, you know, is -- is going to
- mean that we'll all lose money, and there was a proposed
- 12 merger between EchoStar, who had just started at that
- 13 | time -- this was I think in '96, in the Fall of '96 -- with
- 14 the proposed launch of A Sky B.
- Q What role did you play in those discussions?
- 16 A Well, I think News Corp was, at that point, very
- satisfied with our performance in B Sky B, which at that
- 18 point, had three-and-a-half million subscribers. We had
- 19 very advanced plans to launching a digital service, which
- 20 included, not only, you know, standard digital quality, but
- 21 also advanced interactive application and advanced
- 22 electronic program guide. And News Corp made one of the
- conditions of the merger on which, you know, given that they
- were going to spend billions of dollars investing in a
- 25 | launching of a satellite platform in the United States, that

- 1 NDS technology should be used as long as it is as good and
- as, I believe, cost-effective as the Nagra technology, which
- 3 | had just started at that point in EchoStar.
- 4 Q Did News Corp and EchoStar complete the A Sky B deal?
- 5 A No.
- 6 Q Why not?
- 7 A Well, I don't, obviously, know all the reasons, but one
- 8 of the reasons why that was given is that EchoStar did not
- give adequate consideration to the use of NDS conditional
- 10 access system.
- 11 Q And what was Mr. Ergen's objection to using NDS's
- 12 | conditional access system?
- 13 A Well, I would say that his primary objection was price.
- He was very focused on inexpensive, inexpensive, very low
- price.
- Q Okay. And how do you know that Mr. Ergen was focused
- on price?
- 18 A Well, I spent three hours on a plane ride with him from
- 19 New York to Denver, and we never got beyond talking about a
- 20 royalty of \$1.50 per box, which he refused to pay. The next
- 21 day we had a full day meeting, and again, you know, we --
- whenever we wanted to bring up the functional advantages,
- and so on, Mr. Ergen was very focused on price. He used
- 24 also as an argument, I believe, that would have been
- overcome, that we were at that time compromised in DirecTV,

- and the Nagra system we just helped launch and had 250,000
- 2 | subscribers, to DirecTV's two-and-a-half million, was not
- 3 yet compromised.
- 4 Q And why do you see -- why do you say that that argument
- 5 | would have been overcome?
- 6 A Because if we would have agreed to a very low price,
- 7 I -- I believe that we could have made a deal.
- 8 Q And do you believe that you would have been able to do
- 9 a deal if the price were right even though NDS was hacked?
- 10 A Correct.
- 11 Q Had NDS been able to obtain business, or was NDS,
- 12 before it became fully secure, able to obtain business even
- 13 though it was hacked?
- 14 A Yes.
- Q Can you give the jury some examples of that.
- 16 A Well, I mean, you know, we got platforms all around the
- world. Korea -- in SkyLife in Korea, Yes in Israel,
- 18 | Madritel, you know, a number of platforms around the world.
- 19 Q Now, following the failure of the A Sky B merger, did
- 20 anyone at News Corp tell you that NDS should hack or pirate
- 21 the EchoStar system in retaliation?
- 22 A Never.
- Q Did anyone as News Corp tell you that NDS should
- somehow foster piracy of EchoStar in retaliation?
- 25 A Never.

- 1 Q Did the failure of that deal create some motive for NDS
- 2 to hack EchoStar?
- 3 A No.
- 4 Q Why not?
- 5 A Well, I mean, I believe that this was a period in which
- 6 | we were extremely busy, number one. Number two, we don't
- 7 engage in illegal conduct.
- 8 Q Now, after the merger with EchoStar fell apart, did
- 9 News Corp attempt to acquire another satellite platform?
- 10 A DirecTV.
- 11 Q Okay. Was News Corp successful in acquiring DirecTV?
- 12 A Well, on the first round, EchoStar, in the final
- 13 stages, came in with an offer that DirecTV accepted over the
- 14 News Corp offer and of in the, I would say, 90th minute of
- 15 the game.
- 16 Q Okay. So EchoStar and DirecTV then had an agreement to
- merge?
- 18 A Correct.
- 19 Q Did anyone at News Corp ever suggest to you that that
- 20 created some kind of motive to hack or pirate the EchoStar
- 21 system?
- 22 A No.
- Q Did anyone at News Corp ever suggest to you that NDS
- ought to pirate the EchoStar system as a result of that
- 25 agreement?

- 1 A No.
- 2 Q Did that agreement create some motive for NDS to want
- 3 to pirate the EchoStar system?
- 4 A No.
- 5 Q Now, did the EchoStar DirecTV merger go through?
- 6 A No, it was not approved by the government.
- 7 Q Okay. And when did the government announce that it was
- 8 | not going to approve the merger?
- 9 A I believe it was announced in October of 2002.
- 10 Q Okay.
- 11 A But it was becoming quite clear leading up to that.
- 12 | Q In the August, September time?
- 13 A Definitely.
- 14 Q Were there any financial consequences to EchoStar from
- that merger not going through?
- 16 A I believe EchoStar paid a \$600 million breakup fee to
- 17 DirecTV.
- 18 Q When it became known in August or September of 2002
- 19 that that merger was not going to be approved, did EchoStar
- 20 do anything?
- 21 A EchoStar filed their motion to intervene in the Canal+
- 22 litigation.
- Q Do you believe that those events are related?
- 24 A I have no basis on which to determine that.
- 25 Q Now, after that deal fell apart, did DirecTV -- I'm

- sorry, did News Corp obtain an interest in DirecTV?
- 2 A Yes, News Corp made an offer for the shares in DirecTV.
- Q Okay. Now, before News Corp acquired an interest in
- 4 DirecTV, was DirecTV an NDS customer?
- 5 A Yes.
- 6 Q And when did that relationship begin?
- 7 A Well, DirecTV became the customer of NDS in 1992.
- 8 Q Has -- has NDS always been DirecTV's conditional access
- 9 provider?
- 10 A Yes.
- 11 Q Has NDS had to renew that contract over time?
- 12 A Yes.
- 13 Q And I believe you testified earlier that there was a
- 14 | renewal in 1998?
- 15 A Yes, and in '99.
- Okay. During those negotiations in 1998 and 1999, did
- DirecTV ever tell you -- well, let me take a step back.
- 18 What was your role in those negotiations?
- 19 A Well, there were negotiations at different levels.
- 20 When things needed executive intervention, I myself got
- 21 involved in the discussions.
- 22 Q So you participated personally in those discussions?
- 23 A Yes.
- Q At any time, did DirecTV notify NDS that DirecTV was
- 25 talking to NDS's competitors about a competitor becoming

- 1 | DirecTV's conditional access provider?
- 2 A No.
- 3 Q Did DirecTV ever notify NDS that it was seeking some
- 4 other bids or proposals?
- 5 A No.
- 6 Q Did DirecTV notify NDS that it was sending out requests
- 7 for information?
- 8 A No.
- 9 Q At any time, did DirecTV discuss replacing NDS with
- 10 NagraVision?
- 11 A No.
- 12 Q Did anyone from DirecTV even discuss or mention
- NagraVision or NagraStar during those discussions?
- 14 A Not to me.
- 15 Q As a result -- if I understand correctly, NDS and
- DirecTV did, in fact, do a one-year extension in 1998?
- 17 A Well, just for clarification, NagraStar and the
- 18 | NagraVision joint venture with EchoStar, NagraStar clearly
- 19 supporting a direct competitor of DirecTV. I think it's
- quite hard to believe that they would use that so that their
- 21 competitor has detailed information about the subscriber
- 22 acquisitions and all that.
- Q Now, we talked a little bit earlier about the -- the P4
- 24 card. That was a card for DirecTV?
- 25 A Yes.

- 1 Q When was that card put into service?
- 2 A In April of 2002.
- 3 Q Okay. And at that time, did DirecTV replace the
- 4 previous cards?
- 5 A No.
- 6 Q Was -- when NDS introduced the P4 card, was the
- 7 information about that card confidential?
- 8 A Yes.
- 9 Q Would -- would it harm NDS if that information were
- 10 disclosed?
- 11 A Obviously, this is -- I mean, the details about the P4
- 12 | card are highly sensitive.
- Q Would it harm NDS if information about the P4 card got
- 14 into the hands of its competitors?
- 15 A Of course.
- 16 Q In what way?
- 17 A Well, it could present a shortcut for a competitor
- about the various design decisions that we made, insights
- 19 into how and why we made them, which would have shortcut a
- 20 lot of research and development that they would have done --
- 21 | would have had to do themselves and not maybe necessarily
- 22 successfully.
- Q Now, when NDS introduced the P4 card in April of 2002,
- 24 | did DirecTV swap all of its existing cards?
- 25 A No.

- 1 Q Did NDS try to convince DirecTV to do that?
- 2 A Well, we suggested that it would be a good idea to
- 3 replace the -- the P3 card with P4 cards.
- 4 Q And -- but DirecTV decided not to?
- 5 A Well, it's their decision. I mean, contractually, and
- 6 as I testified earlier, it's a business decision that the
- operator makes based on their philosophy.
- 8 Q Did they tell you why they made that decision?
- 9 A No.
- 10 Q Now, at some point, there was a complete card swap for
- 11 DirecTV for the P4 card; is that correct?
- 12 A Yes.
- 13 Q And that was in 2004?
- 14 A Yes, it started right after there was a management
- change in DirecTV in the end of December when News Corp
- became the significant shareholder. And I think News Corp,
- having by that point experienced our effective zero piracy
- 18 strategy in other platforms and in general, their belief
- 19 that that's the right way to do it, that immediately
- 20 affected a changeover of the remaining P3 cards. That could
- 21 have been done at any point after April 2002.
- 22 Q And when you say it could have been done at any point
- after April 2002, what do you mean?
- 24 A Well, I mean, it does take time to replace a large
- 25 | number of cards, but it could have been done probably within

- 1 a year or so.
- 2 Q Now, when -- let me change gears for a moment,
- 3 Dr. Peled.
- 4 You were asked several questions about allegations by
- 5 Mr. Kommerling involving the Canal+ technology; do you
- 6 recall that?
- 7 A Yes.
- 8 Q And those were conversations you had with
- 9 Mr. Kommerling in the late Summer and Fall of 2001?
- 10 A Yes.
- 11 Q What was Mr. Kommerling's relationship with NDS at that
- 12 time?
- 13 A Well, we -- we had a joint venture. We established a
- 14 | laboratory to provide security evaluation services to secure
- chips. The idea was that -- you know, we did have fairly --
- we set up a whole new lab in the UK, and that had state of
- the art equipment, and the idea was to offer these services,
- 18 | not only to ourselves, but to other companies looking for
- 19 secure chips. The --
- 20 Q I'm sorry, please finish.
- 21 A Please.
- Q Did ADSR have any contracts?
- 23 A The first contract of ADSR was with Canal+
- 24 Technologies.
- 25 Q So at the time that you had these conversations with

- 1 Mr. Kommerling, who was Mr. Kommerling primarily working
- with as a customer?
- 3 A With Canal+ Technologies.
- 4 Q Now, after you heard these allegations from -- from
- 5 Mr. Kommerling, what did you do?
- 6 A Well, every time Mr. Kommerling made an allegation, I
- 7 immediately talked to Reuven Hasak, my head of operational
- 8 | security, and I was assured that there was no evidence for
- 9 that. In addition, as I said, in the Summer of 2001, it
- 10 became apparent that there was something else going on.
- 11 Q And when you say it was apparent that there was
- 12 | something else going on, what do you mean?
- 13 A Well, Oliver Kommerling, Ray Adams started increasingly
- 14 | suggesting that Canal+ Technologies is intent on merging
- 15 | with NDS and leveraging these allegations to extract a -- a
- 16 higher merger value, perhaps destroy NDS. It depended on,
- 17 you know, the day that they were discussing it. I, in
- parallel, started getting approaches from bankers, in
- 19 particular, Lehman Brothers at the time, suggesting that
- 20 there is interest in a merger between Canal+ Technologies
- 21 and NDS.
- $^{22}\mid$ Q Now, at some point, did Canal+ file a lawsuit against
- 23 NDS?
- 24 A In March of 2002.
- Q And did you conduct any, or did you have NDS conduct

- 1 any additional investigation as a result of those -- that 2 lawsuit?
- Well, the moment the lawsuit was filed we retained
- 4 outside counsel, and we asked outside counsel to conduct a
- 5 thorough investigation in NDS to what extent there was any
- activity that was illegal by any of the people involved.
- 7 They also retained an investigative agency headed by a
- 8 gentleman I happened to know from my days at IBM, Dick
- 9 Callahan, who had a tremendous reputation as an
- 10 investigator. He was the head of security for IBM at the
- 11 time. And there was a thorough investigation that reported
- 12 back to our audit committee approximately six weeks later, I
- 13 believe, that they found no evidence of any wrongdoing by
- 14 any of the people, and they had a very extensive -- they
- 15 visited Israel. They visited all our facilities involved in
- 16 these allegations, interviewed everybody, and concluded that
- 17 there was no evidence to support any of these allegations
- 18 after extensively questioning people.
- 19 Now, Mr. Welch asked you earlier this morning about the
- 20 resolution of that litigation. Can you -- was that
- 21 litigation resolved?

3

- 22 Yes, it was settled.
- 23 And can you describe for the jury the circumstances of
- 24 how that was resolved?
- 25 So we have to go back to the period in 2002. At that

point, Vivendi had committed to purchase from News Corp the paid TV operation from News Corp, Intercom Italia, the paid TV operation in Italy known as Stream, for roughly a billion dollars.

It is also, at that time, actually a week before they filed their lawsuit that Vivendi announced the largest loss in corporate -- French corporate history, about \$13 billion. And it became evident that Vivendi did not have enough money to go through this transaction.

The result was that after a few months of negotiations in October of 2002, News Corp agreed to actually buy Telepiu from Vivendi for about 900 million euros, and there was outstanding litigation between Stream and Telepiu, as well as this litigation. And as part of the transaction, they agreed to settle all mutual litigations.

- Q So did the transaction -- was the transaction driven by the desire to resolve the Canal+ litigation?
- A No, I don't think that News Corp would make billions of dollars of investments simply to help a small company on that scale like NDS at the time. It is more like buying a bank to get a cheaper loan for your car.
- Q Now, Dr. Peled, there's also been some discussion of litigation between NDS and DirecTV. Are you familiar with that litigation?
- 25 A Yes.

```
1
          Did NDS investigate those allegations?
2
          Well, there was the first lawsuit that was filed, which
 3
     was really a question -- a dispute on performance on the P4
 4
     contract, which was settled very quickly. There was a
 5
     second lawsuit that was filed that had a longer range of
     allegations. Clearly, all of those were investigated. They
7
     were also connected to the same allegations that were
8
     investigated by the U.S. attorney initially in San Diego,
9
     down in Los Angeles, and again, there was no evidence found
10
     of wrongdoing and --
11
               MR. WELCH:
                          I am going to object.
12
               THE COURT: Sustained. I am going to strike it.
13
     Strike the answer.
14
    BY MR. SNYDER:
15
          Dr. Peled, did NDS --
16
               THE COURT: You're to disregard that entire
17
     answer. Strike --
18
               MR. SNYDER: Sorry, your Honor.
19
    BY MR. SNYDER:
20
          Did NDS resolve its litigation with DirecTV?
21
          Yes, in -- after the announcement of the acquisition of
22
     News Corp shares and DirecTV, NDS and DirecTV entered into a
23
    mediation process, which resulted in successful agreement,
24
    mediation agreement, which incidentally included a royalty
25
    payment from DirecTV for our intellectual property in their
```

- 1 | new card, and that mediation agreement settlement was
- 2 subject to the closing of the contract between News Corp and
- 3 DirecTV.
- Q Okay. Have you heard the allegation, Dr. Peled, that
- 5 News Corp purchased DirecTV in order to resolve the
- 6 litigation with NDS?
- 7 A Well, I repeat my point, you know, News Corp spent 6 or
- 8 | \$7 billion on that. I don't believe that they -- News Corp
- 9 would make such a business decision simply to get NDS an
- 10 additional hundred million dollars of revenue.
- 11 Q Now, when News Corp had an agreement in principle to
- purchase an interest in DirecTV, did EchoStar oppose that?
- 13 A Yes, as I said, EchoStar filed its -- this current
- 14 | lawsuit against NDS, and approximately a week later filed an
- opposition with the FCC citing NDS involvement of piracy as
- one of the reasons why the FCC should not approve a purchase
- of DirecTV shares.
- 18 | Q Now, Dr. Peled, you are familiar with Chris Tarnovsky?
- 19 A Yes.
- 20 Q Did you play any role in hiring Mr. Tarnovsky?
- 21 A No.
- 22 Q Did you approve of his hiring?
- 23 A Yes.
- Q Was Mr. Tarnovsky paid for his services by NDS?
- 25 A I believe initially he was paid through HarperCollins.

- 1 Q Why was that?
- 2 A Well, from what I understand -- I wasn't involved in
- 3 setting it up, but from what I understand, Mr. Tarnovsky's
- 4 role initially was to be undercover. And it was -- it would
- 5 have endangered him, because many of these people that he
- 6 associate with are not particularly nice people to have a
- 7 connection to NDS that would have been discoverable, and as
- 8 | a result, it was arranged to pay him through a sister
- 9 company.
- 10 Q Is it unusual for NDS to pay one of its employees
- 11 through another News Corp company?
- 12 A No. We've done it for people in Germany. We've done
- it for people in the U.S., initially, that were paid by Fox.
- 14 Q Okay. Under what circumstances does NDS pay its
- employees through another News Corp company?
- 16 A Well, there may be different reasons, and the reason,
- 17 like in Germany, we didn't have a company set up at that
- 18 point in Germany.
- 19 Q Does NDS ultimately pay for those employees?
- 20 A Of course, this is done as a cross-charging between
- 21 companies.
- $^{22}\mid$ Q Okay. While Mr. Tarnovsky was an NDS employee, did you
- have any interactions with him?
- 24 A I met him once where he made the presentation of a very
- 25 interesting idea for a secure CPU. This was after his cover

- was blown, and he had to, really, be involved in other
- technical work. It was at the breakfast meeting in
- 3 New York.
- Q Okay. And -- and what did you say in response?
- 5 A I thought that it was a very interesting idea. I
- 6 recommended that he present it to Perry Smith, our chief
- security officer, and he did present it to Perry, who also
- 8 thought that it was very -- a very interesting idea that
- 9 could lead to new results, and we -- the project was
- 10 ultimately approved, and Perry Smith supervised it.
- 11 Q Now, before you had that meeting -- well, withdrawn.
- 12 At any time, did you discuss with Mr. Tarnovsky NDS's
- 13 | competitors?
- 14 A No.
- 15 Q Did you know that Mr. Tarnovsky had been involved in
- 16 piracy?
- 17 A Before he joined them, yes.
- 18 Q Did you know that he had any interactions with pirates
- after he became an NDS employee?
- 20 A Well, obviously his role was to communicate with
- 21 pirates and gather information about piracy.
- Q Okay. At some point, did you become aware of an
- 23 allegation that Mr. Tarnovsky had been involved in piracy
- while working for NDS?
- 25 A Yes.

- 1 Q How did you become aware of that?
- 2 A Reuven called me about it.
- 3 Q And what did Reuven -- this is Mr. Hasak?
- 4 A Mr. Hasak, sorry.
- 5 Q And what did he say to you?
- 6 A Well, he said that there was an incident, and that
- 7 | there was an allegation that he was involved in piracy in
- 8 DirecTV, that he had -- he had flown out. He called me
- 9 already from California, had flown out to California
- 10 personally to investigate it, and that he found no basis for
- 11 it.
- 12 Q Okay. Now, later when you were talking to
- 13 Mr. Kommerling, did you understand that Mr. Kommerling was
- 14 accusing Mr. Tarnovsky of being involved in EchoStar piracy?
- 15 A In September of 2001, he told me that -- yes.
- 16 Q Was that the first time you had heard any allegation
- that Mr. Tarnovsky was involved in EchoStar piracy?
- 18 A At that dinner, yes.
- 19 Q And what did you do in response?
- 20 A Again, I immediately called Reuven -- Mr. Hasak,
- 21 | sorry -- to relay this new allegation.
- 22 | Q And what did Mr. Hasak tell you?
- 23 A He told me that, you know, this was a continuing
- evolution of something that was happening between, first of
- all, the big crowd that they had, the drunken event in which

- 1 | they exchanged information, and Oliver Kommerling and Ray
- 2 Adams up to something in connection with Canal+ and trying
- 3 to discredit Chris Tarnovsky.
- 4 Q Okay. Did you believe Mr. Kommerling's allegations?
- 5 A No.
- 6 Q Did Mr. Hasak believe Mr. Kommerling's allegations?
- 7 A No.
- 8 Q Now, Mr. Tarnovsky was terminated last year, correct?
- 9 A Correct.
- 10 Q Were you consulted before he was terminated?
- 11 A I believe I was consulted -- I was told after he was
- 12 terminated.
- 13 Q Okay. And who told you about it?
- 14 A Reuven told me about it, Mr. Hasak told me about it.
- 15 Q Did he explain to you why Mr. Tarnovsky was terminated?
- 16 A Yes.
- Q Okay. Did his termination have anything to do with
- 18 | facilitating EchoStar piracy?
- 19 A No.
- Q What -- why did Mr. Hasak -- or what did Mr. Hasak tell
- 21 you about the reason Mr. Tarnovsky was terminated?
- 22 A Well, in a lot of these relationships, it's really
- based on trust, and even the smallest breach of trust in NDS
- is a reason for termination. And he told me that, you know,
- 25 the new evidence that came up, he lost his trust in

- 1 Mr. Tarnovsky at that point.
- 2 Q Now, you also asked some questions about Mr. Menard.
- 3 Have you ever met Mr. Menard?
- $A \qquad No.$
- 5 Q Before Mr. Menard was retained as an NDS consultant,
- 6 | were you told about it?
- 7 A Yes.
- 8 Q Okay. Did you approve of him being hired as a
- 9 consultant?
- 10 A Well, it was done in very close consultation with
- 11 counsel. The reason we felt we needed him, there was, at
- 12 the time, a leak on the internet of extremely confidential
- documents that were involved in the DirecTV litigation, and
- 14 Mr. Menard had some unique capabilities of identifying where
- 15 such material came, which was the reason we retained him,
- 16 and indeed, he was able to identify the source of that leak.
- 17 Q And was that why Mr. Menard was hired, even though he
- 18 | had run one of the largest pirate websites?
- 19 A At that point, he was no -- no longer running that
- 20 website.
- 21 Q Okay. And do you -- were you involved with Mr. Menard
- 22 | while he was an NDS consultant?
- 23 A No.
- Q Were you consulted or informed when the decision was
- 25 made not to renew Mr. Menard's contract?

- 1 A No.
- 2 Q Who made that decision?
- 3 A I believe it was Reuven Hasak, Mr. Hasak.
- Q Okay. Just a few more questions, Dr. Peled.
- 5 Would it be possible for someone at NDS to order
- 6 Mr. Tarnovsky to pirate the EchoStar system without you
- 7 being aware of it?
- 8 A Well, I would expect that no such decision, first of
- 9 all, would be made in the first place. And second, if given
- 10 that it's such an important decision, I would be told about
- 11 it.
- 12 Q Okay. Would it require your approval?
- 13 A Of course.
- 14 Q Has anyone ever suggested such a thing to you?
- 15 A No.
- 16 Q Have you ever approved of any such a plan?
- 17 A No.
- 18 Q Have you ever suggested to anyone at NDS that they
- should facilitate the piracy of the EchoStar system?
- 20 A No.
- Q Would you do such a thing?
- 22 A Never.
- MR. SNYDER: No more questions, Dr. Peled. Thank
- 24 you.
- THE COURT: Why don't we take a brief recess, and

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1
     then we'll start with redirect.
2
               You are admonished not to discuss this matter
3
     amongst yourselves, nor form or express any opinion
4
     concerning this case.
5
               Have a nice recess. We'll come and get you in
6
     about 20 minutes.
7
               Dr. Peled, if you'd like to step down.
8
               THE WITNESS: Thank you.
9
               THE COURT: We'll see you in 20 minutes.
10
               Counsel.
11
               (Recess.)
12
                                   -000-
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-000-CERTIFICATE I hereby certify that pursuant to Section 753, Title 28, United States Code, the foregoing is a true and correct transcript of the stenographically reported proceedings held in the above-entitled matter and that the transcript page format is in conformance with the regulations of the Judicial Conference of the United States. Date: May 7, 2008 JANE C.S. RULE, U.S. COURT REPORTER CSR NO. 9316

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