1   UNITED STATES DISTRICT COURT

2   SOUTHERN DISTRICT OF CALIFORNIA

3   BEFORE HONORABLE DANA M. SABRAW, JUDGE PRESIDING

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)

6   QUALCOMM INCORPORATED,   )

)

7   PLAINTIFF,   ) CASE NO. 17CV1375-DMS

)

8   VS.   )

) SAN DIEGO, CALIFORNIA

9   APPLE INC.,   )

)

10   DEFENDANT.   ) MONDAY, MARCH 5, 2019

      _____)

11   AND RELATED COUNTERCLAIMS   )

      _____)

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16   REPORTER'S TRANSCRIPT OF PROCEEDINGS

               JURTY TRIAL, DAY 2, VOLUME 2B

17   PAGES 218-

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1   SAN DIEGO, CALIFORNIA; TUESDAY, MARCH 5, 2019; 11:00 A.M.

2   (CALL TO ORDER THE COURT AT 11:00 A.M.)

3   THE COURT: WE'RE BACK ON THE RECORD WITH ALL PRESENT.

4   COUNSEL.

5   **DIRECT EXAMINATION RESUMED**

6   BY MR. HAMSTRA:

7   Q   THANK YOU, YOUR HONOR.

8   MR. HAEHNICHEN, YOU CAN TAKE A SEAT. MR. HAEHNICHEN, CAN

9   YOU TURN BACK TO PX579. I WANT TO ASK YOU ANOTHER QUESTION

10   ABOUT THAT FEBRUARY 19 REQUIREMENTS DOCUMENT. AND SO,

11   MR. HAEHNICHEN, CAN YOU TURN TO PAGE 3 OF THAT DOCUMENT.

12   A   PAGE 3, YES.

13   Q   DO YOU SEE A SECTION ENTITLED SW DEVELOPMENT REQUIREMENTS?

14   A   YES.

15   Q   AND DO YOU SEE SOMETHING CALLED EOSBL THERE?

16   A   I DO.

17   Q   CAN YOU EXPLAIN TO THE JURY WHAT ROLE THAT PIECE OF

18   SOFTWARE HAS IN THE IMAGE DOWNLOAD PROCESS?

19   A   EOSBL IS APPLE'S NAME FOR MODIFIED OS BOOT LOADER, SO

20   THEY'RE CALLING IT THE ENHANCED OS BOOT LOADER. IT LOADS THE

21   BULK OF THE IMAGE INTO MEMORY.

22   Q   DOES IT THE LOAD THE AMSS IMAGE INTO MEMORY?

23   A   IT DOES, YES.

24   Q   AND WHAT DID THIS APPLE REQUIREMENT DOCUMENT ASSIGN

25   OWNERSHIP OF THAT COMPONENT TO?

1 A   IT WAS ASSIGNED TO EUREKA. THEY WANTED TO USE THAT CODE

2 NAME FOR OUR COMPANY, QUALCOMM.

3 Q   SO EUREKA HERE REFERS TO QUALCOMM?

4 A   YES, IT DOES.

5 Q   AND WHAT DOES NO. 3 IN THIS "SW CHANGES REQUIRED" SECTION

6 SAY?

7 A   HERE THEY WERE EXPLAINING THAT WE HAD TO BRING IN THE FAST

8 NON-FRAMING STREAMING PROTOCOL. THE ONE USED BY GOBI.

9 Q   WHY DID YOU UNDERSTAND THIS TO BE REFERRING TO THE

10 NON-FRAMING STREAMING PROTOCOL USED BY GOBI?

11 A   WELL, IT'S WRITTEN HERE. THE MODIFICATIONS GOBI MADE TO

12 OUR BOOT LOADER TO LOAD FROM USB INSTEAD OF FLASH OR TO REMOVE

13 SOME OF THE FRAMING ON THE SLOWER PROTOCOL. SO THEY GOT A

14 LITTLE EXTRA SPEED FROM DOING THAT.

15 Q   AND MR. HAEHNICHEN, I WANT TO BE CLEAR ON THIS, THE BOOT

16 APPROACH DESCRIBED IN THE SECOND REQUIREMENTS DOCUMENT HERE ON

17 FEBRUARY 19, IS THAT AN APPLE DEVELOPED APPROACH OR A QUALCOMM

18 DEVELOPED APPROACH?

19 A   THIS IS GOBI. THIS IS THE QUALCOMM DEVELOPED PRODUCT,

20 YEAH.

21 Q   SO, MR. HAEHNICHEN, TURNING BACK TO WHAT WE WERE DISCUSSING

22 BEFORE THE BREAK, I WANT TO TALK TO YOU BEFORE SOME MORE ABOUT

23 YOUR SAHARA IDEA AND DESIGN?

24 A   OKAY.

25 Q   SO, MR. HAEHNICHEN, CAN YOU JUST EXPLAIN AGAIN WHY SAHARA

1   WAS ABLE TO OBTAIN THE SPEEDS REQUIRED BY APPLE?

2   A   TO OBTAIN THE SPEEDS BY AVOIDING THE COPIES THAT WE'VE

3   TALKED ABOUT. SO IF YOU LOOK AT GOBI, IT READS THINGS INTO

4   MEMORY, FIGURES OUT WHERE THEY ARE, FIGURES OUT WHAT THEY ARE,

5   WHERE THEY NEED TO GO, AND IT COPIES THEM THERE; WHEREAS, IN

6   SAHARA, WE WOULD RECEIVE THE DATA DIRECTLY FROM USB AND THE

7   ONLY PLACE IT WOULD GO IS RIGHT WHERE IT NEEDS TO BE. SO WE

8   COMPARED TO LIKE A NONSTOP FLIGHT. INSTEAD OF A FLIGHT WITH A

9   STOP IN THE MIDDLE AND A LONG LAYOVER, YOU JUST PUT IT RIGHT

10   WHERE IT NEEDS TO BE AT THE END.

11   Q   HOW WERE YOU ABLE TO DESIGN YOUR SYSTEM SO THE HARDWARE

12   COULD PLACE THE DATA RIGHT WHERE IT NEEDED TO BE?

13   A   THAT WAS PRETTY HARD. WE HAD TO BRING IN THE EXPERTS ON

14   THAT PIECE OF HARDWARE, WHICH IS THE USB RECEIVER, AND WE HAD

15   TO TELL THEM WHAT WE WERE TRYING TO DO, AND THEY TOLD US HOW

16   THE HARDWARE WORKS AND WHAT THE CONSTRAINTS ARE OF THAT

17   HARDWARE AND HOW WE WOULD HAVE TO ORGANIZE AND SET IT UP SO

18   THAT WE COULD RECEIVE IT FROM THE VERY FIRST BYTE INTO THE

19   ADDRESS IT NEEDS TO BE.

20   Q   AND WHO ARE THE USB EXPERTS YOU JUST MENTIONED THERE?

21   A   WELL, THAT WAS DANIEL KIM AND HUSLID (PHONETIC) IGOR.

22   Q   AND ARE THOSE TWO INDIVIDUALS ALSO NAMED AS INVENTORS ON

23   THE '949 PATENT?

24   A   YES, OF COURSE.

25   Q   AND HOW WERE YOU ABLE TO PROGRAM THAT USB HARDWARE TO PUT

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