UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

- - - - - - - - - - - - - - - - - -X
UNITED STATES OF AMERICA,   :
                         :

      PLAINTIFF,   :
                         :

    V.   : C.A. NO. 98-1232
                         :

MICROSOFT CORPORATION,   :
                         :

      DEFENDANT.   :
- - - - - - - - - - - - - - - - - -X
STATE OF NEW YORK, ET AL.,   :
                         :

      PLAINTIFFS,   :
                         :

    V.   : C.A. NO. 98-1223
                         :

MICROSOFT CORPORATION,   :
                         :

      DEFENDANT.   :
- - - - - - - - - - - - - - - - - -X
MICROSOFT CORPORATION,   :
                         :

      COUNTERCLAIM-PLAINTIFF, :
                         :

    V.   :
                         :

DENNIS C. VACCO, ET AL.,   :
                         :

      COUNTERCLAIM-DEFENDANTS. :
- - - - - - - - - - - - - - - - - -X WASHINGTON, D.C.
                                 DECEMBER 14, 1998
                                 2:04 P.M.
                                 (P.M. SESSION)

VOLUME 28

TRANSCRIPT OF TRIAL
BEFORE THE HONORABLE THOMAS P. JACKSON
UNITED STATES DISTRICT JUDGE

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FOR THE PLAINTIFFS:        DAVID BOIES, ESQ.
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                           RICHARD L. SCHWARTZ, ESQ.
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INDEX

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

2   THE COURT: ALL RIGHT, MR. HEINER.

3   CONTINUED CROSS-EXAMINATION

4 BY MR. HEINER:

5 Q.   BEFORE LUNCH, WE WERE LOOKING AT DEFENDANT'S

6 EXHIBIT 2088 AND THE FUNCTIONS PERFORMED BY THOSE FILES.

7   MR. HEINER: DO YOU HAVE IT ON YOUR SCREEN, YOUR

8 HONOR?

9   THE COURT: I HAVE IT.

10   MR. HEINER: OKAY.

11 BY MR. HEINER:

12 Q.   WE WERE FINISHING UP WITH THE TOP TWO FILES

13 IEXPLORE.EXE AND EXPLORER.EXE. NOW, EITHER OF THOSE TWO

14 FILES CAN BE USED TO ACTIVATE THE WEB-BROWSING SOFTWARE IN

15 WINDOWS; ISN'T THAT RIGHT?

16 A.   CERTAINLY FOR IEXPLORE.EXE. THE PRIMARY PURPOSE OF

17 THAT FILE IS TO ACTIVATE WEB BROWSING, LETTING THE USER

18 BROWSE THE WEB. IN THE CASE OF EXPLORER.EXE, ITS PRIMARY

19 PURPOSE IS DIFFERENT: TO SUPPORT THE WINDOWS UPDATE

20 FEATURE. AND FROM THE WINDOWS UPDATE WINDOW, YOU CAN

21 LAUNCH THE WEB BROWSER, BUT THAT'S, BY NO MEANS, THE

22 PRIMARY PURPOSE OF WINDOWS EXPLORER.

23 Q.   MY QUESTION, DR. FELTEN, IS ABOUT WEB-BROWSING

24 SOFTWARE. LET'S TAKE THESE FILES ONE AT A TIME.

25   ISN'T IT TRUE THAT THE FILE IEXPLORE.EXE CAN BE

1 USED TO ACTIVATE THE WEB-BROWSING SOFTWARE IN WINDOWS 98?

2 A.   IT CAN BE USED TO BROWSE THE WEB, SURE.

3 Q.   CAN IT BE USED TO ACTIVATE THE WEB-BROWSING SOFTWARE

4 IN WINDOWS 98?

5 A.   SAME THING AS FAR AS I'M CONCERNED.

6 Q.   PLEASE REFER TO YOUR DEPOSITION TRANSCRIPT, IF YOU

7 WOULD, AT PAGE 187. I WILL READ TO YOU FROM LINE TEN.

8 A.   OKAY.

9 Q.   TO PAGE 188, LINE TWO, (READING):

10   "QUESTION: SO, YOU WERE DRAWING A CLEAR

11   DISTINCTION HERE, IF I UNDERSTAND CORRECTLY,

12   BETWEEN THE FILE CALLED EXPLORER.EXE AND

13   WEB-BROWSING SOFTWARE; IS THAT CORRECT?

14   ANSWER: THAT'S RIGHT, YES.

15   QUESTION: OKAY. AND ONE WOULDN'T SAY THAT

16   THE FILE CALLED EXPLORER.EXE CONTAINS

17   WEB-BROWSING SOFTWARE?

18   ANSWER: NO. I THINK IT'S MORE ACCURATE TO

19   SAY THAT THE USER CAN USE IT TO ACTIVATE

20   WEB-BROWSING SOFTWARE, SEPARATE WEB-BROWSING

21   SOFTWARE.

22   QUESTION: ISN'T THAT ALSO, SIR, PRECISELY

23   THE CASE WITH RESPECT TO THE FILE CALLED

24   IEXPLORE.EXE?

25   OBJECTION.

1   QUESTION: SIR, ISN'T IT THE CASE THAT THE

2   FILE CALLED IEXPLORE.EXE CAN BE USED TO ACTIVATE

3   WEB-BROWSING SOFTWARE?

4   ANSWER: YES. THAT'S ITS PRIMARY USE.

5   QUESTION: THAT, IN FACT, IS ITS SOLE USE,

6   IS IT NOT?

7   ANSWER: I THINK SO."

8   WERE YOU ASKED THOSE QUESTIONS, AND DID YOU GIVE

9 THOSE ANSWERS, SIR?

10 A.   YES, I DID.

11 Q.   AND TO BE CLEAR, THE WEB-BROWSING SOFTWARE THAT IS

12 ACTIVATED BY IEXPLORE.EXE OR EXPLORER.EXE IS, AT A

13 MINIMUM, THE FOUR LOWER FILES ON DEFENDANT'S 2088; ISN'T

14 THAT CORRECT?

15 A.   NO. AS I EXPLAINED A NUMBER OF TIMES, THOSE FILES

16 ARE CONTAINERS. THEY CONTAIN SOME FUNCTIONS WHICH ARE

17 RELATED TO WEB BROWSING AND SOME WHICH ARE NOT, AND I DID

18 NOT SAY THAT THEY ARE THE MAIN PART OF THE WEB BROWSER,

19 NOR DID I SAY THAT THOSE ARE THE ONLY PLACES THAT CODE

20 INVOLVED IN IMPLEMENTING WEB BROWSING MIGHT LIVE IN

21 WINDOWS 98.

22 Q.   EACH OF THOSE FOUR CONTAINERS, AS YOU PUT IT, IS

23 INVOKED WHEN EITHER IEXPLORE.EXE OR EXPLORER.EXE IS USED

24 TO BROWSE THE WEB; RIGHT?

25 A.   AS I SAID BEFORE, IT'S NOT--IT'S NOT APPROPRIATE TO

1 TALK ABOUT INVOKING THE CONTAINER. WHAT YOU ARE REALLY

2 TALKING ABOUT IS INVOKING SOME THINGS THAT ARE INSIDE THE

3 CONTAINER.

4   AND ALSO, AS I EXPLAINED BEFORE LUNCH, THE FACT

5 THAT SOME CODE IS INVOKED WHEN A PARTICULAR FUNCTION IS

6 EXECUTED, DOES NOT MEAN THAT THAT CODE IS PART OF THE

7 APPLICATION THAT PROVIDES THAT FUNCTION.

8   TO USE AN EXAMPLE DIFFERENT THAN THE ONE I USED

9 THIS MORNING, ANOTHER EXAMPLE, YOU COULD LOOK AT THE CODE

10 WHICH IS ABLE TO DRAW WINDOWS IN GENERAL, DRAW WINDOW ON

11 THE SCREEN. THAT CODE IS USED BY VIRTUALLY EVERY

12 APPLICATION. AND ALTHOUGH IT'S USED BY EVERY APPLICATION,

13 IT'S NOT REALLY RIGHT TO SAY IT'S PART OF EVERY

14 APPLICATION.

15 Q.   EVEN AFTER THE PROTOTYPE REMOVAL PROGRAM IS RUN, THE

16 WEB-BROWSING SOFTWARE IN WINDOWS 98 CAN STILL BE USED TO

17 VIEW AT LEAST ONE SITE ON THE WEB WHICH IS THE WINDOWS

18 UPDATE WEB SITE; RIGHT?

19 A.   AFTER THE PROTOTYPE REMOVAL PROGRAM HAS BEEN RUN, THE

20 WINDOWS UPDATE FEATURE STILL WORKS.

21 Q.   THE WINDOWS UPDATE WEB SITE; ISN'T THAT RIGHT?

22 A.   THE WINDOWS UPDATE FEATURE, THAT IS THE ABILITY TO

23 CHECK AND SEE WHETHER ANY OF THESE FILES LIKE DEVICE

24 DRIVERS ON THE SYSTEM ARE OUT OF DATE AND TO GET NEW

25 VERSIONS IF THEY ARE OUT OF DATE.

1   THIS IS, AS I SAID BEFORE LUNCH, A FEATURE WHICH

2   MICROSOFT PUT IN THE NON-INTERNET CATEGORIZATION IN ONE OF

3   THEIR PLEADINGS.

4   Q.   IS WINDOWS UPDATE A WEB SITE?

5   A.   WINDOWS UPDATE IS A FEATURE OF WINDOWS 98 THAT ALLOWS

6   THE USER TO CHECK WHETHER FILES LIKE DEVICE DRIVERS ARE

7   OUT OF DATE AND TO DOWNLOAD NEW ONES IF THEY ARE.

8   Q.   AND WHEN THAT FEATURE IS USED, DOES IT MAKE USE OF A

9   WEB SITE MAINTAINED BY MICROSOFT CALLED THE WINDOWS UPDATE

10 WEB SITE?

11 A.   WHEN THAT--WHEN THAT FEATURE IS USED, SOME CODE IS

12 DOWNLOADED FROM MICROSOFT ACROSS THE NET, AND THE WINDOWS

13 UPDATE WINDOW IS PUT UP ON THE SCREEN. AND THEN,

14 INTERNALLY TO THE PC, THOSE DOWNLOADED PROGRAMS DO

15 WHATEVER IS NECESSARY IN ORDER TO MAKE THAT FUNCTION WORK.

16 Q.   DR. FELTEN, ARE YOU DENYING THAT THERE IS SUCH A

17 THING AS THE WINDOWS UPDATE WEB SITE?

18 A.   I DON'T THINK IT'S ACCURATE TO CALL THAT COLLECTION

19 OF FILES THAT MICROSOFT MAKES AVAILABLE ON THE NET "A WEB

20 SITE."

21 Q.   LET'S REFER TO YOUR TESTIMONY AT PARAGRAPH 71, WHICH

22 IS ON PAGE 23.

23 A.   OKAY.

24 Q.   LOOK AT THE LAST SENTENCE, SIR, PARAGRAPH 71,

25 PAGE 23, "MICROSOFT COULD HAVE DESIGNED THE WINDOWS UPDATE

1 WEB SITE SO THAT IT COULD FUNCTION EQUIVALENTLY REGARDLESS

2 OF WHICH BROWSING SOFTWARE WAS USED TO VISIT IT."

3   DO YOU SEE THAT, SIR?

4 A.   YES, I DO.

5   AND I WILL POINT OUT HERE THAT THIS PARAGRAPH IS

6 POINTING OUT THAT THIS SITE IS NOT ACCESSIBLE TO--TO

7 NON-MICROSOFT BROWSERS, WHICH IS ONE REASON WHY IT MAKES

8 SENSE TO CATEGORIZE IT AS NOT BEING A WEB SITE.

9 Q.   SIR, IS WINDOWS UPDATE A WEB SITE?

10 A.   NO. WINDOWS UPDATE IS A FEATURE OF WINDOWS 98, AS I

11 DESCRIBED SEVERAL TIMES NOW.

12 Q.   NOW, ISN'T IT TRUE THAT AFTER THE PROTOTYPE REMOVAL

13 PROGRAM IS RUN IN WINDOWS 98, WINDOWS 98 CAN, IN FACT, BE

14 USED TO BROWSE ANY SITE ON THE WEB?

15 A.   ABSOLUTELY. THE USER MAY INSTALL WHATEVER

16 WEB-BROWSING SOFTWARE THEY LIKE AND THEN BROWSE THE WEB

17 FREELY.

18 Q.   ISN'T IT TRUE, SIR, THAT AFTER THE PROTOTYPE REMOVAL

19 PROGRAM IS RUN, WINDOWS 98, ITSELF, WITH NO ADDITIONAL

20 SOFTWARE INSTALLED, CAN BE USED TO BROWSE ANY SITE ON THE

21 WEB?

22 A.   NO, I DON'T BELIEVE THAT'S TRUE.

23 Q.   NO, SIR?

24 A.   I DON'T BELIEVE THAT'S TRUE, NO.

25 Q.   ARE YOU FAMILIAR WITH THE CONCEPT OF AN INTERNET

1 SHORTCUT?

2 A.   YES.

3 Q.   TELL THE COURT, IF YOU WOULD, WHAT AN INTERNET

4 SHORTCUT IS.

5 A.   AN INTERNET SHORTCUT IS A SPECIAL KIND OF FILE IN

6 WINDOWS WHICH REFERS TO A WEB ADDRESS, SO THE MAIN USE OF

7 INTERNET SHORTCUTS IS YOU COULD PUT AN INTERNET SHORTCUT,

8 LET'S SAY, ON THE DESKTOP. THEN, WHEN YOU DOUBLE-CLICK

9 THAT INTERNET SHORTCUT, THE EFFECT OF THAT IS TO LAUNCH

10 YOUR WEB BROWSER AND MAKE THE WEB BROWSER GO TO THAT SITE,

11 SO IT GIVES YOU A MORE CONVENIENT WAY TO GET TO THE WEB

12 SITE.

13 Q.   NOW, SIR, ISN'T IT TRUE THAT IN THE DOJ VERSION OF

14 WINDOWS 98--THAT'S AFTER THE PROTOTYPE REMOVAL PROGRAM IS

15 RUN--A USER CAN TAKE AN INTERNET SHORTCUT FOR ANY WEB SITE

16 AND DRAG AND DROP IT INTO A HELP WINDOW IN WINDOWS AND

17 HELP WILL THEN OPEN THE ASSOCIATED WEB SITE?

18 A.   I HAVE NOT SEEN THAT.

19 Q.   AND ISN'T IT TRUE, SIR, THAT IF THAT WEB SITE

20 INCLUDES A SEARCH BAR--FOR EXAMPLE, THE YAHOO SITE OR THE

21 LYCO SITE OR THE INFOSEEK SITE--THAT A CUSTOMER, THEN,

22 FROM WITHIN THAT WINDOW, CAN TYPE ANY WEB ADDRESS INTO THE

23 SEARCH BAR AND NAVIGATE TO THAT WEB SITE?

24 A.   AS I SAID, I DON'T KNOW WHETHER THAT'S THE CASE OR

25 NOT, BUT I DON'T THINK THAT'S RELEVANT TO THE POINT THAT

1   THE PROTOTYPE REMOVAL PROGRAM IS TRYING TO MAKE.

2   Q.   PLEASE DIRECT YOUR ATTENTION, IF YOU WOULD, SIR, TO

3   PARAGRAPH 67 OF YOUR WRITTEN TESTIMONY WHICH IS ON PAGE

4   22.

5   A.   OKAY.

6   Q.   THE THIRD SENTENCE READS, "FORCING SOME USERS OR

7   OEM'S TO TAKE SOFTWARE THEY DO NOT WANT IS INEFFICIENT,

8   SINCE THE UNWANTED SOFTWARE NEEDLESSLY USES RESOURCES SUCH

9   AS DISK SPACE AND MEMORY," AND THE SENTENCE CONTINUES.

10   DO YOU SEE THAT?

11   A.   YES.

12   Q.   DR. FELTEN, ISN'T IT TRUE THAT A GREAT MANY SOFTWARE

13   PRODUCTS INCLUDE SOFTWARE MODULES THAT SOME CUSTOMERS MAY

14   NEVER USE?

15   A.   THAT COULD--THAT COULD BE--COULD BE THE CASE. WHAT

16   I'M TRYING TO TALK ABOUT HERE IS THAT IN GENERAL IF YOU

17   KNOW THAT THE USER DOES NOT WANT SOMETHING, IT CAN ONLY BE

18   INEFFICIENT TO FORCE THEM TO TAKE IT.

19   AND YOU WILL NOTE THAT WITH RESPECT TO INTERNET

20   EXPLORER IN WINDOWS 98, WE ARE TALKING ABOUT FORCING THE

21   USER TO INSTALL SOFTWARE THAT THEY DON'T WANT ONTO THEIR

22   HARD DISK. WHEN THEY BOOT WINDOWS, THAT SOFTWARE THEY

23   DON'T WANT IS LOADED INTO THE MEMORY. AND AS PROFESSOR

24   FARBER EXPLAINED, IN SOME CASES THAT SOFTWARE IS EVEN RUN,

25   AND INTERNET EXPLORER POPS UP EVEN THOUGH THE USER DOESN'T

1 WANT IT. IT'S CERTAINLY INEFFICIENT TO DO THAT.

2   I ALSO WANT TO POINT OUT THAT WHEN I TALK ABOUT

3 EFFICIENCY, AS A COMPUTER SCIENTIST, I'M USING IT IN THE

4 BROADEST SENSE. THAT IS, I'M INCLUDING--I'M INCLUDING

5 INEFFICIENCIES THAT DEVELOP, FOR EXAMPLE, BECAUSE OF USER

6 CONFUSION BECAUSE OF UNWANTED BEHAVIOR.

7   MR. WEADOCK TALKED ABOUT THE COST IN SUPPORT

8 CALLS AND LOST PRODUCTIVITY BECAUSE OF THOSE CASES, AND

9 THOSE ALSO APPLY IN THE CASE OF WINDOWS 98 AND IE.

10 Q.   WELL, PART OF YOUR TESTIMONY WAS INEFFICIENCY IN A

11 SPECIFIC SENSE, WHICH IS NEEDLESS USE OF RESOURCES SUCH AS

12 DISK SPACE; CORRECT?

13 A.   CORRECT. IT'S NOT GOOD TO USE RESOURCES WHEN YOU CAN

14 AVOID IT.

15 Q.   LET'S FOCUS ON THAT ONE FOR A MINUTE.

16   ISN'T IT TRUE THAT THE PROTOTYPE REMOVAL PROGRAM

17 DOES ESSENTIALLY NOTHING TO PROMOTE EFFICIENCY IN TERMS OF

18 DISK SPACE BECAUSE IT REMOVES SO LITTLE SOFTWARE FROM

19 WINDOWS?

20 A.   IT WAS NOT A GOAL OF THE PROTOTYPE REMOVAL PROGRAM TO

21 DEMONSTRATE HOW EFFICIENT MICROSOFT COULD MAKE A

22 BROWSERLESS VERSION OF WINDOWS 98. THE GOAL, AS I SAID

23 MANY TIMES BEFORE, WAS TO DEMONSTRATE THAT MICROSOFT COULD

24 RESPECT THE USER'S CHOICE OF BROWSING SOFTWARE, THAT THERE

25 WAS NO TECHNOLOGICAL JUSTIFICATION FOR TAKING AWAY THE

1 CHOICE IN THE WAY THAT MICROSOFT DID.

2 Q.   ISN'T IT TRUE THAT THE DOJ VERSION OF WINDOWS 98 IS

3 ONLY ABOUT 90 KILOBYTES SMALLER THAN THE MICROSOFT VERSION

4 OF WINDOWS 98?

5 A.   THAT'S TRUE, ALTHOUGH IT'S CONSIDERABLY MORE

6 EFFICIENT IF YOU USE THE GENERAL EFFICIENCY ARGUMENT THAT

7 INCLUDES SUPPORT CALLS AND THE COST OF USER CONFUSION AND

8 THE COST OF UNDESIRED BEHAVIOR.

9 Q.   RIGHT NOW WE ARE TALKING ABOUT DISK SPACE, OKAY,

10 DR. FELTEN?

11 A.   OKAY.

12 Q.   NOW, ISN'T IT TRUE THAT NEW PC'S SHIPPING TODAY

13 TYPICALLY INCLUDE NINE GIGABYTE HARD DRIVES?

14 A.   MANY OF THEM DO, YES.

15 Q.   AND A GIGABYTE, JUST TO BE CLEAR, IS A MILLION TIMES

16 LARGER THAN A KILOBYTE; RIGHT?

17 A.   THAT'S TRUE. MANY NEW MACHINES HAVE VERY LARGE HARD

18 DRIVES, BUT MANY USERS HAVE OLDER MACHINES, AND A LOT OF

19 THOSE OLDER MACHINES HAVE HARD DRIVES THAT ARE FULL OR

20 NEARLY FULL. AND FOR SUCH A USER TO HAVE TO INSTALL A

21 LARGE PIECE OF SOFTWARE, THEY MIGHT HAVE TO DELETE

22 SOMETHING ELSE THEY WANT, OR THEY MIGHT EVEN HAVE TO GO

23 OUT TO THE STORE AND PAY MONEY FOR A NEW HARD DRIVE OR

24 EVEN UPGRADE THEIR MACHINES.

25   SO, THAT'S A BIG ISSUE FOR USERS WITH OLDER

1 MACHINES.

2 Q.   AS A POINT OF REFERENCE, LET'S TAKE MY HYPOTHETICAL,

3 WHICH IS A NEW MACHINE GOING OUT WITH WINDOWS 98.

4   THE DOJ VERSION OF WINDOWS 98 SAVES ABOUT 90

5 KILOBYTES IN DISK SPACE. THAT'S SAVING 1/100,000THS OF

6 THE SPACE ON THE HARD DRIVE; IS THAT RIGHT?

7 A.   THAT'S RIGHT, SO A USER MIGHT CHOOSE TO USE A VERSION

8 OF WINDOWS 98 LIKE THAT FOR OTHER REASONS, TO REDUCE THE

9 CONFUSION, BECAUSE THEY HAD AN EXPERIENCE LIKE PROFESSOR

10 FARBER HAD, WHERE IE KEPT POPPING UP IN THEIR FACE WHEN

11 THEY DIDN'T WANT IT.

12 Q.   WHEN DID IE POP UP IN PROFESSOR FARBER'S FACE,

13 DR. FELTEN?

14 A.   HE DESCRIBED IN HIS TESTIMONY AT SEVERAL POINTS HIS

15 FRUSTRATION IN TRYING TO USE NETSCAPE WITH WINDOWS 98,

16 FINDING IE POP UP IN HIS FACE AND FINALLY GIVING UP IN

17 FRUSTRATION AND SETTLING FOR IE.

18 Q.   AND UNDER WHAT SCENARIO DID IE POP UP IN DR. FARBER'S

19 FACE?

20 A.   WE WOULD HAVE TO LOOK AT HIS TESTIMONY AND SEE

21 EXACTLY WHAT HE SAID ABOUT THAT, BUT BY READING HIS

22 TESTIMONY, HE DID REFER TO THAT SEVERAL TIMES.

23 Q.   ISN'T IT TRUE, DR. FELTEN, THAT PROFESSOR FARBER

24 NEVER EXPLAINED WHEN IT WAS THAT IE, QUOTE, POPPED UP IN

25 HIS FACE, UNQUOTE?

1 A.   I DON'T RECALL WHETHER HE GAVE A PRECISE

2 CHARACTERIZATION, BUT I BELIEVED HIM WHEN HE SAID UNDER

3 OATH THAT IT DID.

4 Q.   AND DR. FELTEN, ISN'T IT TRUE THAT PROFESSOR FARBER

5 WAS DESCRIBING AN INSTALLATION OF BETA SOFTWARE INTERNET

6 EXPLORER 5?

7 A.   I DON'T KNOW WHETHER HE WAS OR NOT. I ONLY REMEMBER

8 WHAT HE SAID ABOUT WHAT WAS OCCURRING, WHICH WAS THAT HE

9 TRIED TO USE NETSCAPE NAVIGATOR WITH WINDOWS 98 AND WAS

10 FRUSTRATED IN THE ATTEMPT.

11 Q.   I WOULD LIKE TO REFER YOU TO THE COMPLAINT THAT WAS

12 FILED BY THE DEPARTMENT OF JUSTICE IN THIS MATTER AND ASK

13 YOU A COUPLE OF QUESTIONS ABOUT THAT.

14   (DOCUMENT HANDED TO THE WITNESS.)

15 Q.   NOW, SIR, DID THE DEPARTMENT OF JUSTICE ASK YOU TO

16 REVIEW THE COMPLAINT AND COMMENT ON IT BEFORE IT WAS

17 FILED?

18 A.   THIS IS THE COMPLAINT FILED IN MAY?

19 Q.   YES.

20 A.   NO, I DON'T BELIEVE THEY DID.

21 Q.   WOULD YOU PLEASE DIRECT YOUR ATTENTION TO PAGE SEVEN

22 OF THE COMPLAINT, PARAGRAPH 20.

23 A.   OKAY.

24 Q.   THE SECOND SENTENCE SAYS, "ALTHOUGH IT IS TECHNICALLY

25 FEASIBLE AND PRACTICABLE TO REMOVE MICROSOFT'S INTERNET

1 BROWSER SOFTWARE FROM WINDOWS 98 AND TO SUBSTITUTE OTHER

2 INTERNET BROWSER SOFTWARE, OEM'S ARE PREVENTED FROM DOING

3 SO BY MICROSOFT'S CONTRACTUAL TIE-IN."

4   DO YOU SEE THAT, SIR?

5 A.   THAT'S NOT THE HIGHLIGHTED TEXT.

6   THE COURT: WHERE ARE YOU READING FROM?

7   MR. HEINER: I'M READING FROM PARAGRAPH 20, YOUR

8 HONOR, PAGE SEVEN.

9   THE WITNESS: PERHAPS WE HAVE A DIFFERENT

10 DOCUMENT.

11 BY MR. HEINER:

12 Q.   DO YOU HAVE PARAGRAPH 20?

13 A.   YES, I DO. I'M SORRY. I WAS LOOKING AT WHAT WAS

14 HIGHLIGHTED.

15 Q.   OKAY. SO, DO YOU SEE THE SECOND SENTENCE, SIR, WHICH

16 I READ THE WHOLE THING AND PART OF IT IS HIGHLIGHTED?

17 A.   YES.

18 Q.   I WOULD LIKE TO FOCUS ON THE HIGHLIGHTED PART OF THE

19 SENTENCE AND LEAVE CONTRACTS FOR ANOTHER DAY.

20 A.   OKAY.

21 Q.   NOW, FOCUSING ON THE FIRST PART OF THE SENTENCE WHICH

22 IS HIGHLIGHTED, ISN'T IT TRUE, DR. FELTEN, THAT YOU HAVE

23 NOT FOUND ANY TECHNICALLY FEASIBLE AND PRACTICABLE WAY TO

24 REMOVE MICROSOFT'S INTERNET BROWSER SOFTWARE FROM

25 WINDOWS 98 IF, BY THE TERM "MICROSOFT'S INTERNET BROWSER

1   SOFTWARE," WE INCLUDE THE FOUR FILES THAT WERE AT THE

2   BOTTOM OF EXHIBIT 2028?

3   MR. MALONE: OBJECTION, YOUR HONOR. THAT

4   MISCHARACTERIZES THE PRIOR TESTIMONY ABOUT THE NATURE OF

5   THOSE FOUR FILES.

6   MR. HEINER: I'M JUST ASKING THE QUESTION. I'M

7   NOT CHARACTERIZING ANY TESTIMONY AT ALL.

8   THE COURT: OBJECTION IS OVERRULED. HE COULD

9   ANSWER IT IF HE UNDERSTANDS THE QUESTION AND KNOWS WHAT'S

10 CALLED FOR.

11   THE WITNESS: IF--IF THE QUESTION REQUIRES ME TO

12 ACCEPT THE DEFINITION THAT THOSE FOUR FILES

13 ARE--CONSIST--THOSE FOUR FILES MAKE UP MICROSOFT'S

14 INTERNET BROWSER SOFTWARE, THE DEFINITION I HAVE SAID

15 REPEATEDLY IS NOT THE CORRECT ONE, THEN I SUPPOSE YOU'RE

16 RIGHT.

17   FOR A MORE REASONABLE DEFINITION, HOWEVER, THE

18 QUESTION IS WRONG. THE SENTENCE IS PERFECTLY REASONABLE.

19 AND I SUSPECT THAT THE DEPARTMENT OF JUSTICE WROTE THIS

20 BECAUSE THEY HAD SEEN THE PROTOTYPE REMOVAL PROGRAM AT

21 THAT TIME.

22 BY MR. HEINER:

23 Q.   WELL, SIR, LET'S TAKE A LOOK AT THE COMPLAINT AND SEE

24 WHAT THE DEPARTMENT OF JUSTICE DID MEAN WHEN THEY USED THE

25 PHRASE "MICROSOFT'S INTERNET BROWSER SOFTWARE." AND I

1 WOULD SUGGEST TO YOU, SIR, THAT TERM, AS USED IN THE

2 COMPLAINT, INDEED, REFERS, AT A MINIMUM, TO THE FOUR FILES

3 AT THE BOTTOM OF EXHIBIT 2088.

4   MR. MALONE: OBJECTION, YOUR HONOR.

5 ARGUMENTATIVE. THERE IS NO QUESTION THERE.

6   THE COURT: THIS WITNESS HAD NOTHING TO DO WITH

7 THE DRAFTING OF THE COMPLAINT, HAS NO KNOWLEDGE OF WHAT

8 WAS IN THE MINDS OF THE DRAFTSMEN.

9   MR. HEINER: YES, YOUR HONOR. WHAT I WOULD LIKE

10 TO DO IS SHOW THE WITNESS PART OF THE COMPLAINT TO

11 ELUCIDATE THE MEANING OF THAT TERM WITHIN THIS TEXT.

12   THE COURT: THAT MAY BE PART OF THE COMPLAINT,

13 BUT WHAT YOU WERE DOING WAS STATING AS THE PREMISE OF YOUR

14 QUESTION MEANING WHAT THE DEPARTMENT OF JUSTICE REALLY

15 MEANT WHEN THEY WROTE THE COMPLAINT, AND THAT'S AN

16 INADMISSIBLE PREMISE.

17   MR. HEINER: I WILL WITHDRAW THAT, YOUR HONOR.

18   THE COURT: ALL RIGHT.

19 BY MR. HEINER:

20 Q.   LET'S LIKE AT PAGE 18 OF THE COMPLAINT, PARAGRAPH 56.

21 A.   OKAY.

22 Q.   PARAGRAPH 56 READS, THE FIRST SENTENCE, "INTERNET

23 BROWSERS ARE SPECIALIZED SOFTWARE PROGRAMS THAT ALLOW PC

24 USERS CONVENIENTLY TO LOCATE, ACCESS, DISPLAY, AND

25 MANIPULATE CONTENT AND APPLICATIONS LOCATED ON THE WEB.

1   DO YOU SEE THAT, SIR?

2 A.   YES, I SEE IT.

3 Q.   NOW, CONTENT ON THE WEB IS LOCATED VIA A WEB ADDRESS

4 ALSO OWN AS A URL; RIGHT?

5 A.   YES, BUT IT'S NOT THE CASE THAT EVERYTHING WITH A URL

6 IS ON THE WEB.

7 Q.   AND YOU URL HANDLING IS DONE BY THE FILE URLMON.DLL;

8 CORRECT?

9 A.   THERE IS CODE IN THAT FILE WHICH PERFORMS URL

10 HANDLING. THERE IS CODE ELSEWHERE IN THE SYSTEM. THERE

11 IS CODE IN THE NETSCAPE NAVIGATOR THAT HANDLES URL'S.

12 THERE IS CODE IN MICROSOFT WORD THAT HAS--THAT IMPLEMENTS

13 FUNCTIONS RELATED TO URL'S.

14 Q.   AND CONTENT IS ACCESSED VIA HTTP, AND THAT'S THE

15 FUNCTION OF WININET; RIGHT?

16 A.   THERE ARE PLENTY OF DIFFERENT WAYS IN WHICH CONTENT

17 CAN BE ACCESSED IN THIS--IN THIS CONTEXT.

18 Q.   AND WEB PAGES ARE DISPLAYED IN HTML, AND THAT'S THE

19 FUNCTION OF MSHTML; RIGHT?

20 A.   MOST WEB PAGES ARE WRITTEN IN MSHTML, BUT AS WE HAVE

21 BEEN THROUGH SEVERAL TIMES HERE, MSHTML IS A FILE. IT'S A

22 CONTAINER THAT CONTAINS A LOT OF THINGS. ONE OF THE

23 THINGS IN IT IS SOME CODE THAT IS RELATED TO HTML. THAT'S

24 NOT THE ONLY CODE RELATED TO HTML THAT'S NECESSARILY ON

25 THE USER SYSTEM.

1 Q.   NOW, SIR, WHEN THE TERM "INTERNET BROWSERS" IS USED

2 IN PARAGRAPH 56, AS IT IS HERE, REFERRING TO LOCATING

3 ACCESSING, DISPLAYING AND MANIPULATING CONTENTS AND

4 APPLICATIONS, PLAINLY IN THE CONTEXT OF WINDOWS 98, THAT

5 ENTAILS THE FOUR FILES WE HAVE BEEN DISCUSSING; CORRECT?

6   THE COURT: MR. HEINER, YOU'RE PLAYING WORD GAMES

7 WITH HIM NOW. HE'S TOLD YOU A DOZEN TIMES, AND MAYBE

8 MORE, THAT THERE IS CODE IN EACH OF THOSE FILES WHICH HAS

9 FUNCTIONALITY WITH RESPECT TO THE BROWSER. THERE IS ALSO

10 CODE THAT IS NOT, IN HIS JUDGMENT, RELATED TO THE BROWSER.

11   AND TO CONTINUE TO PURSUE THIS IN HOPES THAT HE'S

12 GOING TO MAKE A SLIP OF THE LIP, IS, I DON'T THINK,

13 APPROPRIATE CROSS-EXAMINATION.

14   NOW, HE MAY BE WRONG AND YOU HAVE A WITNESS WHO

15 WILL CONVINCE ME THAT HE IS WRONG, AND THAT ALL OF THE

16 CODE THAT'S CONTAINED IN THOSE FOUR FILES IS INDISPENSABLE

17 TO BROWSER FUNCTIONALITY, AND I'M PERFECTLY AMENABLE TO BE

18 PERSUADED TO THAT EFFECT. BUT TO PURSUE THIS LINE OF

19 QUESTIONING WITH THIS WITNESS SIMPLY APPEARS TO ME TO BE

20 INVITING HIM TO MAKE A CARELESS MISTAKE. YOU KNOW WHAT

21 THE PURPORT OF HIS TESTIMONY IS.

22   MR. HEINER: THAT WAS NOT MY INTENT, YOUR HONOR,

23 BUT LET'S TURN TO THE SUBJECT THAT YOUR HONOR HAS RAISED.

24 BY MR. HEINER:

25 Q.   DR. FELTEN, YOU TESTIFIED MANY, MANY TIMES, AS

1 PROFESSOR FARBER DID--CAN WE HAVE EXHIBIT 2088 BACK

2 UP--THAT THE FOUR FILES AT THE BOTTOM OF EXHIBIT 2088 ARE

3 CONTAINERS THAT INCLUDE BROWSING CODE AND, YOU SAY, SOME

4 NONBROWSING CODE AS WELL; IS THAT CORRECT?

5 A.   SURE, THEY CONTAIN ALL SORTS OF STUFF.

6 Q.   NOW, EVEN IF ONE WERE TO DIG INTO THOSE FILES MORE

7 DIRECTLY, YOU WOULD STILL NEED TO LEAVE WINDOWS 98 THE WAY

8 THE PROTOTYPE REMOVAL PROGRAM DOES, THE HTML ENGINE AND

9 THE URL HANDLING AND THE HTTP SUPPORT; ISN'T THAT RIGHT?

10 A.   I NEVER ADVOCATED REMOVING ALL THE CODE FROM ALL OF

11 THOSE FILES, NO.

12 Q.   NOW, IS IT YOUR TESTIMONY THAT MICROSOFT'S INTERNET

13 BROWSER SOFTWARE IS THE CODE IN THOSE FILES THAT IS NOT

14 SHARED?

15   THE COURT: ASK THAT AGAIN.

16 BY MR. HEINER:

17 Q.   IS IT YOUR TESTIMONY, DR. FELTEN, THAT MICROSOFT'S

18 INTERNET BROWSER SOFTWARE IS THE CODE IN THOSE FOUR FILES

19 THAT DOES NOT RELATE TO WEB BROWSING?

20 A.   MY DEFINITION OF MICROSOFT'S INTERNET BROWSER HAS

21 NOTHING TO DO WITH THOSE FOUR FILES OR WITH ANY FILES. IT

22 HAS TO DO WITH THAT WHICH ALLOWS THE USER TO BROWSE THE

23 WEB.

24 Q.   WHICH SOFTWARE IN WINDOWS 98 IS THAT WHICH ALLOWS THE

25 USER TO BROWSE THE WEB?

1 A.   I THINK THAT--I THINK THE DEFINITION SPEAKS FOR

2 ITSELF.

3   ARE YOU REALLY ASKING ME TO GO AND GO THROUGH THE

4 14 OR 18 MILLION LINES OF CODE ONE BY ONE AND TELL YOU

5 WHICH IS THIS AND WHICH IS THAT?

6 Q.   WELL, THERE IS AN ALLEGATION IN THE CASE THAT THERE

7 IS A SEPARATE PRODUCT CALLED "INTERNET EXPLORER" AND THAT

8 THAT PRODUCT IS BEING TIED TO WINDOWS. AND I'M SIMPLY

9 ASKING YOU: WHAT IS THE SOFTWARE THAT MAKES UP THE TIED

10 PRODUCT, IF YOU KNOW?

11 A.   AS I SAID MANY TIMES, WHAT THE WEB-BROWSER PRODUCT IS

12 IS DEFINED BY THE ABILITY THAT IT PROVIDES THE USER TO

13 BROWSE THE WEB. AND IF YOU ASK ME WHAT IS THE WEB BROWSER

14 PRODUCT, THAT'S MY ANSWER. IT'S--WHAT THE PRODUCT IS IS

15 THE ABILITY TO BROWSE THE WEB.

16   IF YOU LOOK, FOR EXAMPLE, AT THAT DICTIONARY THAT

17 MICROSOFT PUBLISHED WHICH WAS HERE THE OTHER DAY--AND LOOK

18 AT THE DEFINITION OF "WEB BROWSER." THE PART THAT WAS

19 HIGHLIGHTED THE OTHER DAY WAS THE PART THAT SAYS THAT IT'S

20 AN APPLICATION. BUT THE SECOND PART OF THAT SENTENCE SAYS

21 THAT--SAYS WHAT SPECIFIC KIND OF APPLICATION IT IS, AND

22 THAT NARROWS IT DOWN BY TALKING ABOUT WHAT IT LET'S THE

23 USER DO. IT'S AN APPLICATION THAT CAN BE USED TO BROWSE

24 THE WEB. IF YOU LOOK UP WORD PROCESSOR OR SPREADSHEET, IT

25 WILL SAY AN APPLICATION THAT ALLOWS THE USER TO DO A, B OR

1 C, AND THAT'S THE WAY USERS THINK ABOUT IT, AND THAT'S THE

2 SENSIBLE DEFINITION.

3 Q.   LET'S GO BACK, IF WE COULD, DR. FELTEN, TO THE

4 COMPLAINT, PAGE SEVEN, PARAGRAPH 20. ONE OF THE

5 ALLEGATIONS IN THE CASE, DR. FELTEN, IS THAT IT IS

6 TECHNICALLY FEASIBLE AND PRACTICABLE TO REMOVE MICROSOFT'S

7 INTERNET BROWSER SOFTWARE FROM WINDOWS 98.

8   MY QUESTION TO YOU, SIR, IS: WHAT IS MICROSOFT'S

9 INTERNET BROWSER SOFTWARE THAT IT IS TECHNICALLY FEASIBLE

10 AND PRACTICABLE TO REMOVE?

11 A.   IT'S A SOFTWARE THAT PROVIDES THE USER WITH THE

12 ABILITY TO BROWSE THE WEB. YOU SAW IN THE VIDEOTAPE THAT

13 THAT WAS REMOVED, AND YOU SAW THAT NETSCAPE NAVIGATOR WAS

14 PUT IN ITS PLACE.

15 Q.   THERE IS A REQUEST IN THIS CASE FOR SOFTWARE TO BE

16 REMOVED, AND WE NEED TO KNOW, IF YOU CAN TELL US AT THE

17 LEVEL OF FILES OR PROCEDURES OR WHAT HAVE YOU, WHAT

18 SOFTWARE MAKES UP INTERNET EXPLORER.

19 A.   THERE ARE PLENTY OF THINGS MICROSOFT COULD DO, PLENTY

20 OF WAYS THEY COULD GO ABOUT REMOVING THE INTERNET EXPLORER

21 WEB-BROWSING FUNCTION FROM WINDOWS 98. THE PROTOTYPE

22 REMOVAL PROGRAM DEMONSTRATES ONE WAY MICROSOFT COULD HAVE

23 DONE IT, BUT THERE ARE PLENTY OF OTHER WAYS. AND AS I

24 SAID IN MY TESTIMONY, MICROSOFT COULD PROBABLY FIND AN

25 EVEN BETTER WAY OF DOING IT.

1 Q.   YOU'RE FOCUSING ON FUNCTIONALITY, AND THAT'S FINE. I

2 UNDERSTAND THAT. MY QUESTION IS A LITTLE BIT DIFFERENT.

3 IT DOESN'T RELATE TO FUNCTIONALITY OR ACTIVITIES. IT

4 RELATES TO SOFTWARE SPECIFICALLY IN THE CONTEXT OF

5 PARAGRAPH 20.

6   CAN YOU TELL THE COURT WHAT IS MICROSOFT'S

7 INTERNET BROWSER SOFTWARE THAT IT IS FEASIBLE TO REMOVE

8 FROM WINDOWS 98? YOU MAY BE UNABLE TO DO SO.

9 A.   I THINK I ANSWERED THIS SEVERAL TIMES. IT'S THAT

10 SOFTWARE WHICH ALLOWS THE USER TO BROWSE THE WEB. IF THE

11 ABILITY TO BROWSE THE WEB IS REMOVED, THEN THE

12 INTERNET-BROWSING SOFTWARE IS GONE. AS I SAID THIS

13 MORNING, THAT'S MY DEFINITION OF INTERNET-BROWSER

14 SOFTWARE.

15 Q.   PLEASE TURN, IF YOU WOULD, SIR, TO PAGE THREE,

16 PARAGRAPH NINE, OF THE COMPLAINT.

17 A.   OKAY.

18 Q.   THE FIRST SENTENCE READS, "SECOND, MICROSOFT

19 RECOGNIZED THAT NETSCAPE'S BROWSER WAS, ITSELF, A PLATFORM

20 TO WHICH MANY APPLICATIONS WERE BEING WRITTEN, AND TO

21 WHICH, IF IT THRIVED, MORE AND MORE APPLICATIONS COULD BE

22 WRITTEN. SINCE NETSCAPE'S BROWSER COULD BE RUN ON ANY PC

23 OPERATING SYSTEM, THE SUCCESS OF THIS ALTERNATIVE PLATFORM

24 ALSO THREATENED TO REDUCE OR ELIMINATE A KEY BARRIER

25 PROTECTING MICROSOFT'S OPERATING SYSTEM MONOPOLY.

1   NOW, SIR, AFTER THE PROTOTYPE REMOVAL PROGRAM IS

2   RUN, MOST OF THE PLATFORM CAPABILITY OF MICROSOFT'S

3   INTERNET BROWSER SOFTWARE REMAINS IN WINDOWS 98; ISN'T

4   THAT RIGHT?

5   A.   NO, I DON'T THINK IT'S ACCURATE TO CHARACTERIZE WHAT

6   REMAINS AS THE PLATFORM CAPABILITY OF MICROSOFT'S INTERNET

7   EXPLORER SOFTWARE. THERE ARE SOME PLATFORM CAPABILITIES

8   IN WINDOWS 98 THAT REMAINED, BUT THERE WAS--THE PROTOTYPE

9   REMOVAL PROGRAM WAS NOT--WAS NOT INTENDED TO DEMONSTRATE

10 THAT WINDOWS 98 COULD BE CRIPPLED.

11   IN FACT, THE WHOLE IDEA OF THE PROTOTYPE REMOVAL

12 PROGRAM WAS TO SHOW THAT WITHOUT CRIPPLING WINDOWS 98 AT

13 ALL, THE USER COULD BE GIVEN THE FREE CHOICE OF WHICH

14 BROWSING SOFTWARE TO USE.

15 Q.   THAT'S RIGHT. YOU WENT OUT OF YOUR WAY IN YOUR

16 WRITTEN TESTIMONY TO MAKE THE POINT THAT ALL THIRD-PARTY

17 APPLICATIONS WILL RUN FINE ON THE VERSION OF WINDOWS 98

18 THAT RESULTS FROM RUNNING THE PROTOTYPE REMOVAL PROGRAM;

19 RIGHT?

20 A.   THAT'S RIGHT.

21   AND IE WILL ALSO RUN FINE IF YOU INSTALL IT ON

22 THAT SYSTEM.

23 Q.   SO, THE PLATFORM CAPABILITIES ASSOCIATED WITH

24 MICROSOFT'S WEB-BROWSING SOFTWARE, IN FACT, REMAIN IN

25 WINDOWS 98 AND ARE AVAILABLE FOR PEOPLE TO USE EVEN AFTER

1 THE PROTOTYPE REMOVAL PROGRAM IS RUN; RIGHT, SIR?

2 A.   NO. AS I SAID A FEW MINUTES AGO, THERE ARE PLATFORM

3 SERVICES THAT REMAIN WHICH ARE PLATFORM SERVICES OF

4 WINDOWS 98. THE WEB BROWSING--MICROSOFT'S WEB-BROWSING

5 SOFTWARE IS GONE, AND BUT THINGS NOT HAVING TO DO WITH WEB

6 BROWSING OR PLATFORM SERVICES WHICH HAVE MANY PURPOSES

7 STILL REMAIN.

8 Q.   THE BOTTOM FOUR FILES ON EXHIBIT 28 HAVE LITERALLY

9 HUNDREDS OF API'S ASSOCIATED WITH THEM; ISN'T THAT RIGHT?

10 A.   YES, MANY OF WHICH HAVE NOTHING AT ALL TO DO WITH

11 BROWSING.

12 Q.   AND MANY OF WHICH HAVE EVERYTHING TO DO WITH

13 BROWSING; ISN'T THAT RIGHT?

14 A.   THERE ARE SOME API'S THAT ARE USED IN BROWSING IN

15 THOSE FILES, YES.

16 Q.   IN FACT, THE PRIMARY FUNCTION OF THOSE FOUR FILES IS

17 TO PROVIDE SUPPORT FOR WEB-BROWSING STANDARDS; ISN'T THAT

18 RIGHT?

19 A.   NO, I DON'T BELIEVE THAT'S CORRECT.

20   MR. MALONE: OBJECTION. ASKED AND ANSWERED.

21   THE WITNESS: IF YOU LOOK AT PRIMARY PURPOSE OF

22 WININET.DLL, FOR EXAMPLE, I UNDERSTAND THE PRIMARY PURPOSE

23 OF THAT--OF THE CODE IN THAT FILE TO BE SUPPORTING VARIOUS

24 INTERNET STANDARDS, SOME OF WHICH, AGAIN, HAVE NOTHING TO

25 DO WITH BROWSING.

1   EVEN HTTP, WHICH IS USED IN BROWSING, IS USED FOR

2   OTHER PURPOSES AS WELL. FOR EXAMPLE, THE QUICKBOOK

3   SOFTWARE FROM INTUIT USES HTTP TO DOWNLOAD SOFTWARE

4   UPDATES TO ITSELF, USES HTTP TO DOWNLOAD TAX TABLE UPDATES

5   AND SO ON. HTTP HAS MANY USES.

6   Q.   AND THAT'S ONE OF THE GREAT BENEFITS OF MICROSOFT'S

7   DESIGN OF WINDOWS 98, ISN'T IT?

8   A.   ABSOLUTELY. AND IT'S A BENEFIT THAT MICROSOFT CAN

9   PROVIDE TO ISV'S WITHOUT REQUIRING USERS TO USE IE 4.

10 Q.   I WOULD LIKE TO ASK YOU A FEW QUESTIONS NOW ABOUT THE

11 EFFECT OF RUNNING THE PROTOTYPE REMOVAL PROGRAM ON

12 WINDOWS 98 FROM A CUSTOMER PERSPECTIVE.

13 A.   OKAY.

14 Q.   IN THE MICROSOFT VERSION OF WINDOWS 98, A CUSTOMER

15 CAN TAKE IN A PC, PLUG IT IN, AND BEFORE TOO LONG, SIGN UP

16 FOR AN INTERNET CONNECTION AUTOMATICALLY AND BE SURFING

17 THE WEB; ISN'T THAT TRUE?

18 A.   SURE, BUT NOTHING ABOUT THE--NOTHING ABOUT THE WAY

19 THAT MICROSOFT HAS FORCED USERS TO USE IE 4 CONTRIBUTES TO

20 THAT. THAT COULD BE--THAT SAME BENEFIT COULD BE PROVIDED

21 IF IE 4 WAS AN OPTION THAT THE USER COULD USE. THAT SAME

22 BENEFIT COULD BE PROVIDED IF ANOTHER BROWSER WAS

23 PRE-INSTALLED AND MADE THE DEFAULT BEFORE THE OEM SHIPPED

24 THE PC TO THE USER.

25   THIS IS A COMPLETELY SEPARATE ISSUE FROM WHETHER

1 MICROSOFT HAS TO FORCE USERS TO USE IE 4.

2 Q.   WOULD YOU AGREE THAT SOME CUSTOMERS MIGHT LIKE TO

3 OPEN UP A NEW PC, PLUG IT IN, AND GET CONNECTED TO THE

4 INTERNET EASILY?

5 A.   ABSOLUTELY.

6   I THINK ALSO THAT THOSE CUSTOMERS WOULD PREFER TO

7 HAVE THE BROWSER OF THEIR CHOICE PRE-INSTALLED ON THE

8 SYSTEM. AND I'M NOT SAYING THAT OEM'S SHOULD NOT BE FREE

9 TO DO THAT. THE WHOLE POINT THAT I'M TRYING TO MAKE IN MY

10 TESTIMONY AND THE WHOLE POINT OF THE PROTOTYPE REMOVAL

11 PROGRAM IS TRYING TO MAKE IS THAT THAT CHOICE COULD BE

12 PROVIDED TO END USERS, TO OEM'S AND ALL ALONG THE SUPPLY

13 CHAIN SO THAT USERS CAN HAVE WHAT THEY WANT.

14 Q.   NOW, IN THE DOJ VERSION OF WINDOWS 98, THE INTERNET

15 SIGNUP FUNCTIONALITY IS MISSING; ISN'T THAT RIGHT?

16 A.   I DON'T KNOW WHETHER IT'S PRESENT OR NOT.

17   BUT AGAIN, THIS IS ONLY ONE CONFIGURATION. THE

18 WHOLE IDEA OF THE PROTOTYPE REMOVAL PROGRAM IS TO SHOW

19 THAT THE USER CAN HAVE CHOICE, AND IT'S CERTAINLY NOT THE

20 CASE THAT THAT'S THE ONLY WAY AN OEM CAN SHIP THE MACHINE

21 TO A USER. OEM'S CERTAINLY WILL--OR I SHOULD SAY I WILL

22 EXPECT OEM'S TO TAKE ADVANTAGE OF THE INNOVATIVE SOFTWARE

23 THAT'S OUT THERE NOT PROVIDED BY MICROSOFT TO PROVIDE

24 THOSE FEATURES IF THEY FEEL THAT SOFTWARE BETTER MEETS THE

25 NEEDS OF THEIR USERS.

1 Q.   IN THE MICROSOFT VERSION OF WINDOWS 98, A CUSTOMER

2 CAN CLICK ON THE START MENU, OPEN THE RUN BOX, TYPE IN A

3 WEB ADDRESS, AND SEE THAT WEB PAGE; RIGHT?

4 A.   ABSOLUTELY.

5   AND IF THE PROTOTYPE REMOVAL PROGRAM HAS BEEN

6 RUN, AND THEN NETSCAPE HAS BEEN REINSTALLED ON THE SYSTEM,

7 THE USER CAN OPEN THAT SAME BOX, TYPE THAT SAME ADDRESS

8 AND VIEW THAT SAME PAGE WITH NETSCAPE.

9 Q.   FOR NOW I WOULD LIKE TO FOCUS, IF WE COULD, ON SOME

10 MICROSOFT SOFTWARE WINDOWS 98. BEFORE, IN OTHER WORDS, AS

11 MICROSOFT DESIGNED IT, AND THEN AFTER THE PROTOTYPE

12 REMOVAL PROGRAM IS RUN; OKAY?

13 A.   SO, YOU'RE POSTULATING THAT ALL PC'S THAT ARE SHIPPED

14 TO CONSUMERS WILL BE SHIPPED WITH ONLY THAT SOFTWARE?

15 Q.   NO SUCH POSTULATE WHATSOEVER, DR. FELTEN. IT'S A

16 SIMPLE QUESTION.

17 A.   I'M TALKING ABOUT SYSTEMS ON WHICH THE OEM'S HAVE

18 PRE-INSTALLED THE SOFTWARE THAT THEIR USERS WANT AND

19 INCLUDING, PERHAPS, ALTERNATIVE BROWSERS.

20 Q.   YOUR TESTIMONY IS THAT IF FUNCTIONALITY IS REMOVED

21 FROM WINDOWS 98, THEN FUNCTIONALITY CAN BE RESTORED WITH

22 OTHER SOFTWARE; RIGHT?

23 A.   NO, THAT'S NOT WHAT I'M SAYING. I'M SAYING THAT

24 WINDOWS 98 CAN BE DESIGNED SO IT RESPECTS THE USER'S AND

25 THE OEM'S CHOICE OF WHAT SOFTWARE THEY WANT TO USE. AND

1 I'M SAYING THAT THERE IS NO TECHNOLOGICAL REASON THAT

2 MICROSOFT HAS TO TAKE AWAY THAT CHOICE.

3 Q.   NOW, THE MICROSOFT VERSION OF WINDOWS 98 ENABLES

4 CUSTOMERS TO DISPLAY CONTINUOUSLY UPDATED INFORMATION FROM

5 THE WEB RIGHT ON THE DESKTOP SCREEN OF THEIR COMPUTER;

6 RIGHT?

7 A.   THAT'S RIGHT. WINDOWS 98, AS SHIPPED, PROVIDES USERS

8 WITH THAT CAPABILITY.

9 Q.   YOU SHOWED US THAT, IN FACT, IN THE VIDEOTAPE, I

10 THINK; IS THAT RIGHT?

11 A.   YES.

12 Q.   FOR EXAMPLE, A CUSTOMER MIGHT DISPLAY A CONTINUOUSLY

13 UPDATED STOCK TICKER RIGHT ON THE DESKTOP, OR SPORTS

14 SCORES; IS THAT RIGHT?

15 A.   THAT'S RIGHT.

16 Q.   NOW, MICROSOFT CALLS THAT FEATURE OF WINDOWS 98 THE

17 ACTIVE DESKTOP; CORRECT?

18 A.   YES, THAT'S WHAT THEY CALL IT.

19 Q.   DOES THE ACTIVE DESKTOP FUNCTION PROPERLY IN THE DOJ

20 VERSION OF WINDOWS 98?

21 A.   IF YOU'RE TALKING ABOUT A MACHINE FROM WHICH WEB

22 BROWSING HAS BEEN REMOVED PRESUMABLY BECAUSE THE USER

23 DOESN'T WANT WEB BROWSING, THEN NO.

24   BUT, IF A USER WANTS WEB BROWSING, IF THEY WANT

25 THE ACTIVE DESKTOP FEATURE, THEY COULD GO AHEAD AND

1 INSTALL IE 4 ON THAT SYSTEM, OR THE OEM CAN DO IT FOR

2 THEM, AND THEN THEY COULD HAVE ALL THE BENEFITS THAT IE 4

3 PROVIDES NOW. NOTHING ABOUT THE PROTOTYPE REMOVAL PROGRAM

4 PREVENTS THE USER WHO WANTS TO USE IE 4 FROM USING IT, BUT

5 WHAT'S DIFFERENT IS THAT THERE NO LONGER IS ANYTHING THAT

6 PREVENTS THE USER WHO WANTS TO USE NETSCAPE OR ALTERNATIVE

7 BROWSER FROM USING IT FULLY.

8 Q.   I WOULD LIKE TO ASK YOU A QUESTION ABOUT THE DOJ

9 VERSION OF WINDOWS 98, NOT ABOUT NETSCAPE OR ANYTHING

10 ELSE.

11   DOES THE ACTIVE DESKTOP FUNCTION WORK PROPERLY IN

12 THE DOJ VERSION OF WINDOWS 98?

13 A.   IF THAT'S THE ONLY SOFTWARE THAT'S INSTALLED ON THE

14 SYSTEM AND THE USER HAS NOT YET HAD THE OPPORTUNITY TO

15 INSTALL THE SOFTWARE OF THEIR CHOICE, THEN THAT'S RIGHT.

16   THE POINT, THOUGH, IS NOT THAT THIS IS THE WAY

17 ALL MACHINES WILL BE SHIPPED TO USERS. IN THE REAL WORLD,

18 USERS BUY MACHINES FROM THE OEM'S WITH LOTS OF SOFTWARE

19 PRE-INSTALLED ON IT.

20 Q.   DR. FELTEN, ISN'T IT THE CASE THAT EVEN IF NETSCAPE

21 NAVIGATOR IS INSTALLED ON THE DOJ VERSION OF WINDOWS 98,

22 THE ACTIVE DESKTOP REMAINS BROKEN?

23 A.   IF THE USER CHOOSES TO USE NETSCAPE NAVIGATOR AND

24 NETSCAPE NAVIGATOR DOES NOT HAVE AN ACTIVE DESKTOP

25 FEATURE, THEN THAT USER DOESN'T GET THOSE FEATURES OF

1 SOFTWARE THEY DIDN'T CHOOSE TO USE. IF THE USER WANTS

2 ACTIVE DESKTOP BADLY, THEY COULD USE IE 4, SINCE ACTIVE

3 DESKTOP IS A FEATURE OF IE 4.

4 Q.   ARE YOU AWARE THAT IN THE MICROSOFT DESIGN OF

5 WINDOWS 98, A CUSTOMER CAN BROWSE DIFFERENT INFORMATION

6 SOURCES IN A SINGLE WINDOW?

7 A.   YES. THAT'S ALSO TRUE AFTER THE PROTOTYPE REMOVAL

8 PROGRAM HAS BEEN--I SHOULD SAY THE USE OF THE WORD

9 "BROWSE" THERE IS--IS NOT WHAT I WOULD USE. I WOULD SAY

10 THE USER COULD VIEW DIFFERENT INFORMATION SOURCES IN THE

11 SAME WINDOW. AND THAT'S THE CASE, IN FACT, WITH--EVEN

12 AFTER THE PROTOTYPE REMOVAL PROGRAM HAS BEEN RUN.

13   THE ABILITY TO VIEW DIFFERENT KINDS OF CONTENT IN

14 THE SAME WINDOW, AS I EXPLAINED IN MY TESTIMONY, COMES

15 FROM A MICROSOFT SPECIFICATION CALLED "ACTIVE DOCUMENTS,"

16 AND THAT SPECIFICATION IS COMPLETELY GENERAL IN THE SENSE

17 THAT IT ALLOWS ANYONE TO WRITE SOFTWARE THAT CAN DISPLAY

18 FILES IN AN EMBEDDED SUBWINDOW. MICROSOFT WORD COULD DO

19 THAT. IE COULD DO THAT. AND THERE IS NOTHING TO STOP AN

20 ALTERNATIVE BROWSER COMPANY LIKE NETSCAPE FROM DOING THAT.

21 THERE IS NOTHING ABOUT THE WAY THAT PARTICULAR FEATURE

22 WORKS WHICH REQUIRES MICROSOFT TO FORCE THEIR USERS TO USE

23 IE 4.

24 Q.   DO YOU REMEMBER THE QUESTION I ASKED, SIR?

25 A.   YES. YOU WERE ASKING THE QUESTION ABOUT WHETHER THAT

1 ABILITY TO BROWSE--BROWSE, AS YOU PUT IT, DIFFERENT

2 INFORMATION SOURCES IN THE SAME WINDOW WAS DEPENDENT ON

3 WHETHER THE PROTOTYPE REMOVAL PROGRAM HAD BEEN RUN OR NOT.

4 Q.   THAT'S NOT THE QUESTION, SIR.

5 A.   OKAY.

6 Q.   ALL I ASKED YOU WAS, ARE YOU AWARE THAT SUCH A

7 CAPABILITY EXISTS IN WINDOWS 98, THE ABILITY TO VIEW, AS

8 YOU PUT IT, DIFFERENT INFORMATION SOURCES IN A SINGLE

9 WINDOW.

10 A.   YES, I'M AWARE OF THAT.

11 Q.   NOW, ONE WAY TO DO THAT IS THROUGH WHAT'S CALLED

12 WINDOWS EXPLORER; CORRECT?

13 A.   RIGHT.

14   AS I EXPLAINED, WINDOWS EXPLORER, VIA THIS ACTIVE

15 DOCUMENTS FEATURE, ALLOWS MANY DIFFERENT KINDS OF FILE

16 VIEWING SOFTWARE TO DISPLAY FILES IN WHAT I CALL EMBEDDED

17 SUBWINDOWS. AND THERE IS A PICTURE OF MICROSOFT WORD

18 DOING THAT, IN MY WRITTEN TESTIMONY.

19 Q.   AND SO THE CONCEPT IS A CUSTOMER CAN TAKE WINDOWS 98

20 AND USE WINDOWS EXPLORER AND VIEW INFORMATION ON THE HARD

21 DRIVE OF THE PC OR BY TYPING A DIFFERENT ADDRESS INTO THE

22 ADDRESS BAR, GO OUT AND LOOK AT INFORMATION ON A LOCAL

23 AREA NETWORK; OR BY TYPING A WEB ADDRESS INTO THE ADDRESS

24 BAR, GO OUT AND VIEW INFORMATION ON THE WEB. THAT'S THE

25 CONCEPT; RIGHT?

1 A.   THAT SEEMED TO BE THE CONCEPT YOU'RE TALKING ABOUT.

2 Q.   THAT'S WHAT WINDOWS EXPLORER DOES?

3 A.   NO, I DON'T THINK THAT'S THE CORRECT

4 CHARACTERIZATION.

5   WINDOWS--WINDOWS EXPLORER IS THE FILE-MANAGEMENT,

6 FILE-VIEWING SOFTWARE THAT COMES WITH WINDOWS 98, AND

7 THERE IS AN ADDRESS BAR. AND IF THE USER TYPES INTO THAT

8 ADDRESS BAR, LET'S SAYS, A WEB ADDRESS, THEN THE USER'S

9 WEB-BROWSING SOFTWARE WILL LAUNCH, AND IT WILL GO TO THAT

10 WEB ADDRESS.

11   THE FACT--THE DISPLAYING OF THAT WEB INFORMATION

12 IS NOT A FEATURE OF WINDOWS UPDATE. IT'S A FEATURE OF THE

13 WEB-BROWSING SOFTWARE THAT WINDOWS UPDATE LAUNCHES.

14 Q.   YOU WILL AGREE WITH ME THAT THERE IS SOME FEATURE IN

15 WINDOWS 98--CHARACTERIZE IT HOWEVER YOU WISH--THAT PUTS

16 THE WINDOW ON THE SCREEN AND FROM WITHIN THAT SINGLE

17 WINDOW, A CUSTOMER CAN VIEW INFORMATION SOURCES ON THE

18 HARD DRIVE, ON THE LOCAL AREA NETWORK, OR ON THE WEB;

19 RIGHT?

20 A.   WINDOWS EXPLORER PROVIDES THE WINDOW FRAME, IF YOU

21 WILL.

22   AND IF YOU'RE TALKING ABOUT VIEWING INFORMATION

23 ON THE WEB, WINDOWS--INTERNET EXPLORER--THE WEB BROWSER

24 PROVIDES THE EMBEDDED SUBWINDOW.

25 Q.   AND YOU HAVE TESTIFIED IN THIS CASE THAT SOME

1 CUSTOMERS MAY LIKE THAT CAPABILITY, TO VIEW INFORMATION

2 FROM DIFFERENT SOURCES IN A SINGLE WINDOW; CORRECT?

3 A.   SURE, AND THOSE THINGS ARE WHY CUSTOMERS WANT TO BE

4 ABLE TO CHOOSE WHICH BROWSER THEY USE.

5 Q.   AND SOME CUSTOMERS MAY FIND IT A MORE NATURAL WAY TO

6 VIEW INFORMATION; RIGHT?

7 A.   SURE. SOME CUSTOMERS MAY CHOOSE TO USE IE 4 FOR THAT

8 REASON. OTHER CUSTOMERS MIGHT NOT LIKE THAT AND MIGHT

9 CHOOSE TO USE OTHER BROWSING SOFTWARE IF THEY HAVE THE

10 CHOICE.

11 Q.   NOW, IT'S TRUE, ISN'T IT, THAT THE ABILITY TO VIEW

12 DIFFERENT INFORMATION SOURCES IN A SINGLE WINDOW DOES NOT

13 WORK IN THE DOJ VERSION OF WINDOWS 98?

14 A.   REGARDLESS OF WHICH VERSION OF WINDOWS 98 YOU HAVE,

15 IN ORDER TO VIEW INFORMATION IN THAT WAY, YOU NEED TO HAVE

16 WINDOWS EXPLORER WHICH PROVIDES THE FRAME WINDOW, AND YOU

17 NEED TO HAVE A WEB BROWSER THAT CAN DISPLAY INFORMATION

18 INSIDE THE EMBEDDED SUBWINDOW. AND SO YOU DO NEED TWO

19 PIECES OF SOFTWARE IN ORDER TO DO THAT.

20 Q.   IT'S TRUE, ISN'T IT, THAT THE ABILITY TO BROWSE

21 DIFFERENT INFORMATION SOURCES IN A SINGLE WINDOW DOES NOT

22 WORK IN THE DOJ VERSION OF WINDOWS 98? CAN YOU ANSWER

23 THAT QUESTION, SIR?

24 A.   IF YOU'RE REFERRING TO A VERSION IN WHICH THE USER

25 HAS CHOSEN TO REMOVE WEB BROWSING, THAT'S CORRECT, THE

1 ABILITY TO BROWSE THE WEB IS NO LONGER THERE EITHER IN A

2 SEPARATE WINDOW OR IN THE SAME WINDOW. THAT'S THE WHOLE

3 POINT THE SAME USER IS PRESUMABLY TRYING TO ACHIEVE WHEN

4 THEY CHOSE TO OPERATE WITH NO WEB BROWSER.

5 Q.   AND YOU SAID OVER AND OVER AGAIN THAT THE CONCEPT OF

6 THE PROTOTYPE REMOVAL PROGRAM IS A USER MIGHT THEN RESTORE

7 THE FUNCTIONALITY THAT WAS REMOVED BY INSTALLING NETSCAPE

8 NAVIGATOR, FOR EXAMPLE; RIGHT?

9 A.   THE USER CAN GET THE WEB-BROWSING FUNCTIONALITY THEY

10 WANT. THEY COULD INSTALL THE WEB BROWSER OF THEIR CHOICE

11 AFTER THE PROTOTYPE REMOVAL PROGRAM HAS BEEN RUN. THE

12 WHOLE IDEA IS TO DEMONSTRATE THAT THE USER'S CHOICE CAN BE

13 RESPECTED.

14   AND I'M NOT SAYING WHICH BROWSING SOFTWARE USERS

15 WILL OR SHOULD CHOOSE. THE WHOLE POINT IS TO MAKE THAT

16 CHOICE AVAILABLE TO THE USER.

17   AND THE MAIN POINT OF MY TESTIMONY IS, AS I SAID

18 OVER AND OVER IN RESPONSE TO THESE REPEATED QUESTIONS, IS

19 THAT--IS THAT THERE IS NO TECHNOLOGICAL REASON WHY

20 MICROSOFT HAD TO TAKE AWAY THE USER'S CHOICE IN THAT WAY.

21 Q.   NOW, EVEN IF NETSCAPE IS INSTALLED ON THE SYSTEM, THE

22 ABILITY TO BROWSE INFORMATION IN A SINGLE WINDOW IS STILL

23 BROKEN; ISN'T THAT RIGHT?

24 A.   NETSCAPE DOES NOT, AT PRESENT, PROVIDE THAT FEATURE.

25 NETSCAPE COULD CERTAINLY PRODUCE A NEW VERSION OF THEIR

1 BROWSER WHICH PROVIDES THAT FEATURE. ANYBODY COULD

2 PRODUCE A BROWSER THAT PROVIDES THAT FEATURE.

3 Q.   NETSCAPE HAS NOT DONE THAT ENGINEERING WORK TO DATE;

4 ISN'T THAT RIGHT?

5 A.   THEY HAVE NOT DONE THAT YET. APPARENTLY, THEY OR

6 THEIR CUSTOMERS HAVE NOT DECIDED THAT IT'S VALUABLE ENOUGH

7 TO THEM.

8 Q.   NOW, IN YOUR WRITTEN TESTIMONY AND WE DISCUSSED IT A

9 LITTLE BIT TODAY ALREADY, THE WINDOWS UPDATE FEATURE;

10 RIGHT?

11 A.   YES.

12 Q.   THE WINDOWS UPDATE FEATURE CONNECTS CUSTOMERS TO A

13 WEB SITE MAINTAINED BY MICROSOFT THAT ALLOWS THE USER TO

14 MAINTAIN THE PC SOFTWARE BY UPDATING THE WINDOWS 98 SYSTEM

15 SOFTWARE; RIGHT?

16 A.   I WOULD HAVE TO HEAR EVERY WORD OF THAT AGAIN TO MAKE

17 SURE I AGREED EXACTLY WITH WHAT YOU SAID. YOU COULD

18 REPEAT IT.

19 Q.   WHY DON'T YOU STATE FOR THE COURT WHAT IT IS THAT THE

20 WINDOWS UPDATE FEATURE DOES.

21 A.   WINDOWS UPDATE ALLOWS THE USER TO HAVE THE SYSTEM

22 SOFTWARE, SUCH AS DEVICE DRIVERS, ON THEIR SYSTEM

23 INSPECTED TO SEE IF ANY OF IT'S OUT OF DATE. IF IT'S OUT

24 OF DATE, IT GIVES THE USER THE OPPORTUNITY TO DOWNLOAD

25 UP-TO-DATE VERSIONS AND INSTALL THEM.

1 Q.   NOW, THERE ARE WAYS IN WHICH A CUSTOMER MIGHT BENEFIT

2 FROM A WINDOWS UPDATE FEATURE; RIGHT?

3 A.   THAT'S RIGHT.

4   AND THAT'S ONE REASON WHY THE PROTOTYPE REMOVAL

5 PROGRAM DOES NOT TAKE AWAY THE WINDOWS UPDATE FEATURE.

6 TWO REASONS, ONE, IT'S USEFUL; AND TWO, IT'S REALLY NOT A

7 WEB-BROWSING FEATURE.

8 Q.   DR. FELTEN, ISN'T IT TRUE THAT THE WINDOWS UPDATE

9 FEATURE IS ALMOST ENTIRELY NONFUNCTIONAL AFTER THE

10 PROTOTYPE REMOVAL PROGRAM IS RUN?

11 A.   NO, I DON'T BELIEVE THAT'S THE CASE.

12   I SHOULD SAY--HANG ON. WE ARE GETTING INTO AN

13 ISSUE HERE THAT WAS ONE OF THE THINGS THAT'S CHANGED SINCE

14 I FILED MY TESTIMONY, SO LET ME TALK ABOUT THAT FOR A

15 MINUTE.

16 Q.   SIR, THE QUESTION IS: ISN'T IT TRUE THAT THE WINDOWS

17 UPDATE FEATURE IS ALMOST ENTIRELY NONFUNCTIONAL AFTER THE

18 PROTOTYPE REMOVAL PROGRAM IS RUN? IT'S A YES-OR-NO KIND

19 OF QUESTION.

20 A.   LET ME EXPLAIN WHAT THE SITUATION IS WITH REGARD TO

21 THAT.

22   IN SEPTEMBER, IN EARLY SEPTEMBER, WE PROVIDED

23 MICROSOFT WITH THE SOURCECODE FOR THE PROTOTYPE REMOVAL

24 PROGRAM. AND ON THE 4TH OF DECEMBER, TEN DAYS AGO,

25 MICROSOFT MODIFIED SOME OF THE SOFTWARE THAT THEY

1 DISTRIBUTE AS PART OF THE WINDOWS UPDATE FEATURE IN A WAY

2 THAT MADE IT INCOMPATIBLE WITH THE PROTOTYPE REMOVAL

3 PROGRAM.

4   SPECIFICALLY, IT WAS MODIFIED IN TWO WAYS. THE

5 FIRST--THE FIRST WAY WAS THAT THE SOFTWARE WAS MADE TO

6 DOWNLOAD A FILE IN AN ATTEMPT TO PUT THAT FILE INTO THE

7 SAME DIRECTORY, INTO THE INTERNET EXPLORER DIRECTORY.

8 SINCE THAT DIRECTORY IS NO LONGER PRESENT, THE ATTEMPT TO

9 DOWNLOAD THAT FILE DOESN'T WORK.

10   THIS IS A VERY EASY THING FOR MICROSOFT TO FIX.

11 SIMPLY PUT THE FILE ANYWHERE ELSE. AND WE HAVE VERIFIED

12 THAT THAT FIX WORKS.

13   THERE IS ANOTHER CHANGE THAT MICROSOFT MADE AT

14 THIS TIME, WHICH IS SIMPLY A BUG IN THAT THE MICROSOFT

15 CODE, AT ONE POINT, FAILS TO INITIALIZE A PART OF THE

16 MICROSOFT API CALLED "COM." THIS IS A SIMPLE BUG.

17   SO, MICROSOFT INTRODUCED THOSE TWO CHANGES AFTER

18 SEEING OUR PROTOTYPE REMOVAL PROGRAM, AND THOSE TWO

19 CHANGES HAD THE EFFECT OF MAKING WINDOWS UPDATE

20 INCOMPATIBLE WITH THE PROTOTYPE REMOVAL PROGRAM. WE HAVE

21 VERIFIED THAT MICROSOFT COULD EASILY FIX BOTH OF THOSE

22 CHANGES, AND WE VERIFIED THAT BY MAKING MODIFICATIONS TO

23 THE SOFTWARE SO THAT IT WORKS AGAIN.

24   BUT IT'S TRUE THAT AS MICROSOFT--IF YOU LOOK AT

25 THE SOFTWARE THAT MICROSOFT IS OFFERING TODAY, IT DOESN'T

1 WORK BECAUSE OF THESE INCOMPATIBILITIES THAT MICROSOFT

2 INTRODUCED.

3   THE COURT: LET'S SEE IF I UNDERSTAND THAT

4 TESTIMONY. YOU ARE TELLING ME THAT IN THE COURSE OF

5 DISCOVERY IN THIS CASE YOU PROVIDED THE SOURCECODE FOR

6 YOUR PROTOCOL, REMOVAL PROTOCOL?

7   THE WITNESS: YES. THAT HAPPENED OVER THE LABOR

8 DAY WEEKEND.

9   THE COURT: THEREFORE, THERE APPEARS TO HAVE BEEN

10 PRODUCT CHANGES BY MICROSOFT?

11   THE WITNESS: THE CHANGE WAS TO--TECHNICALLY TO

12 AN ACTIVEX CONTROL, WHICH IS A PROGRAM THAT MICROSOFT

13 PROVIDES FOR DOWNLOAD. AND AS PART OF THIS WINDOWS UPDATE

14 FEATURE, THIS PROGRAM GETS AUTOMATICALLY DOWNLOADED TO THE

15 USER'S PC. AND THERE WERE CHANGES TO THIS FILE, AND THE

16 CHANGES HAD THE EFFECT OF MAKING THE FILE INCOMPATIBLE

17 WITH THE PROTOTYPE REMOVAL PROGRAM.

18 BY MR. HEINER:

19 Q.   DR. FELTEN, ISN'T IT TRUE THAT THE WINDOWS UPDATE

20 FEATURE WAS ENTIRELY DYSFUNCTIONAL AFTER THE PROTOTYPE

21 REMOVAL PROGRAM IS RUN BACK IN SEPTEMBER 1998, THE DAY YOU

22 GAVE US THE CODE, SIR?

23 A.   NO, THAT'S NOT THE CASE. AFTER GIVING MICROSOFT THE

24 CODE--SINCE GIVING MICROSOFT THE CODE, I HAVE RUN WINDOWS

25 UPDATE ON MY PRIMARY DESKTOP PC, WHICH IS RUNNING A

1 VERSION--ON WHICH THE PROTOTYPE REMOVAL PROGRAM HAS BEEN

2 RUN, SO THAT IS NOT THE CASE.

3 Q.   DR. FELTEN, ISN'T IT THE CASE THAT THE WINDOWS UPDATE

4 WEB SITE WAS DYSFUNCTIONAL AFTER THE PROTOTYPE REMOVAL

5 PROGRAM WAS RUN EVERY DAY IN SEPTEMBER, OCTOBER, AND

6 NOVEMBER 1998?

7 A.   NO, I DO NOT BELIEVE THAT TO BE THE CASE.

8 Q.   ISN'T IT TRUE THAT THE SEARCH BAR ACROSS THE TOP OF

9 THE WINDOWS UPDATE SITE, WHICH IS ESSENTIAL FUNCTIONALITY

10 TO THAT SITE, IS TOTALLY DYSFUNCTIONAL AFTER THE PROTOTYPE

11 REMOVAL PROGRAM IS RUN?

12 A.   NO, I KNOW OF NO REASON TO BELIEVE THAT. I HAVE USED

13 WINDOWS UPDATE SUCCESSFULLY MYSELF SEVERAL TIMES SINCE

14 THEN WITHOUT SEEING ANY PROBLEM.

15 Q.   YOU HAVE TESTIFIED THAT APPLICATIONS CREATED BY ISV'S

16 RUN FINE ON WINDOWS 98 AFTER THE PROTOTYPE REMOVAL PROGRAM

17 HAS BEEN RUN; ISN'T THAT RUE?

18 A.   THAT'S CORRECT. I KNOW OF NO APPLICATION WHICH FAILS

19 TO RUN CORRECTLY.

20 Q.   NOW, SOME APPLICATIONS MAY MAKE USE OF MIKE'S HTML

21 SOFTWARE IN WINDOWS 98; RIGHT?

22 A.   THEY MAY, YES.

23 Q.   DID YOU KNOW, SIR, THAT AFTER THE PROTOTYPE REMOVAL

24 PROGRAM IS RUN, THE HTML SOFTWARE IN WINDOWS 98 DISPLAYS

25 PAGES TWO TO 300 PERCENT MORE SLOWLY?

1 A.   I HAVE NO--I HAVE SEE NOTHING TO INDICATE THAT THAT'S

2 THE CASE.

3 Q.   SOME APPLICATIONS--

4 A.   NOR, IF IT IS THE CASE, I HAVE NO REASON TO BELIEVE

5 THAT IT HAS ANYTHING TO DO WITH THE PROTOTYPE REMOVAL

6 PROGRAM. THERE ARE PLENTY OF PERFORMANCE ISSUES WITH THE

7 SOFTWARE AS IT STANDS NOW.

8 Q.   MY QUESTION, SIR, IS THE EFFECT OF RUNNING THE

9 PROTOTYPE REMOVAL PROGRAM ON WINDOWS 98, AND I'M

10 SUGGESTING TO YOU THAT THE HTML SOFTWARE RUNS TWO TO 300

11 PERCENT MORE SLOWLY AND ASKING YOU: ISN'T THAT TRUE?

12 A.   I HAVE NO REASON TO BELIEVE THAT THAT'S TRUE.

13   I SHOULD TELL YOU THAT FOR SEVEN AND A HALF

14 MONTHS NOW I HAVE BEEN USING A PC FROM WHICH INTERNET

15 EXPLORER HAS BEEN REMOVED AND NETSCAPE SUBSTITUTED--THAT'S

16 SINCE THE 23RD OF APRIL--ON MY PRIMARY DESKTOP COMPUTER AT

17 WORK.

18   AND SINCE I'M A COMPUTER SCIENTIST, I USE THAT

19 MACHINE PRETTY INTENSELY. I HAVE SEEN NO PROBLEMS IN THAT

20 TIME.

21   MY PRIMARY DESKTOP COMPUTER AT HOME I HAVE BEEN

22 USING WINDOWS 98 IN THE SAME CONFIGURATION WITH WEB

23 BROWSING REMOVED AND NETSCAPE IN PLACE SINCE THE MIDDLE OF

24 AUGUST. MY TESTIMONY IN THIS CASE WAS WRITTEN ON THAT

25 MACHINE, AND I HAVE NEVER SEEN A PROBLEM--

1   THE WITNESS: OTHER THAN THE WINDOWS UPDATE ISSUE

2 WHICH I DESCRIBED TO YOU BEFORE, YOUR HONOR.

3 BY MR. HEINER:

4 Q.   SOME APPLICATIONS MAY MAKE USE OF MICROSOFT SOFTWARE

5 FOR HANDLING URL'S; IS THAT RIGHT, SIR?

6 A.   YES.

7 Q.   AND THE PROTOTYPE REMOVAL PROGRAM ACTUALLY MODIFIES

8 THE FILE THAT HANDLES URL'S CALLED URLMON.DLL IN THREE

9 WAYS; ISN'T THAT RIGHT, SIR?

10 A.   IT DOES MODIFY THE FILE, AND I WOULD HAVE TO LOOK TO

11 TELL WHETHER THE THREE WAYS WAS (SIC) ACCURATE.

12 Q.   ISN'T IT TRUE, SIR, THAT AFTER THOSE MODIFICATIONS

13 ARE MADE, THE URL SOFTWARE FUNCTIONS UP TO 700 PERCENT

14 MORE SLOWLY?

15 A.   I'M NOT AWARE OF ANY DECREASE IN PERFORMANCE.

16 EVERYTHING THAT I KNOW ABOUT HOW WINDOWS 98 WORKS AND WHAT

17 THE PROTOTYPE REMOVAL PROGRAM DOES LEADS ME TO BELIEVE

18 THAT THERE IS NO SIGNIFICANT CHANGE IN PERFORMANCE, AND I

19 HAVE NOT SEEN ANY CHANGE IN PERFORMANCE ON THE SYSTEMS IN

20 THAT--IN THOSE SEVEN AND A HALF MONTHS.

21   MR. HEINER: NO FURTHER QUESTIONS, YOUR HONOR.

22   THE COURT: ALL RIGHT. WE WILL TAKE A BRIEF

23 RECESS.

24   (BRIEF RECESS.)

25   THE COURT: ALL RIGHT.

1   REDIRECT EXAMINATION

2 BY MR. MALONE:

3 Q.   GOOD AFTERNOON, PROFESSOR FELTEN.

4 A.   GOOD AFTERNOON.

5 Q.   RIGHT BEFORE WE TOOK THE BREAK, MR. HEINER ASKED YOU

6 A NUMBER OF QUESTIONS ABOUT VARIOUS PARTS OF WINDOWS 98

7 AND THE WEB BROWSING THAT MICROSOFT PACKAGES WITH

8 WINDOWS 98 AND HOW THOSE THINGS FUNCTIONED AFTER YOUR

9 PROTOTYPE REMOVAL PROGRAM WAS RUN. DO YOU RECALL THAT

10 GENERALLY?

11 A.   YES.

12 Q.   AND ONE OF THE THINGS SPECIFICALLY THAT YOU WERE

13 ASKED ABOUT WAS THE EFFECT OF YOUR PROTOTYPE REMOVAL

14 PROGRAM ON THE ACTIVE DESKTOP. DO YOU RECALL THAT?

15 A.   YES.

16 Q.   CAN YOU EXPLAIN TO THE COURT WHY, AFTER RUNNING YOUR

17 PROTOTYPE REMOVAL PROGRAM, THE ACTIVE DESKTOP NO LONGER

18 WORKS? NOT ON A TECHNICAL LEVEL, BUT WHY CONCEPTUALLY IS

19 THAT THE CASE?

20 A.   SURE. ACTIVE DESKTOP IS A WEB-BROWSING FEATURE OF

21 IE 4, AND SINCE THE PROTOTYPE REMOVAL PROGRAM REMOVES

22 IE 4, IT NATURALLY REMOVES THE ACTIVE DESKTOP FEATURE.

23   HAVING DONE THAT, A USER WHO WANTS THE ACTIVE

24 DESKTOP FEATURE MAY CHOOSE TO REINSTALL IE 4 AND GET THAT

25 FEATURE, OR A USER WHO WANTS TO USE WHO PREFERS THE

1 FEATURES OF NETSCAPE NAVIGATOR OR SOME OTHER BROWSER COULD

2 INSTALL THAT OTHER BROWSER AND USE IT.

3 Q.   AND IF A USER CHOOSES AFTER THE PROTOTYPE REMOVAL

4 PROGRAM HAS BEEN RUN AND WEB BROWSING REMOVED FROM

5 WINDOWS 98, IF THE USER THEN CHOOSES TO INSTALL INTERNET

6 EXPLORER ON THAT COMPUTER, WILL THE ACTIVE DESKTOP

7 FUNCTION IN THE SAME WAY AS IT CURRENTLY DOES THE WAY

8 MICROSOFT PACKAGES WINDOWS 98 TOGETHER?

9 A.   SURE. IT WILL WORK JUST FINE. ALL OF THE FUNCTIONS

10 OF INTERNET EXPLORER 4 WILL WORK FINE, AS FAR AS WE CAN

11 TELL.

12 Q.   IS THERE ANY TECHNICAL REASON WHY INTERNET EXPLORER 4

13 WEB BROWSING MUST BE PRE-INSTALLED BY MICROSOFT IN THE

14 WINDOWS 98 PACKAGE IN ORDER TO GET--TO PROVIDE THE

15 FUNCTIONALITY OF THE ACTIVE DESKTOP TO THOSE USERS WHO

16 WOULD CHOOSE THAT FUNCTIONALITY?

17 A.   NO, THERE IS NO REASON THAT MICROSOFT HAS TO PUT

18 IT--TO PACKAGE IT WITH WINDOWS 98. MICROSOFT--AS A

19 TECHNICAL MATTER, IT COULD BE PACKAGED WITH WINDOWS 98.

20 IT COULD BE PUT--IF THE USE WANTS IT, IT COULD BE PUT ONTO

21 THE SYSTEM BY THE OEM. IT COULD BE PUT ONTO THE USER BY

22 THE STORE WHERE THEY BUY THE COMPUTER--ONTO THE COMPUTER

23 AT THE STORE WHERE THE USER BUYS THE COMPUTER, OR THE END

24 USER COULD CHOOSE TO PUT IT ON.

25   AS A TECHNOLOGICAL MATTER, IT DOESN'T MATTER WHO

1 PUTS THAT FEATURE ONTO THE SYSTEM.

2 Q.   NOW, MR. HEINER ALSO ASKED YOU SOME QUESTIONS ABOUT

3 WHAT HE CALLED THE "SINGLE WINDOW," I THINK WHAT YOU

4 CALLED THE "EMBEDDED WINDOW," IN THE WINDOWS EXPLORER IN

5 WINDOWS 98. DO YOU RECALL THAT?

6 A.   YES.

7 Q.   AND HE SUGGESTED THAT AFTER THE PROTOTYPE REMOVAL

8 PROGRAM IS RUN, THE USER WILL NO LONGER BE ABLE TO SEE WEB

9 PAGES, FOR EXAMPLE, OR ANYTHING ON THE INTERNET IN THAT

10 EMBEDDED WINDOW OF WINDOWS EXPLORER; CORRECT?

11 A.   YES.

12 Q.   AGAIN, CAN YOU EXPLAIN TO THE COURT ON A CONCEPTUAL

13 LEVEL WHY THAT IS THE CASE.

14 A.   SURE. THE PROTOTYPE REMOVAL PROGRAM REMOVES INTERNET

15 EXPLORER. IT REMOVES THE ABILITY TO BROWSE THE WEB, AND

16 IT PREPARES THE MACHINE TO ACCEPT THE INSTALLATION OF

17 ANOTHER WEB BROWSER.

18   SO, IF YOU'RE IN THAT STATE WHERE IE WEB BROWSING

19 HAS BEEN REMOVED AND NOTHING HAS BEEN PUT IN ITS PLACE,

20 THEN ALL OF THE WEB-BROWSING FUNCTIONS, FEATURES ARE NOT

21 THERE; AND, IN PARTICULAR, THE ABILITY TO DISPLAY A WEB

22 PAGE INSIDE AN EMBEDDED SUBWINDOW IS GONE.

23 Q.   NOW, SIMILAR QUESTION TO WHAT I ASKED A MOMENT AGO

24 FOR THE ACTIVE DESKTOP. FOR A USER WHO WANTS TO CHOOSE TO

25 INSTALL THE INTERNET EXPLORER WEB BROWSER ONTO A

1 WINDOWS 98 MACHINE, WILL THAT USER BE ABLE TO ACHIEVE THE

2 SAME--TO GET THE SAME FUNCTIONALITY OF HAVING THE WEB

3 BROWSER WORK IN THIS BEDDED WINDOW AS IF THE USER GOT

4 WINDOWS 98 THE WAY MICROSOFT CURRENTLY PACKAGES IT

5 ALTOGETHER?

6 A.   SURE. WHETHER MICROSOFT DELIVERS THAT ALONG WITH

7 WINDOWS 98 OR WHETHER THE OEM PUTS IT IN PLACE OR WHETHER

8 THE END USER PUTS IT IN PLACE, THE RESULT IS THE SAME.

9 ONCE IE 4 IS INSTALLED ON THE USER SYSTEM, ITS FEATURES

10 ARE AVAILABLE TO THE USER.

11 Q.   AND AGAIN, IS THERE ANY TECHNICAL REASON OR

12 TECHNOLOGICAL REASON WHY MICROSOFT--IN ORDER TO GET THAT

13 FEATURE, WHY INTERNET EXPLORER 4 WOULD HAVE TO BE

14 PRE-INSTALLED BY MICROSOFT IN WINDOWS 98 RATHER THAN

15 SEPARATELY INSTALLED BY AN OEM OR USER OR SOMEONE ELSE

16 LATER?

17 A.   NO, THERE IS NO TECHNOLOGICAL REASON FOR THAT. THE

18 RESULT IS THE SAME REGARDLESS OF WHERE IN THE SUPPLY CHAIN

19 THE IE 4 IS INSTALLED.

20 Q.   AND IS THAT FACT WHICH YOU JUST STATED TRUE FOR OTHER

21 FEATURES OF INTERNET EXPLORER 4 WEB BROWSING IN WINDOWS 98

22 THAT SOME USERS MIGHT WANT TO CHOOSE BY CHOOSING INTERNET

23 EXPLORER?

24 A.   SURE, THAT'S TRUE FOR ALL OF THE FEATURES OF IE 4.

25 THE USER WHO CHOOSES TO USE IE 4 CAN INSTALL IT AND GET

1 THE BENEFITS OF IE 4. THE USER WHO WANTS SOMETHING ELSE

2 CAN CHOOSE TO DO THINGS ANOTHER WAY.

3 Q.   AS A TECHNICAL MATTER, WAS IT NECESSARY FOR MICROSOFT

4 TO COMBINE THE ACTIVE DESKTOP FEATURE WITH THE INTERNET

5 EXPLORER WEB BROWSER FEATURE?

6 A.   COULD YOU ASK THE QUESTION AGAIN?

7 Q.   SURE.

8   AS A TECHNICAL MATTER, WAS IT NECESSARY FOR

9 MICROSOFT TO COMBINE THE ACTIVE DESKTOP INTERFACE FEATURES

10 WITH THE INTERNET EXPLORER BROWSER FEATURES AS THEY

11 CURRENTLY PACKAGE THEM IN WINDOWS 98?

12 A.   NO. AS A TECHNICAL MATTER, THAT WAS NOT NECESSARY.

13 Q.   AND AGAIN, FROM A TECHNICAL STANDPOINT, COULD

14 MICROSOFT MAKE THE ACTIVE DESKTOP AVAILABLE AS AN OPTION

15 OR PART--AVAILABLE AS AN OPTION SEPARATE FROM THE INTERNET

16 EXPLORER WEB BROWSER?

17 A.   YES. IF THEY WANTED TO DO THAT, THERE WOULD BE

18 NOTHING TECHNICAL STOPPING THEM FROM DOING IT.

19 Q.   AND GIVEN THAT, WOULD IT BE POSSIBLE, TECHNICALLY,

20 FOR MICROSOFT TO GIVE OEM'S OR TO GIVE END USERS THE

21 OPPORTUNITY TO CHOOSE WHICH BROWSER THEY WANT OR, AS YOU

22 SAID EARLIER, TO CHOOSE NO BROWSER AT ALL, WHILE STILL

23 INCLUDING THE ACTIVE DESKTOP INTERFACE IN WINDOWS 98?

24 A.   ABSOLUTELY. MICROSOFT CAN GIVE THE USERS, THE OEM'S

25 AND EVERYONE ALONG THE SUPPLY CHAIN, THE FREEDOM TO CHOOSE

1 HOW THEY WANT THESE PRODUCTS TO BE CONFIGURED. THERE IS

2 NOTHING TECHNOLOGICAL--THERE ARE NO TECHNOLOGICAL ISSUES

3 THAT PREVENT THAT FROM HAPPENING.

4 Q.   LET ME JUST ASK YOU A COUPLE OF OTHER QUESTIONS ABOUT

5 THE WINDOWS EXPLORER AND THE EMBEDDED WINDOW THAT

6 MR. HEINER ASKED YOU SOME QUESTIONS ABOUT. I WOULD LIKE

7 TO PUT UP YOUR WRITTEN DIRECT TESTIMONY, PAGE 15,

8 PARAGRAPH 44, THE COLORED CHART, AND ASK YOU TO LOOK AT

9 THE PICTURE OR THE CHART THAT'S ON TOP OF THE PAGE THERE.

10 DO YOU SEE THAT?

11 A.   YES.

12 Q.   COULD YOU JUST DESCRIBE VERY BRIEFLY WHERE THE

13 EMBEDDED WINDOW THAT YOU WERE REFERRING TO EARLIER IS,

14 WITHIN THE WINDOWS EXPLORER.

15 A.   SURE. IN THE LOWER RIGHT-HAND REGION OF THAT WINDOW,

16 AND OUTLINED IN GREEN FOR THOSE WITH COLORED COPIES, IS A

17 SUBWINDOW. INSIDE IT THERE IS--INSIDE IT THERE IS A

18 MICROSOFT WORD DOCUMENT THAT SAYS "INTEROFFICE MEMORANDUM"

19 AT THE TOP. THAT WHOLE PAGE IN MICROSOFT WORD AND THE

20 SURROUNDING--AND ON THE LEFT SIDE OF THAT PAGE THERE IS A

21 RULER RUNNING ALONG ITS LEFT SIDE VERTICALLY. YES, THAT

22 AREA WHERE THE MOUSE IS. THAT'S ALSO PART OF THE EMBEDDED

23 SUBWINDOW, AND ABOVE THE DOCUMENT THERE IS--THERE IS THREE

24 ROWS OF LITTLE ICONS WHICH ARE ALSO PART OF IT.

25 Q.   AND I BELIEVE YOU TESTIFIED EARLIER IN

1 CROSS-EXAMINATION THAT VARIOUS SOFTWARE APPLICATIONS OTHER

2 THAN JUST THE BROWSER CAN USE THIS EMBEDDED WINDOW TO

3 DISPLAY INFORMATION; IS THAT CORRECT?

4 A.   THAT'S RIGHT. THIS ACTIVE--THIS "ACTIVE DOCUMENTS"

5 SPECIFICATION THAT MICROSOFT HAS RELEASED ALLOWS ANYONE TO

6 WRITE A PIECE OF SOFTWARE THAT CAN DISPLAY ANYTHING IN AN

7 EMBEDDED SUBWINDOW LIKE THIS.

8   AND SO, ONE OF THE POINTS TO MAKE ABOUT THIS IS

9 THAT THE FACT THAT A COMPLETELY SEPARATE APPLICATION LIKE

10 MICROSOFT WORD OR LIKE SOME ISV APPLICATION CAN DISPLAY

11 SOMETHING IN THAT EMBEDDED SUBWINDOW, DOES NOT IMPLY THAT

12 MICROSOFT WORD OR THAT ISV APPLICATION IS PART OF WINDOWS

13 EXPLORER. IT JUST SAYS THAT IT CAN DISPLAY SOMETHING

14 INSIDE THAT WINDOW FRAME THAT WINDOWS EXPLORER PUTS UP.

15 Q.   AND DOES THE FACT THAT OTHER APPLICATIONS LIKE

16 MICROSOFT WORD OR, PERHAPS, THIRD-PARTY ISV APPLICATIONS

17 CAN USE THE EMBEDDED WINDOW AS A VIEWER TO DISPLAY THINGS

18 SAY ANYTHING ABOUT WHETHER OR NOT THAT APPLICATION IS PART

19 OF THE OPERATING SYSTEM?

20 A.   NO. CERTAINLY, IF IT DID, ONE WOULD HAVE TO CONCLUDE

21 THAT FROM THIS PICTURE THAT MICROSOFT WORD IS PART OF THE

22 OPERATING SYSTEM, AND WE KNOW THAT'S NOT THE CASE.

23 Q.   NOW, RIGHT NEAR THE END OF YOUR TESTIMONY, MR. HEINER

24 ASKED YOU SOME QUESTIONS ABOUT THINGS THAT MAY HAPPEN TO

25 WINDOWS UPDATE OR THINGS THAT MAY HAPPEN TO THE

1 PERFORMANCE OF CERTAIN PARTS OF WINDOWS 98 AFTER YOUR

2 PROTOTYPE REMOVAL PROGRAM IS RUN. DO YOU RECALL THAT

3 GENERALLY?

4 A.   YES.

5 Q.   IF, IN FACT, IT'S THE CASE THAT THERE ARE SMALL BUGS

6 IN THE PROTOTYPE THAT YOU HAVE DEVELOPED, WOULD THAT

7 EFFECT THE SUBSTANCE OF YOUR TESTIMONY OVERALL?

8 A.   NO, NOT AT ALL.

9   BUGS ARE PRETTY MUCH PAR FOR THE COURSE IN THIS

10 INDUSTRY. ANY SIGNIFICANT PIECE OF SOFTWARE IS GOING TO

11 HAVE BUGS, AND IT'S A ROUTINE PART OF THE SOFTWARE

12 DEVELOPMENT PROCESS TO TEST YOUR SOFTWARE, TO FIND BUGS

13 AND TO FIX THEM.

14   AND THE FACT THAT YOU HAVEN'T GOTTEN ALL THE BUGS

15 OUT DOESN'T MEAN THAT THE SOFTWARE DOESN'T

16 BASICALLY--DOESN'T BASICALLY WORK. CERTAINLY, MICROSOFT

17 HAS NOT GOTTEN ALL THE BUGS OUT OF WINDOWS 98 OR IE; AND

18 YET, ONE WOULD NOT REPRESENT THAT THEY DON'T BASICALLY

19 WORK.

20 Q.   NOW, SPECIFICALLY, MR. HEINER ASKED YOU SOME

21 QUESTIONS ABOUT WHETHER AFTER THE PROTOTYPE REMOVAL

22 PROGRAM IS RUN THERE IS ANY CHANGE IN THE SPEED OR

23 PERFORMANCE OF CERTAIN SPECIFIC FUNCTIONS OR MODULES. DO

24 YOU RECALL THAT?

25 A.   YES.

1 Q.   WHEN YOU WERE ASSESSING WHETHER OR NOT A CHANGE IN

2 ANY KIND OF PROGRAM AFFECTS PERFORMANCE, DO YOU LOOK AT

3 ONLY THE EFFECT ON ONE PARTICULAR PART, OR DO YOU LOOK

4 MORE BROADLY THAN THAT?

5 A.   NO, WHAT YOU REALLY CARE ABOUT IS THE EFFECT ON THE

6 USER'S EXPERIENCE, AND WHAT YOU WANT TO KNOW IS DO THE

7 THINGS THAT USERS ACTUALLY DO COMMONLY, ARE THEY AFFECTED

8 IN A WAY THAT UPSETS THE USER THAT MAKES THE USER UNHAPPY.

9   AND I COULD TELL YOU AS A PERSON WHO HAS USED

10 SYSTEMS ON WHICH THE PROTOTYPE REMOVAL PROGRAM HAS BEEN

11 RUN FOR ABOUT SEVEN AND A HALF MONTHS, THAT MY EXPERIENCE

12 AS A USER HAS NOT BEEN AFFECTED BY ANY POTENTIAL

13 PERFORMANCE ISSUES. EVERYTHING SEEMS TO WORK FINE AND BE

14 PERFECTLY QUICK, FROM MY STANDPOINT.

15   SO, SOMETIMES ONE COULD HAVE A PERFORMANCE ISSUE

16 IN A SMALL PIECE OF CODE WHICH IS JUST NOT IMPORTANT FOR

17 THE OVERALL USER EXPERIENCE.

18 Q.   AND CAN YOU EXPLAIN HOW, IF AT ALL, IT'S EVER THE

19 CASE THAT THERE MAY BE--WHEN YOU MAKE A CHANGE IN ANY

20 PIECE OF SOFTWARE, THERE MAY BE A REDUCTION IN THE

21 PERFORMANCE OF ONE SMALL PIECE OR AREA, BUT AN

22 IMPROVEMENT, PERHAPS EVEN A GREATER IMPROVEMENT, IN SOME

23 OTHER AREA?

24 A.   WELL, IN GENERAL, WHENEVER YOU CHANGE MUCH OF

25 ANYTHING, SOME THINGS GET SLOWER AND SOME THINGS GET

1 FASTER, AND SO IF YOU'RE SEARCHING FOR SOMETHING--SOME

2 SMALL THING WHICH YOU CAN FIND THAT HAS BEEN MADE SLOWER,

3 YOU COULD PROBABLY FIND SOMETHING.

4 BUT THE IMPORTANT THING IS WHAT IS THE OVERALL

5 EFFECT ON THE USER'S EXPERIENCE.

6 Q. NOW, MR. HEINER ASKED YOU SOME QUESTIONS ABOUT

7 WINDOWS UPDATE AND WHETHER OR NOT THE PROTOTYPE REMOVAL

8 PROGRAM CAUSED SOME DYSFUNCTION IN WINDOWS UPDATE EVEN

9 BEFORE THIS DECEMBER 4TH CHANGE IN MICROSOFT SOFTWARE THAT

10 YOU DESCRIBED. DO YOU RECALL THAT?

11 A. YES.

12 Q. AND JUST SO IT'S CLEAR, THE RECENT CHANGE THAT

13 MICROSOFT MADE IN THE BUG YOU TESTIFIED THEY INTRODUCED,

14 WERE THOSE THINGS THAT WERE DONE AFTER YOUR WRITTEN

15 TESTIMONY ABOUT THE PROGRAM THAT HAD BEEN PROVIDED TO

16 MICROSOFT AND THE ACTUAL SOURCECODE OF YOUR UTILITY HAD

17 BEEN PROVIDED TO THEM?

18 A. YES, THOSE THINGS OCCURRED AFTER MICROSOFT HAD THE

19 SOURCECODE FOR THE PROTOTYPE REMOVAL PROGRAM.

20 Q. FOCUSING ON MR. HEINER'S QUESTIONS ABOUT WHAT, IF

21 ANY, CHANGE IN THE FUNCTIONING OF WINDOWS UPDATE MAY HAVE

22 HAPPENED BEFORE DECEMBER 4TH, HAVE YOU EVER HEARD--EVER

23 SEEN IN ANY OF THE MICROSOFT DEPOSITIONS THAT YOU HAVE

24 REVIEWED OR HEARD MICROSOFT SAY IN ANY OTHER FORUM THAT

25 YOUR UTILITY, IN ANY WAY, AFFECTS THE WORKINGS OF WINDOWS

1 UPDATE?

2 A.   NO, I HAVE NOT HEARD THAT IN ANYTHING--IN ANY OF THE

3 PAPERS CONNECTED WITH THIS CASE OR IN ANY OF THE

4 TESTIMONY.

5 Q.   DID YOU REVIEW AT SOME POINT THE DEPOSITION OF

6 MR. ALLCHIN OF MICROSOFT THAT WAS TAKEN ON SEPTEMBER 29TH?

7 A.   YES, I DID.

8 Q.   OKAY. AND WAS THAT AFTER THE SOURCECODE FOR YOUR

9 REMOVAL PROGRAM HAD BEEN PROVIDED TO MICROSOFT?

10 A.   YES, ROUGHLY FOUR WEEKS AFTER, I BELIEVE.

11 Q.   AND DO YOU RECALL FROM THAT DEPOSITION WHETHER

12 MR. ALLCHIN HAD BEEN REVIEWING AND STUDYING YOUR PROTOTYPE

13 REMOVAL IN PREPARATION FOR HIS TESTIMONY LATER IN THIS

14 TRIAL?

15 A.   YES, HE SAID THAT HE HAD BEEN STUDYING IT.

16 Q.   TO THE BEST OF YOUR RECOLLECTION, DID MR. ALLCHIN SAY

17 ANYTHING IN HIS DEPOSITION TESTIMONY ON SEPTEMBER 29TH

18 ABOUT THE PROTOTYPE REMOVAL PROGRAM CAUSING ANY PROBLEMS

19 OR DYSFUNCTION IN WINDOWS UPDATE?

20 A.   NO, I DON'T RECALL HIM MENTIONING ANY SPECIFIC

21 PROBLEMS.

22 Q.   DO YOU RECALL--DO YOU RECALL HIM DESCRIBING ANY

23 SPECIFIC PROBLEMS THAT HE HAD IDENTIFIED OR WAS STUDYING

24 AT ALL IN YOUR PROGRAM?

25 A.   NO, I DON'T. THAT'S NOT NO, I DON'T KNOW. IT'S I

1 HAVE REVIEWED THAT--I REVIEWED HIS DEPOSITION, AND THERE

2 WAS NOTHING OF THAT NATURE IN IT AS FAR AS I CAN RECALL.

3 Q.   IF WE COULD, PLEASE, I WOULD LIKE YOU TO LOOK AT PAGE

4 22, PARAGRAPH 67, OF YOUR DIRECT TESTIMONY.

5 A.   OKAY.

6 Q.   NOW, LOOKING AT THE THIRD SENTENCE, THE ONE THAT

7 BEGINS "FORCING SOME USERS OR OEM'S," DO YOU SEE THAT?

8 A.   YES.

9 Q.   OKAY. IF WE COULD JUST HIGHLIGHT THAT SENTENCE,

10 PERHAPS.

11   MR. HEINER ASKED YOU ABOUT--SHOWED YOU THIS

12 SENTENCE AND ASKED YOU ABOUT PART OF IT. LET ME JUST READ

13 IT FOR THE RECORD.

14   "FORCING SOME USERS OR OEM'S TO TAKE SOFTWARE

15 THEY DO NOT WANT IS INEFFICIENT, SINCE THE UNWANTED

16 SOFTWARE NEEDLESSLY USES RESOURCES SUCH AS DISK SPACE AND

17 MEMORY, AND INCREASES THE COMPLEXITY OF THE USER INTERFACE

18 BY CLUTTERING IT WITH UNWANTED ICONS, MENU ITEMS AND

19 PROGRAMS."

20   NOW, MR. HEINER ASKED YOU ABOUT THE FIRST PART OF

21 THIS, "RESOURCES SUCH AS DISK SPACE," BUT HE DID NOT ASK

22 YOU ABOUT THE SECOND PART THAT YOU MENTIONED HERE, AND I

23 WOULD LIKE TO DO THAT.

24   CAN YOU EXPLAIN TO THE COURT WHAT, IF ANY,

25 NEEDLESS USE OF COMPUTER MEMORY IS CAUSED BY FORCING USERS

1 OR OEM'S TO TAKE SOFTWARE THEY DO NOT WANT, DO NOT CHOOSE

2 OR ANYTHING?

3 A.   SURE. IF YOU LOOK IN THE CASE OF IE 4 IN WINDOWS 98,

4 AS I SAID BEFORE, THERE IS A BUNCH--THERE IS SOME CODE

5 THAT IS SPECIFIC TO BROWSING WHICH IS BUNDLED WITH OTHER

6 CODE INSIDE SOME OF THESE DLL'S.

7   AND THE WAY THAT WINDOWS HAS IMPLEMENTED IT, THE

8 FIRST TIME ANY CODE IN A DLL IS USED, THE ENTIRE DLL GETS

9 LOADED INTO MEMORY. SO, IN PARTICULAR, IF YOU'RE TALKING

10 ABOUT A USER WHO DOESN'T WANT WEB BROWSING, THEN THE FIRST

11 TIME ANYTHING IN ONE OF THESE DLL'S GETS LOADED, THIS

12 UNWANTED CODE HAS TO GET LOADED INTO MEMORY. IT TAKES UP

13 SPACE, AND THAT'S A LIMITED RESOURCE.

14 Q.   AND YOU REVIEWED OR, AT LEAST, SCANNED THE TESTIMONY

15 IN COURT OF PROFESSOR FARBER IN THIS CASE; IS THAT RIGHT?

16 A.   YES, I DID.

17 Q.   AND YOU RECALL THAT PROFESSOR FARBER USED AN ANALOGY

18 OF GROCERY STORE THAT PACKAGES TOGETHER A GROUP OF

19 GROCERIES INTO A SINGLE SEALED BAG. DO YOU RECALL THAT?

20 A.   YES.

21 Q.   AND IS THAT A USEFUL ANALOGY OR USEFUL EXAMPLE FOR

22 YOU IN EXPLAINING THE PHENOMENON YOU JUST DESCRIBED OF

23 HAVING THINGS LOADED IN THE MEMORY THAT ARE NOT NEEDED?

24 A.   SURE. I THINK IT'S A GOOD ANALOGY TO EXPLAIN WHAT'S

25 GOING ON WITH RESPECT TO LOADING THINGS INTO MEMORY.

1 YOU'RE FORCING THE PERSON TO TAKE SOMETHING THAT THEY

2 DON'T WANT IN ORDER TO GET SOMETHING THAT THEY WANT,

3 BECAUSE THEY HAVE BEEN PACKAGED TOGETHER IN THIS ARBITRARY

4 WAY.

5 Q.   AND ARE THERE COSTS IN TERMS--CAN YOU EXPLAIN IN A

6 LITTLE MORE DETAIL WHAT THE COSTS, IF ANY, ARE OF HAVING

7 TO LOAD THESE THINGS AND HAVING TO ESSENTIALLY CARRY

8 AROUND, IF YOU WILL, THESE VARIOUS THINGS THAT ARE NOT

9 BEING USED AND ARE NOT WANTED.

10 A.   SURE, THERE ARE TWO COSTS THAT COME FROM LOADING

11 UNNECESSARY CODE INTO MEMORY. FIRST OF ALL, IT TAKES TIME

12 TO READ THAT CODE OFF THE DISK, AND THAT MEANS THAT THE

13 RESPONSE TIME OF SOME OPERATION IS SLOWER BECAUSE YOU

14 SPEND EXTRA TIME LOADING THIS DATA INTO MEMORY.

15   ALSO, THE UNWANTED CODE TAKES UP SPACE IN MEMORY,

16 AND MEMORY SPACE IS A LIMITED RESOURCE. SOMETHING ELSE

17 MAY HAVE TO GET MOVED OUT OF MEMORY OR SOMETHING ELSE MAY

18 NOT BE ABLE TO WORK BECAUSE THE SYSTEM HAS RUN OUT OF

19 MEMORY. THE USER ULTIMATELY MIGHT BE FORCED TO RUN OUT

20 AND BUY MORE MEMORY OR UPGRADE THEIR PC IN ORDER TO GET

21 ENOUGH MEMORY TO LOADED THE UNWANTED CODE ALONG WITH THE

22 CODE THEY ACTUALLY WANT.

23 Q.   NOW, YOU TESTIFIED A NUMBER OF TIMES IN RESPONSE TO

24 QUESTIONS FROM MR. HEINER THAT YOUR PROTOTYPE REMOVAL

25 PROGRAM DOESN'T REDUCE FUNCTIONALITY FOR THE USER, BUT

1 INSTEAD, ACTUALLY PROVIDES THE USER WITH A CHOICE OR WITH

2 MORE CHOICE THAN THEY HAD BEFORE. CAN YOU EXPLAIN IN A

3 LITTLE MORE DETAIL WHAT YOU MEAN WHEN YOU SAY THAT.

4 A.   SURE, I THINK THAT'S THE MAIN POINT THAT THE

5 PROTOTYPE REMOVAL PROGRAM DEMONSTRATES, THAT MICROSOFT CAN

6 GIVE CHOICE IN THIS WAY.

7   THERE IS AN ANALOGY THAT I THINK IS HELPFUL IN

8 UNDERSTANDING THIS SITUATION. I LIKE TO THINK OF AN

9 APPLICATION AS BEING LIKE A TOOL IN THE SENSE THAT IT'S

10 DESIGNED TO HELP YOU GET SOME JOB DONE. AND IF YOU WILL

11 ACCEPT FOR THE PURPOSE OF ANALOGY THAT A WEB BROWSER IS

12 LIKE A SCREWDRIVER. YOU CAN IMAGINE THAT SCREWDRIVER IS A

13 USEFUL THING.

14   AND WHAT WE ARE REALLY TALKING ABOUT HERE IS

15 MICROSOFT COMING ALONG AND ASKING, "IS THE SCREWDRIVER A

16 USEFUL THING?" AND I SAY, "YES, IT IS." AND THEY THEN

17 TAKE THE NEXT STEP OF GLUING THE SCREWDRIVER INTO MY HAND.

18 NOW, EVEN IF THE SCREWDRIVER IS USEFUL, I WOULD LIKE TO BE

19 ABLE TO USE OTHER SCREWDRIVERS FOR OTHER JOBS. I WOULD

20 LIKE TO BE ABLE TO SET THIS SCREWDRIVER DOWN SO I COULD DO

21 SOMETHING ELSE WITH THAT HAND.

22   AND IN PARTICULAR, IF YOU LOOK AT THIS ANALOGY,

23 THERE IS NO BENEFIT THAT I GET FROM HAVING THE SCREWDRIVER

24 GLUED INTO MY HAND.

25   THE COURT: NO, I DON'T THINK SO.

1   THE WITNESS: SO, WHAT THE PROTOTYPE REMOVAL

2   PROGRAM DOES IS IT SHOWS YOU DON'T NEED TO GLUE THE

3   SCREWDRIVER INTO MY HAND.

4   BY MR. MALONE:

5   Q.   PROFESSOR FELTEN, BASED ON THE WORK THAT YOU HAVE

6   DONE AND THE PROTOTYPE REMOVAL PROGRAM YOU HAVE DEVELOPED,

7   IS THERE ANY TECHNICAL REASON THAT YOU HAVE BEEN ABLE TO

8   IDENTIFY THAT MICROSOFT HAS TO PACKAGE TOGETHER ITS

9   INTERNET EXPLORER WEB BROWSER AND THE REST OF WHAT IT

10   CALLS "WINDOWS 98" IN ORDER TO PROVIDE TO USERS ANY OF THE

11   FUNCTIONS OR ANY OF THE BENEFITS THAT SOME USERS MAY WANT

12   IF THEY CHOOSE INTERNET EXPLORER?

13   A.   NO, THERE IS NO--THERE IS NOT BENEFIT THAT I CAN SEE

14   THAT MICROSOFT HAS ACHIEVED BY THAT. ALL THEY HAVE DONE

15   IS TAKEN AWAY THE CHOICE FROM THE USER.

16   MR. MALONE: NO FURTHER QUESTIONS, YOUR HONOR.

17   THE COURT: ALL RIGHT. DO YOU WANT SOME TIME,

18   MR. HEINER, OR ARE YOU READY TO GO FORWARD?

19   MR. HEINER: YES, SURE. FIVE MINUTES.

20   THE COURT: ALL RIGHT.

21   (BRIEF RECESS.)

22   THE COURT: ALL RIGHT, MR. HEINER.

23   RECROSS-EXAMINATION

24   BY MR. HEINER:

25   Q.   DR. FELTEN, DO YOU RECALL THAT MR. MALONE JUST NOW

1 ASKED YOU A FEW QUESTIONS ABOUT THE HTML SOFTWARE IN

2 WINDOWS 98 RUNNING MORE SLOWLY AFTER THE PROTOTYPE REMOVAL

3 PROGRAM IS RUN?

4 A.   HE ASKED ME SOME QUESTIONS RELATED TO PERFORMANCE

5 ISSUES, YES.

6 Q.   AND SOME OF THOSE PERFORMANCE ISSUES RELATED TO HTML

7 SOFTWARE; RIGHT?

8 A.   I'M NOT SURE WHETHER HE SPECIFICALLY MENTIONED HTML

9 SOFTWARE.

10 Q.   NOW, THE SPEED WITH WHICH A WEB PAGE LOADS IS A

11 SIGNIFICANT CONCERN FOR USERS; RIGHT?

12 A.   YES, USERS CARE ABOUT THAT. FOR MOST USERS, THE

13 FACTOR THAT LIMITS WEB PAGE LOADING SPEED IS THE SPEED OF

14 THE MODEM CONNECTION THEY HAVE TO CONNECT THEM TO THE

15 INTERNET, AND PERFORMANCE OF ALMOST EVERYTHING ELSE IS

16 INSIGNIFICANT COMPARED TO THAT FACTOR.

17 Q.   WELL, ANOTHER ASPECT OF INNOVATION IN THE SOFTWARE

18 INDUSTRY IN THE PAST FEW YEARS HAS BEEN COMPETITION TO

19 RENDER HTML PAGES MORE RAPIDLY--ISN'T THAT RIGHT?--IN

20 BROWSER SOFTWARE.

21 A.   THAT'S BEEN ONE ASPECT OF COMPETITION, AMONG MANY

22 OTHERS.

23 Q.   NOW, IF IT'S CORRECT THAT MICROSOFT'S HTML SOFTWARE

24 DISPLAYS PAGES TWO TO 300 PERCENT MORE SLOWLY AFTER THE

25 PROTOTYPE REMOVAL PROGRAM IS RUN, ANY APPLICATION THAT

1 RELIES UPON SUCH SOFTWARE WILL DISPLAY PAGES MORE SLOWLY;

2 ISN'T THAT RIGHT?

3 A.   IF YOUR PREMISE IS CORRECT THAT HTML DISPLAY IS MUCH

4 SLOWER, AND I HAVE NO REASON TO BELIEVE THAT THAT PREMISE

5 IS CORRECT, THEN THAT WOULD HAVE SOME EFFECT ON OTHER

6 CODE.

7   ONE SHOULD MAKE A DISTINCTION, THOUGH, BETWEEN

8 WHAT PERFORMANCE THE PROTOTYPE REMOVAL PROGRAM MAY RESULT

9 IN AND PERFORMANCE OF OTHER WAYS THAT MICROSOFT COULD FIND

10 TO REMOVE IE WEB BROWSING FROM WINDOWS 98.

11   I HAVE--MY TESTIMONY DOES NOT ARGUE THAT THE

12 PROTOTYPE REMOVAL PROGRAM IS THE MOST EFFICIENT WAY TO

13 ACHIEVE THAT GOAL, SIMPLY THAT IT SHOWS THAT THAT GOAL CAN

14 BE ACHIEVED; THAT IS, THE GOAL OF GIVING USERS THE CHOICE

15 OF WHICH WEB-BROWSING SOFTWARE TO CHOOSE.

16 Q.   DO YOU RECALL THAT MR. MALONE ASKED YOU A SERIES OF

17 QUESTIONS ABOUT THE WINDOWS UPDATE SITE AND THE

18 FUNCTIONALITY OF THAT SITE AFTER THE PROTOTYPE REMOVAL

19 PROGRAM IS RUN ON WINDOWS 98?

20 A.   YES, HE DID.

21 Q.   AND DO YOU RECALL THAT HE ASKED YOU WHETHER OR NOT

22 MR. ALLCHIN, IN HIS DEPOSITION TESTIMONY IN THIS CASE,

23 PROVIDED ANY TESTIMONY ON WHETHER THE WINDOWS UPDATE SITE

24 WORKED AFTER THE PROTOTYPE REMOVAL PROGRAM IS RUN?

25 A.   YES. YES, HE DID ASK ME THAT.

1 Q. AND ISN'T IT TRUE, DR. FELTEN, THAT MR. ALLCHIN WAS

2 NOT ASKED WHETHER OR NOT THE PROTOTYPE REMOVAL PROGRAM

3 AFFECTED THE FUNCTIONALITY OF THE WINDOWS UPDATE SITE?

4 A. MY UNDERSTANDING IS THAT, OR MY MEMORY, I SHOULD SAY,

5 IS THAT HE WAS ASKED ABOUT WHAT HE DISCOVERED ABOUT THE

6 BEHAVIOR OF THE PROTOTYPE REMOVAL PROGRAM IN HIS STUDY OF

7 IT, AND HE DID NOT VOLUNTEER ANY INFORMATION. HE DID NOT

8 GIVE ANY INFORMATION IN RESPONSE TO THAT QUESTION,

9 INDICATING THAT ANY PROBLEMS OF ANY SORT HAD BEEN FOUND.

10 Q. NOW, IF I COULD DIRECT YOUR ATTENTION ONCE AGAIN TO

11 YOUR WRITTEN TESTIMONY AT PARAGRAPH 67 WHICH MR. MALONE

12 SHOWED YOU--

13 A. OKAY.

14 Q. --AND FOCUSING ON THE SAME SENTENCE THAT WE HAVE BEEN

15 FOCUSING ON, DO YOU RECALL THE SERIES OF QUESTIONS THAT

16 MR. MALONE ASKED YOU ABOUT USE OF MEMORY?

17 A. YES.

18 Q. AND YOU TESTIFIED THAT THERE MAY BE SOME UNWANTED

19 CODE, TO USE YOUR TERMINOLOGY, IN SOME OF THE DLL'S THAT

20 USE UP MEMORY; ISN'T THAT RIGHT?

21 A. YES. SPECIFICALLY, I MEANT CODE THAT IS UNWANTED

22 FROM THE STANDPOINT OF A USER WHO DOES NOT WANT TO USE IE

23 WEB BROWSING.

24 Q. NOW, YOUR PROTOTYPE REMOVAL PROGRAM DOES NOT REMOVE

25 ANY SUCH CODE; ISN'T THAT RIGHT?

1 A.   THE PROTOTYPE REMOVAL PROGRAM DOES REMOVE SOME CODE.

2   AS I SAID EARLIER, I MADE NO ATTEMPTS TO IDENTIFY

3 HOW MUCH CODE COULD BE REMOVED BECAUSE THAT WAS NOT THE

4 POINT OF THE PROTOTYPE REMOVAL PROGRAM. THE POINT WAS

5 JUST TO DEMONSTRATE THAT MICROSOFT COULD GIVEN USERS A

6 CHOICE OF WEB-BROWSING SOFTWARE.

7 Q.   OKAY. SO, YOU HAVE NOT DONE ANY ANALYSIS WHATSOEVER

8 TO DETERMINE HOW MUCH MEMORY COULD BE SAVED BY

9 REARCHITECTING WINDOWS 98, IF YOU WILL, TO REMOVE WHAT YOU

10 CALL "UNWANTED CODE"?

11 A.   WELL, FIRST OF ALL, THE CODE IS CERTAINLY UNWANTED

12 FOR THE USER WHO DOES NOT WANT IE WEB BROWSING. FOR THAT

13 USER, THE CODE HAS NO PURPOSE.

14   I HAVE NOT DETERMINED HOW MUCH--HOW MUCH

15 MICROSOFT COULD HELP THEIR CUSTOMERS BY REMOVING CODE THAT

16 THE CUSTOMERS FIND TO BE UNWANTED, BUT I KNOW THERE WOULD

17 BE SOME SAVINGS FROM REMOVING SOME CODE.

18 Q.   AS FAR AS YOU KNOW, DR. FELTEN, THE SAVINGS IN MEMORY

19 MAY BE AS GREAT AS THE SAVINGS IN DISK SPACE THAT WE

20 IDENTIFIED THIS MORNING; ISN'T THAT RIGHT?

21 A.   AS I SAID, I DON'T KNOW HOW LARGE OR HOW SMALL THAT

22 SAVINGS MIGHT BE, BUT I DO KNOW THERE IS SOME SAVINGS.

23   MR. HEINER: I HAVE NO FURTHER QUESTIONS.

24   THE COURT: WAIT JUST A MINUTE. WHEN YOU'RE

25 TALKING ABOUT THE SPEED AT WHICH A PAGE WOULD LOAD AND

1   ORDERS OF MAGNITUDE WERE BEING GIVEN IN TERMS OF 200 OR

2   300 OR AS MUCH AS 700 TIMES, ARE WE TALKING IN TERMS OF

3   SECONDS OR MINUTES OR MICRO SECONDS OR LONGER PERIODS OF

4   TIME?

5   THE WITNESS: THE TYPICAL LENGTH OF TIME TO RUN

6   AN HTML PAGE?

7   THE COURT: YES.

8   THE WITNESS: IT REALLY DEPENDS ON THE PAGE.

9   SOME PAGES TAKE LONGER TO LOAD THAN OTHERS, AND IT DEPENDS

10 ON WHAT KIND OF CONNECTION THE USER HAS TO THE NET. FOR A

11 TYPICAL USER ACROSS A PHONE CONNECTION, IT MIGHT TAKE

12 ANYWHERE FROM A FEW SECONDS TO A MINUTE. FOR THAT USER,

13 THOUGH, THE PERFORMANCE OF LOADING THE WEB PAGE IS GOING

14 TO BE DETERMINED ALMOST ENTIRELY BY THE SPEED OF THEIR

15 MODEM CONNECTION AND NOT AT ALL BY THE SOFTWARE THAT

16 THEY'RE RUNNING.

17   THE COURT: ALL RIGHT. THANK YOU.

18   DO YOU HAVE ANY FURTHER QUESTIONS?

19   MR. HEINER: NO.

20   THE COURT: SAME FOR YOU, MR. MALONE?

21   MR. MALONE: I HAVE NO FURTHER QUESTIONS, YOUR

22 HONOR.

23   THE COURT: ALL RIGHT. DR. FELTEN, IT LOOKS TO

24 ME AS IF YOU ARE GOING TO BE EXCUSED EARLY.

25   THE WITNESS: THANK YOU, YOUR HONOR.

1   (WITNESS STEPS DOWN.)

2   THE COURT: WHERE DO WE GO FROM HERE?

3   MR. BOIES: YOUR HONOR, WE HAVE A SERIES OF

4 DEPOSITIONS TO PLAY. WE HAVE TWO SHORT ONES, ONE OF WHICH

5 WE MIGHT PLAY THIS AFTERNOON OR WE MIGHT HOLD THOSE FOR

6 TOMORROW. BUT FOR THE REMAINDER OF THE WEEK, AS WE

7 INFORMED THE COURT, OUR TWO REMAINING LIVE WITNESSES, SO

8 TO SPEAK, WILL COME AFTER THE FIRST OF THE YEAR.

9   THE COURT: OKAY. SO WE MAY HAVE A SHORT WEEK?

10   MR. BOIES: YES.

11   THE COURT: ARE WE GOING TO FINISH THE

12 DEPOSITIONS TOMORROW?

13   MR. BOIES: I DON'T THINK SO, YOUR HONOR, BUT I

14 THINK IT WILL BE CERTAINLY TWO FULL DAYS.

15   AND ONE OF THE THINGS IS, SINCE THIS WITNESS TOOK

16 SOMEWHAT LESS TIME THAN HAD BEEN ANTICIPATED, A DESIRABLE

17 TREND, WE HAVE NOT FINISHED DESIGNATING AND

18 COUNTERDESIGNATING ALL OF THE DEPOSITIONS, SO WE ARE GOING

19 TO HAVE TO WORK ON THAT WITH COUNSEL FOR MICROSOFT

20 TONIGHT.

21   THE COURT: LET'S CONCLUDE FOR THE DAY, THEN, AND

22 PICK IT UP TOMORROW MORNING AT 10:00.

23   (WHEREUPON, AT 3:55 P.M., THE HEARING WAS

24 ADJOURNED UNTIL 10:00 A.M., THE FOLLOWING DAY.)

25

1   CERTIFICATE OF REPORTER

2

3   I, DAVID A. KASDAN, RPR, COURT REPORTER, DO

4 HEREBY TESTIFY THAT THE FOREGOING PROCEEDINGS WERE

5 STENOGRAPHICALLY RECORDED BY ME AND THEREAFTER REDUCED TO

6 TYPEWRITTEN FORM BY COMPUTER-ASSISTED TRANSCRIPTION UNDER

7 MY DIRECTION AND SUPERVISION; AND THAT THE FOREGOING

8 TRANSCRIPT IS A TRUE RECORD AND ACCURATE RECORD OF THE

9 PROCEEDINGS.

10   I FURTHER CERTIFY THAT I AM NEITHER COUNSEL FOR,

11 RELATED TO, NOR EMPLOYED BY ANY OF THE PARTIES TO THIS

12 ACTION IN THIS PROCEEDING, NOR FINANCIALLY OR OTHERWISE

13 INTERESTED IN THE OUTCOME OF THIS LITIGATION.

14   _____

15   DAVID A. KASDAN

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