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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

BEFORE: THE HONORABLE WILLIAM H. ORRICK, JUDGE

IN RE DATA GENERAL CORPORATION ANTITRUST LITIGATION	MDL DOCKET NO. 369 WHO

REPORTERS' TRANSCRIPT

TUESDAY, APRIL 21, 1981

REPORTED BY:

CARL R. PLINE
RAYMOND LINKERMAN
BETTI A. RAY

GOVERNMENT EXHIBIT 1525

PENGAD-Bayonne, N. J.

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22 RICHARD LEE SCHMALENSEE,
23 CALLED AS A WITNESS ON BEHALF OF THE PLAINTIFFS, HAVING
24 BEEN FIRST DULY SWORN, WAS EXAMINED AND TESTIFIED AS
25 FOLLOWS:

1 PROCESSING UNITS.

2 LET ME EXPLAIN, NOW, HOW I ARRIVED AT THAT

3 CONCLUSION. AND I WOULD ... FOLLOW THE OUTLINE, MORE

4 OR LESS, THAT'S BEFORE YOU NOW.

5 I WANT TO TALK FIRST ABOUT ECONOMIC POWER

6 AND ITS SOURCES, TO JUST DISCUSS SOME ECONOMIC

7 CONCEPTS THAT I'LL BE APPLYING TO THE FACTS OF THIS

8 CASE A BIT LATER.

9 WHEN AN ECONOMIST THINKS ABOUT THE "POWER"

10 OF A PARTICULAR FIRM, HE OR SHE ASKS: DOES THE FIRM

11 HAVE THE POWER TO RAISE PRICES SIGNIFICANTLY ABOVE COST

12 WITHOUT SUFFERING AN UNACCEPTABLE LOSS OF SALES VOLUME?

13 IF THE ANSWER IS "YES," THEN THE FIRM HAS

14 "POWER," SOMETIMES CALLED "ECONOMIC POWER," OR "POWER

15 OVER PRICE."

16 YOU MUST REALIZE, PARENTHETICALLY, BY "PRICE,"

17 AN ECONOMIST MEANS DOLLARS PAID, CREDIT TERMS, DELIVERY

18 TERMS, WARRANTIES. EVERYTHING THAT AFFECTS THE NET

19 VALUE TO THE CUSTOMER. "POWER OVER PRICE," AS I USE

20 THE TERM, THUS INCLUDES THE POWER TO IMPOSE A TIE,

21 OR OTHER BURDENSOME TERMS, IN LIEU OF CHARGING A HIGH

22 DOLLAR PRICE, IF YOU WILL.

23 IN A PERFECTLY COMPETITIVE ENVIRONMENT,

24 SELLERS IN THE MARKETPLACE ARE WHAT ECONOMISTS REFER

25 TO AS "PRICE TAKERS"; THAT IS, THEY ARE REQUIRED, AS

1 MORE GENERAL INSULATION FROM COMPETITION IS PRESENT.
2 PROTECTION AGAINST COMPETITION IN THE FORM
3 OF DUPLICATION CAN BE OBTAINED THROUGH THE ASSERTION
4 AND ENFORCEMENT OF RIGHTS AVAILABLE UNDER COPYRIGHT
5 OR TRADE SECRET LAWS. THE OWNER OF THE "STAR WARS"
6 MOVIE, FOR EXAMPLE, MAY ENJOY, IN PART BY VIRTUE OF
7 HIS COPYRIGHT TO THE FILM, CONSIDERABLE LEEWAY TO
8 CHARGE MORE FOR HIS PRODUCT OR TO IMPOSE SOME OTHER
9 CONDITIONS ON THOSE WHO WANT TO LICENSE THE MOVIE
10 TO SHOW IN THEIR THEATERS. THE COPYRIGHT OWNER OF
11 A HIT RECORD MAY ENJOY THE SAME KIND OF ECONOMIC
12 POWER, ON THE ONE HAND BECAUSE HIS RECORD IS IN
13 DEMAND, AND ON THE OTHER HAND BECAUSE IT CANNOT BE
14 DUPLICATED WITHOUT VIOLATING THE OWNER'S RIGHTS. THE
15 OWNER OF A FORMULA FOR A MEDICINE NEEDED OR DESIRED
16 BY AN APPRECIABLE NUMBER OF CUSTOMERS, AND THAT NO
17 ONE CAN DUPLICATE WITHOUT RISKING A TRADE SECRET
18 SUIT, MAY ENJOY EVEN MORE ECONOMIC POWER.
19 COMPLEX TECHNOLOGY MAY PROVIDE COMPARABLE
20 INSULATION FROM COMPETITORS AND THUS PRESERVE
21 SIGNIFICANT ECONOMIC POWER. DUPLICATION OF A PRODUCT
22 IN HIGH DEMAND MAY BE SO TECHNICALLY DIFFICULT THAT
23 IT CAN'T BE DONE. OR SUCH DUPLICATION MAY BE SO
24 EXPENSIVE AS TO BE ECONOMICALLY IMPRACTICAL. THAT
25 KIND OF BARRIER MAY PROVIDE SUBSTANTIAL ECONOMIC POWER.

1 IN SHORT, IN ECONOMIC TERMS, DATA GENERAL HAD THE
2 BENEFIT OF THE PRODUCT DIFFERENTIATION.
3 THE INVESTMENT BY CUSTOMERS IN APPLICATION
4 SOFTWARE WRITTEN TO RUN WITH DATA GENERAL SYSTEMS GREW
5 ENORMOUSLY, AS DATA GENERAL COMPUTERS WERE UTILIZED
6 BY MANY CUSTOMERS FOR A CONTINUOUSLY EXPANDED VARIETY
7 OF TASKS. AS MORE AND MORE CUSTOMERS BECAME COMMITTED
8 TO THE USE OF DATA GENERAL SYSTEM SOFTWARE, THE LOCK-IN
9 PHENOMENON BECAME MORE IMPORTANT. LOCK-IN GAVE DATA
10 GENERAL AN ADVANTAGE OVER OTHERS IN OBTAINING THE
11 REPEAT BUSINESS OF THOSE CUSTOMERS WHO HAD WRITTEN
12 APPLICATION PROGRAMS TO RUN WITH DATA GENERAL'S SYSTEM
13 SOFTWARE.
14 LET ME TURN NOW EXPLICITLY TO THE ISSUE OF
15 SOFTWARE LOCK-IN, AS INDICATED ON THE OUTLINE, AND
16 DISCUSS HOW THIS PHENOMENON OPERATES IN ECONOMIC RATHER
17 THAN TECHNICAL TERMS.
18 IT IS MY UNDERSTANDING THAT FOR A LARGE
19 NUMBER OF DATA GENERAL CUSTOMERS, THE PROSPECT OF
20 CONVERTING THEIR APPLICATIONS PROGRAMS WRITTEN TO RUN
21 WITH THE DATA GENERAL OPERATING SYSTEM TO RUN WITH
22 ANY OTHER OPERATING SYSTEM CARRIES WITH IT SUFFICIENT
23 EXPENSE, INCONVENIENCE AND RISK OF DELAY OR FAILURE
24 THAT THESE CUSTOMERS DO NOT CONSIDER CONVERSION TO
25 BE A PRACTICAL COMMERCIAL ALTERNATIVE TO STAYING WITH

1 DATA GENERAL OPERATING SYSTEMS. THESE ARE THE CUSTOMERS
2 REFERRED TO AS THE COMMITTED OR LOCKED-IN CUSTOMERS.
3 HERE I'M RELYING ON THE EXPERTS AND DATA GENERAL
4 CUSTOMERS WHO HAVE TESTIFIED THAT THE RISKS AND
5 DIFFICULTIES OF CONVERSION ARE OFTEN HORRENDOUS AND
6 ARE TO BE AVOIDED WHENEVER POSSIBLE. MY EXTENSIVE
7 REVIEW OF THIS TESTIMONY AND OTHER MATERIALS IN THE
8 CASE CONVINCES ME THAT THIS LOCK-IN PHENOMENON PLACES
9 VERY REAL AND VERY IMPORTANT ECONOMIC CONSTRAINTS ON
10 THE FREEDOM OF ACTION OF LOCKED-IN CUSTOMERS.
11 AN ANALOGY WHICH I FIND HELPFUL, AT LEAST,
12 IN UNDERSTANDING THE ECONOMIC EFFECT OF THE LOCK-IN
13 PHENOMENON IS THAT OF A LOCK ON YOUR FRONT DOOR. THE
14 LOCK ON YOUR FRONT DOOR PERFORMS THE FUNCTION OF
15 LIMITING ACCESS TO YOUR HOME, BUT IT CANNOT PERFORM
16 THAT FUNCTION WITHOUT A KEY THAT MESHES WITH IT
17 EXACTLY. SIMILARLY, APPLICATION SOFTWARE CANNOT
18 PERFORM ITS FUNCTION UNLESS IT IS USED WITH OPERATING
19 SYSTEM SOFTWARE THAT FITS IT EXACTLY. THERE MAY BE
20 MANY LOCKS WITH MATCHING KEYS THAT CAN BE USED TO
21 PROVIDE SECURITY. BUT ONCE A PARTICULAR LOCK IS
22 INSTALLED IN YOUR FRONT DOOR, BEING DEPRIVED OF THE
23 PARTICULAR KEY TO THAT LOCK CAUSES GREAT INCONVENIENCE
24 AND MAY RENDER THE LOCK ALMOST VALUELESS. THERE ARE
25 MANY LOCKS WITH MATCHING KEYS THAT FULFILL THE SAME

1 IN THAT SITUATION, DATA GENERAL WILL NOT GET ALL THE
2 BUSINESS, BUT AS YOU HAVE HEARD FROM SEVERAL CUSTOMERS,
3 THERE ARE A NUMBER OF JOBS TO WHICH DATA GENERAL'S
4 RDOS OPERATING SYSTEM IS CONSIDERED PARTICULARLY WELL
5 SUITED, AND MANY CUSTOMERS WILL CHOOSE TO PURCHASE FROM
6 DATA GENERAL FOR THAT REASON. AND IN ECONOMIC TERMS,
7 DATA GENERAL WOULD ENJOY SOME ADVANTAGE OVER COMPETITORS
8 IN MAKING THE FIRST OIL FIELD CONTROL SALE MERELY
9 BECAUSE OF THE DISTINCTIVE CAPABILITIES OF ITS
10 OPERATING SYSTEM SOFTWARE.
11 NOW, LET'S LOOK BACK AT THE SAME CUSTOMER,
12 ASSUMING THAT HE'S PURCHASED FROM DATA GENERAL, A YEAR
13 LATER. AFTER THE CUSTOMER HAS INVESTED A GREAT DEAL
14 OF TIME, EFFORT AND MONEY IN DEVELOPING COMPLEX
15 APPLICATION SOFTWARE, WRITTEN TO RUN WITH DATA GENERAL'S
16 OPERATING SYSTEM, AND CREATED AN ENTIRE OIL FIELD
17 CONTROL SYSTEM, DATA GENERAL'S ADVANTAGE OVER ITS
18 RIVALS FOR ADDITIONAL SALES TO THAT CUSTOMER BECOMES
19 MUCH MORE DRAMATIC.
20 SUPPOSE THAT THE CUSTOMER WANTS TO ADD AN
21 EXTENSION TO THE OIL FIELD CONTROL SYSTEM HE HAS
22 INSTALLED IN THE FIELD. OR SUPPOSE THAT THE CUSTOMER
23 HAS A NEW JOB TO INSTALL A NEW OIL FIELD CONTROL
24 SYSTEM IN AN ENTIRELY DIFFERENT LOCATION. IN EITHER
25 CASE, THERE ARE NO LONGER ANY VIABLE ALTERNATIVES TO

1 DATA GENERAL'S SOFTWARE. BECAUSE OF THE LOCK-IN
2 PHENOMENON, NO DOUBT IN THAT SITUATION DATA GENERAL
3 COULD CHARGE A PREMIUM FOR THE LICENSING OF ITS
4 OPERATING SYSTEM SOFTWARE, ILLUSTRATING ITS POWER
5 OVER PRICE, NARROWLY DEFINED. OR IT COULD IMPOSE
6 SOME OTHER BURDEN ON THE CUSTOMER IN LIEU OF A
7 PREMIUM PRICE.
8 HOWEVER, UNLESS DATA GENERAL DOES LICENSE
9 ITS OPERATING SYSTEM SOFTWARE FOR USE WITH NON-DATA
10 GENERAL CPU'S IN THAT SITUATION, COMPETITION AMONG
11 CPU VENDORS IS TO A SIGNIFICANT DEGREE DAMPENED OR
12 INHIBITED. THIS OCCURS BECAUSE OF THE ADDITIONAL
13 TIME, RISK AND COST WHICH THE CUSTOMER WOULD HAVE TO
14 INCUR EITHER TO WRITE NEW APPLICATIONS PROGRAMS TO
15 RUN WITH THE NEW OPERATING SYSTEM OR TO CONVERT HIS
16 OLD APPLICATIONS PROGRAM TO RUN WITH THE NEW
17 OPERATING SYSTEM, ASSUMING THAT WERE POSSIBLE.
18 {CONTINUED ON NEXT PAGE.}
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