From: Jay Sulzberger
To: Microsoft ATR
Date: 1/28/02 6:38am
Subject: Microsoft Settlement

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CC: Jay Sulzberger

Dear Judge Kollar-Kotelly,

I write in order to persuade you that the main thesis of the economic theory of the Department of Justice and the States antitrust case is not true. This main thesis is that the "applications barrier to entry" is the most important mechanism whereby Microsoft maintains its high proportion of OSes installed on Intel-compatible peecees.

Though I think the main thesis false, and therefore the theory defective, I do believe that Microsoft and the large OEMs have engaged in a combination in restrain of trade, and that this combination is illegal under the Sherman Act. I also believe that damages are due every single user of a Microsoft OS who was not offered at point of sale of the hardware a choice of operating systems for the hardware. The injury is plain: viruses, worms, and trojans infest all Microsoft "Windows" operating systems, and such systems are, even without infestation, unstable, difficult to manage, and lacking in features provided by other operating systems for Intel-compatible peecees. No other vendor's operating systems are so incompetent. Please allow me to make a personal offer to the Court: If you wish, I will demonstrate, upon 48 hours notice, a fine GNU/Linux system which can be seen by the court to be more attractive to the eye, easier to understand, and richer in services, programs, and amusements than any Microsoft OS. This system will be provided with all "office productivity applications" needed. The system will have neither viruses nor worms nor trojans, nor will it crash.

Let us state what the "applications barrier to entry" is. Here is paragraph 3 of the original complaint in Civil Action No. 98-1232 :

> 3. There are high barriers to entry in the market for PC operating systems. One of the most important barriers to entry is the barrier created by the number of software applications that must run on an operating system in order to make the operating system attractive to end users. Because end users want a large number of applications available, because most applications today are written to run on Windows, and because it would be prohibitively difficult, time-consuming, and expensive to create an alternative operating system that would run the programs that run on Windows, a potential new operating system entrant faces a high barrier to successful entry.

This is nonsense. Most first time buyers of a home or small office computer know of exactly two kinds of computers: a "peecee", also called a "Microsoft peecee", and the Macs made by Apple. Most first time buyers do not know that there are operating systems other than Microsoft operating systems that run on Intel-compatible peecees. Indeed most users of computers do not know even what an operating system is. So most buyers of Intel-compatible peecees certainly do not consider various possible OSes they might buy, since they are unaware that a choice is possible. And indeed, in CompUSA today not one single computer is offered for sale with anything except a Microsoft OS on it, unless the computer be a Mac. Now it is elsewhere claimed, notably in Judge Jackson's Findings of Fact, that the reason Apple has a small share of the market is that there are fewer applications available for the Mac. This is also nonsense. Most Macs cost about twice what a comparable Intel-compatible peecee costs. Clearly this is what accounts for the small share of Macs purchased. Buyers know that the peecees with Microsoft OSes and the Macs are roughly comparable in their powers, and buyers choose the much less expensive peecees with Microsoft OSes pre-loaded.

So what then accounts for the large proportion of Microsoft OSes running on Intel-compatible peecees? The answer is simple, and neither the Justice Department nor the States dispute the fact: Most people will never install an operating system from scratch themselves. So if the computer comes with but one OS, that is the OS that will be run on the machine until the

machine is either scrapped or sold to someone who knows how to put another OS on the machine. Now Microsoft in close concert with the large OEMs has arranged that only Microsoft OSes are on the machines sold by the OEMs. This explains why Microsoft OSes run on such a large proportion of Intel-compatible peecees. There is no need to postulate any decision by buyers as to what OS will be run on the hardware. Buyers, except for a small minority, buy a unitary system composed of OS and hardware. There is a minority, perhaps ten or twenty percent, depending on what part of the world we look at, of buyers who know that other OSes can be installed on Intel-compatible peecees. It is remarkable that almost every single person who has ever succeeded in installing a non-Microsoft OS on their Intel-compatible peecee continues to use the non-Microsoft OS. Indeed, most go on to either remove all Microsoft OSes from their own machines, or, in some cases, use the Microsoft OSes to play a few favorite games, which do not run on the other operating systems. Yes, there are a few programs which some people find have no better competitor on a non-Microsoft OS. Of course, there are literally thousands of programs which run exclusively, or nearly so, on the free Unices, such as GNU/Linux, FreeBSD, NetBSD, and OpenBSD, and are equally beloved by their users, who feel there are no competing programs which run on any Microsoft OS. I repeat, because the statistics are so extreme: almost everyone who ever uses a non-Microsoft OS on Intel-compatible peecees finds the non-Microsoft OS superior to the Microsoft OSes. Almost the only people who use Microsoft OSes exclusively are those who have never tried a non-Microsoft OS. In other words, in the market of end-users of Intel-compatible peecees, Microsoft OSes are a catastrophic flop. Microsoft is not a success in the market, rather Microsoft, in concert with the large OEMs, is a success at keeping the existence of a market in OSes a secret, and by this means swindling millions of unknowing end-users into running Microsoft OSes. How this effective combination in restraint of trade came to be I do not discuss here, except to say that even if, in certain market segments years ago, Microsoft once was a success, that is no reason Microsoft should be allowed to shield itself from the market by illegal combinations today.

At this point a defender of the proposition that Microsoft OSes are really quite good for most end-users might claim that the twenty percent of the population which today finds the free Unices superior is simply that twenty percent of the population with a special hobbyist and/or professional interest in certain aspects of computers and their uses. The claim will be that the eighty percent who run Microsoft OSes are those without this special interest and that thus, today, really, the free Unices can present no serious competition to Microsoft in the market. This claim, that only a small limited number of end-users will find the free Unices superior is definitely wrong and I have myself demonstrated it by helping set up office lans with most of the machines running some free Unix. People who have never used anything except Microsoft or Apple OSes, when they sit down to work, find that the free Unix they are running is better than the source-secret OSes they have used before. Now, indeed, not everybody immediately prefers a free Unix to their old familiar Windows, even if there are no viruses, no crashes, etc.. But most do come, after a few weeks of use, to like their free Unix better than their old Windows. Some do not, of course, but, as mentioned above, the number who decide Windows is better is very small.

We note that again and again the Justice Department and the States state that it is difficult for a user to install a browser that does not come pre-loaded on their machine at time of purchase. The DOJ and the States must surely admit that it is much more difficult to install a whole new OS. So by their own argument the DOJ and the States argue the effectiveness of the real barrier to entry, namely that the OEMs only sell Intel-compatible peecees with Microsoft OSes pre-loaded.

To sum up the argument so far: We have demonstrated that the "applications barrier to entry" is not the real barrier to entry. The real barrier to

entry is that most buyers of Intel-compatible peecees are never given a choice of OSes. They run what comes on the machine because they can do nothing else.

We now argue that the main remedies put forth in both the DOJ and Agreeable States and also the Hold-Out States proposals are structurally inadequate to restore competition. We shall not argue in detail, though we agree with Dan Kegel and others that, even in their own terms, both proposals fall short. But our argument will be against the main thrust of both proposals.

Let us consider the players in the game:

1. Microsoft
2. The OEMs
3. Browser and Middleware Vendors, non-Microsoft vendors
4. Applications Vendors
5. EndUsers

The strategy, with rationale, of both proposed remedies is the same:

1. *No attempt is to be made to directly foster competition at the level of* the OS, because there Microsoft is for now invulnerable.
2. But, by a hinge movement of markets, Browser and Middleware Vendors, if Microsoft plays fair with them, can help nurture competition. It is left vague as to when any of this competition is expected to take place at the level of OS.
3. One mechanism by which Browser and Middleware Vendors and also Applications Vendors can be helped to be competitive with Microsoft in the markets for Browser and Middleware and Applications is by constraining Microsoft to fairly reveal APIs.
4. Another mechanism by which Browser and Middleware Vendors and also Applications Vendors can be helped to be competitive with Microsoft in by constraining Microsoft from threatening OEMS who pre-load non-Microsoft Browsers, Middlewares, and Applications on their machines.
5. EndUsers will now have a choice of Browsers, Middlewares, and Applications on the machines they might buy. EndUsers will not have any choice, at least for some years, of whose OS is on the machines they might buy. By 1 above, it will be a Microsoft OS.

The center of the strategy of the proposed remedies is 3. But 3 cannot possibly work. Fair publication of the APIs of Microsoft OSes/Middleware cannot make non-Microsoft Browser, Middlewares, and Applications Vendors competitive with Microsoft acting as a Browser, Middlewares and Applications Vendor.

The owner of the OS decides what runs, and what runs well, and what runs badly, etc.. The owner decides all such questions. And for any source secret OS, there is only one owner: the vendor. No matter what icons appear on the startup screen, what fine Java or better than Java stuff is on the box, if the owner wants something else on, it goes on. If the owner wants your stuff to go away in a year it goes away. In the United States there is no economic, no political, no legal force capable of stopping the owner of the OS from doing with the OS whatever the owner wants.

The owner of the OS has such power because of the relation of applications to the OS they run on top of. Here it is important to recognize that a piece of middleware is simply another application in its relation to the OS. Let us consider two competing applications, one written by a non-Microsoft company, the other by Microsoft. Assume both these application run atop a Microsoft OS. Assume further that Microsoft is making a full scale honest flat out effort to abide by a strict order to provide complete, fair, and timely access to the whole API of the Microsoft OS. This situation would, if anything, strengthen Microsoft's advantage in building a better application. At the end of one year of writing code Microsoft's application will run better than its competitors. I repeat, we assume that Microsoft does not cheat at all. Why will the Microsoft product run better? Because only Microsoft can debug both sides of the OS:Application interface, that is, both sides of the real API, which API is not fully known, even to Microsoft, before the projects is under way. The non-Microsoft vendor can only debug the Applications side, based on a necessarily incomplete and sometimes simply wrong published API. No API is ever well enough defined and well enough understood that no exploration form the OS side reveals nothing new of advantage. You must always debug on both sides, passing in your design, coding, and testing fluidly from one side of the API to the other. Only Microsoft can do this, in our example, and this has nothing to do with the childish but nonetheless effective cheats that Microsoft has committed in the past, such as the famous DRDOS false boot up message, and which Microsoft continues to commit today.

One of the mechanisms of the extraordinary success of free software in the past fifteen years is precisely that the code of the OS is not secret, and so may be read and modified and redistributed by anybody who wishes and has the capacity. Thus there is no "owner" of the OS with unique powers of design, coding, and debugging. Hence both competition and cooperation are possible.

Microsoft is not some strange subtle powerful company. By virtue of its unique access to the source code, and its power of copyright over the source code, it is simply the owner of the OS.

To sum up the second part of the argument: Without competition at the level of the OS, the OS owner still dictates which applications work well, and which applications do not work well. The only way to get competition above the level of the OS, is to get competition at the level of the OS. And the only way to get competition at the level of the OS is to give the end user a fair choice of OSes, a choice completely separate from the choice of hardware, at point of sale of the complete system, that is, hardware and software.

So we come to one clause of a remedy that we believe will restore competition in the market for OSes for Intel-compatible peecees:

1. Require Microsoft to sell every instance of any single line of its OSes at a single uniform price to everyone, whether Dell or me or the public school down the street or the white box builder up the block.

2. Require all vendors of Intel-compatible peecees to sell the hardware completely separately from the OS.

Microsoft and its creatures will claim that 2 would impose on those buyers who ask for a Microsoft OS an unfair burden, because such buyers would have hard time installing their Microsoft OS instance. I would agree, if that were what I propose. No, let Dell do the install, just as now, but the price of the OS must be broken out in the bill, and that price must be the same for a pre-loaded OS as for a copy in cardboard box. Naturally a complete finely drawn clause here would have to ensure that Red Hat, Be, The FreeBSD Crew, Debian, etc. were treated exactly as Microsoft would be

by the OEMs.

I thank the Court for its work and for reading this!

I remain, as ever, your fellow user of free software, Jay Sulzberger.

For purposes of identification only:

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LXNY is New York's Free Computing Organization.
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Co-Winner of the First Linus Torvalds Community Award 1999

PS. If you use the web or email you use free software. The Internet is built of and on free software.