AINTIFF'S EXHIBIT Comes v. Microsoft

To: chrissh winwar Cc: jodyg keviny richsa Subject: Re: Performance Situation... Date: Fri, 13 Dec 91 12:13:24 PST

I dont think this is as big a deal as it seemed at first. The tests did not show that win 3.1 + sd4 were accross the boards slower that cruiser. In fact these tests show in most cases, win 3.1 + SD4 is faster than cruiser 149 (thats what they tested) except when doing random access on large (1M or greater) files. This appears to be due to the way ms-dos 5.0 deals with file pointers, there is no way to back up on a FAT chain so it has to be re-scanned. This is a real effect and has nothing to do with windows or smartdrv. Also, as chris said, they used a 2Mb cache size for sd4 and 6Mb for cruiser. This caused the 4Mb file numbers to be 10x worse since we had to hit the disk and cruiser didn't. Not unusual.

I've communicated this to steve and bill. We are still looking at the ms-dos 5.0 problem to make sure that is it. Also, we are doing one more review of our caching algorithms to be sure.

>From chrissh Fri Dec 13 10:32:24 1991 To: winwar Cc: jodyg keviny richsa Subject: Performance Situation... Date: Fri Dec 13 10:31:38 1991

There is a situation developing in the NT performance group that could potentially come back our direction that I thought you all should be aware of.

Evidently the NT group presented some numbers to Bill and Steve that showed Windows much slower than Cruiser (This is their PF low level File system test. There is a whole history behind this as well, this is not the mail to go into it)

There are two problems:

1) They ran Windows with a 2MB cache and Cruiser and NT with a GMB cache (1GMB machines) because they thought 2MB was the maximum cache size (miscommunication) Because of this, Windows came out MUCH slower than Cruiser. (We are actually slightly slower than Cruiser on low level file ops)

2) From what I gather, someone took this info and made a general satement "Windows is Slower than Cruiser"

Where the problem lies is that we had just been to Bill and Steve with numbers saying Windows is FASTER than Cruiser. But, the tests we ran were all application tests (App Load, File open, Recalc, Spell Check, Etc.) which the NT group does very little of. So Bill and Steve hammered the NT group for presenting bogus data.

At this point, the NT group is scrambling to save face. They have contacted me and asked for all our Cruiser test data. The only thing that we have run that remotely resembles a "File System" test is one number on the Overlapped I/O test we ran in response to the Reiswig demo. There is a -40% number on this spreadsheet. I am not aware if you presented this data at our last review. If not, the NT group might bring it to Steve and Bill and then it might come back to us as to why we never showed it to them.

When it's all over, nothing may come of this, but I just thought it would be best if everyone was aware up front rather than reacting after the fact.

If you have any additional questions, please come see me.

Chris

Silverk WITNESS MARY W. MILLER

MS 5055678 CONFIDENTIAL To: bradsi stevesh Subject: RE: Purchasing Icons, Arrows and Stars Date: Fri Dec 13 16:32:07 PDT 1991

steve didntt you guys budget for this stuff? >From bradsi Fri Dec 13 14:28:37 1991 To: johncon Subject: Purchasing Icons, Arrows and Stars

Date: Fri, 13 Dec 91 14:28:04 PST

which dept should we use? ballmer has agreed to this. thanks.

>From georgem Fri Dec 13 14:27:36 1991 To: bradsi Subject: Purchasing Icons, Arrows and Stars

We have all agreed that it would be a good idea to go ahead and purchase the Lucida Icons, Arrows and Stars for \$120,000. Chuck Bigelow will sell us all rights, glyphs, patents, and everything else associated with the fonts in addition to doing all of the work necessary to re-map them into any ordering we desire.

Our lawyers are already at work on a legal agreement for this, and I just need from you a department number to bill this.

Thanks.

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To: exstaff Cc: frankga jackiej jeffpat neile Subject: PC Purchases: Clones Gain Market Share Date: Fri Dec 13 16:54:44 PDT 1991

Here is summary for past 3 months Redmond plus US Field:

СРО ІВМ АРР	Sep-91 57% 5% 11%	Oct-91 51% 4% 17%	Nov-91 418 28 98
AST	2%	18	18
DELL	9%	68	128
GTWY	0%	08	128
NG	14%	198	228
Other	2%	28	18
Clones Total	27%	28%	488

Also if you or your staff want to learn more about Gateway PCs...

>From jeffpat Fri Dec 13 12:49:07 1991 To: admina

Cc: admpurch davewh edmc jackiej jimc joem markh neile prpf sharonl timbe

Subject: Gateway Product Intro Day Tuesday, 12/17

Date: Fri Dec 13 12:43:46 PDT 1991

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>From a cornfield in South Dakota to the fastest growning company in the US today, Gateway is also the newest addition to our Standard PC list.

Admins, please remind your groups that Gateway 2000 will be demonstrating their products next Tuesday, Dec. 17th, from 9 am - 4 pm in Bldg. 16, room 1215.

There will be a supply of the distinctive Gateway "cow pie" t-shirts for the early-comers. Be sure to bring a business card (just one, please) - Gateway will raffle a 3865X/20 to some lucky person!

On that subject, congratulations to Mark Hitch, Software Design Engineer, Systems. Mark won an AST notebook PC at last week's AST Day. Merry Christmas, Mark!

MS 5055679 CONFIDENTIAL Manufacturing & Distribution Microsoft University Regional Office Other(specify):

Off-Site Address:

Phone: Fax:

K- -

Add'1	Phone:
Voice	Mail:

Quantity Requested: 250 (min.) X 500 Other:

Special Instructions:

Please deliver to Sharon Hornstein in 3.2039. Thank you.

Date: 12/13/91 Dept.#: 4919 Bldg/Office: 3/2044

Please allow two weeks from date of approval for delivery.

Form #: PUR001 Version #: 2.00 Revision Date: 09/19/91

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From lizsi Fri Dec 13 17:28:50 1991 To: bradsi Cc: lizsi martyta w-clairl w-pamed Subject: FW: RE: PC week letter to editor Date: Fri Dec 13 05:25:41 PDT 1991

Brad, Marty has asked us to use a different strategy to respond to the PC Week/DRI beta story. Instead of responding with a letter to the editor, we will attack this personally with the top editors by having Steve talk with Sam Whitmore and John Dodge. We are just waiting to hear back from Steve for his approval on this strategy. Please let me know if you have a problem now that we aren't going to send a letter. This way we think we can influence the people who actually write the story, rather than taking a defensive posture with the letter to the editor.

>From martyta Thu Dec 12 11:18:54 1991 To: lizsi Subject: FW: RE: PC week letter to editor

Date: Thu Dec 12 11:14:19 PDT 1991

FYI I got this mail from steveb yesterday and returned it this morning. >From martyta Thu Dec 12 11:08:12 1991 To: steveb Cc: w-clairl w-pamed Subject: RE: PC week letter to editor

Date: Thu Dec 12 11:03:54 PDT 1991

I think that we should simply plant the message with sam and John that we have the responsibility to protect our customers from unproven alternatives to DOS.

I think that being nice is the way to go. I asked sam about John's story via MCI Mail and the reason they are taking a negative position is that they view our Anti-DR-DOS activities as anti-customer, we are making it harder for customers to use Windows. So we need to be creative and come up with some positioning that relates to the customer. I do not think writing a letter or asking them to publish our point of view will do much good. You should make a call to john and talk to him about it.

Explain these key things.

1.) alternative at the core OS is not necessarily good for customer, standards are what they are looking for. 2.) DR-DOS can never be a perfect copy, so we should discourage them from trying and tell customers about the risks. 3.) Novell is fierce competition and why should we help them compete with us in our core business any more than they are willing to help us compete in their Core business.

MS 5055680 CONFIDENTIAL . ₹.

From steveb Wed Dec 11 15:50:38 1991 b: martyta Cc: w-clairl w-pamed Subject: PC week letter to editor

Date: Wed Dec 11 15:50:07 1991

I think we should respond nicely to this week's Dodge editriall saying DR DOS is designed to clone MS OS's today MS-DOS and tomorrow windws why should we give them a headstart what say

From jimla Fri Dec 13 17:31:51 1991 To: dosland Cc: jimla vanguard Subject: POWER.EXE Final Testing all completed(Ship It) Date: Fri Dec 13 17:29:44 PDT 1991

Final Test cycle has been completed on time with no show stoppers and the OEM OAK update disk has been checkout.

Ship It!

Ì,

Thanks again Vanguard.

-jimla

jimla Thu Dec 5 10:24:42 1991 >From dosdev dosland To: vanguard Cc: Subject: POWER.EXE Final Testing Plan Assignments Date: Thu Dec 05 10:23:24 PDT 1991 APM POWER.EXE Final Testing Plan 12/5/91 Start of Power.exe Final Testing 12/8/91 AM Last Power.exe Build 12/13/91 PM End of Power.exe Final Testing Assignments: JAYA (Done) Application Configuration Testing Date Roll over Testing 15% 15% Power API Configuration Testing 35% MARIANNJ (Done) ERROR/HELP Text/Command line syntax check/DOC Review Automated DTS utilities False idle testing 15% 25% Manual Utilities Correct idle detection testing on Slow 8088 & fast 486 based system. 30% Power.exe Application Compatibility Testing 30% MARKSI (Done) Power.exe idle detection testing with 3270 software. Automated Atron Application Testing with Power.exe(Two Passes)(look for False Idles) Power.exe Application Compatibility Testing 15% 35% 50% PAULHA (Done) Power.exe and Network testing 15% Date Roll Over Testing(DV, Windows, Command.com, ect.) 25% Power.exe Application Compatibility Testing(with Windows 3.0 & 3.1 Focus) 30% 308 Zenith APM BIOS system Power.exe testing TONYKA (Done) Power.exe performance testing of Intel SL APM system Standard automated system tests with Power.exe installed(look for False Idles) 108 10% User Group Talk (Monday & Tuesday) 30% HONKEATC (Done) Power exe CPU power saving performance on Intel SL APM system 20% Vacation(Thursday & Friday) ROMDOS OAK & ROMDOS Internal POWER.exe smoke test 30% 50%

> MS 5055681 CONFIDENTIAL