

From chrissh Fri Jan 18 09:48:57 1991
To: richab
Subject: WINDOWS vs PC/GEOS
Date: Fri Jan 18 09:45:57 1991

>From chrissh Tue Jan 15 15:09:04 1991
To: winperf
Subject: WINDOWS vs PC/GEOS
Date: Tue Jan 15 15:09:00 1991

DON'T BLOW THIS MAIL OFF!

There are some very important observations in this mail.
You will want to read it!

Machines: Compaq 386/20e 4MB
IBM 55sx 16MHz 2MB
IBM 286AT 8MHz 1MB
HP Laserjet II-512K

- * Retail Windows 3.1 Build 14
Himem, NO NET, NO SMARTDRIVE, NO TSRs, MS DOS 3.3
HPLJ Printer driver installed
Files=30, Buffers=20
- * Retail PC/GEOS
NO Himem, NO NET, NO TSRs, MS DOS 3.3
HPLJ Printer driver installed
Files=30, Buffers=30

Notes: -Percentages are relative to PC/GEOS measurement
(GEOS-3.1)/3.1- 0-same neg-slower pos-faster
The larger the number the more extreme the difference
-All times are in seconds.
-Times were obtained by hand using a stopwatch
-Multiple times were collected to minimize error,
time reported is the mean.

Tests: -System boot for GEOS is to the Professional screen
-All load times are first time loads (boot system,
load app)
-Write test was repeated to show subsequent load
times (with resources etc. already loaded)
-Loads performed by highlighting app and executing
File/Open
-Times are from CR to until the time the app is
ready to accept input
-Notepad Page Down used the Windows 3.1 Readme.txt
file

** WARNING **

-Do NOT look at the printing event and think this is
a general printing comparison. Read note below!

IBM AT:

Test	PC/GEOS	Win3.1 Smode
System Boot	21.2	19.1 11%

Plaintiff's Exhibit

5218

Comes V. Microsoft

MS-PCA 2424305

CONFIDENTIAL

EXH. 38 DATE _____
WITNESS: Abel
SUSAN ZIELIE

Write load 1st	5.6	8.7	-36%
Write load subsq.	4.4	5.7	-25%
Draw/Paint load	5.5	13.2	-58%
Calendar load	6.6	12.7	-48%
Cardfile load	4.9	10.5	-53%
Solitaire load	8.4	5.7	47%(- :)
Notepad load	2.5	8.7	-71%
NP 5 Page downs	2.1	2.4	-13%
Print lpg Doc			
To printer	37	8	362%
Done	55	26	112%

IBM 55sx:

Test	PC/GEOS	Win3.1 Smode	Win3.1 Emode
System Boot	17.9	13.7 31%	-
Write load 1st	4.0	6.1 -34%	Blocking
Write load subsq.	2.9	5.0 -42%	Bug
Notepad load	1.8	4.4 -59%	-
NP 5 Page downs	2.0	1.5 33%	-
Print lpg Doc			
To printer	27	5 440%	-
Done	44	23 91%	-

Compaq:

Test	PC/GEOS	Win3.1 Smode	Win3.1 Emode
System Boot	8.1	7.7 5%	10.0 5%
Write load 1st	2.2	2.3 -4%	2.2 -4%
Write load subsq.	1.7	1.9 -11%	2.2 -11%
Notepad load	1.0	2.4 -58%	2.6 -62%
NP 5 Page downs	1.0	0.9 11%	1.0 0%
Print lpg Doc			
To printer	37	4 825%	
Done	55	22 150%	

Things to keep in mind:

These are two different OSs, so the applets are totally different exes. We are comparing apples to oranges here, but the bottom line is user perception of the product. Because the applets are the only parallel we have with GEOS, they were chosen for the comparison. The reason more tests were run on the AT was because of the relative importance of the low end hardware platform.

Observations:

Well, this is our first negative performance data so far. There are several things to note here.

Positive: System boot speed is consistently faster than GEOS, in addition, solitaire runs faster (quite a bit faster). The applets are going to be rewritten to gangload all resources needed at load time. Also they will NOT load the printer driver until printing is requested. Both of these enhancements will increase applet load time. My gut feeling tells me that the times will look more like the second time of the write load. This work has not been done yet. Printing will probably be a

MS-PCA 2424306

CONFIDENTIAL

bit faster due to the fact that GEOS pre-builds the entire page as a bitmap.

Negative: Overall we are quite a bit slower than GEOS. Note that as the machine gets faster, in general we get closer to GEOS speed. This is interesting. I think this shows that we are pretty dependent on the machine, while GEOS is not (since they were designed with performance as a top priority, they don't depend on the machine much)

MAJOR POINT: One thing that makes GEOS "appear" faster (and this is REALLY evident on a slow machine) is the fact that they put up windows, dialogs, etc. as fast as they can. So you see the applet quicker, giving the impression that things are happening faster. We, on the other hand, grind away and leave the user with an hourglass until the very last second, and THEN put up the window. I think this is the MAIN reason for GEOS's crisp "feel"

PRINTING: Several things about printing that make this event touchy to compare. All of GEOS's fonts are outline fonts. So the only font available in GEOS Notepad is an outline Times. Windows, on the other hand only offers Courier in Notepad, which happens to be a printer font (Hence the large speed difference) Also, GEOS Notepad offers a High/Med/Low printing resolution. Default is High (which was timed) The Low resolution almost reaches the Windows speed, but it looks REALLY REALLY bad. With all of these differences, you may ask, "Why did you include it?" The reason is I felt this is very representative of what a user would experience as a first look at printing under both OS's. Bring up the readme in Notepad (I only used the first page) and print it. Later on they will get into the details of printing, but this is a first impression.

When Testing gets a build that Truetype works in, It will be interesting to run a printing test that is more closely designed to match the two systems.

As always, if you have any questions or comments on this data or the tests that were run, let me know.

Thanks,

Mr P

MS-PCA 2424307

CONFIDENTIAL