

From Davidcol Mon Dec 5 10:43:10 1988  
To: davidc greglo jodya philba  
Cc: petah malha  
Subject: Large/Small frame switch  
Date: Mon Dec 05 10:38:08 1988

In addition to the recommendations I asked about on Friday, there is an additional item that should be added to the list. Currently Windows will use large frame if bankable memory is 280kb or more, small frame if less.

This number is too small for Excel. Excel needs 128kb swap space, 60kb data, 30kb fixed code, and 64kb EMS segment. Take that away from the 280kb minimum bank size and that leaves 16kb. 16kb is not enough to use some features of Excel, like custom dialog boxes. We need this number to be raised by at least 32kb.

There are clearly 2 ways to address this.

- 1) Increase the minimum bankable amount to at least 312kb. This would of course help Excel but might hurt running multiple apps which don't require as much memory if you are on the border line between large and small frame.
- 2) Allow us to set a WIN.INI flag to the amount we need. Thus only Excel machines would have the larger minimum banking requirement. It's not clear if #2 is possible, surely depends if this number is determined before or after WIN.INI is read.

I recommend #1 because it only affects apps when Windows is on the border line between large and small frame. Most of the time the is more than 312kb anyway. In addition, I believe the 280kb number was chosen for Excel in the first place, we should adjust it so

Thanks,  
David

**CONFIDENTIAL**

may impact ISUs if the chg. increase

→ trivial work (1)

*swap space*  
 1) swap space use memory available from RAM  
 2) point at which we switch from large frame to small frame  
 3) Setup info want chgs in Setup chgs in installation of driver  
 impacting balance of win 3.11 and Excel

Smaller ram drive  
 Comm bug  
 Excel upgrade  
 280 swap chg  
 386 chg. acty  
 8514 driver  
 HPCL

2.11 release later for

386	386	286	286
lan 380C	duel	3.5	5 1/4
2883	9100 5K	8300 5K	21,000
			157/mo

**CONFIDENTIAL**

X135906

**PLAINTIFF'S EXHIBIT**  
 S-3  
 dm

Plaintiff's Exhibit  
 9003  
 Comes V. Microsoft

From davidcol Fri Dec 2 15:44:33 1988  
To: pregie Jodya Philba  
Cc: davidu peteh ralfha  
Subject: XMS and SwapSize  
Date: Fri Dec 02 15:40:35 1988

As I think you are aware, the Excel group is mounting a serious effort in trying to resolve some of the conventional memory problems our customers have encountered. The most serious problem is coming up with enough free DOS memory to boot Excel. (Not being able to set our 128kb swapsize is what kills us.)

In researching this area I discovered that the maximum swapsize allowed is independent of whether Windows uses XMS or not. In theory, Excel should be able to set a 128kb swapsize with 45kb less DOS memory free if XMS is present compared to if XMS is not present. David Weiss confirmed that the computations used to determine the maximum swapsize do not take into account memory freed by XMS. *1 line dev*

I'd like to release a memo very soon that gives my recommendation on what we can do to improve the Excel memory situation in the very short term. As part of my recommendation, I think the swapsize computation should be corrected and a "running update" of Windows and Excel released. Can I get your feedback on this as soon as possible? I'd like to include in the memo that you are on board and it's a "done deal". However, if you think there's a problem due to resources or what ever then I'll raise the issue in the memo and we can debate the appropriate solution.

The second part of the recommendation which involves you is actually pretty minor. We'd like to have the [Incompatibility] section of SETUP.INF for Windows/286 modified to not list 386MAX.SYS since this currently is compatible with Windows/286. Abruptly terminating setup has irritated many customers.

I hope you can respond to this soon since I'd like to move as quickly as possible. Our "window of opportunity" is pretty short.

thanks auch  
David

**CONFIDENTIAL**

X135987