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Microsoft Memo

To: Bill Gates, Jeff Raikes, Steve Ballmer, Mike Maples, Brad Silverberg, Jim Allchin
From: Greg Slynstad
Date: July 24, 1991
Re: Challenges to Pen Win

DBW PCB

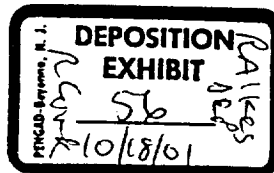
Cc: Pradeep Singh, Lloyd Frink, Aaron Getz, Martin Eller

This memo highlights some of the threats of PenPoint and warns that Go is making progress on many fronts and unless we take them seriously, Go may emerge with a majority of the Pen OS business. Now is the time to stop them, not after it is clear we are losing. I list several indications of Go's strength and suggest some items that we need to work on in order to weaken their position.

I am more optimistic than this memo may indicate, but I am concerned that our strengths (wealth of Win apps and Win momentum) are not playing out as well as we would like. The majority of our resources (in the Windows area) are focused on a different battle. However, there are things that we should be doing that can help against both PenPoint and OS/2.

Go Marketing Wins

- o The press continues to favor Go.* We are making some progress but the prevailing anti-Microsoft attitude and the cool new technology of PenPoint makes Go very appealing to the press. Even those editors that believe we will win, want to see Go succeed.
- o Go has a focused sales organization.* Almost every major corporation we visit has already had a visit from Go. Many of these corporations complain about the complexity of Windows and are open to exploring an incompatible system. Go is very good at convincing them that PenPoint is amazingly easy to learn and use. State Farm said they would rather their technical MIS people had to put the effort into making the system work, rather than the end user. On our side, the Microsoft field sales and support force is reluctant to spend time on an OEM product (with a few notable exceptions).
- o ISVs claim they are doing their new Pen oriented software first on PenPoint.* (Lotus, Software Publishing, WordPerfect as well as many of the startups) At the recent Pen Conference in San Francisco, David Reed from Lotus said, "We would be stupid not to support Windows for Pens, but our real creative energy is going into Pen Point." They will support Pen Win but they downplay this and most ISVs are planning on doing simple mods to their windows apps.
- o Most OEMs will make sure their system will run either OS.* People we know are headed this direction: NCR, Toshiba, Zenith, Dell, Grid, Microslate, Wang and Tusk not to mention IBM being PenPoint only. Recent discussions with Boca on PenWin have cooled. I sense the high level anti-Windows sentiment is stopping the pen group from moving forward.
- o NCR is leaning towards Pen Point.* They claim OS neutrality but their recent add highlights PenPoint and there are definite anti-Microsoft feelings in their pen marketing group.



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Go Technical Wins

- o Scalability.* Go is pushing OEMs to build small form factor machines. We are claiming we will run on these systems as well. In theory Windows should be scalable to these small displays. Lloyd has begun exploring this and it is clear that it has never been tested and full of flaws. He has reported some of these to the Windows team, but I wonder how much effort will go into fixing the problems given the need to ship 3.1 (the program manager and file manager do not even use dialog units based on the system font so they do not scale at all, the system menu and min/max icons do not scale so you end up with an ugly title bar if you increase the system font size.) We have only scratched the surface at looking into this but it is clear we need to test this and be prepared to fix the problems.
- o Silicon only storage.* Go treats their storage space as one contiguous address space and will execute in place when running on a silicon storage (flash) system. Windows 3.1 will be ROMmable but it still requires all apps and much of Windows be duplicated during execution. Since silicon storage is required for highly durable systems and the price for this storage is so high, efficient use is an important benefit. IBM has told us they will never put a hard disk in a portable pen machine.
- o Notebook User Interface.* The Go shell is significantly easier to understand and use than the Windows program manager and file manager.
- o Instant On.* The Go system allows you to turn off the system and instantly return to where you left it when powered back up. Not clear if this works on hard disk based systems.
- o Windows apps in general work poorly with the pen.* Selection and command execution work well, but with the exception of graphics entry apps (CAD, Paint, Draw) the standard input expected still comes from the keyboard. This means the user must suffer through character recognition. The best horizontal pen apps will rely heavily on ink in its native form. This applies to PIMs & notetakers, PenMail, handwritten annotations of documents, ink in your database, FAX annotations etc. This means we need to continue to get bandwidth from our ISVs and not let them think that adding handwriting edit controls is sufficient to be a good pen app.
- o Portable.* It is not clear how much work they need to do to bring PenPoint up on a non-Intel system. However, we heard that they offered to do this for Motorola and hear rumors of their working on a RISC based PC.
- o Screen Rotation.* They highlight their ability to do screen rotation so the notebook can be used in either portrait or landscape mode. We have a driver under development, but the assumptions of GDI regarding video memory make the portrait driver run very slowly. They support rotation during any session. We must restart Windows.
- o PenPoint OO design allows for smaller apps.* Unclear how true this is, but the OEMs, press and many ISVs buy it.
- o Connectivity.* PenPoint offers deferred I/O and autoconnect to a network.
- o True 32 bit preemptive multi-tasking.* Their modern OS design appeals to technical industry people. They push the fact that DOS is 10 years old.

Possible Scenarios

The worst case scenario is that Go ships on time, ahead of us. The system is fast and stable and PenPoint apps appear rapidly. The horizontal market for pen computers is very slow to develop and initial sales are primarily through vertical sales force. The largest group of initial users are the mobile workers and the Go incompatibilities are not enough to overcome the perceived ease of use, more focused sales effort and technical superiority of their solution. It turns out these users really don't need keyboards. We lose.

A more likely scenario is that we ship first or around the same time. They have performance problems and their apps are slow to arrive (with a few exceptions) but the system as a whole is stable and delivers as promised. As with most new PC products, the first users end up being the standard early adopters—

technically adept people, with Windows familiarity. They will be split in their preferences. They appreciate the coolness of PenPoint but understand the benefits of sharing code across multiple platforms. They have desks and they want to use the same OS and apps at their desktop. However, like the early Mac users, some are willing to pay the price of a new OS. We win this market but Go gets a good piece of it and continues to win the technical comparisons. Go continues to focus on mobile workers and as this market develops (more slowly as a result of the long buying cycle and resistance to change of corporate accounts), they get the larger share (due to lack of focused sales effort on our part and IBM pushing PenPoint). As this plays out, the next generation of smaller/lighter Pen machines begin arriving and with Go's focus on scalability and portability, they exploit these machines more quickly and better than Pen Win. They may have the momentum.

What we should be doing

There are more things we should be doing to ensure that we win. I have broken them down into Win 3.1, WinNext (4.07), and Management issues.

Win 3.1

The Windows group in general has been cooperative but we are caught in the middle of their priorities and frequently can't get things done. There are a few reasonable things that can be done that relate to working well on small portable systems. Since portable systems sales are growing so rapidly, it seems a logical place to invest in order to combat both OS/2 and PenPoint.

- Scalability. The Win 3.1 group should buy into testing Windows scalability or at least fixing the bugs we report. Assume a small screen display and large system font (640x480 but 1/2 the size so the system font is around 50% larger).
- Deliver Power Management. This is happening, but the Windows group is not planning on shipping anything so we are concerned that this will lose focus in the rush to ship 3.1.
- Deliver ROM Windows. This appears under control, but know one seems to be addressing the issues relative to executing in place on a Flash system.
- Reduce code size. Is there code that we carry around to run in all three modes that can be eliminated when running only in enhanced mode? Is anyone exploring other possible ways to reduce the size of Windows?
- Power reduction. Windows is a power hog. Are we seriously looking at ways to reduce disk hits?

WinNext

We would love to see some of these things in 3.1 but it is even more important that 3.1 arrive on time so we can beat Go out the door.

- Deferred I/O. We should be able to print without being connected. Ideally, we would have a general purpose output spooling standard. The Pen group can share ownership in getting this defined, but we need someone in the Win group to work with.
- New Shell. This is coming. Will it be as simple as Go's? Should we explore doing a simpler version for the Pen?
- Instant On. Make it possible to save the state of Windows and the apps so that they can be restored quickly to their previous state. Some ideas were explored for Win 3.1, but there were enough complexities that the idea was killed.
- Quick net connect. We need to be able to quickly configure the system to attach to a network. I shouldn't have to deal with errors when I boot disconnected and I should be able to connect without rebooting.

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- Size. We can't keep getting bigger. Silicon only storage systems will prevail on pen machines and the forecasts for reductions in price are not rosy. What can we do to optimize for a small Flash based system?
- Portability. I hear that NT requires 8MB. This is not suitable for a pen machine. We need to investigate what solutions there may be that provide pen support on small non-Intel PCs.
- Screen Rotation. We should allow dynamic screen rotation and enhance GDI to increase performance in portrait mode on VGA displays.

Management

- Focus from the field. We will need clear support from our field sales organization (through some incentive?) or if that is not feasible, beef up the Pen marketing group (FY 92 has 5 people) to enable our competing more effectively in the direct sales accounts. Many organizations are currently evaluating the competing technologies and some are starting their prototype development efforts. We will be battling the IBM sales force and the Go sales force. Go's existence depends on the success of PenPoint. The Microsoft sales force has little reason to care about Windows for Pens.
- Support. We have discussed offering support to Pen Win end users but the current plan is to offer support only through the OEM. Can we offer free end user support?
- Does it make sense for us to invest more in marketing? Can we raise the ante so Go is forced to spend more of their resources on marketing/selling. Right now, it appears Go is spending more than we are for pen specific marketing. This is based on their strong presence in all pen events, their wealth of marketing collateral and their ability to call on so many corporate customers. They can't keep this up. Assuming this market develops quickly, it will be at least a couple more years before they can be profitable. Based on \$50 per unit, they need 200,000 units to do \$10mil (ignoring possible apps revenue). Our proposed marketing budget was cut substantially in FY 92 planning.

Some ideas:

- A pen oriented road show that makes it attractive for the early OEMs to participate.
- Figure out how to sell the OEMs sales force on Pen Win. We are already offering a lot of training, but maybe we should consider incentives for their sales force or at least provide collateral that makes it easier for them to sell Pen Win.
- Create attractive marketing programs that help our ISVs. Free catalog of apps, create a forum for ISVs to participate (the road show?).
- I am sure others can come up with even better ideas.

Summary

Go has a technically superior solution (if they deliver as promised), they have been successful in convincing a lot of people that the pen requires all new apps and that Windows is too complex and inappropriate for small form factor machines. The battle is no longer for OEMs, although we are trying to find ways to stop them, most will offer both solutions. The battle will be at the ISV and corporate/user level. For ISVs we have succeeded in getting them signed up, but the small ones prefer the lack of established competition in the PenPoint market and the big ISVs do not want us to succeed. We are not well positioned to sell or support an OEM product to end users without good support from our OEMs.

We believe we have a great product. The pen user interface under Windows is competitive with Go. We think our recognition will be better than theirs. We will have more apps. But for broader issues such as simplicity, size and applicability for clipboards, we are weaker. We need to put more emphasis on portability/scalability and address the marketing/sales issues or we risk letting Go win this battle.