Challenges and Strategy
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Prologue: The Reason for this Memo

Every year I set aside at least one "think week" to get away and update myself on the latest technical developments -- reading PhD theses, using competitive products, reading books, newsletters and anything I can get my hands on. Several valuable thoughts have come out of these retreats (tables for Word, outlining in Excel, treating DOS as more of an asset), however the complexity of the industry and its technology means that a lot of my time is spent just trying to keep up rather than coming up with new product ideas. It is no longer possible for any person, even our "architects", to understand everything that is going on. Networking, processors, linguistics, multimedia, development tools, and user interfaces are just a subset of the technologies that will affect Microsoft. My role is to understand enough to set direction. I enjoy these weeks a great deal -- not because I get away from the issues of running Microsoft but rather because I get to think more clearly about how to best lead the company away from problems and toward opportunities. A lot of people choose things for me to read. By the end of the week I make an effort to synthesize the best ideas and make our technical strategy clear.

This year I decided to write a memo about overall strategy to the executive staff. As we have grown and faced new challenges my opportunities to speak to each of you directly has been greatly reduced. Even the aspects of our strategy that remain unchanged are worth reinforcing.

In the same way that DEC's strategy for the 80's was VAX -- one architecture, one operating system -- our strategy for the 90's is Windows – one evolving architecture, a couple of implementations. Everything we do should focus on making Windows more successful.

A source of inspiration to me is a memo by John Walker of Autodesk called "Autodesk: The Final Days" (copies available from JulieG). It's brilliantly written and incredibly insightful. John hasn't been part of Autodesk management for three years and hasn't attended any management meetings for over two years, so he writes as an outsider questioning whether Autodesk is doing the right things. By talking about how a large company slows down, fails to invest enough and loses sight of what is important, and by using Microsoft as an example of how to do some things correctly he manages to touch on a lot of what's right and wrong with Microsoft today. Amazingly his nightmare scenario to get people to consider what's really important is Microsoft deciding to enter the CAD market -- something we have no present thoughts of doing because it would stretch us too thin. Our nightmare -- IBM "attacking" us in systems software, Novell "defeating" us in networking and more agile, lower cost structure, customer-oriented applications, competitors getting their Windows to act together is not a scenario, but a reality.

Recently a long time employee mentioned that we seem to have more challenges facing us now than ever before. Although I agree that it feels that way I can say with confidence that it has felt that way every year for the last 15. We decided to pursue a broad product strategy from the very beginning of

the company and that means we have a lot of competitors. Our success is incredible, not just within the software industry or computer industry but within the history of business, and the combination of this with the incredibly competitive nature of our business breeds challenges to our position. I think it is critical to divide these challenges into different categories.

Category 1

This category contains issues of great importance but which I judge should have little effect on how you do your job or our future.

APPLE LAW SUIT: This is a very serious lawsuit. If the judge rules against us, without making it clear what we have to change or asks us to eliminate something fundamental to all windowing systems (like overlapping windows) it would be disastrous. At the very start of this lawsuit we decided that Bill Neukom and I would give it very high priority and that the rest of the executive staff could focus on their jobs without learning about the complex twists and turns of the lawsuit. Microsoft is spending millions to defend features contained every popular windows system on the market and to help set the boundaries of where copyrights should and should not be applied. I think it is absurd that the lawsuit is taking so long and that we are educating the third federal judge on the case. I am pleased with our work on this case. Our view that we will almost certainly prevail remains unchanged.

FEDERAL TRADE COMMISSION: It must be surprising that our two most visible problems are in this category. Certainly I take the FTC inquiry seriously and I am sure it will use up even more executive staff time than the Apple lawsuit has. However I know we don't get unfair advantages in any of the markets we are in. As Ruthann Quindlen stated recently in InfoWorld (supported by many other editorials like Businessweek's) our combination of products is similar to that of every other high technology company and our success is based on having great products. I hope we can quickly educate the FTC on our business.

RETIREMENT OF KEY EXECUTIVES: The retirement of Jon Shirley and Jeremy Butler -- absolutely two of the finest executives anywhere -- are significant losses for Microsoft. Last year's "think week" was my worst, because Mike Hallman called me to say Jeremy was planning to retire. I had Jeremy fly out and meet with me for hours to try and change his mind. I am sure more people will be retiring in the future. However, I am confident that we are developing a lot of great people internally and that we are hiring the best people from outside the company. Just look at some of the recent additions to our executive staff -- people like Brad Silverberg, Jeff Raikes and Gary Gidot. Consider the talent pool right below the executive staff level -- Jim Alchin, Pete Higgins, Patty Stonesifer, Rob Glaser, Mike Murray, Mike Brown, and so many others. I love working with people of this caliber -- not only do they do a good job but they keep me doing my best. I certainly have no plans to back off from my dedication to the company.

PRINTER BUSINESS UNIT: Generally when we enter a product category, we innovate. Even if our first version is not a winner we establish a position from which we can make further improvements. Our entry into the printer software business has not succeeded. Steve is considering what strategy we should pursue to make the best of our errors. Our problems have educated us to consider carefully the importance and synergy of doing new things. Offering cheap Postscript turned out to not only be very

hard but completely irrelevant to helping our other products. We overestimated the threat of Adobe as a competitor and ended up making them an "enemy", while we hurt our relationship with Hewlett-Packard and focused on non-Windows specific issues. Selecting TrueType as an our font solution and building it into the system was an excellent design decision despite the immense resources that has cost us. TrueType -- our font format -- is separate from TrueImage - -- our Postscript clone. Printing is critical and we will be involved in printing software, but in a different way than we have to date. The caution we have shown in making acquisitions is reinforced by this experience.

Category 2

These are problems that are serious but solving them correctly will provide growth so they can be thought of as opportunities.

DISLIKE OF MICROSOFT/OPENESS: Our applications have always succeeded based on their own merit rather than on some benefit of unfair knowledge of system software. We need to explain our hardware neutral approach and the benefits that has generated for end users. We need to have visible events on a regular basis where we solicit the input of anyone who wants to influence our future direction. If we can institutionalize a process that the world feels comfortable with, we will strengthen our position incredibly. This is going to require a lot more creativity than even the "Open Forums" we are discussing. UNIX has OSF and X/Open -- we also need clear ways for organizations of all types (hardware, ISV, IHV, corporation, universities) to feel like they have something invested in our approach and can affect our course.

IBM: IBM is proposing to take over the definition of PC desktop operating systems. This would be a new role for them -- their previous attempts: Topview and the 3270 control program, did not succeed. The barriers to their success are not only technical but structural. Why are they willing to lose so much money on systems software? The answer is that they have a plan to design the operating system so that their hardware (MCA) and applications are tied in. Our disagreements with IBM over OS/2 were that we wanted to push 2.0 and they wanted to push 1.3. Now they have switched to the strategy that we proposed -- even using our marketing slogan "better windows than Windows". We will not attack IBM as a company and even our public attacks" on OS/2 will be very professional. Our strategy is make sure that we evolve the Windows API and get developers to take advantage of the new features rapidly, while IBM has a poor product with poor Windows functionality. Amazingly they are not cooperating with us on our compatibility approach called WLO, but are trying the approach we did not choose of using Windows code itself. Their lack of cooperation limits WLO effectiveness and the Windows approach has contractual and technical problems for them. We will do almost no work specific to OS/2 2.0 -- we will rely on their 1.3 compatibility to run our applications and most of our networking software. Our focus is on OS/2 3.0. If a customer buys OS/2 2.0, the problem for us is that they expect to get Extended Edition and perhaps some PM16 applications that may not be on 3.0 so we may have "lost" that customer. Other than usability, making sure Windows is the winning OS is our highest priority. Eventually we need to have at least a neutral relationship with IBM. For the next 24 months it may be fairly cold. If we do succeed, then we will be done forever with the poor code, poor design, poor process, and other overhead that doing our best to do what IBM has led us to (for the past five years). We can emerge as a better and stronger company where people won't just say we are the standard because IBM chose us. In the large accounts IBM will retain a some of its influence -- this is where our risk is highest.

USABILITY/SUPPORT: If there is any area we have not paid enough attention to it is usability/support. It is really embarrassing that people have to wait so long on the phone to talk to us about problems in our products. The number of customers who get bad impression because of this must number in the millions worldwide. Why weren't we hiring at full speed and picking a new site every day for the last three years? Why did people keep talking about support as a profit center? The creation of support as a channel hid its costs from the product groups. As CEO I take full responsibility for these mistakes.
Our products can be far more usable and the product groups are focusing on this opportunity -- particularly the Windows and Windows applications groups.
We will spend what it takes to have the best support (without an 800 number).
I think we can cut the number of phone calls generated by our products to less than half of what it is today and use training and technology to cut the length of the phone calls. However, we shouldn't assume this in our plans to solve the problem. Excel 3, Win Word 2 and our BBU products have started to move us in the right direction. Hopefully Windows 3.1 will generate a lot less calls. The bandwidth of communications between the product groups and PSS is going up dramatically, but there is still lots of room for creativity. I insist that we are able to use our quality of support as a sales tool.
Surveys like the J.D. Powers survey done on cars will become important --asking people: How many times were you confused? How many times did you have to call? How good was the service you received? Fixing this problem will cost us a lot of profits and we should make that clear to analysis.
With this problem fixed we can really start building some lifetime customers.
Only really usable software can be used by the "rest of the people who have not bought PCs", so making software more usable expands the market. Likewise it is the usability of software that will determine how many people decide to use only a WORKS-like product or move up to a larger package and it will determine how many large packages they can easily work with. Usability is incredible stuff -- once it is designed it is easy to implement, saves money, wins market share, makes customers happy and lets them buy more expensive software!

NETWORKING: We knew it wasn't going to be easy but it has been even harder than we expected to build a position in networking. You will see us backing off on some of the spending level but don't doubt that we are totally committed to the business. Our strategy is to build networking into the operating system. Some of the services will not be in the same box but they will have been designed, evangelized, implemented and tested as part of each system release. What this means is that we will define operations on and attributes of entities like files, users, machines, mail, printer or services that users or applications can have access to directly inside the system software. Although we will allow connections to different systems we will make ours the easiest to use by bundling some of them and making all of them seamless. Architecting the extensions for these entities including our evolution of the file system and how we tie in with standards like Novell and DCE will be Jim Allchin’s responsibility even though the implementation of several of these will be in other parts of the company (for example OS kernels or Mail). We are in a race to define these extensions because Novell’s' dominance and DCE's popularity could allow them to usurp our role unless we get a strong message, good tools and great implementations done fairly quickly. We will embrace DCE as a weapon against Novell although we don't know exactly how to relate to DCE quite yet. Our strength will come from Windows, including the advanced implementation based on NT.

TECHNOLOGY: Technical change is always a challenge for the current companies in a field. Even if they recognize that a change is taking place, they are tied to the past. New companies will move to exploit the opportunity. Our gain in applications is in no small part due to the failure of existing leaders to listen to what we and other people were saying about GUI. Technical change can be a new hardware platform like NeXT, a new type of machine like Pen or Multimedia, a new software platform like Patriot Partners, a new category, a redefinition of a category or a much faster development methodology. Many of the changes that will take place in PCs can be anticipated (performance, memory, screens, motion video), however, understanding when and how is still quite complex. Other changes like linguistics, reasoning, voice recognition or learning are harder to anticipate.
We will reduce our technical risk by strengthening our relationship with the research community and having some projects of our own in areas of greatest importance (development environments and linguistics, for example). Nathan (and Kay Nishi before him) have pointed out that the transition of consumer electronics to digital form will create platforms with systems software --whether it's a touch screen organizer or an intelligent TV. The need to work closely with Sony, Philips, Matsushita, Thompson and other Japanese consumer electronics companies will require people in both Tokyo and Redmond working with both the research and product groups in these companies. We should have an annual exchange of research thinking with most of these companies similar to what we want to do with MIT or Stanford. We have the opportunity to do the best job ever in combining research with development in the computer field largely because no one has ever done it very well (although Sun and Apple are also working hard on this). Nathan's kickoff memo talks about having the research group use our tools and including program management inside the research team.

Our proposition is that all of the exciting new features can be accommodated as extensions to the existing PC standard. Others propose that start-from-scratch approaches are clearer and therefore better. This is the essence of the debate with Go, NeXT and Patriot. To win in this we have to get there early before significant development momentum builds up behind the incompatible approach. The key to our Macintosh strategy was recognizing that the graphics and process of the PC would not allow us to catch up soon enough to prevent Mac from achieving critical mass so we supported it. Sun presents a particular challenge to us because they have significant development backing and high end features to go with their RISC performance. ARC is the most evolutionary way to get to RISC and it will require a lot of good execution by us and others for the strategy to succeed.

Our evolutionary proposition should be quite marketable to users – combined with hardware neutrality the message is "Our software runs today's software on all (almost) hardware and both today's and tomorrow's software on all (almost) of tomorrow's hardware".

Category 3

This is a category of challenges we face that I don't feel are widely recognized.

PATENTS: If people had understood how patents would be granted when most of today's ideas were invented, and had taken out patents, the industry would be at a complete standstill today. I feel certain that some large company will patent some obvious thing related to interface, object orientation, algorithm, application extension or other crucial technique. If we assume this company has no need of

any of our patents then they have a 17-year right to take as much of our profits as they want. The solution to this is patent exchanges with large companies and patenting as much as we can. Amazingly we haven't done any patent exchanges that I am aware of. Amazingly we haven't found a way to use our licensing position to avoid having our own customers cause patent problems for us. I know these aren't simply problems but they deserve more effort by both Legal and other groups. For example we need to do a patent exchange with HP as part of our new relationship. In many application categories straightforward thinking ahead allows you to come up with patentable ideas. A recent paper from the League for Programming Freedom (available from the Legal department) explains some problems with the way patents are applied to software.

RIGIDITY/PRICING: In the Autodesk memo, Walker talks about the short term thinking that high profitability can generate. He cites specific examples such as a very conservative approach to giving out free software or a desire to maintain fixed percentages for the wrong reasons. Microsoft priced DOS even lower than we do today to help it get established. I wonder if we would be as aggressive today. This is not a simplistic advocacy for just lowering our prices -- our prices in the US are about where they should be. However the price of success is that people fail to allow the kind of investments that will lead to incredible profits in the future. For example we have gotten away without funding any internal or external research. Nathan is working with me to put together a lan that will end up costing $10M per year about two years from now. I have no plan to reduce our spending in some other category by $10M. Microsoft is good at investing in new subsidiaries and even at investing in new products (database, mail, BBU, networking). Most of our rigidity comes when we have a very profitable product and when the market changes. In these circumstances we should spend more or charge less, but our systems locks us into staying the same and losing share.

My largest concern about price comes from Borland. Organizations smaller than Borland will not have enough presence or credibility to use low price against us broadly. I think 90% of the significant competition we will face in productivity applications will come from Lotus, WordPerfect, Borland, Claris and IBM barring technical innovations by small companies. It is amazing how similar the applications strategies of Microsoft, Lotus, Borland and Claris are. Philippe has a much lower cost structure than Lotus, IBM or Microsoft, so he can afford to do things we would consider wild. For example Borland is considering not offering their Windows word processor separately but integrating it with Quattro for free -- the technical opportunity and value would be very strong. This is very different than Lotus temporarily offering Ami for free. Only immense loyalty to a product at the end user level prevents corporations from using their buying power to force a cheap site license.

When the US Government DOD moves software procurement to a separate contract, the price per user of software will end up around 0. Why shouldn't some small organization price their product at say $1M for the entire US Government for all time? We would if we were small and hungry. Fortunately most organizations don't force cheap software on their end users.

Another price concern that I have is that companies will eventually equip all the employees that need software with a full complement of packages, and our only revenue opportunity will be upgrades or ephemeral information although this problem is over five years away, I think it is important to keep in mind.

Summary

Readers of this memo may feel that I have given applications too little air time. I don't mean to downplay their importance at all. Applications have been the primary engine of growth (especially in International) over the past two years. Although Windows' success is necessary for Microsoft applications to succeed is not sufficient. Other ISVs will be there early with good applications fully exploiting the environment (Notes, Ami, Designer), so exploitation is only half of the job. The need to "reinvent" categories and the way they relate to each other is crucial for all of our applications. I will be writing up some of my ideas for big changes in applications.

The simplest summary is to repeat our strategy in its simplest form -- "Windows -- one evolving architecture, a couple of implementations and an immense number of great applications from Microsoft and others." The evolution refers to the addition of pen, audio, multimedia, networking, macro language, 32-bit, advanced graphics, setup, a better file system, and a lot of usability. The "a couple of implementations" is a somewhat humorous reference to the fact that our NT based versions and our non-NT versions have a different code in a number of areas to allow us to have both the advanced features we want and be fairly small on the Intel architecture.
Eventually we will get back to one implementation but it will take four years before we use NT for everything. I would not use this simple summary for outside consumption -- there it would be more like "Windows -- one evolving architecture with hardware freedom for all users and freedom to choose amongst the largest set of applications."

Although the challenges should make us quite humble about the years to come I think our position (best software company setting many desktop "standards") is an enviable one and our people are the best. The opportunity for us if we execute this strategy is incredible.