From: Bill Gates
Sent: Friday, November 05, 1999 1:53 PM
To: Eric Rudder
Subject: Microsoft 2000 - with 1 of 10 areas complete

This memo is current a work in progress. I am sending it out for a small group to discuss and give feedback before it goes to a broad audience. The idea is to not only have this memo once a year at the start of the planning process but also to use the goals here and the metrics around them to drive the review processes during the year. If something you think I need to be involved in driving across groups is not mentioned here then it won't happen so speak up if that is missing. The impact of the memo will be more from the process that is developed around it then the memo itself.

Microsoft 2000 – Tens for leadership

I plan on writing this memo once every year to outline at the very start of the planning process the areas where we need to focus and provide leadership For each area I outline we will designate a roadmap owner. Many of the areas will have sub-roadmap owners. Given the breadth of our work, the speed of the industry and the importance of sharing and integrating our work this process is very important. A lot of the areas cut across different product groups and customer set but our ability to coordinate these activities is a critical competitive strength.

Microsoft and the Digital Revolution

It is clear that the Digital Revolution is now moving at full speed. Politicians, Businesses, investors and the press consider the Digital Revolution in everything they do The desire to declare a new era and say that an inner group "gets it" and the rest do not motivates every pronouncement in our business. Massive investments and high valuations reward the incredible focus on investing in Digital approaches.

Microsoft has played a central role in creating the Digital Revolution. Our vision of the personal computer as an empowering tool for creativity and communication was a key element in starting the revolution. In the last 25 years an unbelievable array of great hardware and software choices have because of our work. More than 100M PCs will be sold this year, a growth rate well beyond what was expected by analysts. A few years ago analysts were saying PC home usage would peak at 35% or 40% and yet it has passed 55% and continues to go up.

The three key principles from our founding remain critical today.

First our belief in empowering people at work and at home with low cost tools and our commitment to build an industry around that through partnerships. The scenarios we will enable as audio, video, easy to read text, rich collaboration, business intelligence and natural interfaces are supported in Windows will be incredible.

Second our focus on great software as the missing piece to tap into all the capabilities that hardware and communications advances are bringing. As I will describe in this memo the problems that need to be solved for the Digital Revolution to achieve its full potential are largely software problems

Third, our focus on giving people lots of choices around our platform. Choice in the years ahead will include not only choice of PC suppliers and applications but also a choice of devices (phone/PDA, Windows terminal, TV) and a choice of whether to have the software run as a service, or a server or on the client PC and a choice of using whatever mix of communication suppliers you want and still being able to get at all your state – contacts, files, favorites, home page. Choice will also include the ability to get applications working together far more easily than in the past using our XML tools and Biztalks schemas so you can pick best of breed applications and put your special applications alongside them without giving up rich integration

#1 Windows client

Our biggest success has been the pervasiveness of Windows on clients and servers. The popularity of Windows with users and developers created a virtuous cycle of investment in learning Windows and creating Windows applications The sales of PCs and the software industry have grown by a factor of 5 since we came out with the Windows graphics interface.

Focusing on full sized screen clients there are two things that challenge the share that Windows has. First is that in many cases people will be satisfied by just having a browser of their full screen device. The browser can download script of other code but the user will think of it as a very simple device. The interface can be simple. The state can all be on the server. Second is that Linux has become popular with students and hobbyists who are attracted by it being free and having the source available. Linux is not the only operating system competitor – we have MacOS, BeOS, SCO, Qnix, Freebsd and many others However I would single it out as the one with the greatest momentum particularly among groups that we consider particularly important.

The Windows client has huge advantages. The ability to run disconnected, the responsiveness of having the applications run on your local machine, the breadth of applications and peripherals that are designed for Windows help maintain its strength.

However those strengths have to be offset against the challenges of managing the client.

We need to make it easy to install software without breaking anything that runs on the machine A specific goal in this area is to have a roadmap for software deployment that takes our work in Fusion, Installers, Game Manager, Site Server CRS, IIS Metabase, SMS, Windows Update, AppCenter, IE cache and brings it all together so that ISVs understand exactly what we want them to do. Some of our customers are buying third party tools to avoid DLL conflicts People should not think of installing a Windows application as being harder than clicking on a link that brings them a page of information. The roadmap has to show how we deal with state in the Registry or Metabase or whatever COM+ is doing.

We need to understand when Windows and Windows applications don't work for people. Walt Mossberg's story of problems people have with PCs reflects the reality that often the pieces just don't work together. The length of our PSS calls shows that the ability to understand what is going wrong is far more complex that it should be. Our OEMs support costs are another metric that we can track to see how much we are improving. We need to understand far better what the cause of these failures are. We need to build capabilities into Windows to log events in an encrypted file. We need to be able to

remotely monitor and control systems even when they crash by using Windows terminal server capabilities and having a subset of the OS that can connect to the Internet even when the system is down. We need to use the Internet to upload status and help people diagnose problems. We can create a digital feedback loop where we have a clear understanding of any common problems and Windows Update is used by most Windows developers and users to get fixes out to users before they run into the same problem someone else has run into. A very important outgrowth of this will be a far more rigid approach to qualifying addin drivers, virus scanners and applications. I believe most users would choose to run their system in the mode that only allows code signed by us to run in the system As we come up with quantitative measures of the frequency of various types of problems we will establish concrete goals for bringing those down. The migration to Windows NT technology will improve the situation significantly and we have to make that move for consumers as quickly as we can. The Windows Update team along with PSS have lots of good idea on how we can do better in this area. We will have to make some major investments to show the world how much we care about this and to show them that major progress is being made. Concretely in the near term we need to have a base of over ten thousand systems where we are monitoring them all the time and understand any crash or reboot or problem these users run into. Further out we need to offer as a service I have referred to as "WindowsTone" that guarantees a level of satisfaction. This will be closely related to the storage (challenge n) and communications services (challenge y) we offer Although we need to consider the role of internal corporate support and other third parties I want us to be on the line to deliver satisfaction for millions of customers.

We need to renew our interest in having great Windows applications Part of this relates to Challenge #2 where we need to show people that great Windows applications can be very Internet exploitive. If educational applications are all just written as HTML the value of the Windows client is diminished. If all ERP vendors simply use HTML and don't have Windows exploitive clients that reduces the value of the Windows client. We should do more to help Windows applications developers be successful. I think we can help them by including them in the Windows Update and having an activity center in Windows that lets people find great Windows client applications. Today if I want to do something like do a house remodel design its too much trouble to find the reviews and find a place where the software is offered. We need to be clear about how we want people to exploit Windows and use traditional DRG tracking and evangelism Part of the story has to relate to exploiting Windows as it is today – not just the new things we will come out with.

We need to make Windows more of a solution. For people who want to do music or video, photos, video monitoring or make a home page the capabilities need to be built in and easy to access. Including some cool games in Windows was a great thing. As I will discuss under communications I think we have to bring a level of applications functionality to browsing – being able to review your history for schematized activities. We need more ideas about what solution capabilities need to be built into Windows. In many cases we will get the code from partners who get hooks that allow them to upsell to a more powerful solution. We should develop the list of capabilities and the architecture for how they integrate into the UI. My list is very biased towards the home scenarios so we need to balance this list out with capabilities that focus on knowledge workers. A good example is Netmeeting – how much of that should be built into Windows versus value added from an Office offering?

We need to reduce the differences between Office and Windows. We cannot pursue two paths for unifying the storage name space Given the competitive framework it is no longer appropriate to have different open dialogs and tool bars. To close the gap here we will have to use our SR release strategy so that downlevel functionality for Windows versions goes through the normal Windows release process Office and Windows needs to help each other to make sure we are providing rich servers that make it easy to do Intranet publishing Today our file server and web server and various Office server strategies are disconnected. This shows through in our UI, in our server message and in our services

One area I know we need to do better in is how we change the perceptions around Linux as open and therefore the most attractive place to experiment and add value and Windows not being at the center of that We never penetrated part of the educational world with Windows and Linux has allowed those users to run on PC hardware without giving up their UNIX heritage. I think we need to brainstorm more on this. How much more can we open up our source codes? This doesn't have to mean giving the software away as several companies have shown. Do we need to have special awards for people who take Windows and do value added – a "capitalist" incentive for experimenters? I think we could do something quite visible here. The approachability of Windows needs to be improved. As we rationalize our API story (Developer Challenge #n) it will be clearer how to crystallize this improvement. The main action item here is to appoint a "tiger team" in the Windows group to drive our thinking here including coming up with investments and new approaches. They can be advocates for how we need to open things up in new ways

Perhaps the most exciting thing that can be done to Windows is to make a major improvement in the user interface. Today the boundary between the shell and the browser and the email client are painful. The variety of UI techniques for doing identical things is too high. Just consider an application that wants to present a table of information where you can query, add entries, edit entries and delete entries. There are hundreds of disparate ways that this is done. The number of menu items and utilities makes it hard to find things. An integrated natural language guide like the Office assistant in Word could be used to help guide the user or even to let them give commands. We need to have a place where user actions are recorded in a schematized way that allows for value added in taking that log and trying to help out. Research has a group under Eric Horvitz that is doing important work in this area. A lot of third parties are hooking our systems to try and create agents that help out. We need an architecture for this both for better user assistance and to help with the natural input systems that will come along

We have several groups across the company that want to improve the user interface. Netdocs in the Office group has some good UI thinking. The Neptune project is looking at how the shell can be changed perhaps adding a new concept called Activity Centers. I think this project also tries to eliminate the boundary between shell, browser and mail. Darryl Rubin has his Epad framework including a prototype that has been built The Research group and Tandy Trower are very articulate on the need to have a framework that agents and speech can connect into. We know that speech and handwriting require a new way for the system and applications to work together. This is not something that can be done on a fragmented basis. Of these I am most familiar with the Epad effort and the opportunity it can provide to simplify UI by sharing high level constructs built on a small number of elements There is a tough question of how we move forward on this. Do we wait to change the UI until we have the richer Platinum store underneath the system? Shouldn't our work be complimentary to Office and allow it to extend the shell email? How evolutionary can we or should we be given the popularity of the current UI? Should our 2001 release again be incremental until we get something more dramatic in 2002? We can have some experimentation but the only real impact comes when there is a real focus on how the new UI comes together. I need to help us get a company wide effort that drives advances in the Windows UI A UI improvement that users were enthusiastic about would allow us to have a release of Windows far more exciting than even Windows95. We need to create a process for bringing these efforts together.

#2 Windows Online (MSN???)

Then we want to talk about timeframes. Then we want to go through the goals explaining each. And giving some goals for the 3 timesframes in each area

Do I have the right areas? What have I left out? The taxonomy is very hard.

For example mail touched on shell/newUI, store/schema, communications

Platform touches on storage.

The goal was to pick things that are IMPORTANT and where I have goals for what we do and talk about tracking them even though they are cross group things.

Meta issues: talk about tracking? Clarity? Process. Roadmap owners. Org challenge!

Business framework – stds, revenue sources.

Windows client	Client excellence (support, stds, deploy, UI, shell, ISV focus) " [University/OpenSource?]	
Windows Online	Online/Apps/Browser – MSN, I32	Win/
Knowledge Workers	Knowledge workers Office tablet filing reading schd annotate [win relate]	KW
Communications	Communications/mail [pipe]/IM/Net	Win/
Storage/Schema/State/Security/Search	Store/Schema!/Security/State/megastore/Search	Dev/I
PDA/Phone	PDA/Phone/ our advantage?/msn	KW/I
Home	TV/Home/Games/Car/WTS (Upnp Jini)	CCG
Developers	Developer Platform (webos)/xplat/stds/useit/protocols-net/momentum –bestweb/scale-	Dev/
The abilities	Scalability reliability manageability	Win/
Software as a service	Software as a service/Hosting/.coms	Win/

Clients

Services
Platform

Time frames and metrics.