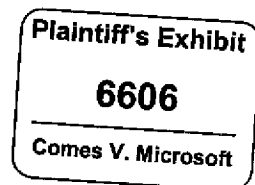**From:** Steven Sinofsky
Sent: Tuesday, July 20, 1999 10:41 PM
To: Jawad Khaki (Exchange)
Cc: Eric Rudder
Subject: RE: Office and Windows and Communications

Here's the message.

I am going to put up here some thoughts about features in Office 10 that might make it even more exciting. Perhaps at some point there will be comments or discussion on some of these points. There is none right now.

I have to say the experience of trying to find this document to edit it has been eye opening to me how messy this webfolder thing is. This document is not an Office document - it is an HTM file. At first my open dialog didn't let me get to Webfolders at all. Even once it did when I put in http://office10 <..\> there was a huge delay and I didn't see how to find this document. Once I knew to show all file types there we a huge number of weird files I was looking at like "default2" "default3" and when you click on those you get strange message. I know we need to make webfolder browsing and file directory browsing come together more. Little barriers to these things make Intranets too painful to go ahead and do. I think there are a number of hurdles that make it dramatically harder to do an Intranet document than to go to an Internet site that is dedicated to a certain type of document and just use it - like a site for organizing group meetings. (see templates discussion below). I can understand why the Office2000 intranet stuff isn't getting as much use as it deserves because of just little barriers that add up.

I will try and suggest things that are reasonable within the timeframe for Office 10 although I am sure some things I suggest won't pass that test in the final analysis.

Part of the genesis of this is that when Steve Ballmer and I sat down with Steve Sinofsky and Bob Muglia to discuss Office 10 we didn't see enough things where Office users would say "Wow! I would use Office is a new way that is pretty cool for me".

I will ask some people outside Office to comment on several of these things.

This exercise itself could be interesting since it is the first time I have tried to use Office collaboration.

If we had notes to do this we would probably make individual items separate items. If I do this in a word document the individual ideas will not have individual URLs so it's a little harder to ask someone who is an expert in one topic to dive in and see that. Notes would also let us add columns on each of the ideas with properties.. Maybe a platinum person would have told us to use the improved shared folders. Maybe we will decide to separate these things into individual Platinum items at some point,

I will not include in here issue related to how we bring our email clients together. I have taken the minority point of view that we should converge around the OWA code base for the future and use that instead of Outlook Express or Outlook or the email client work done in our shell groups or PDA groups. This is a separate discussion.

The focus in this document is ideas that people who use Office would see demonstrated or hear about and say, "COOL!!!" Those people at Microsoft are evolving Office to make it cooler and cooler for Knowledge workers and I have to make sure my company renews its EA even at $250 per desktop. I will use this feature myself and tell other people about it.

I would love to have other people comment or contribute.

I want to be a leader as Knowledge workers start to work with audio and video as a datatype. I think this is VERY important for Microsoft. This topic alone is a very deep topic. I think a lot of the plumbing for this belongs in the Windows/Streaming media group. However the great UI that lets you annotate and navigate these things in rich ways should become part of Office. We will not get full value for this revolution of the navigation applications are done in a fragmented way by third parties or thrown in a Windows thing. We do need to get the group in Research (anoop) and the Streaming media group into this discussion. There are some very cool ideas where you can take a camera that shows everything going on in the room with as special lense and then have software that "directs" the meeting by moving the camera focus to the speaker - the viewer can also override and suggest there is a participant they want to watch in a special Window (say the Ceo is in the room and people want to focus on his reaction to something.) Lets just take the audio domain. Two anecdotes. There was a speech at the CEO summit given by Jack Welch. I wanted to send a snippet of it around with some text comments. I tried to figure out what Microsoft product to use to do this and gave up on it. I did send around the URL but it was just a 50-minute stream with no commentary at all. Another anecdote I heard was that the group internally who used to interview people to get audio and then use a CD rom burner to create "drive time" audio programs mostly for our field employees (apparently 5000 people use this) decided to switch away from CDRom and instead build a website where the audio information is selectable and then let people download it to a CasioE-100. The beauty of this is that the information is more up to date and it's easier for the person to select what they are interested in. Ideally you could even embed a Powerpoint slide with a chart with the audio and then have a "signal" that you should look at the screen to see this while listening. This raises the whole area of how phones will have screens in the future and how can we set standards for that (and patent that). Whenever I talk to education groups about what they want from technology the idea of annotated video comes up AGAIN. People want to be able to comment/ask questions/discuss the lecture. What is the Microsoft product that people should use to create these annotations and navigate them? Maybe we should get some resources in our streaming media group and research to help us figure out how this should be done. Is there some third party work in this area that we should pick up and use? I keep seeing proposals about how we are doing learning platforms - I think we have one for K-12 and one for Universities. I think making it practical to have "documents" around the video and audio would be the best thing we could do for education. I think the most cool feature for all knowledge workers - not just students - is this idea of making video and audio navigable. I think this is a BIG BIG THOUGHT LEADERSHIP area that someone will lead in. When I saw the Anoop demo I wanted to put that into all of my speeches - however I need for a REVENUE product to pick up on this idea. I suppose someone could say this annotation and navigation

requires a new module in Office. I am not a big fan on new modules in Office but maybe we will have to start out that way. Powerpoint could be enhanced to be this application. This points out how CRITICAL structured annotation is to the future of Office - it is CRITICAL not just on video and audio but on all documents. Darryl has been a thought leader here but we haven't found anyone in Office to really engage with him as far as I know. I am dismayed that we have forked our annotation stuff so there are the "old" annotation commands that we didn't make work in the group environment and then the new different annotation (discussion) things that I guess I am trying to use with this document. This ignoring of the old feature and not extending it into the new domain is a DISASTER in design and terrible for our users. For example I can make a note on an Excel cell but that feature is the old feature so I can't alert someone or share it in a reasonable way. I can annotate a Word document in some nice ways but that is not tied to the collaboration. Annotation brings up the issues of Searching across Office documents. I feel the same way about the lack of convergence between our Team Server stuff which is doing versioning (mostly for developers) and our versioning in the applications (I will make this a separate point later - leveraging Team Server work in Office 10). Another anecdote I heard and talk about in my speeches (and I hope is as strong as I suggest it is) is how the Exchange group has changed their "war room" meetings to use Netmeeting and wireless networking. I say that less people have be in the meeting, people only come to the part of the meeting that relates to them (they can see from their desktop when their part is coming up), if you miss the meeting you can search to find the parts relevant to you (annotation), in the meeting people have their PCs and browse for data and do follow-up in real time. In these speeches I suggest that Microsoft is about to SEIZE THOUGHT LEADERSHIP relative to the whole idea of meetings - which we are going to help people understand which meetings can benefit from having rich software usage. This really gets people excited because they know what a huge time sink meetings are. I am sort of mixing the real time stuff (Netmeeting) with the stored stuff but there is a relationship in terms of how you annotate. The real time stuff bring up the question of whether applications can be aware that they are being shared by multiple users and do better things - I claim this is another case where there is very low hanging fruit - just do some cool stuff with the cursors and "modes" for each of the users which is very easy to do. We could get some outside people to gather data about the different types of meetings (maybe this data already exists) and then say how in a company that has the LATEST VERSION of OFFICE and uses it the right way that there is less meeting time and the meetings are far more effective. This is the kind of message that Steve Ballmer wants to hear us come up with for Office 10.

Help me categorize my mail. Someone wrote a memo many years about how email turns us all into email clerks. We each have to create folder hierarchies and categorize the mail. Mail has a tendency to distract our attention even when it is low priority type mail. We look at using PKM technology to do nice categorization and searching when you have a lot of documents on a server. Isn't there some way to create an individual equivalent of this and have it help people in dealing with their mail groups or navigating? Categorizing and query are strongly related things - if you can easily call up all the mail related to something then you don't need to create a folder containing those things. Creating folders and deciding how to work with them is surprisingly hard. Messages right now don't come with much in the way of properties - either from the sender or figured out by your local email client.

Help me with the mail that comes in by recipient. I am not the only one who would like to have my folders automatically put mail from certain groups in one place and mail from others in another place. The current email rules are the most ridiculous thing I have ever seen - the programming model has NO relationship to any other Microsoft thing. The order of execution is IMPOSSIBLE to understand. The limits on the rules are random and confusing. I don't think people use them because they are not very good. The basic scenario is that people have 3 categories - personal, business, and random. Using domain names and email names and properties in the contact list it is pretty simple to have a set up where you can say - this goes to personal - this goes to business and this goes to random (mail from strangers). The local client should do this work - not the server - because it would load the server down to much I think.

Discussion chains in email. It is super hard today to take a series of emails and grab them and add someone to the list or turn them into a collaborative document. Whatever our collaborative document strategy is it should be easy to convert from an ad hoc email discussion into a more structured sharing thing (like a Notes folder).

Speed. No release of Office should ever be made without some exciting claims about speed. People say that Office is fast enough but that is never true. There is huge difference of scrolling a document when the software has "premade" the bitmap for the next page of text and it just shows up with a blit instead of being painted. There is a huge difference when you start an application and it starts up fast. We are going have LOTS of machines with Windows2000 and 64meg of memory in this timeframe. There must be some things that the analysis of the new Vulcan(BBT) environment data can tell us about changing the boot times. I do think document refresh display can be cooler if we make it faster by doing precaching - we actually did this for a version of MacWord a long time ago but I think it was taken out. I see we are doing so Excel recalc speed up things which is great. I wonder what things Intel is asking us to do in Office to make them love it and feature it in their marketing. We should make sure through our Intel liason (Mike Porter) that we are really giving them a chance to speak up. They did some work about how code is ordered on the disk to speed up Office boot that we ended up not using and implemented in the OS in a pretty obscure way that almost no one ever uses - I hope can make that mainstream. I would like to see some cool speed things in word. "The fastest version of Office ever" with some key support points.

Reading documents on screen. I claim we should add at least one new viewing mode - even if we think it is funky. For example a viewing mode where the text you are looking at is blown up to a larger size and the text gets somewhat smaller as you move away from it. I think our Ebook group under Bill Hill is doing VERY interesting stuff in this area. However even they need to think about how screen views can go BEYOND what is possible I think we should have in some of the viewing modes a graphic display of the thickness of the document- how much you have read and how much you haven't read including the ability to page into the "book" to a particular place. We need to think about whether there is a way to deliver Osprey and Cleartype functionality in Word or whether all of this just is given away with the OS. Even if that stuff comes with the OS we need a connection to word. The demonstrations that the Ebook group does on LCD screens where they have tuned things get people VERY VERY excited. How can Office tie into this? Can we make it easy to be "inside" word and have these great reading views? This is another area where we should be able to leverage some great work from another part of the company. I can make this a very high priority for the

Ebook people if we get the thinking about what we want to do here right. Office has to be the first tool that makes it easy to read and create ebook material that is great. Word did some nice readability stuff in the past, which I use. I wonder if there are drawbacks to it that we need to fix to make it more usable. Shipping Cleartype with Office is a great example of a case where I would be GLAD to violate the religion that Office10 never ships system components - I would want to make it optional to install and I would make sure the OS people packaged it as an OS update but I would include it in Office and not be shy about promoting scenarios that require its installation. I give lots of speeches about how one of the MOST exciting things happening to the PC is the readability of the screen with Cleartype and some layout software we are doing (Osprey). We need to connec this work to Office in an exciting way. I am willing to have people to have to either get the latest OS upgrade (Win2001) or an Office upgrade to get Cleartype and not give that to any other ISV. Cleartype will get fancier in the future in terms of the layout APIs - I think we will get this into Windows2001 and Office needs to take advantage of it. This is an example of something where the company is spending lots and lots of money and needs to tie it into one of its big businesses. We put Ebook stuff together with Office to try and see this happen. Some brainstorming with the Ebook group is required here because neither group is thinking about the opportunities right now. I feel very strongly about this if it isn't clear. One piece of work the company invested in that I have NO IDEA what we are getting from it is the Epaper work that was under Alex in Research. There must be some proprietary advantage for Office that can come out of this. They even budgeted for some OCR acquisition - unless it ties into Office and allowing people to easily search things with a nice Tahoe/PKM interface and to annotate even OCR things we won't get the return we should on this work. When will we get people to do electronic filing instead of paper filing? Can Tahoe come up with rich enough views and navigation and connection to the Windows storage advances that we can push this as the best way to do things?

Digital Feedback loop. One scenario I talk about a lot is sending around a survey inside a company to check on morale. Unfortunately the stupid voting thing inside Outlook really is too limited. I want to use my Office tools and build a reasonable document with multiple choice and fill in fields and then send it out to a group of people and then have a nice way of pivoting around to see the results. I use the term "Digital Feedback loop" to talk about this. How can an executive know if a group understands their goals and believes the schedules and supports the management? In the pre-digital world this is a lot of work - getting some group to do a survey and asking people to spend a lot of time. In the Digital Workplace that Microsoft Office is creating this is as easy as dropping into the Office forms thing (is it some HTML thing?) and picking the "survey" template and then just creating it like a Word document (or am I doing it in Word?) and then mailing it out (do I designate the place for the summaries to come into). Right now this scenario is so hard to do that I just don't do it and I really really want to do it. I think the concept "Digital Feedback" look is very important - in this world you can poll partners and customers on a regular basis with low overhead and every organization should be doing it. This kind of concept sale "office10 will change the way you work" is critical to us getting relevance. I know a decent forms package and a template and a way of hooking the data into some Excel import could go a long ways here. The best result would be where you could take the org hierarchy and do selections in that to see how the survey results differed in different groups. Of course you need to be able to do the anonymous version or the attributed versions of these surveys. Every company wants to have a nice directory of employees and have it be easy to see org charts and check things. Is it our strategy to just ship this navigation application with the OS? Does the Outlook contact list/name resolver just hook into this application? There are lots of scenarios that it should fit into where I think Windows should have one level of support but that Office should have a better level of support. Whenever am employee name appears somewhere it should link back to the directory.

Secure documents/email. I am completely confused about how we are going to make it easy to do secure documents. Our customers DO NOT WANT to go to third parties to get this stuff. The scenario of sharing a document with an outside company is a joke today. The effort to set up my email so it is verified is just too messy today. Maybe most of this work needs to happen with the Directory people like the item above. I would love to have Office make this stuff easy. Another point is that the current encryption stuff in our products is really bad. Maybe that is not an issue but all you have to do is use public domain PGP and get something a lot better. Between Windows and Office we need to show thought leadership here. Another element of this is the virus scenario. If Macro's were signed the way that code is then someone could decide who they are willing to take Macro's from rather than just get these truly ugly warnings all the time. The fact that we have to do the ugly warnings on HTML files is a disaster since it means people will get too many warnings and just turn off to the whole thing. Everything listed here is something customers ASK me about - secure forms etc.. They can't believe that the company who is bringing them Windows/Active Directory and Office can't make the scenarios of Office stuff being secure work well. There is also a competitive advantage to supplying their security things because our code is the trusted root and so there is a stronger tie to our software.

Team Server. When I read about the effort we have gone to create internal tools like Interpress I think how we are letting people down who want to have large groups of people doing documents and working them into a whole. Meet with people who do FDA drug submissions. A lot of these vertical markets we have lost to third party software because our stuff has been inadequate. It is very strange that our version control software is JUST being aimed at developers and not at documents. Office 10 has to take advantage of the huge investment we are making there. Some of the ideas of Team Server are very good and it is exploiting Platinum. We need to BRING TOGETHER the version management that exists inside our applications and connect those to the version control done in Team Server. This whole version reconciliation thing needs a common architecture. The future of Intellimirror will connect up to this as well as we use Platinum to do Intellimirror V2. Team server just changed its plans to be somewhat later and SQL only. I am telling them that they need to address the Office world in their first release as part of this. They will wonder what the equivalent of the VS shell and the Project definition files are in the Office world. There needs to be some great brainstorming between Office and Teamserver on this.

Digital Dashboard. I need to write a lot about this. Our schema and datawarehouse work and evangelism with ISVs will all have to be extended to make a strong scenario. I know it resonates with customers a great deal.

Objects in Documents. XML. Schema. This is the discussion about us having a Windows Schema for common objects and having our software try and recognize those objects and offer richer behavior. We have this today in Word in some limited ways- URLs are recognized and email addresses are recognized. I have to admit that the current interface in terms of how you select these when you don't want to activate them or how to edit a mistake in them is really quite painful. The schema needs to cover people,

times, appointments,... We need to push our NL people to help us recognize these things. We do get into tricky issues of what kind of links we hook these up to but it is all a great opportunity for us. We need to make it easy for people to "tag" something as an object (which creates the hidden XML text) for example tag something as a book or song and link it to an id. This is a great example of something where we need to start now and get the browser and Windows moving us down this track. I think the "super browser" that you only get with Office can be scanning the text you browse trying to help out in these ways.

Error messages doing analysis for you. If we could watch users after they get a certain error message there is always certain stuff they do that we could do for them. The Lame stuff we are doing is a very nice step in this direction since it gives us the ability to really learn what is frustrating. However we need to do more than just clean up the messages - we need to help diagnose what the real problem is and how the person can get to a solution. If Office finds a corrupt file then it should help you get to the website where there are tools or information concerning what to do about it. If someone accidentally deletes a file they should be able to work with Office to find something to help recover it from temp or the disk.

Tablet PC stuff. I am a big fan on this. We want to draw on some of the great talent we have on Ebook and Epaper and get them involved in this. Again it cuts across the Office Windows boundary somewhat. In writing this I am realizing what a high percentage of cool stuff requires some innovation or at least hooks in both products. I loved the days when Office was driving Windows to be richer and faster and I want to get back to that positive dynamic a bit more by knowing what Office wants for Windows2001 well in advance of that product being locked down. UI where you can directly touch the screen is just a lot nicer for a lot of things than indirect. Bert Keely and Butler Lampson are two of the people who have thought about Tablet PC and what we can do with it.

Reconverging with Windows. (Open dialog, Search, Shell extensions...). I think we should take a number of Office advances and get them to ship with Windows2001. It is quite painful to have the tool bars and the open dialogs diverged from each other. I think we get more disadvantage from this than advantage. A lot of the competition for Office nowadays is not so much other applications under Windows but applications under Linux or Websites. This changes the tradeoff of how we take great Office innovations and think about how they show up in Windows. I know the coordination and compatibility issues to make this happen are challenging. I think someone needs to look at all the divergences and think about what the ideal approach would be. I also think this new competitive framework should make the Office group propose cool things that can be done in Windows (like the shell) that would help them. One great example is activity centers. This is going to be a centerpiece of the millennium work - perhaps our new approach to templates could be an Office activity center.

A new approach to Templates. (Avoiding the UI bottleneck of the menus and allowing for easy shared compound documents). This may be the most important point I make in here. Templates in Office have not been heavily used. People may want to meet with me to make sure I explain what I am thinking here. I was very excited when I saw the Michelman stuff. I thought - wow I would want to use that. If I think about an event being planned - say the upcoming analyst meeting - it just didn't occur to anyone (it should have) to do a website for all the people involved to collaborate and work together. The web site could have all the documents/proposed slides/schedules for pre-discussion/invitees. I claim that in the Intranet environments we need to make "templates" work. Intranets tend to be documents that require elements for different Office modules - they are just too much work to set up manually today. Take the Michelman examples and think how easy they would be to do without a template. I know the current UI of Office is holding us back. We need to have a really cool UI for picking Intranet templates - I am not sure where it should live.

Office Update hooks and value. User sharing templates that are searchable in a deep way. Encourage an OFFICE community around cool examples of what can be done. Today there is NOT an Office community on the web and that is a huge problem for us. We should give awards to contributors and have ways to get into a context where you can talk to people about pivot tables or using Netmeeting with Office. Organizing this and making it attractive is a key thing.

Communications. We need to get Hotmail/Outlook Express/Outlook/OWA/Active Directory/Windows Passport/Buddylist/Group names/WindowsCEPDA aligned so that communication scenarios work better with our stuff than with anyone else stuff. Today we have some disconnects in this stuff that is very painful! Instead of an advantage. We can take steps in this direction without grand unification. Outlook should make it easy to take email from your Hotmail account and see it along with your corporate email. We need to write up a lot more scenarios about these things. In the office do you want a buddylist like thing that integrates with chat/netmeeting? I think people will.

Voice stuff. Actually there may already be a fair amount of this in Office10. I am confused if we think the best way to use voice is to type the text and edit with voice or to speak the text and edit with the keyboard. I keep running into people who really like what they have with competitor products.

Piconet. This is another one where I am not sure what pieces should be done in Windows and what piece should be done in Office. I would like to think we could have some value in both sides. The idea is that several people with Portable computers come into a room. How easy is it to have your machine create an AD HOC Buddylist/groupemailname so you can send mail to everyone and Netmeeting with them (to share annotations on the slides) or send files to them. It should be super simple. There are some great protocols that exist for this. With Infrared, Bluettoth and 2.4G wireless this is going to become a very common thing. If we do the right unification of how the machinename=>username works and how the username list can be used for ALL the different contexts you want and Office is thinking about Netmeeting this should be pretty straightforward. Its another one where writing down the COOL COOL scenarios of what you would like to do and then seeing how the pieces can easily come together would be very valuable. The again emphasizes to me the important of us getting a strategy for real time communications and how the Windows team gets moticated BY the OFFICE SCENARIOS to give us the right pieces. I know Office10 doesn't want to update the system but it is OK OK OK for us to have cool features that require the Windows2001 update (which we will make a super easy download for Windows2000 users) or even the Windows2002 update. We can't constrain outleadership thinking to things that require Windows to stay the same.

-----Original Message-----

From: Jawad Khaki (Exchange)
Sent: Tuesday, July 20, 1999 10:24 PM
To: Steven Sinofsky
Cc: Eric Rudder
Subject: FW: Office and Windows and Communications

can you please get me access to the server. thanks.

-----Original Message-----
From: Bill Gates
Sent: Tuesday, July 20, 1999 4:45 PM
To: Jawad Khaki (Exchange); Anthony Bay (Exchange)
Cc: Eric Rudder; Steven Sinofsky; Bob Muglia (Exchange)
Subject: Office and Windows and Communications

This is a link to a document where I talk about "Thought Leadership" scenarios for Office: http://office10/Overview/billg.htm
<http://office10/MSOffice/commfrms.asp?REDIRECT=1&URL=http://office10/Overview/billg.htm>

At least the #1 scenario related to your work and you might want to make some comments (using the Office discussion feature).

We need to get some discussion going between Windows and Office on how to be great at these real time scenarios and capture some of that value in Office.

Its one way to feel that our investments in this area will have a strong revenue impact.